

**BEFORE THE  
UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY**

**Comments of the Mississippi Public Service Commission**

Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility  
Generating Units

Docket No. EPA-HQ-OAR-2013-0602  
79 Fed. Reg. 34,830 (June 18, 2014)

**Shawn S. Shurden, General Counsel  
MS Public Service Commission  
Post Office Box 1174  
Jackson, MS 39215-1174  
(601) 961-5497  
Shawn.Shurden@psc.state.ms.us**

**Lisa G. Dowden  
David E. Pomper  
Jessica R. Bell  
Spiegel & McDiarmid LLP  
1875 Eye Street, NW  
Suite 700  
Washington, DC 20006  
(202) 879-4000  
Lisa.Dowden@spiegelmc.com  
David.Pomper@spiegelmc.com  
Jessica.Bell@spiegelmc.com**

**Counsel for  
Mississippi Public Service Commission**

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As the entity charged with regulating electric and gas utilities in Mississippi, the Mississippi Public Service Commission (“MPSC” or “the Commission”) appreciates the opportunity to comment on the Environmental Protection Agency’s (“EPA”) proposed rule, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (“the proposed rule” or “Clean Power Plan”).<sup>1</sup>

**I. The MPSC has a particular and important interest in the proposed rule.**

With the Clean Power Plan, EPA proposes to reform national energy policy by way of environmental regulation. The MPSC regulates telecommunications, electric, gas, water, and sewer utilities within Mississippi. The Commission is charged with protecting Mississippi ratepayers by assuring that rates and charges for utility services are just and reasonable, that the service rendered is reasonably adequate, and that any facilities constructed or acquired are required for the convenience and necessity of the public. The proposed rule, if finalized, would affect all of these Commission functions, and the Commission would play a crucial role in compliance with any final Clean Power Plan.

**A) Background.**

As shown in Figure 1, Mississippi customers are served by a variety of providers, including two large investor-owned utilities—Mississippi Power Company (“MPCO”) and Entergy Mississippi, Inc. (“EMI”). The Tennessee Valley Authority (“TVA”) and the South Mississippi Electric Power Association (“SMEPA”) are the other utilities of significant size serving Mississippi. Cooperative utilities supply over one-third of the state’s electricity across all sectors, and fifty-one percent of residential customers get their electricity from cooperatives.<sup>2</sup> Municipal utilities make up approximately eight percent of electricity sales and sixteen percent of natural gas sales.<sup>3</sup> The portion of Mississippi served by certain utilities (e.g., Entergy) is located within the footprint of the Midcontinent Independent System Operator, Inc. (“MISO”), a

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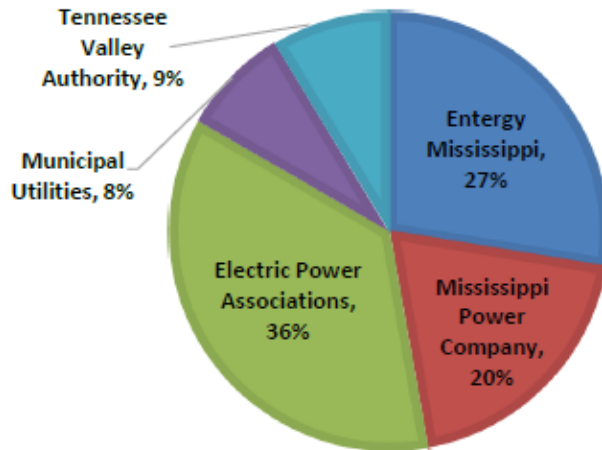
<sup>1</sup> Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60) (“Clean Power Plan”).

<sup>2</sup> American Council for an Energy-Efficient Economy, Rep. No. E13M, *A Guide to Growing an Energy-Efficient Economy in Mississippi* 10 (Nov. 2013), <http://aceee.org/node/3078?id=5175> (log-in required) (“ACEEE Report”).

<sup>3</sup> *Id.*

regional transmission organization (“RTO”), *see* Figure 2. The remainder of the state is outside of MISO and is not in any RTO.<sup>4</sup> MISO is regulated by the Federal Energy Regulatory Commission (“FERC”) and defined by FERC-regulated contractual agreements and the FERC-regulated MISO Tariff. Among other things, MISO balances generation and load on an instantaneous basis and plans for transmission expansion.<sup>5</sup>

