

November 17, 2014

The Honorable Gina McCarthy, Administrator
U.S. Environmental Protection Agency
EPA Docket Center
Mail Code 28221T
1200 Pennsylvania Ave NW
Washington, D.C. 20460

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

Subject: Comments on EPA's proposed "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," 79 FR 34830

Dear Administrator McCarthy:

The Kansas Department of Health and Environment (KDHE) submits this letter to offer comments and express concerns regarding the Environmental Protection Agency's (EPA) proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (79 FR 34830). This proposal, also known as EPA's "Clean Power Plan," was published in the Federal Register on June 18, 2014, and opened a 120-day public comment period.

KDHE staff has been reviewing the Clean Power Plan and supporting documentation since the date the proposal was signed and made available to the public. As we expressed in our August 21, 2014 letter requesting an extension of the comment period, the sizeable amount of information to be reviewed and analyzed and EPA's requests for comments not only on the proposal but also on alternative "approaches," "scenarios," and "options" has placed an extraordinary burden on KDHE.¹

The overwhelming nature of this proposal, including the development of first-time environmental regulations that expand into the domain of energy generation-transmission-distribution and the approximate 195 instances throughout the proposal where EPA "seeks," "requests," "invites," or "solicits" comments, has made thorough analysis difficult despite the 45 days added to the comment period. Hence, KDHE presents the following comments and concerns for EPA's consideration before finalization of the rule.

¹ Comment submitted by John W. Mitchell, Director, Division of Environment, Kansas Department of Health and Environment (KDHE), August 21, 2014, <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2013-0602-13850>.

Legal Authority

Regulating sources under CAA Sections 111(d) and 112

There remain unresolved legal issues regarding EPA's authority to regulate CO₂ emissions from existing power plants under the Clean Air Act (CAA) section 111(d) and litigation will most certainly follow. A legal question has been raised as to whether CAA section 111(d)(1)(A)(i) disallows regulation of any air pollutant emitted from a source category that is already regulated under CAA section 112. An affirmative answer to this question would obstruct regulation of CO₂ emissions from the existing electric generating unit source category under section 111(d) since this same source category is already regulated under section 112 through the Mercury and Air Toxics Standards (MATS).²

Going beyond the source fence line / Regulation of renewables and demand-side management programs

EPA claims that "emissions reduction measures that the states themselves have the authority under state law to put in place may be considered part of BSER."³ EPA's interpretation is inconsistent with the terms of section 111. EPA has used renewable energy portfolio standards (RES or RPS) policies and state-mandated utility efficiency programs as a basis for determining state goals. Reading the plain language of CAA section 111(d)(1)(A) that authorizes state plans to establish standards of performance for *any existing source*, the determination of the best system of emission reduction (BSER) must be source-based and not system-based or state-based. Standards of performance should be based on reductions in CO₂ emissions that can be reasonably achieved through actions at individual electric generating units (EGUs). That is, the standards of performance that states establish must be a "standard for emissions of air pollutants" for those affected sources and not for the state itself.⁴ The Kansas legislature reinforced this interpretation with the passage of House Bill 2636, effective July 1, 2014.⁵

Kansas currently does not employ any programs for the specific purpose of reducing CO₂ emissions. Renewable energy standards, energy efficiency programs, and demand-side management programs exist to some extent in Kansas and result in avoided CO₂ emissions as a co-benefit. However, these programs do not fall under KDHE's authority. KDHE suggests that these energy programs also do not fall under EPA's authority. Consistent with state sovereign powers over the regulation of electric generation and other energy resources, all such energy-related matters in Kansas are retained by the Kansas Corporation Commission (KCC).

² [77 Fed. Reg. 9304](#), February 16, 2012, "National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units; Final Rule."

³ Page 74, EPA's "Clean Power Plan Proposed Rule Legal Memorandum," <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf>.

⁴ CAA Section 111(a)(1): 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 nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

⁵ Kansas HB 2636: http://www.kslegislature.org/li/b2013_14/measures/documents/hb2636_enrolled.pdf

BSER Building Blocks

Building block 1 – Heat rate improvement of 6% too high

EPA requested comment on all aspects of their analyses and findings related to heat rate improvements. After numerous consultations with stakeholders, including the KCC and utility representatives, we conclude that EPA's assumed 6% heat rate improvement as applied to all coal-fired power plants in EPA's proposed building block 1 is not achievable across the entire fleet of affected units in Kansas.

KDHE requests that EPA consider the following and adjust building block 1 in the goal computation procedure accordingly:

- An EGU's heat rate is not constant. Heat rate varies with such parameters as process design, equipment design, maintenance, cleanliness, weather conditions, fuel energy content, fuel delivery, process water temperatures, and cooling water temperatures.
- Heat rate improvements are not uniform or universal. What works for one EGU may not work for another.
- Heat rate improvement projects are limited for new and well-maintained units. Some units have been proactively engaged in heat rate improvement efforts, including implementation of best practices, yet they receive no credit for these efforts prior to 2012 according to EPA's Clean Power Plan. For these units, it will not be economically or technically feasible to achieve an additional 6% improvement.
- Heat rate improvement projects are not permanent. Performance deteriorates over time due to age and operation of the unit.
- New Source Review (NSR) rules discourage utilities from larger, more significant, efficiency improvement projects. A major impediment to the type of boiler or turbine upgrade projects that could achieve significant heat rate improvements is the fact that they would likely trigger a Best Available Control Technology (BACT) review as part of a Prevention of Significant Deterioration (PSD) permit process. If a plant were not yet equipped with a Selective Catalytic Reduction (SCR) unit to control NO_x, a heat rate improvement project that might cost \$5 million could turn into an SCR project for NO_x reductions with a price tag of \$100 million. Smaller scale heat rate improvement projects that would not trigger a BACT review would not be able to achieve the 6% goal contained in this building block.
- Heat rate improvements made at coal-fired EGUs will be offset by dispatch changes implemented pursuant to building block 3, re-dispatch of electricity production to new renewable resources. EPA's proposal is aimed at reducing utilization of fossil-fuel fired EGUs, particularly coal-fired units. Increased re-dispatch to renewable energy providers, inherently variable resources, will result in coal-fired units cycling up and down and running at minimum loads for which they were not designed. This will have an adverse effect on heat rate.

