BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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

COMMENTS OF PEABODY ENERGY COMPANY

I. INTRODUCTION

Peabody Energy Company (Peabody) submits these comments to the Missouri Public Service Commission's (the "PSC" or "Commission") regarding the United States' Environmental Protection Agency's (EPA) Proposed Rule on Carbon Dioxide Emissions from Existing Fossil-Fuel Fired Electric Generating Units (EGUs) Under Section 111(d) of the Clean Air Act.[1]

On June 2, 2014, EPA issued proposed guidelines for existing fossil fuel-fired power plants under section 111(d) of the Clean Air Act. In those guidelines, EPA sets state-by-state carbon dioxide (CO_2) performance standards for fossil fuel-fired electric generating plants in 49 states. The proposed guidelines would not only impose unreasonable standards on the electric industry in Missouri and beyond, but would also place the State of Missouri in the impossible predicament of attempting to meet this unrealistic standard while maintaining just and equitable rates.

While the Missouri PSC does not necessarily hold proceedings to make resource planning determinations, it should do so for resource planning decisions related to EPA's CO2 Emission Guidelines. As detailed below, the consequences of the EPA's proposed rule to utility customers, reliability of the electric system, and jobs and the economy in Missouri are severe. Premature implementation of the proposed rule would result in decisions that would irrevocably reverse Missouri's lost-cost electricity advantage. For this reason, pursuant to its resource planning

[1] Environmental Protection Agency, Proposed Rule: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 40 CFR Part 60, Vol. 79, No. 117, June 18, 2014 (hereinafter, "proposed rule" or "CO2 Emission Guidelines").

authority the Missouri PSC should open a proceeding to examine regulated utilities' contemplated resource plans concerning Section 111(d) compliance. Such proceeding should analyze whether any such implementation plans provide safe, reliable and adequate service at just and reasonable rates; whether utilities are justified in taking any irrevocable actions prior to the EPA proposed rule becoming final and prior to the Missouri Department of Natural Resources determination of a reasonable carbon reduction standard under Missouri House Bill 1631; and whether such plans otherwise comply with Missouri law and the best interests of Missouri residential and business customers.

A. IMPACTS OF EPA'S PROPOSED RULE IN MISSOURI

In Missouri, EPA's proposal would require the state to cut its existing fossil fuel-fired EGU carbon emissions nearly 21 percent from the state's 2012 "baseline" emissions rate by 2030. Though couched in terms of providing states with the utmost "flexibility," EPA suggests Missouri can meet its goal by the following "Building Blocks":

- Improving the efficiency of existing coal-fired units by 6 percent;
- Increasing current natural gas combined cycle capacity factors by over 40 percent;
- Including existing nuclear capacity that EPA assumes is at risk of retiring;
- Increasing electricity from renewable energy sources by 300 percent; and
- Reducing consumers' use of electricity 1.5 percent year over year until demand is reduced by almost 10 percent.

To understand the feasibility of these assumptions, the Commission can look no further than the regulated entities that would shoulder the lion's share of the compliance obligation under any Section 111(d) state plan. On August 18, 2014, the two largest utilities in the state, Ameren Corporation (Ameren) and Kansas City Power & Light (KCP&L) provided comments to the Commission challenging the feasibility of most or all of these Building Blocks, and indicating the

likelihood of substantial increased customer rates as a result of EPA's proposed rule – in Ameren's case, a ***$4 billion increase in costs that will result in increased rates four times that of its baseline case***.[2] Beyond rate increases, Southwest Power Pool (SPP), a regional transmission organization (RTO) that covers portions of Missouri, predicts severe reliability issues in 2020 and beyond in its footprint based on EPA-assumed baseload plant retirements. In turn, this will require massive investment in new generation and infrastructure that cannot be completed in the short time frame allotted by EPA.[3]

The proposed rule will significantly impact Missouri's ability to use coal as a low-cost electricity generation option, even though the state relies on coal for more than 80% of its electricity needs. The proposed rule improperly overrides the resource planning prerogatives of the Commission by determining the best system of emission reduction (BSER) under the Clean Air Act, and in turn, each state's CO_2 performance standard vis-à-vis outside-the-fence measures, *i.e.*, non source-based compliance activities. This effectively mandates state action outside-the-fence of the EGU in a manner never before seen under the Clean Air Act. More fundamentally, the proposed rule is incompatible with the Commission's enumerated duty under Section 393.130 of Missouri Revised Statutes, which is to ensure "every electrical corporation, … shall furnish and provide such service instrumentalities and facilities as shall be *safe and adequate* and in all respects just and reasonable. All charges made or demanded by any such … corporation for … electricity, … or any service rendered or to be rendered shall be *just and reasonable* and not more than allowed by law or by order or decision of the commission. …".[4]

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[2] *See* Ameren PowerPoint ("PPT") at slide 6. Each of the presentations referenced herein are available at the Commission's website at: https://www.efis.psc.mo.gov/mpsc/Filing_Submission/DocketSheet/docket_sheet.asp?caseno=EW-2012-0065&pagename=case_filing_submission_FList.asp.

[3] *See* SPP PPT at slide 15.

[4] M.R.S. § 393.130 (emphasis added).

The concepts of safety, reliability and reasonable rates are absent from EPA's proposed guidelines. Indeed, these are neither concerns nor within the realm of EPA's expertise. EPA appears bent on turning states like Missouri, with low-cost, reliable energy, into California. EPA's proposed rule repeatedly and glowingly cites California as a model state on CO_2 regulation and energy policy in general. For California residents and businesses, however, the reality is starkly different. California has preemptively adopted the energy policy championed by EPA and mandated by the proposed rule, and the consequences to the state and its economy have been dramatic. Attached are two analyses (Attachments A and B), showing the economic impacts of California's misguided energy policy, which state officials and regulators in Missouri should be aware of to ensure Missouri does not suffer a similar fate.