**Figure 1. Total 2011 electricity sales in Mississippi by provider type.<sup>6</sup>**



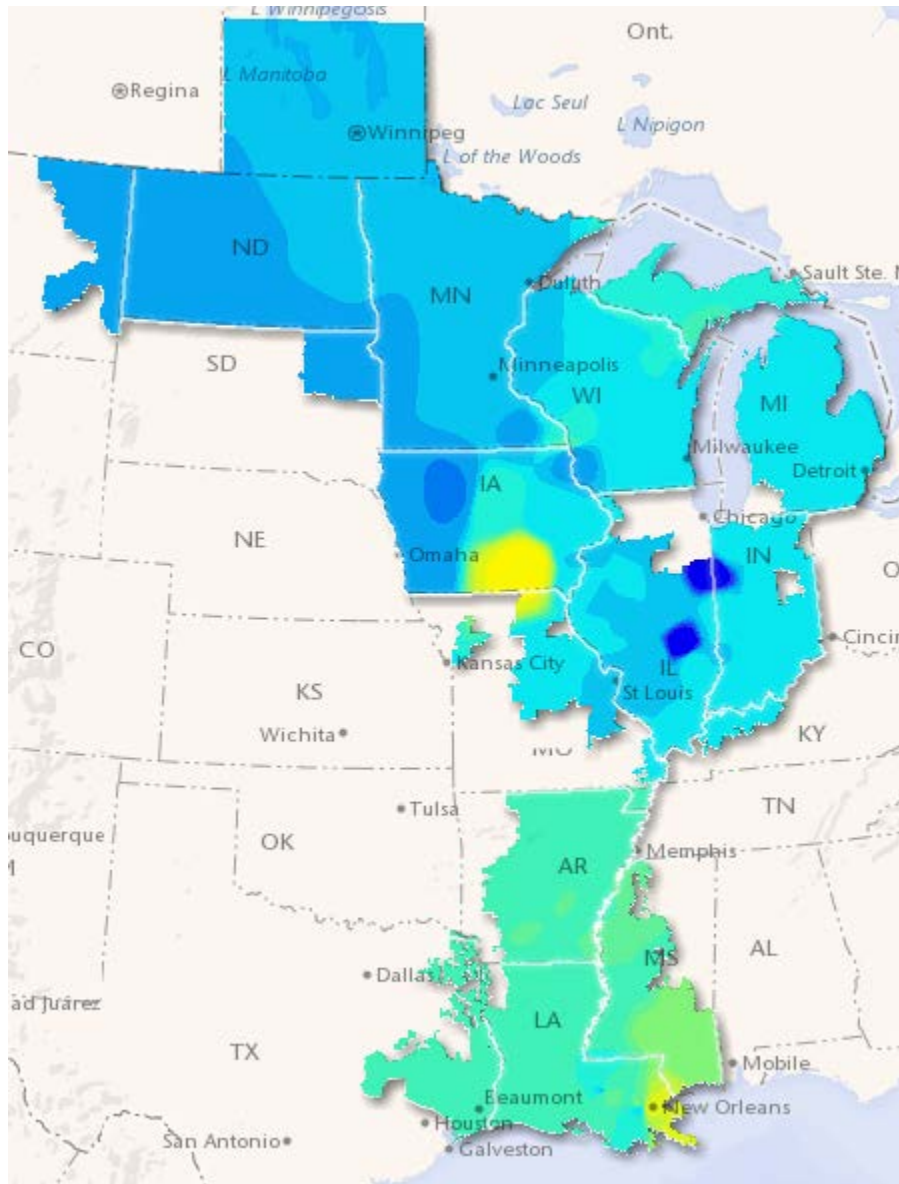
Source: EIA 2012a  
Note: Total electricity sales in 2011 were 49,378 GWh

<sup>4</sup> Individual utilities decide whether or not to join RTOs, although the MPSC must approve these decisions.

<sup>5</sup> Mack Thompson, Iowa Utilities Board, *Understanding MISO* 6, National Association of Regulatory Utility Commissioners, 4th Armenia/Iowa Exch., available at <http://www.naruc.org/international/Documents/MISO.pdf>.

<sup>6</sup> ACEEE Report at 12 (citing U.S. Energy Information Administration, *Electric Power Annual 2012* tbl. 2.8 (2013), available at <http://www.eia.gov/electricity/annual/pdf/epa.pdf>).

**Figure 2. Map of areas within MISO footprint.<sup>7</sup>**



Although load is not expected to increase at the rates anticipated in other states,<sup>8</sup> there is certainly some projected load growth in Mississippi. Entergy's 2012 Integrated Resource Plan

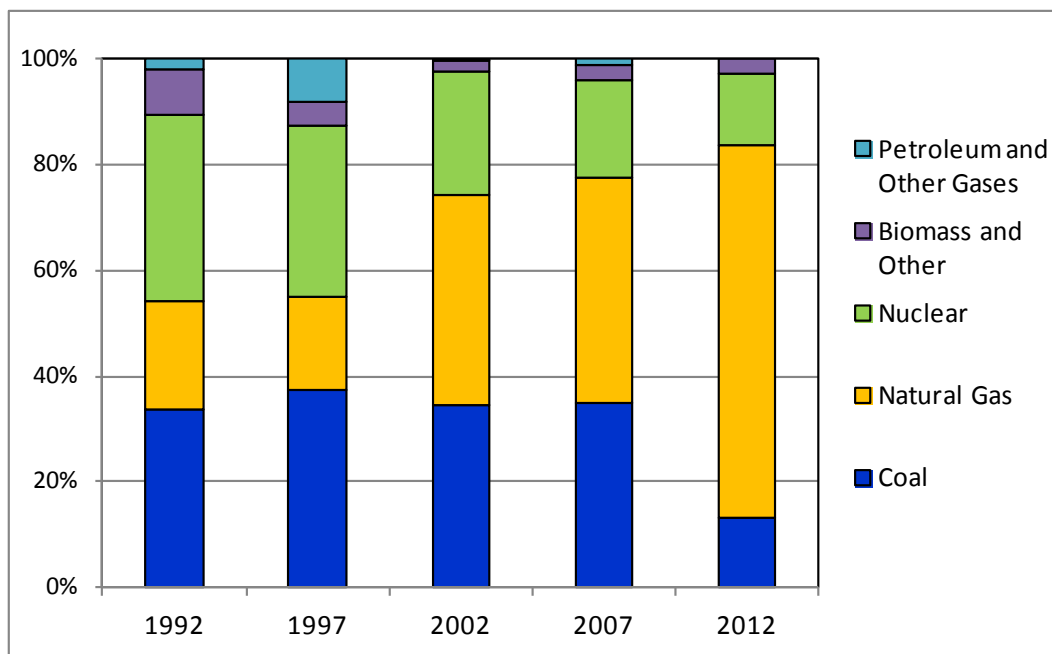
<sup>7</sup> Midcontinent Independent System Operator, Inc., *LMP Contour Map*, available at [https://www.misoenergy.org/LMPContourMap/MISO\\_All.html](https://www.misoenergy.org/LMPContourMap/MISO_All.html) (last visited Nov. 25, 2014).