With the above considerations in mind, KDHE recommends that EPA should make two modifications to the proposal with respect to building block 1. First, EPA should adjust the heat rate improvement goal to within a range of 1% to 2%. Several utilities have made cases demonstrating achievable heat rate improvements in the range of 0.8% to 2%, additional to what they have already implemented but for which they do not receive credit in the proposed rule. Second, EPA should provide an exemption to NSR applicability for projects solely related to efficiency improvements at EGUs. Utilities will be more likely to implement efficiency improvement projects if they do not have to worry about the risk of vast permitting requirements and cost.

Building block 2 — NGCC re-dispatch

Building block 2 does not apply to Kansas as proposed since there currently are no natural gas combined cycle (NGCC) units subject to the proposed rule operating in the State. However, KDHE has comments with respect to this building block related to potential applicability within the section 111(d) plan.

Over the course of the past several months, many states have questioned EPA concerning their ability to utilize new NGCC units to meet 111(d) goals for compliance beyond the “111(b) differential” purportedly available under the proposed rule. The reasoning for fully using new NGCC generation is simple: in the face of decreased coal-fired generation and increased (intermittent) renewable electric generation sources, fossil fuel generation needs to be available for dispatch to provide critical reliability of electric service. KDHE proposes that EPA allow any EGU whose CO₂ emission rate is lower than a state’s goal be factored in to the state’s rate calculation for compliance purposes.

Another potential applicability issue of interest is that for natural gas-fired reciprocating internal combustion engine (RICE) EGUs. KDHE has recently permitted several electric generating facilities, each with approximately 100 MW capacity, that are powered by sets of natural gas-fired RICE. The estimated CO₂ emission rate for these EGUs (less than 1,100 lbs/MWh), while not as low as that typically given for NGCCs, is still significantly lower than the 2030 nominal Kansas goal of 1,499 lbs/MWh. KDHE therefore recommends that states have the discretion in the Clean Power Plan emissions guidelines to opt into their state 111(d) plans natural gas-fired RICE, with the exception that CO₂ emissions from these units be exempted from CEM requirements, and instead be based on an approved mass balance basis.

Building block 3 – Zero-emitting generation sources – Wind

In Kansas, the building block with the greatest potential for CO₂ emission reductions is the renewable building block. Building block number three sets a goal for expansion of renewable energy generation based on the Kansas renewable energy portfolio standard. While Kansas utilities currently meet the requirements of the standard and have plans to meet the 2020 goal, the shortfalls in meeting the goals established in building blocks one and four would have to be made up in building block three. There is a large potential for wind energy development in western Kansas when upgraded transmission lines to out-of-state markets are completed. Unfortunately, the proposal would not grant any emission reduction credits to Kansas for the zero emission wind energy produced. In the proposal the renewable energy credits would follow the electricity to the out-of-state utility with the power purchase agreement. To capture credit for the renewable energy credits, Kansas will likely have to participate in some form of interstate program that would include states receiving Kansas wind energy. Such a program would require new statutory authority, significant groundwork in determining which states would participate, resources to develop interstate agreements to create the entity that would administer the trading program, and time to create parallel regulations in each state to implement a program that would allow for Kansas to receive benefit from the zero carbon emissions associated with future wind energy development.

In addition to the larger scale issues described above, EPA did not correctly interpret the applicability of the Kansas renewable energy standard and the administrative regulations adopted by the Kansas Corporation Commission to implement them. The first issue relates to the fact that only investor-owned utilities and electric cooperatives are subject to the Kansas RES. The first bullet below explains the result of this error in interpreting the statute. EPA erred in determining the renewable rate to be used for the South Central Region average rate. In the proposal, the rate for the entire region was determined using the Kansas RES. However, Texas’ renewable standard should be included in developing the regional rate. The second bullet describes a corrected South Central Region renewable rate. The final issue relates to how renewable energy generation is treated for goal setting versus compliance purposes.