B. INTERACTION OF EPA'S PROPOSED RULE WITH MISSOURI STATE LAW

EPA's proposed rule is inconsistent with House Bill 1631 (HB 1631), which was passed in the last legislative session and signed by Governor Nixon.[5] HB 1631 requires the Missouri Air Conservation Commission (MACC) of the Department of Natural Resources (DNR) to set Missouri's carbon standard, not the EPA. MACC is to set the standard based on an inside the fence analysis of what is feasible at each EGU, and allow for a more lenient standard on a case-by-case basis after considering factors as cost and impacts on ratepayers and the economy. EPA's proposed rule ignored the direction of the state's elected representatives by refusing to allow Missouri any role in setting the standard, or any flexibility or exceptions based on cost, engineering or economic factors. HB 1631 is consistent with Section 111(d) of the Clean Air Act, while EPA's proposed rule is not. The standard-setting method and unit-by-unit analysis mandated by HB 1631 track the federal Section 111(d) implementing regulations. Therefore, the MACC and Missouri PSC should follow the language and intent of HB 1631 and devise a carbon standard for Missouri that is

[5] *See* Missouri H.B. 1631, *available at* http://www.house.mo.gov/billtracking/bills141/sumpdf/HB1631T.pdf

achievable at reasonable cost. EPA's carbon standard should be ignored as flatly contrary to Section 111(d) and the will of Missouri's citizens.

II. PURPOSE OF THESE COMMENTS

On July 2, 2014, the Commission issued its Order Scheduling a Workshop Meeting and Directing Response (Order) as part of its working case to consider the potential impacts of current and future EPA rules on the reliability and cost of the electric generation plant operated by Missouri's electric utilities.[6] The Commission followed the Order with two further Orders dated July 30 and August 6, 2014 directing utilities to submit comments addressing various issues identified in several questions.[7] Among other things, the Commission seeks comments regarding EPA's development of each of the four Building Blocks (Questions in Sections I-IV), and nineteen general questions (Section V). Peabody addresses many of these questions in its comments below.

III. GENERAL CONSIDERATIONS

A. EPA LACKS AUTHORITY TO REGULATE CO_2 EMISSIONS UNDER SECTION 111(d)

Section 111(d) does not authorize EPA to adopt regulations for a particular category of facilities where that source category "is regulated under section [112] of this title."[8] Indisputably, coal plants are regulated under Section 112. EPA listed coal plants for regulation under Section 112 in 2000 and recently established Section 112 pollution standards in its 2012 Mercury and Air Toxics Standards (MATS) rule.[9] Thus, having regulated coal plants under Section 112, EPA has no power under Section 111(d) to adopt regulations governing coal-plant CO_2 emissions. EPA will claim that Section 111(d) is ambiguous on this point and that its interpretation of the provision as allowing for CO_2 regulation is entitled to deference. The claimed ambiguity stems from language

[6] *See* Order issued in File No. EW-2012-0065 (July 2, 2014).
[7] *See* Order Directing Response to Certain Questions (July 30, 2014) and Order Directing Response to Additional Questions (August 6, 2014), both issued in File No. EW-2012-0065.
[8] *See* 42 U.S.C. § 7411(d)(1)(A)(i).
[9] *See* 77 Fed. Reg. 9304 (Feb. 16, 2012); 65 Fed. Reg. 79,825 (Dec. 20, 2000).

in the House and Senate versions of the 1990 Clean Air Act Amendments. But, as has recently been explored at length, EPA's interpretation depends on not giving effect to all of the language Congress adopted.[10] Including all of Congress' language inevitably leads to the conclusion that CO_2 emissions from coal-fueled EGUs cannot be regulated under Section 111(d).[11]

B. STATES LACK AUTHORITY TO IMPLEMENT THE PROPOSED RULE EVEN IF EPA HAD ITS CLAIMED AUTHORITY UNDER SECTION 111(d)

Given the structure of the rule and its reliance on outside-the-fence assumptions in setting the CO_2 performance standards, existing state regulatory architecture and traditional institutional designs will not allow states to implement the rule in a way that draws on activities considered by EPA under each of the four Building Blocks in setting the CO_2 performance standards. These new institutional arrangements and regulatory overhauls will require new legislation and allocation of new, currently nonexistent authorities for state utility commissions and state environmental regulators to implement carbon-driven integrated resource planning and "correction" authority over entities that in many cases (e.g., municipal power and REAs) have never been subject to IRP dictates. In the absence of state legislation, states cannot implement the rule because there is no comprehensive enforcement authority to allow it.