<sup>8</sup> ACEEE Report at 1.

projected a 0.8 percent load growth, assuming no CO<sub>2</sub> cost, and a 1.4 percent load growth, assuming some economic recovery.<sup>9</sup>

Mississippi has severely limited renewable generation options in state; biomass is the primary renewable energy option.<sup>10</sup> As illustrated in Figure 3, natural gas-fired generation has increased dramatically in Mississippi, and coal-fired generation has correspondingly decreased. While natural gas is currently a low cost fuel for generating electricity, and may continue to be so for some time, the Commission is keenly aware of the history of volatile fluctuations of natural gas prices. Further, while hydraulic fracturing (“fracking”) of vast natural gas resources is responsible for current relatively low prices of natural gas, there are substantial uncertainties associated with the future commercial production and environmental regulation of fracking.

Figure 3. Mississippi Electric Generation by Source<sup>11</sup>



<sup>9</sup> Entergy System, *2012 Integrated Resource Plan 13-14* (Oct. 2, 2012), <https://spofossil.entergy.com/ENTRFP/SEND/2012Rfp/Documents/2012%20System%20IRP%20Report%20-%20Final%2002Oct2012.pdf>.

<sup>10</sup> In 2010 Mississippi generated 2.8 percent of its electricity from renewables, and nearly all of this generation was from wood and wood waste. Mississippi Energy Institute, *Biomass & Renewable Energy*, <http://www.mei.ms/media-center/fact-sheets/biomass-renewable-energy/> (last visited Nov. 25, 2014) (“MEI Biomass Fact Sheet”).

<sup>11</sup> Chart derived from U.S. Energy Information Administration, *Net Generation by State by Type of Producer by Energy Source* (Nov. 12, 2013), available at <http://www.eia.gov/electricity/data/state/>.

***B) The Commission will play an important role in implementation of any final rule.***

The Commission recognizes that due to its responsibilities under Mississippi law, it will be a key player in the implementation of any state plan that EPA ultimately mandates. Accordingly, the Commission has a keen interest in ensuring that the issues that make the proposed rule infeasible are addressed and that any final rule is within EPA's authority.

Like EPA, the MPSC values stakeholder input and has held open meetings and established a docket for interested parties to provide information.<sup>12</sup> The Commission solicited information from the largest utilities in Mississippi to better understand the status of and plans for their electricity generating units ("EGUs"). The Commission also received information from the Sierra Club and the Southern Alliance for Clean Energy.

***C) Overview of comments.***

States across the nation have acted in the public interest to reduce greenhouse gas ("GHG") emissions. The proposed rule, however, would have unprecedented effects on state energy policy. Not only are significant components of the proposed rule outside of EPA jurisdiction, but also the impacts of the proposed rule could threaten fuel diversity and reliability. The Commission is concerned that these effects remain largely unstudied and will cause rate impacts that far exceed the asserted benefits of any associated GHG reductions.

The Commission and utilities in Mississippi have already taken significant steps in this direction and should receive credit for doing so. In July 2013, the Commission adopted Rule 29, related to Conservation and Energy Efficiency Programs, in order to promote the efficient use of electricity and natural gas by implementing energy efficiency programs and standards.<sup>13</sup> Rule 29

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<sup>12</sup> *In re: the U.S. E.P.A.'s Proposed Rule on Carbon Dioxide Emissions from Existing Fossil-Fuel Fired Elec. Generating Units Under Section 111(d) of the Clean Air Act*, Docket No. 2014-AD-165 (Mississippi Public Service Commission filed July 8, 2014).

<sup>13</sup> Final Order Adopting Rule, *In re: Proposal of the Miss Pub. Serv. Comm'n to Possibly Amend Certain Rules & Regulations Governing Pub. Utility Serv.*, Docket No. 2010-AD-2 (Mississippi Public Service Commission filed July 11, 2013), available at [http://www.psc.state.ms.us/InsiteConnect/InSiteView.aspx?model=INSITE\\_CONNECT&queue=CTS\\_ARCHIVEQ&docid=310904](http://www.psc.state.ms.us/InsiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=310904) ("Final Order Docket No. 2010-AD-2").



requires covered electric and natural gas utilities to implement energy efficiency programs and strives to promote cost-effective investment in program development.