➤ Corrected Kansas RES:

Starting with the 2012 actual state total RE value of 5,252,653 MWh (5,195,306 MWh wind and 57,347 MWh biomass), EPA calculated the 2030 RE goal for Kansas to equal 8,884,938 MWh, based on Kansas' nominal 20% renewable energy standard (RES or RPS):

$$\begin{aligned} \text{Kansas' RE target} &= 20\% \text{ of 2012 total electric gen. (from EIA)} = 0.20 * 44,424,691 \text{ MWh} \\ &= 8,884,938 \text{ MWh} \end{aligned}$$

In using Kansas's nominal 20% RES for fixing the regional RE level at 20%, however, EPA failed to take into account two factors about the Kansas standard: (a) the standard does not apply to all electric utilities in the state, but to investor-owned utilities (IOUs) and electric cooperatives only—i.e., not municipal utilities; and (b) according to the standard, “[e]ach megawatt of eligible capacity in Kansas installed after January 1, 2000, shall count as 1.10 megawatts for purposes of compliance.”⁶

Noting that the Kansas RES is capacity (peak demand) based, the breakdown by energy source owner type for Kansas 2012 EGU capacity, according to correspondence from the Kansas Corporation Commission and based on the KCC document at http://www.kcc.state.ks.us/pi/2013_electric_supply_and_demand_report.pdf, was the following:

Kansas EGU owner type	2012 peak demand (MW)
Investor-owned and cooperatives	7,974
Municipal	499
<i>Total</i>	<i>8,473</i>

Thus, for calculation purposes when used to compare standards among different states, the actual (or effective) 2020 RES/RPS used for Kansas should be $(20\% / 110\%) \times (7,974/8,473) = 17.1\%$, or 17%.

➤ Corrected regional RE level:

Kansas is the only state in EPA's South Central Region (under EPA's analysis AR, KS, LA, NE, OK, and TX) that has an RES/RPS in percent form. Texas' standard of 10,000 MW by 2025 was not used by EPA, apparently because it is explicitly capacity-based (i.e., not in percent form), and footnote 108 of the proposed rule's "GHG Abatement Measures" TSD (<http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-ghg-abatement-measures>) states (without further explanation): "EPA did not include targets that were capacity-based"—apparently referencing the Database of State Incentives for Renewables & Efficiency (DSIRE) website, for example the following text at <http://www.dsireusa.org/rpsdata/RPSFieldDefinitionsApril2011.pdf>:

This [Target Mandate] field applies only to states that express their RPS standard in terms of installed capacity (MW). At the time of this writing, this included only TX, IA, and MI.

⁶ http://www.kcc.ks.gov/energy/res_statutes.pdf

About setting RE levels, the same TSD notes:

The EPA compiled the state-level effective RE levels derived above, organized them by region, and determined an average percent generation target for that region. This average did not include any values for states in which there is no binding RPS requirement..... This average regional RE generation target offers a basis for the determination of state-level RE targets for informing state goals...

However, the Kansas RES—and other states’ standards expressed in percent terms—are capacity-based, a fact which EPA overlooked when utilizing the DSIRE data. Therefore, there is no objective reason to exclude Texas’ RPS for use in finding RE levels.

For the South Central Region, KDHE proposes that the Texas standard of 10,000 MW be converted to a percent value, then averaged with Kansas’ 17.1 percent. The easiest way to do this (and a conservative way considering growth) is to divide the 10,000 MW Texas standard by the state’s latest available total generating capacity. Using the 2012 unit capacity supplied by EPA at <http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-description-2012-unit-level-data-using>, the 2012 total generation capacity for Texas is 148,944 MW. In percent terms, the Texas renewable standard is therefore 10,000 MWh/148,944 MWh = 6.7%.

Averaged with the effective Kansas RES of 17.1%, the Kansas-proposed RE level for the South Central Region should be 11.9%. Rounded to the nearest percent, this is **12%**.

➤ Corrected Kansas 2030 rate-based goal:

Related to the last two comments is the notable disparity in the proposed rule between how renewable energy generation is treated for (1) goal setting and (2) for compliance purposes. Specifically for Kansas, when setting the Kansas 2030 goal in step 4b under BSER Block 3, EPA used the 2012 actual state total RE generation of 5,252,653 MWh. Of that total amount, however, 2,511,888 MWh were not owned by Kansas utilities, and generally would not be available to Kansas for meeting its goals under the proposed rule, even while counting toward CPP goals in other states. To make up for the inequitable treatment of Kansas’ renewable generation, KDHE proposes that its 2030 goal be recalculated by taking the revised regional RE level of 12 percent from above times the Kansas utility-owned wind generation as follows:

$$\begin{aligned} \text{Kansas' RE target} &= 12\% \text{ of (2012 total electric gen. - non-KS wind gen.)} \\ &= 0.12 * (44,424,691 - 2,511,888) \text{ MWh} \\ &= 5,029,536 \text{ MWh} \end{aligned}$$

Thus the recalculated 2030 Kansas goal under step 4b becomes:

$$\begin{aligned} \text{4b: CO}_2 \text{ emission rate} &= \frac{(\text{coal rate} * \text{gen.}) + (\text{OG steam rate} * \text{gen.}) + (\text{NGCC rate} * \text{gen.})}{\text{coal gen.} + \text{OG steam gen.} + \text{NGCC gen.} + \text{nuclear gen.} + \text{renewable gen.}} \\ &= \frac{(2,224 \times 28,076,795) + (1,466 \times 1,552,435) + 0}{28,076,795 + 1,552,435 + 0 + 581,272 + 5,029,536} \text{ lbs CO}_2\text{/MWh} \\ &= 1,837 \text{ lbs CO}_2\text{/MWh} \end{aligned}$$

Note that if a heat rate improvement value of 2 percent is used in the calculation above (in lieu of the proposed 6 percent, which is unreasonably high), the resulting step 4b emission rate becomes 1,912 lbs CO₂/MWh.

Further, if no change is made to the proposed rule’s value for Kansas demand-side EE avoided generation (4,124,018 MWh), the Kansas 2030 CPP goal becomes 1,644 lbs CO₂/MWh, and using an HRI value of 2 percent becomes **1,712 lbs CO₂/MWh**.