C. PRACTICAL CONSIDERATIONS GIVEN THESE LEGAL INFIRMITIES

The legal uncertainty surrounding state and federal authority should disabuse any state regulator or regulated entity of the notion that anticipatory regulation is necessary or appropriate. State regulators should not allow utilities to begin implementing the unlawful dictates of EPA's proposed rule before it is final. Such a premature expenditure of capital abdicates the

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[10] William J. Haun, *The Clean Air Act as an Obstacle to the Environmental Protection Agency's Anticipated Attempt to Regulate Greenhouse Gas Emissions from Existing Power Plants*, THE FEDERALIST SOCIETY (Mar. 2013), *available at* http://www.fed-soc.org/publications/detail/the- clean-air-act-as-an-obstacle-to-the-environmental-protection-agencys-anticipated-attempt-to-regulate-greenhouse- gas-emissions-from-existing-power-plants

[11] *See, e.g.*, Brian H. Potts, *The President's Climate Plan for Power Plants Won't Significantly Lower Emissions*, 31 YALE J. ON REG. 1A, 9A (2013)(concluding in part that "it is highly questionable whether EPA can even regulate existing power plants at all using Section 111(d).").

responsibilities entrusted to these regulators, specifically utility commissioners, who have the duty of ensuring safe and adequate service at just and reasonable rates. These comments focus on the Commission's enumerated questions, but in order to highlight some of the rule's shortcomings, Peabody has attached two white papers: (1) *State Implementation of CO_2 Rules: Institutional and Practical Issues with State and Multi-State Implementation and Enforcement* (Attachment C), and (2) *EPA's CO_2 Rules and 18 States' Resolutions and Legislation* (Attachment D). Both papers expand upon additional issues and concerns not addressed in these comments.

IV. THE EFFECT, IF ANY, OF HB 1631 ON THE UTILITY'S COMPLIANCE STRATEGY WITH THE PROPOSED 111(D) REQUIREMENTS (QUESTION V.J.)

The Missouri General Assembly passed HB 1631 (codified at Section 643.640 of Missouri Revised Statutes) this year based on the primacy given to states to set emission standards under Section 111(d) of the Clean Air Act. According to Section 643.640.5, the MACC "has legal authority to carry out any [State Implementation Plan, or SIP] with emission standards and compliance schedules that are developed and implemented consistent with this chapter."[12] Section 643.640.1 requires MACC to "develop emission standards under [Section 111(d)] through a unit-by-unit analysis of each existing affected source of carbon dioxide within the state."

MACC "shall consider" in initially developing and implementing emission standards for each existing affected source, among other factors, the remaining useful life of the existing affected source, and "shall consider" the overall economic impact from any and all emission standards and compliance schedules developed and implemented under Section 111(d).[13] Even more important, MACC is given authority under HB 1631 to develop, on a unit-by-unit basis, emission standards that are *less stringent* than applicable federal emission guidelines or <u>longer compliance schedules</u> than those required by federal regulations.[14] This determination shall be based on:

[12] M.R.S. Section 643.640.5
[13] *See* M.R.S. Sections 643.640.2 and 643.640.3.
[14] *See* M.R.S. Section 643.640.4.

(1) *Unreasonable cost of control* resulting from plant age, location, or basic process design;

(2) *Physical impossibility* of installing necessary control equipment; or

(3) *Other factors* specific to the existing affected source or class of existing affected sources that make application of a less stringent standard or final compliance time significantly more reasonable, including:

- the *absolute cost of applying the emission standard and compliance schedule* to the existing affected source;
- the *economic impacts of closing the existing affected source*, including expected job losses if the existing affected source is unable to comply with the performance standard; and
- the *customer impacts* of applying the emission standard and compliance schedule to the existing affected source, including any disproportionate electric rate impacts on *low income populations*.[15]

These allowances for a more lenient standard and longer compliance schedule tie directly to Section 111(d)'s federal implementing regulations at 40 C.F.R. § 60.24(f).

Despite its claims of "flexibility," EPA has provided no allowance for states to have a role in setting the carbon standard. The proposed rule states that Section 111(d) state plans or SIPs must achieve "emission performance equivalent to the goals established by the EPA, on a timeline equivalent to that" in the rule.[16] Under Section 111(d), EPA sets "guidelines" and states set "legally enforceable" emission standards and compliance schedules.[17] Accordingly, HB 1631 tracks the notion of cooperative federalism contemplated by Section 111(d) and its implementing regulations. The United States Supreme Court recognized this extensive state authority when it

[15] *See id.*
[16] CO2 Emission Guidelines at 46. .
[17] An emission guideline must reflect emissions reduction achievable by "the best system of emission reduction (taking into account the cost of such reduction) … [that] has been adequately demonstrated for designated facilities." 40 C.F.R. § 60.21(e). The substantive, standard-setting role of the states is reflected in the definition of "emission standard" under federal regulations. An emission standard is a "*legally enforceable regulation* setting forth an allowable rate of emissions into the atmosphere, establishing an allowance system, or prescribing equipment specifications for control of air pollution emissions." 40 C.F.R. § 60.21(f) (emphasis added).

stated that Section 111(d) allows "each State to take the first cut at determining how best to achieve EPA emissions standards within its domain."[18]

Moreover, the proposed rule offers no flexibility for a less-stringent standard or longer compliance timeline based on such factors as cost, reliability, or effect on ratepayers or the economy. EPA clearly rejected the case-by-case exceptions described in the federal implementing guidelines (40 C.F.R. § 60.24(f)) in its proposed rule:

> 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.[19]

Further, the proposed rule does not allow deviation from carbon reduction mandate by analyzing what is achievable inside the fence, *i.e.*, at the source. Indeed, three of EPA's four Building Blocks reside outside the fence, and only one Building Block assumption – 6 percent heat rate improvement for coal EGUs – is source-focused. That assumption (Building Block 1) is only a small part of the carbon reductions mandated by the EPA. If states cannot achieve the required carbon reduction from Building Block 1 (which they cannot), EPA would require states to look outside the fence or do "whatever it takes" – regardless of cost or reliability issues – to meet the standard.

In short, the EPA rule undermines HB 1631 in every respect, and ignores the rightful expectations of the Missouri General Assembly that the state would have primacy in setting a reasonable.