An additional example of the progress being made in Mississippi is the state's commercial building code,<sup>14</sup> which is being used as a model for other states. Mississippi is the second state—and the first in the Southeast—to adopt the standard contained in the most recent version of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (“ASHRAE”) code.<sup>15</sup> In terms of generation, utilities are already focused on cleaner power, including increased investment in natural gas combined cycle (“NGCC”) units, a recent uprate at Grand Gulf Nuclear Station, and, as EPA is well aware, the Kemper County Integrated Gasification Combined Cycle (“IGCC”) Project, a first-of-a-kind carbon capture and sequestration (“CCS”) unit.

Yet while Mississippi and the MPSC have begun taking steps to reduce GHG emissions, the Commission's serious concerns with the proposed rule cannot be ignored. The MPSC is obligated to account for the impacts of the proposed rule on ratepayers. Despite having some of the lowest retail electricity rates in the United States, Mississippi residents spend a large portion of their disposable income on electricity. In 2011, Mississippi residential customers averaged 4.9 percent electricity expenditures as a percent of median income—the highest in the country.<sup>16</sup> The same year, total energy expenditures as a percent of median income was 6.1 percent—the third highest in the country.<sup>17</sup> Mississippi has the highest poverty rate of any state.<sup>18</sup> Estimates show that the rate impact of the proposed rule, particularly in Mississippi, could be devastating, particularly for low-income ratepayers. While energy efficiency is likely to be good in the long-term for low-income ratepayers, the initial costs may be overwhelming and must be thoughtfully approached.

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<sup>14</sup> Miss. Code. Ann. § 57-39-21.

<sup>15</sup> ACEEE Report at 6.

<sup>16</sup> *Id.* at 2. In fact, looking at the top ten states, all but two are in the Southeast region. *Id.*

<sup>17</sup> *Id.* Only Maine and Vermont—two colder climate states—ranked higher than Mississippi using this metric. *Id.*

<sup>18</sup> Alemayehu Bishaw, et al., U.S. Dep't of Commerce Econ. & Statistics Admin., U.S. Census Bureau, Rep No. ACSBR/13-01, *American Community Survey Briefs: Poverty: 2012 and 2013* 3 (Sept. 2014) <http://www.census.gov/content/dam/Census/library/publications/2014/acs/acsbr13-01.pdf>.

The Commission also wishes to highlight its concerns regarding system reliability and the need for comprehensive studies of reliability effects. Resource adequacy is a state issue, and any final rule must recognize system constraints and the importance of maintaining reliable operations. The MPSC must ensure reliable service for Mississippi ratepayers.

As a state with two major, multi-state investor-owned utilities and a portion of the state within MISO, the MPSC is quite concerned with cross-jurisdictional and cross-boundary issues. While regional approaches may present the most cost-effective solutions for implementation of any final rule, the development of successful joint approaches will require additional coordination and time.

The Commission also has specific comments regarding the operation of the proposed rule's building blocks. The Commission questions whether the four building blocks will in fact operate together as a "system." The cumulative effect of the building blocks in Mississippi is to displace coal-fired generation, which raises reliability, fuel diversity, potential stranded costs, and equity concerns. The MPSC discusses these issues, as well as specific concerns and suggestions regarding the building blocks and other aspects of the proposed rule, herein.

## **II. The Clean Power Plan seeks to dictate energy policy outside of EPA's jurisdiction.**

While the MPSC intends to focus its comments on issues specific to the implementation of any final rule in Mississippi, it cannot overlook the serious questions surrounding EPA's ability to promulgate the proposed rule under its existing statutory authority.

### ***A) EPA could not implement the building blocks in a Federal Implementation Plan.***

EPA determines the Best System of Emission Reduction ("BSER") to be the application of four building blocks. EPA applies these building blocks in order to set a goal for each state, although EPA notes that it is not requiring each state to implement the building blocks in the particular manner that EPA did as it developed the state goals. EPA has not, in fact, provided a model rule or plan for implementation of the Clean Power Plan by each state. And part of the difficulty the MPSC would expect to face in developing any future state plan is related to this decision not to issue a model rule—on which any Federal Implementation Plan ("FIP") might be

based—that would allow states to assess how their own plans compare.<sup>19</sup> The Commission surmises that this lack of a model rule stems in part from the fact that EPA lacks statutory authority to impose the building blocks (beyond building block one) on sources (and especially on non-sources), and that it would therefore not be possible for EPA to implement a FIP based on all four building blocks.<sup>20</sup> This leads to the conclusion that EPA should not consider beyond-the-fenceline, third-party measures in determining the stringency of state goals.<sup>21</sup>

In order to draft a FIP that incorporates EPA’s proposed building blocks, EPA would have to order utility companies to dispatch their power plants differently than they do now. It would have to order utilities—and likely others—to build renewable resources in place of lower cost resources. It would have to order utilities to build or retain nuclear plants, and require state commissions to allow cost recovery for such plants in utility rates (or require the state legislature and governor’s office to commit to subsidize such resources)—actions backed by authority that is questionable, at best, and with federalism implications. Similarly, it would have to order the states or state agencies to enact demand response or energy efficiency programs and to subsidize those, where necessary, as well. These measures may result in a decrease in overall emissions from power plants, but they do not affect the emission rate of a power plant. There is nothing in Section 111(d) of the Clean Air Act to suggest that it grants EPA such sweeping authority to order states to remake their generation mixes, to redispatch the electric grid, or to enact and fund demand response and energy efficiency programs. It is axiomatic that EPA cannot accomplish indirectly what it cannot order directly.<sup>22</sup> Even if it possessed the requisite statutory authority, EPA lacks the utility industry expertise to successfully remake an entire industry in its preferred

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<sup>19</sup> See Supplemental Proposal for the Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule), 69 Fed. Reg. 32,684, 32,709 (June 10, 2004) (discussing advantages of model rule for SO<sub>2</sub> and NO<sub>x</sub> Clean Air Interstate Rule).