This ultimate number, 1,712 lbs CO₂/MWh, represents the correct value for the Kansas 2030 goal in consideration of the factors discussed above, and utilizing the single base year 2012. In consideration of KDHE’s recommended use of a three-year period (2011–2013) to set goals, the Kansas 2030 CPP goal (with 6 percent HRI) becomes 1,662 lbs CO₂/MWh, and using an HRI value of 2 percent becomes **1,732 lbs CO₂/MWh**.

➤ **Corrected Kansas baseline CO₂ emission rate:**

Since KDHE is recommending that non-Kansas wind be subtracted out from total state electric generation to estimate its RE target, the same process should be carried out for setting the baseline CO₂ emission rate, which EPA calculated as 1,940 lbs/MWh (1,939 lbs/MWh using corrected 2012 data). The following table shows the Kansas values used to reach the revised baseline:

	2012 fossil CO ₂ rate (lbs/MWh)		2012 Generation (MWh)		2012 Nuc. gen. (MWh)	2012 Renewable gen. (MWh)	Resulting CO ₂ rate (lbs/MWh)
	Coal rate	OG steam rate	Coal gen.	OG steam gen.	At-risk nuclear ¹	Wind gen. + biomass gen.	
Proposed rule	2,364	1,560	27,979,593	1,632,997	542,728	5,252,653	1,940
Corrected data ²	2,366	1,466	28,076,795	1,552,435	542,728	5,252,653	1,939
Corrected and taking out non-KS wind³	2,366	1,466	28,076,795	1,552,435	542,728	2,740,765	2,088

Thus the corrected Kansas 2012 baseline CO₂ emission rate, after data correction and accounting for wind generation owned by non-Kansas entities, comes to 2,088 lbs/MWh.

Alternative renewable energy quantification approach

EPA requested comment on an alternative approach to quantification of renewable energy generation that relies on a state-by-state assessment of the technical and market potential for renewable energy. The assessment would be based on data prepared by the National Renewable Energy Laboratory. The EPA would then consider the range of renewable energy development rates across states in order to define a benchmark development rate for each renewable energy technology. Under this alternative approach, EPA would quantify renewable energy generation for each technology in each state as the lesser of (1) that technology’s benchmark rate multiplied by the technology’s in-state technical potential, or (2) the IPM-modeled market potential for that specific technology.

KDHE is strongly opposed to this alternative technical approach to developing a state’s goal for renewable energy generation. Based on the data contained in EPA’s technical support document, Kansas had a 2012

starting point of 5,263 GWh of renewable energy generation out of a total 2012 generation of 44,425 GWh. The primary approach in the proposal would require Kansas to have 8,885 GWh of renewable energy generation in 2030. The alternative technical approach would require Kansas to have 50,905 GWh of renewable energy generation in 2030. The alternative approach would therefore require Kansas to generate over 8,000 GWh of renewable energy more in 2030 than our generation from all energy producers in 2012. The fact that the proposal does not provide for Kansas to receive credit for any wind energy sold to out of state customers under the proposed rule would make the alternative approach totally untenable for several reasons. Under the alternative approach, all of the additional renewable energy required would have to be utilized within Kansas' borders. With this limitation, there is no means by which Kansas could prepare a plan that would not result in serious energy price impacts due to the installation of natural gas turbines to track the ten-fold increase in wind development, reliability concerns due to the dramatic increase in wind power relative to total generation, and stranded assets due to the closure of retrofitted Kansas coal plants far beyond that envisioned by the Clean Air Act provisions of Section 111 (d).

Building block 4 – Energy efficiency

Building block number four establishes a goal for demand-side energy efficiency programs with a cumulative target for Kansas of 9%. The Kansas legislature passed House Bill 2482 in the 2014 session. The new law provides utilities the opportunity for cost recovery for demand side management programs. It establishes a voluntary program that is in the initial stages of implementation. It has no compliance provisions that could be adapted into a state 111(d) plan. Transitioning from a voluntary program in its developmental stages to a regulatory program with hard targets to meet the interim goals contained in the proposal would be a great challenge. In addition to these general issues KDHE has concerns regarding EPA's legal authority to mandate energy efficiency, EPA's disregard for certain studies developing the goal for this building block, and the source of EPA's data that serves as the basis for the building block 4 goal calculations and verification of energy efficiency savings.

EPA notes in the preamble that some stakeholders have argued that CAA section 111(a)(1) does not authorize the EPA to identify re-dispatch, low- or zero-emitting generation, or demand-side energy efficiency measures (building blocks 2, 3, and 4) as components of the BSER. EPA has not identified their authority for regulating customer end-uses of electricity. Energy policies that include EE programs and goals are traditional areas of regulation reserved for states, and included in integrated planning processes in states with vertically integrated utilities. However, not all states have integrated planning or all vertically integrated utilities, including the State of Kansas. Thus, the use of building block four in setting the section 111(d) proposed standards for all states is not appropriate.