MACC must follow HB 1631, and should set a reasonable carbon reduction standard for the state through a unit-by-unit analysis of each existing affected source of carbon dioxide within the state, after considering the remaining useful life of the existing affected source, and the overall

[18] *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527, 2539 (2011).
[19] CO2 Emission Guidelines at 520.

economic impact from any and all emission standards and compliance schedules developed and implemented under Section 111(d). Further, MACC should allow a more lenient standard and longer compliance schedule for any unit based on unreasonable cost of control resulting from plant age, location, or basic process design, physical impossibility of installing necessary control equipment, or other factors such as absolute cost and effect on the economy, ratepayers, and low income populations.

The Missouri PSC should – and in fact must – continue to act in the interests of utility consumers by ensuring safe and adequate service at just and reasonable rates. As part of this role, the Commission should not allow utilities to begin implementing the unlawful dictates of EPA's proposed rule before it is final and before the MACC has made its determinations under HB 1631 based upon a unit-by-unit analysis as to what exactly is achievable by the Missouri generation fleet.

V. EPA'S METHODOLOGY CONFLICTS WITH THE COMMISSION'S STATUTORILY-DEFINED RATE-SETTING AND RESOURCE PLANNING OBJECTIVES (QUESTION V.A.)

The ramifications of EPA's proposed action are immense. The U.S. Chamber of Commerce estimates the cumulative impact of the rule on the United States' economy to be $859 billion by 2030 (an average of over $50 billion every year).[20] Americans will pay more for electricity, see slower economic growth and fewer jobs, and have less disposable income, while a slight reduction in carbon emissions will be overwhelmed by global increases."[21] Under EPA's own modeling, its proposed carbon reduction rule will result in a decrease in expected warming of one-fiftieth of one degree. Perhaps realizing the absurdity of its proposed rule, EPA's own chief Administrator has lately taken to arguing that the rule is not about "pollution control," but rather an "investment strategy."[22] This broken window theory of economics – that wealth will somehow be created by

[20] *Assessing the Impact of Potential New Carbon Regulations in the United States*, Institute for 21st Century Energy, U.S. Chamber of Commerce (May 2014).
[21] *Id.*
[22] *Available at* http://www.eenews.net/energywire/stories/1060002860

shuttering perfectly good baseload plants and replace them with generation that costs substantially more per kilowatt-hour – can only be believed by a Washington bureaucrat. Any small gain in "green jobs" will be massively overwhelmed by the loss of jobs due to higher electric rates, increased burden on family budgets and businesses moving out of the state or country.

The impacts on Missouri are pronounced. The proposed rule would require Missouri to reduce its annual CO_2 emissions from the electric power sector by approximately 540 million short tons of CO_2 by 2030, or about 25 percent.[23] For Missouri's West North Central region, the U.S. Chamber of Commerce estimates over 27,000 job losses and $3.2 billion decrease in GDP resulting from the regulations.[24]

A. THE PROPOSED RULES ARE NOT BASED ON TRADITIONAL LEAST-COST RESOURCE PLANNING PRINCIPLES

The Commission's exists to ensure that "every electrical corporation … shall furnish and provide such service instrumentalities and facilities as shall be *safe and adequate* and in all respects just and reasonable. All charges made or demanded by any such … corporation for … electricity, … or any service rendered or to be rendered shall be *just and reasonable* and not more than allowed by law or by order or decision of the commission. …"[25] EPA's proposal, however, contradicts these traditional least-cost planning principles and threatens, if not prohibits, the Commission's ability to carry out its constitutional duties.

Each Building Block will require significant capital, which will have to be shouldered by ratepayers over the course of decades. According to the U.S. Chamber of Commerce, "[b]y accelerating the premature retirement of coal plants" the regulations "force a significant deployment of capital by driving the noneconomic retirement of coal-fired generation facilities. Costs are also increased by a need to deploy nearly carbon-free new generation … When the costs

[23] EPA Technical Support Document: Goal Computation, Appendix 1.
[24] *Assessing the Impact of Potential New Carbon Regulations in the United States*, Institute for 21st Century Energy, U.S. Chamber of Commerce (May 2014).
[25] *See* M.R.S. Section 393.130 (emphasis added).

for new incremental generating capacity, necessary infrastructure (transmission lines and natural gas and CO_2 pipelines), decommissioning, stranded asset costs, and offsetting savings from lower fuel use and operation and maintenance are accounted for, total cumulative compliance costs will reach nearly $480 billion" by 2030.[26] More alarming, the South and Midcontinent Independent System Operator (MISO) power regions are expected to incur "over half the U.S. total costs during the 2014-30 timeframe," and "will shoulder more of the economic consequences of compliance."[27]

The opportunity to improve efficiency will vary significantly on a unit-by-unit basis, and may be very limited for certain units. Moreover, the incremental cost of achieving anywhere near a 6 percent across-the-board efficiency improvement is astounding. For instance, Dynegy recently announced that turbine upgrades at a fossil fuel plant would cost between $30 - $40 million and only result in a 1.5 percent efficiency improvement.[28] Similarly, another $30 - $40 million upgrade at one of its combined cycle plants would also only result in a 1.5 percent efficiency improvement.[29]

The rule also presumes that all natural gas combined cycle units can operate at a 70 percent capacity factor. However, with gas infrastructure costs that run upwards of $5 million per mile, EPA has either ignored or downplayed the natural gas infrastructure challenges and economics that limit the capacity factors of existing combined cycle units.[30]

B. THE PROPOSED RULE CIRCUMVENTS THE COMMISSION'S RESOURCE PLANNING AUTHORITY

The resource planning process is a complex effort that requires unique expertise in balancing a host of competing interests in order to provide safe, reliable power at rates that are