<sup>20</sup> See 42 U.S.C. § 7411(a)(3) (defining “stationary source”); 40 C.F.R. § 60.27(e) (requiring regulations proposed and promulgated by the Administrator to prescribe emission standards of the same stringency as the corresponding emission guideline(s) specified in the final guidance document).

<sup>21</sup> The Commission does not believe that the state goals set using all four building blocks as EPA had done are attainable through the implementation of only Building Block 1, even taking all EPA assumptions related to Building Block 1 as feasible.

<sup>22</sup> See *United States v. Am. Elec. Power Serv. Corp.*, 218 F. Supp. 2d 931, 943-44 (S.D. Ohio 2002) (describing cooperative federalism scheme of Clean Air Act).

image. EPA's minimal coordination with FERC,<sup>23</sup> which does regulate the wholesale power industry, has been insufficient to craft a rule that will achieve its goals while ensuring continued electric reliability.

Furthermore, the states that must ultimately develop the state plans to implement a final rule may or may not supply what authority EPA lacks, as EPA appears to at least recognize.<sup>24</sup> The MPSC does not purport to predict the actions that the Mississippi legislature or the Governor may take in developing and enacting new legislation. As a prudent regulator, the MPSC must make the conservative assumption that its authority and funding will remain unchanged until such time as the duly-elected government of Mississippi decides otherwise. While the MPSC has broad statutory authority "to encourage and promote harmony between public utilities . . . and the environment"<sup>25</sup> and interprets its jurisdiction expansively, the implementation of Building Block 2, in particular, would require the MPSC to assert authority of an unprecedented scope over utility dispatch of resources on the grid. This is not an area in which the MPSC has previously sought to dictate such specific results. And it is unclear that the MPSC could dictate dispatch to MISO, which controls some of the resources in Mississippi. Moreover, even where the MPSC believes its authority to be sufficient, extending that authority into new areas may well lead to litigation that could delay the implementation of any state plan. One such new area would be the extent of the inter-state cooperation that would be necessary for the development and implementation of a multi-state plan.

The changes EPA seeks to require appear to be far outside the control of any one government entity, leaving the jurisdictional basis for this effort murky.

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<sup>23</sup> FERC cannot supply the missing jurisdiction as it is barred by statute from ordering any entity to construct a generator or from intruding into matters reserved for the states. 16 U.S.C. § 824(a)-(b); *see, e.g., Elec. Power Supply Ass'n v. FERC*, 753 F.3d 216, 224 (D.C. Cir. 2014); *Conn. Dep't of Pub. Util. v. FERC*, 569 F.3d 477, 481 (D.C. Cir. 2009); *Transmission Access Policy Study Grp. v. FERC*, 225 F.3d 667, 718 (D.C. Cir. 2000).

<sup>24</sup> *See* U.S. E.P.A. Office of Air & Radiation, Technical Support Document, *State Plan Considerations* 15-16, Docket No. EPA-HQ-OAR-2013-0602 (June 2014), available at [www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-state-plan-considerations.pdf](http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-state-plan-considerations.pdf) ("[A]n enforceability consideration is whether an [integrated resource plan ("IRP")], and related public utility commission orders, must include additional requirements to implement certain actions, beyond denial of rate recovery or a change to utility tariffs if a utility fails to meet specified obligations in the IRP. If so, this may require state legislation to provide additional authority to state public utility commissions in some states, or confer additional authority to other agencies (e.g., a state environmental agency).").

<sup>25</sup> Miss. Code. Ann. § 77-3-2(1)(e).

**B) EPA must promulgate an NSPS for a source in order to act under Section III(d).**

The Commission is concerned about the disconnect between the New Source Performance Standards (“NSPS”)<sup>26</sup> and the proposed rule. In order to promulgate Existing Source Performance Standards (“ESPS”), EPA must have promulgated NSPS for that source.<sup>27</sup> Given the questionable basis for EPA’s proposed NSPS for new power plants<sup>28</sup> and the uncertainty regarding any final rule, it is unclear that this requirement will be satisfied.

**C) The building blocks do not qualify as a “system” for the purposes of Section III(d).**

EPA proposes to set a standard of performance based on the BSER,<sup>29</sup> identified as a series of building blocks.<sup>30</sup> Even assuming that all of the measures EPA proposes to include in the BSER are permissible, despite being outside the source (as the Commission discusses in Section II.A, above), the building blocks do not function as a cohesive system.<sup>31</sup> While the Commission appreciates that EPA has tried to provide significant flexibility to states and is acknowledging that there may be multiple ways to reduce CO<sub>2</sub> emissions aside from inside-the-

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<sup>26</sup> Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430 (proposed Jan. 8, 2014) (to be codified at 40 C.F.R. pts. 60, 70, 71, and 98) (“EGU NSPS”).