EPA has substantially overstated the amount of EE that could be achieved by states in the future in setting the 111(d) CO₂ standards. EPA projected increasing levels of EE based on its evaluation of best practices, ultimately developing specific goals that increase each state's EE measures by approximately 1.5 percent of sales of electricity each year. Much of the data and methods were developed by EE advocacy organizations. The metrics adopted by EPA largely incorporate these findings, and differ substantially from the engineering-based analyses that have been conducted on the topic. One study, conducted by Lawrence Berkeley National Laboratory, reported potential estimates for EE savings from 0.5 percent to 1.1 percent. Several other studies of EE potential, conducted mostly by advocacy organizations, EPA consultants, and EPA's own analysis are nearly all "top-down, policy-based approach" studies. Only one study analyzed by EPA used a conventional bottom-up engineering approach- a study by the Electric Power Research Institute (EPRI) contained in a report that was released in 2009 with an update in 2014. Notably, EPRI's estimate for average annual achievable potential was 0.5 percent to 0.6 percent per year. Ultimately, EPA chose to use 1.5 percent as the best practice level.

EPA uses EIA Form 861 data as the baseline level of the amount of EE achievements by utility demand-side management programs. EPA acknowledges the consistency and quality issues with this data, resulting from the self-reported sourcing and different estimation methodologies, but does not address this issue. While EPA did use state-specific data from form EIA-861 for establishing starting points for EE levels, it applied national estimates of EE potential to this data and applied an EE growth rate historically only experienced in other best-practice states. The applicability of both these metrics has some fundamental flaws, based on the variability of state-specific factors, including relative industrial, commercial, and residential consumption of electricity. Kansas is a relatively rural state, with manufacturing mostly centered in more populated areas.

An important question facing states is how best to measure and verify energy savings if states choose to incorporate energy efficiency into their state plans. Current methods of efficiency evaluation, measurement, and verification (EM&V) often lack the rigor necessary to meet existing EPA State Implementation Plan (SIP) guidance on enforceability. The final rule should clarify details on how building block 4 will be implemented; in particular, it should include good but reasonable procedures for evaluating and documenting energy efficiency savings. The proposed rule attempts to approach building block 4 in several different ways, attempting to provide flexibility. However well-intentioned, it appears that the EM&V requirements for a one-state-only plan may not be achievable with the current level of resources available.

Goal Computation

Data and calculation errors

The following comments deal with errors made by EPA in its calculations of Kansas' 2030 goal, as well as steps in the goal computation process that KDHE recommends EPA take to improve its calculation of the Kansas 2030 goal.

- (Referring to http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-plant-level-data-unit-level-inventory_0.xlsx): EPA erred in its allocation of generation and emissions data for Riverton Unit 8. This unit was converted from coal firing to only firing natural gas during 2012, and data for Unit 8 should be edited to reflect the following:

<i>Kansas affected EGU (coal-fired unit in bold text)</i>	<i>Fuel</i>	<i>2012 net gen. (MWh)</i>	<i>2012 CO₂ (CAMD) (unadj. tons)</i>
Empire District - Riverton Unit 8 (Q1-Q3)	Coal	99,159	135,755
Empire District - Riverton Unit 8 (Q4)	Natural gas	5,774	4,358

- (Referring to http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-plant-level-data-unit-level-inventory_0.xlsx): EPA erred in the value it used for 2012 electric generation from Coffeyville Unit 4 (i.e., 15,981 MWh). The correct value is **32,621 MWh**.
- (Referring to http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-plant-level-data-unit-level-inventory_0.xlsx): EPA erred in the value it used for 2012 CO₂ emissions from Kansas City Board of Public Utilities Nearman Unit 1 (i.e., 1,465,886.628 tons). The correct value is **1,475,131.088 tons**.

- (Referring to http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-egrid-methodology_0.xlsx): EPA's value for 2012 Kansas total wind capacity is 3,170 MW. However, the actual value is **2,912 MW**, which excludes Waverly Wind Farm—that won't come online until 2016—and two small Westar wind units that have been decommissioned.

Consistency in goal setting and compliance for interstate RE

EPA must be consistent in the manner in which it treats renewable energy that is sold across state lines. When EPA calculated the goals for each state, all renewable megawatt hours (MWh) generated in the state in 2012 were placed in the denominator. However, with respect to goal achievement, if this generation is credited to the power purchaser in a different state, the generating state would be required to make up the shortfall.

Starting rate should be based on a 3-year average versus single year 2012

In the proposed Clean Power Plan, EPA inappropriately uses a single-year baseline of 2012. A number of events can happen during any given one-year period that results in misrepresentation of actual generation and emissions levels. Factors that should be taken into account include unit operation variances due to extreme weather or maintenance, fluctuating natural gas prices, and changes in the types of units available for dispatch. In Kansas, several large electric generating units (EGUs) experienced lengthy outages in 2012 for maintenance and installation of pollution control equipment to ensure compliance with other Clean Air Act obligations. KDHE suggests that using a three-year averaging methodology would smooth out the various anomalies and would be more appropriate for setting state CO₂ emissions reductions goals.

A three-year baseline period would be consistent with how EPA expects states to demonstrate compliance under the proposed Clean Power Plan. As currently proposed, the rule would require states to meet the final emission performance level on a three-calendar-year rolling average starting January 1, 2030. EPA even states that “[t]he rolling three-year performance periods for measuring actual plan performance against the final goal performance level are proposed in light of year-to-year variability in economic and other factors, such as weather, that influence power system operation and affect EGU CO₂ emissions.”⁷ Furthermore, a three-year baseline methodology would be consistent with how EPA has developed and implemented other existing programs using multiple years (e.g., Acid Rain Program, Clean Air Interstate Rule, Cross State Air Pollution Rule, and permitting and modeling requirements).