[26] *Assessing the Impact of Potential New Carbon Regulations in the United States*, Institute for 21st Century Energy, U.S. Chamber of Commerce at 4 (May 2014).
[27] *Assessing the Impact of Potential New Carbon Regulations in the United States*, Institute for 21st Century Energy, U.S. Chamber of Commerce at 5 (May 2014).
[28] Dean Ellis, Managing Director – Regulatory Affairs, Dynegy, *Illinois Commerce Commission US EPA Clean Power Plan Policy Session*, Presentation at Illinois Commerce Commission 111(d) Stakeholder Meeting (August 18, 2014).
[29] *Id.*
[30] Dean Ellis, Managing Director – Regulatory Affairs, Dynegy, *Illinois Commerce Commission US EPA Clean Power Plan Policy Session*, Presentation at Illinois Commerce Commission 111(d) Stakeholder Meeting (August 18, 2014).

reasonable. Commission Rule 4 CSR 240-22.010 identifies **"**the objectives that the electric utility resource planning process must serve," specifically:

> The fundamental objective of the resource planning process at electric utilities shall be to provide the public with energy services that are *safe, reliable, and efficient, at just and reasonable rates*, in compliance with all legal mandates, and in a manner that serves the public interest and is consistent with state energy and environmental policies.[31]

The resource planning process is to "[u]se minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan," subject to "other considerations which are critical to meeting the fundamental objective of the resource planning process, but which may constrain or limit the minimization of the present worth of expected utility costs."[32] These considerations include mitigation of "[r]isks associated with new or more stringent legal mandates that may be imposed at some point within the planning horizon"; however, utilities, must "describe and document the process and rationale used by decision-makers to assess the tradeoffs and determine the appropriate balance between minimization of expected utility costs and these other considerations in selecting the preferred resource plan and developing the resource acquisition strategy."[33]

It is these trade-offs and determining the appropriate balance that must be analyzed by the Commission as part of its resource planning function. While the EPA proposed rule appears to disallow considerations of trade-offs such as cost and reliability, Missouri law is clear that the Commission must ensure that the public receives energy services "that are safe, reliable, and efficient, at just and reasonable rates."[34] The Commission should open a docket to examine regulated utilities' implementation plans to ensure they are consistent with Missouri law, the Commission's rules, and the best interests of residential and business customers.

[31] *See* Commission Rule 4 CSR 240-22.010(2) (emphasis added).
[32] *See* Commission Rule 4 CSR 240-22.010(2)(B) and (C).
[33] *See* Commission Rule 4 CSR 240-22.010(2)(C).
[34] Commission Rule 4 CSR 240-22.010(2).

EPA's rule would override the IRP process and obviate the resource planning responsibilities of the Commission because it will significantly impact on the Commission's ability to determine the "optimal combination of resources" necessary "to meet forecasted load requirements at the lowest reasonable cost." Building Block 1 – average heat rate improvement of 6 percent for coal-fired EGUs -- is the only Building Block that is source-based. While the rule purports to give states "flexibility" in how they achieve their target, it is indisputable that achieving 21 percent emissions reductions through inside-the-fence metrics alone – *e.g.* heat rate improvements – is both technologically and economically impossible. Thus, the magnitude of required emission reductions will leave Missouri no alternative but to rely on outside-the-fence measures listed in Building Blocks 2, 3, and 4. These areas, which encompass both supply-side and demand-side resources, represent the lynchpins of the resource planning process and therefore fall within the province of the Commission's IRP process.

EPA's proposal overrides Missouri's prerogative to determine and effectuate its own least-cost electricity policies and dictates a policy of energy rationing. By setting emission rate limits that can only be achieved through aggressive outside-the-fence measures, EPA has proposed to substitute its judgment for that of public service commissions, utilities, grid operators, and other stakeholders in Missouri by presuming the appropriate amounts of electricity from coal, natural gas, nuclear, and renewables, as well as presuming how much electricity Missourians should use. Therefore, the rule directly contravenes the Commission's resource planning authority.

C. POTENTIAL RATE IMPACTS

While Peabody believes that other parties, such as Missouri's regulated utilities, are better situated to comment or speculate on the full-breadth of Section 111(d)'s impact on specific utility rates in Missouri, the broad impacts to the generation components are indisputable.

Coal is an essential component to maintaining reasonable electricity prices. In 2013, the U.S. average retail price for electricity was 10.08 cents per kWh.[35] In 2014, Missouri's average residential retail price was 8.53 cents per kWh. Nineteen states that generate less than nine percent of their electricity from coal pay an average of 13.1 cents per kWh for their electricity, which is 30 percent more than the national average price of electricity.[36] Conversely, 31 states that generate more than 55 percent of their electricity from coal pay an average of 9.02 cents per kWh – 11 percent less than the national average.[37]

The shift away from coal-fired generation will result in compliance costs being passed to consumers through higher electricity prices, which are expected to increase by $3.3 billion in the MISO region alone under the rule.[38]

In addition to being on the hook for costs associated with premature decommissioning, retrofitting, fuel switching, and infrastructure build-out, Section 111(d) would make Missouri ratepayers highly vulnerable to rate fluctuation due to changes in natural gas prices. Missouri's current energy mix is relies heavily on coal as a low-cost, reliable resource. EPA's rule would force utilities to build unneeded gas plants to uneconomically dispatch gas ahead of coal. Natural gas prices are more volatile than coal as production and market prices are prone to multiyear cycles and volatility.[39] EIA estimates natural gas prices for electric power and generation will increase by nearly 30 percent between 2014 and 2015, whereas coal prices are only projected to rise 19 percent over the same period.[40]

[35] U.S. Energy Information Administration, Electric Power Monthly (February 2014).
[36] *Id.*
[37] U.S. Energy Information Administration, Electric Power Monthly (February 2014).
[38] U.S. Chamber of Commerce Institute for 21st Century Energy, *Assessing the Impact of Potential New Carbon Regulations in the United States* at 21 (May 2014).
[39] *See id.*
[40] U.S. Energy Information Administration, Annual Energy Outlook 2014 (May 7, 2014).