<sup>27</sup> 42 U.S.C. § 7411(d)(1).

<sup>28</sup> See, e.g., Comments of the Mississippi Public Service Commission 8-19, *Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units*, Docket No. EPA-HQ-OAR-2013-0495 (posted May 9, 2014), Regulations.gov ID No. EPA-HQ-OAR-2013-0495-9497. See also Comments of the American Public Power Association, *Proposed Carbon Pollution Standards for Modified and Reconstructed Stationary Sources: Electric Utility Generating Units*, Docket No. EPA-HQ-OAR-2013-0603 (posted Oct. 17, 2014), Regulations.gov ID No. EPA-HQ-OAR-2013-0603-0150; Comments of the National Rural Electric Cooperative Association, *Proposed Carbon Pollution Standards for Modified and Reconstructed Stationary Sources: Electric Utility Generating Units*, Docket No. EPA-HQ-OAR-2013-0603 (posted Oct. 16, 2014), Regulations.gov ID No. EPA-HQ-OAR-2013-0603-0284.

<sup>29</sup> 42 U.S.C. § 7411(a)(1).

<sup>30</sup> Clean Power Plan, 79 Fed. Reg. at 34,836.

<sup>31</sup> EPA states that “system” should have its “ordinary, everyday meaning: ‘a set of things working together as parts of a mechanism or interconnecting network; a complex whole.’” U.S. E.P.A., Technical Support Document, *Legal Memorandum* 36, 51, Docket No. EPA-HQ-OAR-2013-0602 (June 18, 2014), available at [www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf](http://www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf) (“EPA Legal Memorandum”) (citing *Oxford Dictionary of English* (3rd ed.) (published 2010, online version 2013)). In setting the BSER, EPA must have adequate proof of the achievability of its standards sufficient to support its position that its action is neither arbitrary, capricious, an abuse of discretion, nor otherwise not in accordance with law. See *Nat’l Lime Ass’n v. EPA*, 627 F.2d 416, 429 (D.C. Cir. 1980); *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973), cert denied sub nom. *Appalachian Power Co. v. EPA*, 416 U.S. 969 (1974) (“It is the system which must be adequately demonstrated and the standard which must be achievable.”).

fence-line technologies, the proposed rule does not actually do this. The building blocks have not been evaluated as a system and, in some ways, work against each other. A strict interim goal and short compliance periods force states' hands. While EPA may believe it is providing a variety of options for states, EPA is actually dictating generation mix, which, as discussed above, oversteps EPA's authority and could not be mandated by EPA.<sup>32</sup>

EPA uses information about NGCC units based on their operations as load-following resources. However, the building blocks operate to force NGCC units out of this role, and EPA ignores the effects on efficiency of operating NGCC units as baseload resources and coal units as load-following units with frequent start ups and shut downs, which impacts net heat rate. Operating a coal unit in this manner can also affect other pollution control measures. For example, selective catalytic reduction, a technology for reducing NO<sub>x</sub> emissions implemented at units such as Plant Daniel in Mississippi, typically requires the unit to run either at full output (> 90 percent) or not at all (discussed further in Section IV.A.1).

There are many assumptions in the Clean Power Plan, and the Commission has reason to doubt that all will be shown to be accurate, as discussed throughout these comments. Any issue with one building block—for example, an inability to meet an arbitrary renewables target that is based on another state's policies and capabilities—will put more pressure on the other building blocks and exacerbate the impact of flawed assumptions in other parts of the Clean Power Plan.

The Clean Power Plan also does not evaluate the overall reliability impacts of the building blocks. The Commission has highlighted some reliability concerns regarding specific building blocks and believes that the building blocks operating together—sometimes in harmony, but often against each other—create additional reliability impacts that must be studied. It is not all bad; the Commission notes that increased demand response may provide reliability benefits.<sup>33</sup> However, as demand response and demand reduction increase—along with other changes to the

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<sup>32</sup> *Michigan v. EPA*, 213 F.3d 663, 687 (D.C. Cir. 2000) (considering whether EPA rule under Section 110 “allow[ed] the covered states real choice with regard to the control measure options available to them to meet the budget requirements”).

<sup>33</sup> North American Electric Reliability Corporation, Essential Reliability Servs. Task Force, *A Concept Paper on Essential Reliability Services that Characterizes Bulk Power System Reliability* 15 (Oct. 2014), [www.nerc.com/comm/other/essntlrbltysrvscstskfrDL/ERSTF%20concept%20paper.pdf](http://www.nerc.com/comm/other/essntlrbltysrvscstskfrDL/ERSTF%20concept%20paper.pdf) (“NERC Reliability Paper”).

generation mix—reliability impacts must be carefully studied and addressed. Large shifts in the dispatch of fossil-fueled generation, and the addition of large quantities of intermittent renewable resources, will necessarily require substantial modifications to both electric and gas infrastructure, the likely scale and timing of which are not appropriately accounted for in the Clean Power Plan.

The North American Electric Reliability Corporation (“NERC”) predicts that the Clean Power Plan’s impacts on fossil fuel generation will be unprecedented, despite the examples of compliance with mass-based emission cap and trade programs, such as the acid rain program that did not result in reliability impacts.<sup>34</sup> There are impacts to generation and transmission that should be considered further. For example, the Commission questions the assumption that adequate transmission capacity exists within regions.<sup>35</sup> The Commission urges EPA to work with entities such as NERC, as well as with state regulators, to examine reliability impacts and challenges and the associated effects on attainable compliance schedules.