Interim goal too aggressive—Kansas must achieve 82% of its required reductions by 2020 to meet the interim goal of 1578 lb CO₂/MWh

As currently proposed, the 2030 final goal established by EPA will be challenging for states to meet. Each state faces its own unique challenges with respect to generation mix, transmission infrastructure needs, natural gas supply constraints, market demands and limitations, and legal and political roadblocks, all of which hinder development and implementation of a state plan and achievement of the final goal. EPA proposes an aggressive interim goal, which for Kansas is a rate-based standard of 1578 lbs CO₂/MWh averaged over the years 2020-2029. Compliance with the interim goal is almost as stringent as compliance with the final 2030 goal, which for Kansas is nominally 1499 lbs CO₂/MWh. According to EPA’s projections, Kansas would need to achieve over half of the required emissions reductions by 2020, a mere two to three years after approval of a state plan, and almost 90 percent of the required reductions by 2025.⁸

⁷See 79 Fed. Reg. 34906, col. 3, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Proposed Rule, [79 Fed. Reg. 34830](http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-state-goal-data-computation_1.xlsx), June 18, 2014.

⁸See EPA’s Goal Computation TSD Data File, Appendix 1, http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-state-goal-data-computation_1.xlsx.

	Starting Point (2012)	Interim Goal (2020-2029 average)	Final Goal (2030)
Emission rate, lbs CO ₂ /MWh	1940	1578	1499
Percent reduction over 2012, %		18.7	22.7

KDHE recommends that EPA eliminate the aggressive interim goals and allow each state to determine its own interim reductions and glide path toward achieving the 2030 goal and maintaining that final goal thereafter.

Rate-based and Mass-based Goals

Rate-to-mass translation

EPA requested comment on whether it should provide a presumptive translation of rate-based goals to mass-based goals for all states, for those who request it, and/or for multi-state regions. EPA should provide a mass-based goal for each state, regardless of whether it is requested, and for multi-state regions upon request. Further, in the process of setting mass-based goals, the calculations should account for projected increase in electrical demand, as a rate-based approach would similarly allow for increase in demand. Finally, EPA should rely on projected demand as determined by the agency closest to the electrical industry, which, for Kansas, would be the Kansas Corporation Commission. We would encourage EPA to release the rate versus mass calculations in the form of a NODA prior to the release of the final rule so states would have the opportunity to comment on the calculation and EPA the opportunity to make adjustments in the process.

[During development of this comment letter, EPA released a notice of additional information regarding the translation of emission rate-based CO₂ goals to mass-based equivalents.⁹ The notice and accompanying technical support document, [“Translation of the Clean Power Plan Emission Rate-Based CO₂ Goals to Mass-Based Equivalents,”](#) is an insufficient response to stakeholder requests for definitive guidance that is necessary for consistent application of the rule and methodology, both state-by-state and region-by-region. KDHE recommends that EPA revisit this translation process.]

Goal Compliance

Gross vs. net generation

EPA requested comment on the use of gross load versus net load data for goal compliance. Kansas favors the use of gross load (i.e., generation) data over net generation for two reasons, consistency and fairness.

In the document titled “Part of E.O. 12866 and 13563 Review: EPA Response to Interagency Comments on the EGU GHG Modified/Reconstructed Source NPRM (clean) (2060-AR88) as part of review of EGU GHG Existing Source NPRM (2060-AR33) (5/30/2014)” in the docket for the proposed rule, the following text is found: “To the extent that the EPA finalizes modified and reconstructed standards for stationary combustion turbines that are consistent with the standards for newly constructed stationary combustion turbines, the EPA intends to take the same approach with regards to the use of net or gross output in both final actions.” In light of the fact that EPA’s proposed new source CO₂ standards under section 111(b) are already based on gross generation, for the sake of consistency gross generation should also be used for the section 111(d) standards.

⁹ [79 Fed. Reg. 67406](#), “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Proposed Rule, Notice, November 13, 2014.

For any state where the proposed rule's goals are to be met on a unit-by-unit (or fleet-by-fleet) basis, the use of net generation values penalizes utilities for electricity that is used to power pollution control systems—mandated by other EPA regulations—that are installed subsequent to 2012. Additionally, in answer to a question KDHE staff asked with regard to affected EGUs using existing EIA forms to report their generation under the proposed rule, EPA Region 7 answered: "Kansas will not be using EIA data for utilities to show compliance with the 111(d) Plan. The State Plan will need to have monitoring, recordkeeping, and reporting requirements to meet 60.5805. This is also discussed at 79 FR 34910." KDHE therefore suggests that by using gross generation to meet goal performance, affected EGUs, all of which are already Acid Rain sources reporting CEM data to EPA's Air Markets Program, can be relieved of the burden of new reporting requirements by simply allowing them use of Air Markets Program (CEM) data to fulfill their requirements (for CO₂ emissions as well as electric generation) under the proposed rule.

Treatment of new fossil fuel-fired EGUs

EPA requested comment on whether credit toward a state's required CAA section 111(d) performance level should be allowed for emissions from new fossil fuel-fired EGUs subject to CAA section 111(b) that are superior to the proposed standards of performance for the new unit. KDHE supports the ability to take credit in the state plan for those new unit emissions that are superior to the standard contained in CAA section 111(b).

Credit for prior emission reductions

EPA requested comment on the option that emission reduction effects that occur prior to the beginning of the initial plan performance period could be applied toward meeting the required level of emission performance in a state plan, thus enabling a state to count emission improvements achieved by state programs prior to 2020 toward its interim goal, allowing the state to begin demonstrating emission performance earlier and follow a more gradual emission improvement trajectory during the interim performance period of 2020-2029. KDHE strongly supports this concept as Kansas has seen a significant decrease in CO₂ emissions for several years prior to the 2012 baseline year.