D. IMPACTS ON NEAR AND LONG-TERM ELECTRIC SYSTEM RELIABILITY

As coal plants retire, the probability of electricity price increases and potential supply disruptions during periods of high natural gas prices will increase. A substantial amount of the proposed emission reduction goals for Missouri are likely to stem from Building Block 2, which would require significant redispatch to natural gas.

Interstate natural gas pipelines were originally constructed for natural gas local distribution companies (LDCs) to serve winter heating demand. Historically, power plants have been able to use underutilized capacity in the summer and shoulder months. However, the electric power sector has gone from being the smallest user of natural gas to the largest. Despite this trend, in many areas of the country, electric power generation is still "second in line" for natural gas. This can cause problems when high natural gas demand for space heating coincides with high electricity demand, primarily on very cold days such as those experienced this past winter.

This is not just a theoretical danger in Missouri. At the August 18, 2014 Workshop, Paul Ling of KCP&L stated that "[p]ipelines serving Missouri were not designed to simultaneously serve winter heat load and displaced coal-fired generation," and a "pipeline upgrade" would be needed to accommodate EPA's 70 percent natural gas combined cycle (NGCC) dispatch assumption.[41] Mr. Ling also noted that the "dynamics between electric generation, wholesale markets and the natural gas and pipeline industries are much more complex than described in the proposed rule."[42] Likewise, Lanny Nickell of the Southwest Power Pool (SPP) noted that the SPP market is only at 28 percent NGCC capacity; EPA expects dispatch to increase to 70 percent, which represents a 150% increase over the current level.[43] Such a dramatic increase in NGCC dispatch is not feasible without substantial and expensive expansion of gas pipeline infrastructure and storage.

[41] *See* KCP&L PPT at slide 4.
[42] *See* KCP&L PPT at slide 14.
[43] *See* SPP PPT at slide 6.

SPP made clear at the workshop that it has substantial reliability concerns associated with EPA-assumed baseload coal retirements, stating that:

> SPP expects equipment overloads, low voltages, and dynamic stability issues will result from EPA-assumed fossil fuel generator retirements. Further, EPA's assumed retirements will result in approximately 4.5 GW and 10 GW of new generation being needed by 2020 and 2024, respectively, to comply with SPP's minimum reserve margin requirements. Transmission infrastructure needed to mitigate reliability issues and to support interconnection and delivery of new generation will likely not be available by the time it is needed to facilitate compliance with the EPA's regulations.[44]

While SPP's minimum reserve margin requirement is 13.6 percent, by 2020 SPP's will be at 5 percent; and by 2024 it will be at *negative* 3.8 percent.[45] Out of SPP's 14 load serving members assessed, nine would be deficient by 2020 and 10 by 2024.[46] EPA's proposed rule would greatly exacerbate these reliability deficiencies by forcing the closure of inexpensive baseload plants.

The North American Electric Reliability Corporation (NERC) has conducted two special reliability assessments focusing on the increased use of natural gas by the electric sector. In 2011, NERC stated that "increased dependence on natural gas for generating capacity can amplify the bulk power system's exposure to interruptions in natural gas fuel supply and delivery."[47] In 2013, NERC noted that differences between the two systems can result in a "mismatch between the availability of gas delivery services and gas demand for electricity generation."[48] In its winter 2013-2014 reliability assessment, NERC concluded that, "… the concerns are high priority in areas where (1) power generators rely on interruptible gas pipeline transportation, (2) natural gas interstate pipelines are constrained to meet demand beyond what has been contracted and committed, and (3) gas use for power generation is growing the fastest." Citing New England as an

[44] *See* SPP PPT at slide 15.
[45] *See* SPP PPT at slide 10.
[46] *See id.*
[47] North American Electric Reliability Corporation, *2011 Special Reliability Assessment: A Primer of the Natural Gas and Electric Power Interdependency in the United States* (December 2011).
[48] North American Electric Reliability Corporation, *2013 Special Reliability Assessment: Accommodating an Increased Dependence on Natural Gas for Electric Power Phase II: A Vulnerability and Scenario Assessment for the North American Bulk Power System* (May 2013).

example, NERC warned, "[t]he 2012-2013 winter period demonstrated that New England's natural gas dependency risk continues to escalate and existing fuel arrangements of many generators will lead to continued challenging and complex operating conditions when the power system and fuel supply deliveries are stressed."[49] Missouri is not immune from such risk.