### **III. The heat rate improvements projected in Building Block 1 are unlikely to be achievable.**

Building Block 1 consists of measures that improve the heat rate at individual coal-fired EGUs.<sup>36</sup> As a practical matter, the proposed rule would require generation from all coal-fired EGUs in Mississippi to be completely displaced (discussed further in Section IV.A, below).<sup>37</sup> Consequently, the potential impact of Building Block 1 may be moot with respect to Mississippi.

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<sup>34</sup> North American Electric Reliability Corporation, *Potential Reliability Impacts of EPA’s Proposed Clean Power Plan* 17 (Nov. 2014), [www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential\\_Reliability\\_Impacts\\_of\\_EPA\\_Proposed\\_CPP\\_Final.pdf](http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential_Reliability_Impacts_of_EPA_Proposed_CPP_Final.pdf) (“NERC CPP Report”).

<sup>35</sup> *See id.* at 20.

<sup>36</sup> Clean Power Plan, 79 Fed. Reg. at 34,859.

<sup>37</sup> EPA treats the Kemper IGCC plant as a gas unit under the proposed rule, and it is thus not included as a coal-fired unit in this projection.

However, the MPSC recognizes that other states would likely be in the same position,<sup>38</sup> and that EPA is considering modifications to the Clean Power Plan that could allow such states more flexibility to retain some amount of coal generation.<sup>39</sup> Thus, the Commission comments on Building Block 1 with the expectation that any final rule will *not* effectively mandate the elimination of coal-fired generation in Mississippi, as well as to further inform EPA's decision making on this issue.

By requiring across-the-board, rather than individualized, heat rate improvements, the proposed rule disfavors modern units of more efficient design that have less room for efficiency improvements.<sup>40</sup> To avoid penalizing units that are already more efficient, EPA should evaluate heat rate improvement capability at individual coal-fired units.<sup>41</sup> Further, the proposed rule would penalize units that have already taken steps to come into compliance with other environmental rules, such as the Mercury and Air Toxics Standards Rule ("MATS"). The proposed rule uses 2012 data, but many coal-fired units have MATS-related projects currently underway that will increase heat rates above 2012 levels. Additionally, EPA does not take into account all of the variables that can affect heat rate, including coal quality, boiler design, and unit size. For all of these reasons, site-specific analyses are critical for understanding actual heat rate improvement potential.

EPA also failed to take into account that operational changes intended for coal-fired units under the building blocks are likely to increase heat rates. Many coal-fired EGUs operate less

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<sup>38</sup> See, e.g., Comments of Arizona Department of Environmental Quality, *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, Docket No. EPA-HQ-OAR-2013-0602 (posted Aug. 29, 2014), Regulations.gov ID No. EPA-HQ-OAR-2013-0602-14064; Jonathan L. Ramseur, Congressional Research Service, Report No. IN10172, *CRS Insights: EPA's Clean Power Plan Proposal: Are the Emission Rate Targets Front-Loaded?* 2 (Nov. 3, 2014), available at <http://fas.org/sgp/crs/misc/IN10172.pdf> (noting that in Arizona, Washington, and Mississippi, "EPA's emission rate formula results in a 100% decrease in coal generation").

<sup>39</sup> Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, Notice of Data Availability, 79 Fed. Reg. 64,543, 64,548-49 (Oct. 30, 2014) ("NODA").

<sup>40</sup> EPA cites the fact that the measures in Building Block 1 "are based on the real-world experience of individual power plants in recent years" to support the finding that such measures are adequately demonstrated. EPA Legal Memorandum at 71. Yet EPA uses the fact that units have undergone heat rate improvements as evidence that these same units can achieve further improvements—a faulty premise.

<sup>41</sup> The Commission is concerned that EPA specifically proposes that "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." Clean Power Plan, 79 Fed. Reg. at 34,926.



efficiently (i.e., increased heat rate) at lower capacity factors.<sup>42</sup> Because the purpose of Building Block 2 is to substitute natural gas generation for coal-fired generation, it is likely that coal-fired EGUs will be operating at lower capacity factors and thus will be less efficient when they do operate than EPA assumed in its projections. If coal-fired EGUs become load-following<sup>43</sup> rather than base load units, and endure more frequent ramps, startups, and shutdowns, operations will be less efficient. Yet EPA did not consider these operational issues when determining what heat rate improvements may be possible under state plans.

The Commission is concerned that the effect of these missteps and shortcomings in EPA's analyses of Building Block 1 is likely to be that more coal units will be prematurely retired than anticipated. If that occurs, the other building blocks will need to compensate through increased lower emission generation or decreased demand beyond that predicted in the proposed rule. These effects go well beyond EPA's purported assessment of cost and reliability impacts.