Duplicative measures - wind

EPA requested comment on whether an emission reduction becomes duplicative (and therefore cannot be used for demonstrating performance in a plan) if it is used as part of another state's plan. KDHE has serious concerns regarding this issue as it relates to the future wind energy build-out in Kansas. Kansas has both significant coal capacity that has been recently retrofitted to reduce criteria pollutant emissions and also has great potential for renewable energy. States like Kansas should have the opportunity to develop a plan that does not strand coal plant investments and simultaneously promotes the build-out of Kansas wind resources, for Kansas utilities as well as out of state utilities. We strongly encourage EPA to offer a solution to this issue in the final rule that gives Kansas the flexibility to prevent stranded utility pollution control assets while providing for wind energy expansion that allows neighboring states as well as Kansas to develop plans that can meet their respective CO₂ emission reduction goals.

Potential for Stranded Investments

Consideration for remaining useful life

EPA proposed that the flexibility provided in the state plan development process adequately allows for consideration of the remaining useful life of the affected facilities and other source-specific factors and, therefore, separate application of the remaining useful life provision by states in the course of developing and

implementing their CAA section 111(d) plans is unnecessary. KDHE disagrees that the flexibility in the state plan development process sufficiently allows for addressing remaining useful life considerations.

Recent significant investments in air pollution control equipment

Kansas is in the midst of a period of great transition for its large coal-fired electrical generating units. The six largest coal fired units in Kansas have made and continue to make significant investments in criteria pollutant emission reduction equipment in the last three to four years to comply with the regional haze program. In addition, the Cross State Air Pollution Rule, Kansas City ozone maintenance plan rules, and the Mercury and Air Toxics rule have also contributed to massive investments in pollution control equipment at Kansas' largest coal plants in recent years. More than three billion dollars is earmarked for these projects that have either just been completed or are still under construction. Paying off the bonds and other credit instruments used to fund controls installed in 2015 cannot be expected to be completed by the early compliance period starting in 2020. Investments of such magnitude are typically financed for much longer periods of time. The result is a large potential for stranded investments in the State of Kansas as a result of re-dispatch to non-coal generating units. Although not new facilities, the investments made in pollution control equipment are significant and should be allowed to be amortized over a greater time period than allowed under the proposal.

This is a fundamental issue that EPA must address at the front end of the 111(d) process by incorporating adjustments for plants with recently installed or to be installed controls into the state goal calculations or in the compliance periods. The solution should take into consideration the amount of funds spent on controls as a proportion of the value of the generating unit and the generally accepted time frame used by utilities to retire the financial instruments used to fund the control devices installed. Facilities that have recently installed or are installing new scrubbers comprise 84% of Kansas' 2012 generation. This is a far greater impact than the flexibility contained in the 111(d) process can reasonably be expected to account for in the short time between the plan submittal deadline and the first year of the compliance period.

State Plan Considerations

Federal plan structure

The proposal did not include any information on how a Federal Implementation Plan (FIP) might be structured and implemented. It is appropriate to include language in a subsequent Notice of Data Availability (NODA) regarding this issue so that states can take this into consideration in evaluating alternative scenarios for states to comply with the final rule.

Consideration of alternative emission reduction measures

EPA requested comment on whether measures such as electricity transmission and distribution efficiency improvements, retrofitting affected EGUs with partial carbon capture and storage, the use of biomass-derived fuels at affected EGUs, and use of new NGCC units are appropriate to include in a state plan to achieve CO₂ emission reductions from affected EGUs. Such alternative measures of reducing CO₂ emissions should be eligible for including in a state plan, and that EPA should develop guidance on how such measures should be included. The guidance should be issued concurrently with the final rule.

Guidance on consideration of affected entities

EPA requested comment on whether the EPA should provide guidance on considerations related to requirements in a state plan for affected entities other than EGUs (and if so, which such entities). KDHE supports preparation of guidance on considerations related to affected entities other than EGUs. The opportunity

to meet the goals by including entities other than affected EGUs is an option that should be available to states in developing their plans. Such guidance should include potential affected entities such as transmission line owners/operators, simple cycle turbines, gas-fired reciprocating internal combustion engines and other EGUs that are not specifically named affected entities under the proposed rule. The guidance should be issued simultaneously with the final rule so state agencies have ample opportunity to utilize the guidance in developing the state plan.

State plan template – useful if issued concurrent with final rule

EPA requested comment on the creation of a template for state use in preparing initial and complete state plan submittals. KDHE supports preparation of a template by EPA to provide greater certainty of approval in preparing state plans. It is imperative that the template be provided concurrent with the final regulation to ensure its use by states.

Electronic submittal of state plans – not ideal for this type of plan

EPA requested comment on whether it should provide for, or require, electronic submittal of initial and complete plans. Electronic submittal of SIPs has been through a pilot project, but has not yet been applied across the board. This particular plan, being a CAA section 111(d) state plan versus a section 110 SIP, may not be the most appropriate one to roll out the project because of the diverse nature and magnitude of the plans that will be submitted to EPA.