Other studies have shown that coal retirements and increased reliance by the power sector on natural gas are linked to price spikes and reliability issues. According to ICF International in a January 21, 2014 report examining this past winter's polar vortex, many independent system operators "were forced to issue emergency alerts and call reserves or reduce voltage. This raises the question as to whether the system operated reasonably well under extreme circumstances, or alternatively, whether changes in the resource mix with coal retirements, increased reliance on natural gas … may be inadvertently compromising grid reliability and/or resulting in very high prices that might be avoided."[50]

Peabody anticipates that electricity price spikes and shortages are more likely in the future as more coal plants retire. This impacts electric system reliability in the near and long-term. As the New York Times put it, "Coal to the Rescue, But Maybe Not Next Winter."[51]

VI. THE EPA'S PROPOSED "BUILDING BLOCKS" ESTABLISH IMPOSSIBLE AND UNREASONABLE TARGETS THAT ARE NOT BASED ON SOUND INDUSTRY DATA OR METHODS

A. BUILDING BLOCK 1

The proposed CO_2 performance goal for Missouri assumes each coal-fired EGU can achieve an efficiency improvement of 6 percent by implementing efficiency improvements, such as heat rate improvement, refurbishment, plant upgrades and improved operations and maintenance (O &

[49] North American Electric Reliability Corporation, *2013-2014 Winter Reliability Assessment* (November 2013).
[50] ICF International, *Polar Vortex Energy Pricing Implications – Commercial Opportunities and System Reliability* (January 20, 2014).
[51] *See* http://www.nytimes.com/2014/03/11/business/energy-environment/coal-to-the-rescue-this-time.html?_r=0.

M) schedules to improve heat transfer. EPA's assumed 6 percent efficiency gain is simply not feasible within Missouri.

Ameren's presentation at the August 18, 2014 workshop stated that, realistically, only about 1 to 2 percent heat rate improvement may be achievable on Ameren's system, and even then at significant cost.[52] KCP&L stated that heat rate improvements for its coal units would be 1.6 percent at best.[53] Further, KCP&L is concerned that such efficiency improvements would trigger EPA New Source Review,[54] which would almost certainly be denied by EPA based on its proposed New Source Performance Standard.

Among other things, EPA mistakenly assumes that:

(1) All heat rate improvements work on all plants. They do not. Different types of coal respond differently to various types of improvements and uniform gains cannot be expected.

(2) It is somehow economical to make such improvements. It is not. For instance, Dynegy recently reported that turbine upgrades (replacement of high pressure, intermediate pressure and low pressure sections) at a fossil unit cost approximately $30-$40 million and resulted in 1.5 percent heat rate improvements. Dynegy also reported that installation of an advanced gas path upgrade at a combined cycle gas plant cost approximately $30 million and also only resulted in 1.5 percent heat rate improvement.

(3) All technology contributes to efficiency gains. For instance, many plants are working to comply with EPA's Mercury and Air Toxics Standards (MATS), by installing various are installation of $S0_2$ scrubbers. These improvements will actually degrade a plant's heat rate by upwards of 2 percent as it requires the plant to use more ancillary load.

[52] *See* Ameren PPT at slide 7.
[53] *See* KCP&L PPT at slide 3.
[54] *See* KCP&L PPT at slide 13 .

B. BUILDING BLOCK 2

The proposed rule would redispatch to NGCC generators such that these generators have a 70-75 percent capacity factor. EPA believes Missouri can increase current NGCC capacity factors by some 40 percent to reach an ultimate level of 70 percent. While Missouri may have the ability to re-dispatch gas at NGCC units to attain a 70 percent capacity factor, the costs associated with such a proposal are prohibitive.

First, attaining this level of combined cycle capacity factor would require significant gas plant and infrastructure build-out, which will ultimately be borne by ratepayers at costs upward of $5 million per mile.[55] Second, such a high capacity factor will also baseload the NGCC fleet, which will significantly increase maintenance costs. Lastly, increasing NGCC capacity and lowering the operating levels of coal plants would have the negative effect of degrading coal plant efficiency up to 25 percent and degrading CCGT efficiency by 1.5 percent while resulting in higher dispatch costs. Cumulatively, aside from being economically illogical, these impacts will place even more pressure on the other Building Blocks. The following carbon taxes would be necessary in order to redispatch NGCC ahead of coal:

- 2020: $40.10/t CO_2
- 2025: $51.22/t CO_2
- 2030: $49.03/t CO_2

Moreover, as noted by KCP&L, the gas infrastructure necessary for this type of switch simply doesn't exist in Missouri. SPP also noted that the EPA rule may require additional electric transmission, for which it "[t]akes up to 8.5 years to perform applicable planning processes and construct transmission upgrades."[56] 345 kV construction typically costs approximately $2 MM per mile and 138 kV construction typically cost approximately $1 MM per mile, excluding substation

[55] Dean Ellis, Managing Director – Regulatory Affairs, Dynegy, *Illinois Commerce Commission US EPA Clean Power Plan Policy Session*, Presentation at Illinois Commerce Commission 111(d) Stakeholder Meeting (August 18, 2014).
[56] *See* SPP PPT at slide 11.

costs.[57] The planning, siting, permitting and construction process involved in both intra- and inter-state pipelines, transmission and generation facility projects is expensive and time-consuming. This process can take up to a decade or longer in some scenarios and the rule provides no compliance alternatives to accommodate this process.

C. BUILDING BLOCK 3

1. *Building Block 3(a)*

Building Block 3(a) addresses "new and preserved" nuclear capacity. Peabody believes that other parties may be better situated to address this issue, but reserves its right to submit future comments on the issue.

2. *Building Block 3(b)*

Under this Building Block, EPA expects Missouri to increase current renewable generation to 3 percent of total generation by 2030. While Missouri has a renewable energy standard (RES) pursuant to Section 393.1030 of Missouri Revised Statutes, the RES allows utilities to generate or purchase renewable energy from another state. At the August 18, 2014 workshop, both KCP&L and Empire indicated that EPA's carbon reduction standard would be much harder and more costly to meet if they cannot use wind power they generate or purchase from Kansas for CO_2 performance goal compliance purposes (in KCP&L's case, an increased cost of $650-700MM for wind resources). It is unsettled under the proposed rule as to whether EPA will allow states to take into account CO_2 emission reductions from renewable energy measures in other states. If EPA prohibits reliance on out of state measures, it not only contravenes the intent of Section 393.1030 but also will unduly raise rates for consumers.

EPA's third Building Block also contravenes Section 393.1045 of Missouri Revised Statutes, which provides that "[a]ny renewable mandate required by law shall not raise the retail

[57] *See* SPP PPT at slide 13.

rates charged to the customers of electric retail suppliers by an average of more than one percent in any year….".

D. BUILDING BLOCK 4

EPA assumes all states can obtain a 1.5 percent *annual* demand reduction through increased energy efficiency measures, increasing year over year from 2020 to 2030 before reaching, in Missouri's case, almost 10 percent. EPA's assumption is inconsistent with the Missouri Energy Efficiency Investment Act, which among other things disallows recovery for energy efficiency programs "unless the programs are approved by the commission, result in energy or demand savings and are beneficial to all customers in the customer class in which the programs are proposed, regardless of whether the programs are utilized by all customers. The commission shall consider the total resource cost test a preferred cost-effectiveness test."[58] Notably, customers that have a demand of five thousand kilowatts or more may not be charged for energy efficiency programs provided the customer has notified the electric utility that the customer elects not to participate in demand-side measures.[59] Once again, the EPA's proposed rule does not allow exceptions to its carbon reduction mandate even if an energy efficiency program does not meet the Commission's cost-effectiveness test, does not benefit all customers, or is applied to customers with a demand of 5,000 kilowatts or more.

Thus, the proposed rule would effectively impose a statewide energy efficiency standard different from that established by the Missouri General Assembly.

VII. CONCLUSION

Beyond the legal infirmities discussed at the outset in these comments, EPA's proposal is flawed in numerous respects and would seriously compromise the Commission's ability to carry out its duties. Ameren emphasized at the August 18, 2014 workshop that EPA's proposed standard

[58] *See* M.R.S. Section 393.1075.4.
[59] *See* M.R.S. Section 393.1075.7(3).

would result in a $4 billion increase to its customers, four times more than its baseline plan, resulting in significant rate increases by 2020.[60] KCP&L stated that, if it cannot count its Kansas wind for compliance in Missouri, then it is looking at spending $650-700 million for wind resources, and possibly $600-800 million in additional capital costs to comply with the rule.[61] If Missouri would like to retain its advantage as a low electricity cost state, it must not capitulate to EPA's unlawful mandate. The California-related analyses attached to these comments show the potential consequences to low-cost energy states like Missouri if and when EPA's proposed rule is implemented at the state level.

The Commission and other state actors should take the following actions related to Section 111(d):

1) Agencies such as the PSC should receive input and make findings regarding the accuracy and feasibility of EPA's Building Blocks (heat rate, NGCC dispatch, renewable penetration, and energy efficiency assumptions), costs, reliability, and effect on ratepayers and jobs;

2) Pursuant to its resource planning authority, the Missouri PSC should open a proceeding to examine regulated utilities' contemplated resource plans concerning Section 111(d) compliance. Such proceeding should analyze whether any such implementation plans provide safe, reliable and adequate service at just and reasonable rates; whether utilities are justified in taking any irrevocable actions prior to the EPA proposed rule becoming final and prior to the Missouri DNR determination of a reasonable carbon reduction standard under Missouri House Bill 1631; and whether such plans otherwise comply with Missouri law and the best interests of Missouri residential and business customers;

3) Submit comments to EPA by October 16, 2014;

4) Demand that EPA allow state primacy in setting standard, allow less stringent standard and compliance timeline based on factors in federal implementing guidelines;

5) Demand that EPA provide a reasonable amount of time to evaluate fleet and EPA assumptions, discuss with neighboring states, choose pathway to compliance, and allow state agencies to hold hearings to determine how to comply with Section 111(d) in the best interests of the state; and

6) Defend HB 1631 as consistent with Section 111(d) and its federal implementing regulations regarding state primacy to set reasonable source-based carbon reduction standards based on an engineering analysis of what is achievable at each unit at reasonable cost.

[60] *See* Ameren PPT at slide 6.
[61] *See* KCP&L PPT at slides 5, 15, and 33.

Peabody commends the Commission for its leadership and concern regarding the EPA's unprecedented rulemaking under Section 111(d) of the Clean Air Act and looks forward to continued participation in this docket.

Dated this 25th day of August, 2014.

Respectfully Submitted,

STINSON LEONARD STREET LLP

/s/ Khristine A. Heisinger
Khristine A. Heisinger, Mo. Bar No. 42584
230 W. McCarty Street
Jefferson City, MO 65101
Phone 573.636.6263
Fax: 573.636.6231
khristine.heisinger@stinsonleonard.com

GREGORY SOPKIN
WILKINSON BARKER KNAUER LLP
1755 BLAKE STREET
SUITE 470
DENVER, CO 80202
PHONE 303.626.2350
FAX 303.626.2351
GSOPKIN@WBKLAW.COM

Attorneys for Peabody Energy Company

CERTIFICATE OF SERVICE

I hereby certify that I have this 25th day of August, 2014, copies of the foregoing pleading was served electronically through the Public Service Commission's e-filing system and by prepaid U.S. mail upon the parties identified in the PSC service list:

Steve Dottheim
Missouri Public Service Commission
P.O. Box 360
Jefferson City, MO 65102\

Office of General Counsel
Missouri Public Service Commission
P.O. Box 360
Jefferson City, MO 65102

Dustin Allison
Office of the Public Counsel
P.O. Box 2230
Jefferson City, MO 65102

/s/ Khristine A. Heisinger