Considerations Before Release of Final Rule

Notice of Date Availability (NODA) recommended before final rule issued

KDHE expects that EPA will make substantial changes to the proposal as necessary based on data and technical corrections and in response to public comments. States and other stakeholders deserve the opportunity for further review and comment after significant changes, such as adjusted goals and fundamental changes to the building blocks methodology and framework of the rule. This letter offers significant comments on the assumptions, data, and methodology used to calculate the interim and final goals for Kansas and includes an alternate calculation methodology that we propose EPA should use. KDHE strongly suggests that EPA issue a Notice of Data Availability (NODA), or multiple notices as needed, that provides any corrections and the adjusted goals for review and comment several months prior to rule finalization. This approach would be similar to that employed by EPA during development of the Cross State Air Pollution Rule. EPA should also include in the NODA a more complete methodology for calculating the goal rate-to-mass conversion.

Staff resources limited

KDHE offers the following comments for EPA's consideration regarding staff resources for the 111(d) state plan process. KDHE has expended significant resources to analyze and disseminate information in EPA's Clean Power Plan proposal. This includes reading the proposed rule and all supporting documentation, holding meetings with power plant owner/operators, educating managers, and participating in legal work, all of which precedes actually drafting a state plan. This staff effort represents over nine full-time equivalents (FTEs) since early 2012. This coverage has been provided by existing staff with additional duties but with no additional resources, including labor or funds.

For state plan development, Kansas may need both statutory and regulatory changes, which will require effort from senior managers and staff and will include legislative briefings. The amount of staff effort in analyzing and commenting on the rule will be replaced by the staff time needed to educate and involve stakeholders and

develop a plan. KDHE can expect to spend at least three FTE's amongst approximately six to eight staff and managers involved in implementing this regulation (including proposing a state plan) over the next several years. The development of state plans will entail many hours of staff time to develop and coordinate programs for compliance with the rule, as well as time to work with state legislatures as appropriate and develop a plan submittal.

Extension of timeline for submittal of state plans

Climate change and carbon dioxide regulation are contentious topics, and obtaining the statutory and regulatory changes that will be necessary to develop, implement, and enforce a section 111(d) plan will be challenging for several states, including Kansas. This 111(d) plan will be unique in that the emission guidelines encourage reaching beyond the source fence-line for compliance with the standard. Such action requires the support of multiple levels of state and local government and the cooperation and collaboration of KDHE, Kansas Corporation Commission, investor-owned utilities, municipal utilities, electric cooperatives, and wind developers and merchants. A multi-state plan introduces further complexity with interstate issues. Simply put, it will be a complicated task.

Therefore, KDHE respectfully requests that EPA extend the timeline for state plan submittals. At a minimum, EPA should extend the submittal deadline for the CAA section 111(d) plan to three years following final rulemaking in parallel with the requirements for state implementation plans submitted under CAA section 110.¹⁰ KDHE recommends that the multi-state plan timeline be extended to four years after final rulemaking.

Conclusion

With this letter, KDHE offers significant comments on the assumptions, data, and methodology used to calculate the interim and final goals for Kansas, and includes an alternate calculation methodology that we propose EPA should use. This feedback results from our outreach efforts and numerous consultations with stakeholders, including the Kansas Corporation Commission and utility representatives.

KDHE remains deeply concerned with various aspects of EPA's proposed Clean Power Plan. There is enormous potential for stranded investments under this plan, and the "flexibility" that EPA allows in the state plan development process is not sufficient for addressing remaining useful life considerations. As we stated above, this is a fundamental issue that EPA must address at the front end of the 111(d) process by incorporating adjustments for plants with recently installed or to be installed controls of stranded investments into the state goal calculations or in the compliance periods.

Time is also of great concern. The complexities of first-time environmental regulations that delve into the domain of energy generation, transmission, and distribution and that expand beyond the fence-line of the affected existing source demand an appropriate amount of time for effective state plan development and implementation. KDHE recommends that EPA extend the submittal deadline for the CAA section 111(d) plan to three years following final rulemaking in parallel with the requirements for SIPs submitted under CAA section 110. KDHE recommends that the multi-state plan timeline be extended to four years after final rulemaking. In addition to requesting an extended time frame for state plan submittal, KDHE recommends that EPA alleviate the compliance "crunch" time by eliminating the aggressive interim goals. According to EPA's projections, Kansas would need to achieve over half of the required emissions reductions by 2020, a mere two

¹⁰ Congress intended the state plan process under CAA section 111(d) to be similar to that under section 110. Section 111(d)(1): *The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 110 under which each State shall submit to the Administrator a plan...*

to three years after approval of a state plan, and almost 90 percent of the required reductions by 2025. The compliance focus should remain on the final goal. EPA should allow each state to determine its own interim reductions and glide path towards achieving the final goal and maintaining that goal thereafter.

The overwhelming nature of EPA's proposal has made comprehensive review and analysis difficult to accomplish in the assigned comment period. States and other stakeholders have participated in various meetings, teleconferences, and webinars with EPA but have received few answers to many questions. We have included in this letter our greatest concerns with the proposed Clean Power Plan as we currently interpret and understand it. KDHE has engaged in several meetings and discussions with the Kansas Corporation Commission and defers to the Commission's comments on the proposal with respect to costs and reliability impacts.

Thank you for the opportunity to provide comments on the proposed Clean Power Plan. KDHE encourages EPA to continue open communications with the states throughout this regulatory development and rulemaking process. Please feel free to contact Tom Gross, Air Monitoring and Planning Section Chief, at 785-296-1692 or tgross@kdheks.gov if you have questions or would like further information.

Sincerely,



John W. Mitchell, Director
Division of Environment

JWM:mdw

c: Janet McCabe, EPA OAR
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