#### **IV. Building Block 2's redispatch step would completely displace coal in Mississippi and would encounter obstacles and raise issues that EPA has failed to consider.**

The proposed rule's Building Block 2 would replace generation from carbon-intensive affected EGUs with generation from less carbon-intensive affected EGUs, such as NGCC units.<sup>44</sup> Because of the amount of NGCC generation in Mississippi, the redispatch step effectively displaces all coal generation in Mississippi.<sup>45</sup> Further, EPA has not adequately

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<sup>42</sup> Capacity factor is "a measure of how often an electric generator runs for a specific period of time." U.S. Energy Information Administration, *What is a capacity factor?*, <http://www.eia.gov/tools/faqs/faq.cfm?id=187&t=3> (last visited Nov. 26, 2014). The capacity factor is expressed as actual electricity produced in a period of time as a percentage of the maximum the generator could produce at continuous full power operation during that same period, typically representing the level of demand present on a more or less round the clock basis. The higher the capacity factor of a plant, the more efficient its performance is likely to be.

<sup>43</sup> Baseload demand is the minimum level of demand. A baseload generator typically runs most of the time with relatively low fuel costs, and it may have expensive or lengthy start up processes. A load following generator supplements the electricity produced by baseload generators and can quickly ramp up or down as needed to meet rising or falling demand throughout the day.

<sup>44</sup> Clean Power Plan, 79 Fed. Reg. at 34,862.

<sup>45</sup> As noted in footnote 37, Kemper is not included in this projected displacement.

analyzed a variety of issues raised by redispatch, including jurisdiction, reliability, and operational differences.

**A) *The proposed rule results in a complete displacement of coal in Mississippi, eliminating flexibility and threatening fuel diversity.***

Although EPA stresses that the proposed rule allows for flexibility, because of the redispatch step of Building Block 2, coal generation in Mississippi would be entirely displaced if the building blocks were applied as EPA describes in the Clean Power Plan.<sup>46</sup> Thus, the Commission is deeply concerned that the Clean Power Plan, as proposed, represents only nominal compliance flexibility and that Mississippi bears a particularly heavy burden because of past efforts to reduce reliance on coal-fired generation.

The Commission questions the wisdom of and authority behind promulgation of a rule that effectively—for Mississippi and potentially for other states—makes NGCC the BSER for coal units. In fact, in proposing NSPS under Section 111(b) of the CAA for new electricity generating units, EPA agreed with this rationale, stating “we no longer consider it appropriate to propose a single standard for all such units.”<sup>47</sup> The BSER should be more closely aligned with the technology appropriate to a particular unit or project.<sup>48</sup> EPA previously found it was inappropriate to make NGCC the BSER for new coal units. Yet here, EPA proposes that “NGCC units and natural gas co-firing at existing fossil steam units may be considered part of a ‘system of emission reduction,’ ... the affected sources can themselves undertake those actions (i.e., fossil steam generators may invest in new NGCC units ...)[.]”<sup>49</sup> And the result is a severe limitation on flexibility for Mississippi, as well as a categorical disconnect between the proposed rule and the proposed NSPS.

1. The proposed rule does not provide flexibility to Mississippi.

Based on the data EPA used in calculating the emissions rate goals for Mississippi, 7500 GWh of electricity were generated in the state from coal-fired resources in 2012. The redispatch

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<sup>46</sup> Beyond Mississippi, the Commission notes that industry will need to replace a total of 103 GW of retired coal resources by 2020. See NERC CPP Report at 9.

<sup>47</sup> Withdrawal of Proposed Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1352, 1354 (Jan. 8, 2014) (“Withdrawal of 2012 Proposed NSPS”).

<sup>48</sup> *Id.*

<sup>49</sup> NODA, 79 Fed. Reg. at 64,550.

building block zeroes out that low-cost source of electricity, by assuming that output from NGCC plants is increased to more than 63 percent of maximum annual generation (i.e., full capacity output every hour of the year). This increase, from a 2012 level corresponding to 46 percent of theoretical maximum output, fully displaces all coal generation in Mississippi. While the EPA asserts that this is not a requirement of the plan, but rather just one of the building blocks that can be considered in developing a compliance plan, along with the renewable energy and energy efficiency components, the Commission does not agree with EPA that the projected levels of these other building blocks will be achievable for Mississippi. The result is that Building Block 2 would effectively eliminate coal from Mississippi’s resource mix. According to EPA’s goal computation data, Mississippi would be one of only five states that had in excess of 15 percent coal generation in 2012, but would have coal zeroed out as a result of redispatch under Building Block 2, as summarized in Figure 4 below.

**Figure 4. States with More than 15% Coal Generation in 2012 and Zero Coal Generation After Redispatch<sup>50</sup>**

State	Coal Share of Generation 2012 Affected EGUs	Coal Share Following Redispatch
New Hampshire	15.4%	0%
Mississippi	17.2%	0%
Oregon	18.6%	0%
Washington	35.3%	0%
Arizona	46.6%	0%

To illustrate the lack of flexibility afforded to Mississippi under the Clean Power Plan as proposed, consider the impact if Mississippi attempted to fashion a compliance plan targeting NGCC operation at 60 percent of potential maximum annual output instead of the 63 percent assumed by EPA. Under the Clean Power Plan methodology, that would “allow” retention of 1700 GWh of coal generation (with the assumed 6 percent heat rate improvement)—less than

<sup>50</sup> U.S. E.P.A., *Data File: Goal Computation—Appendix 1 and 2* (2014), [http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-state-goal-data-computation\\_1.xlsx](http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-state-goal-data-computation_1.xlsx) (last visited Nov. 26, 2014) (also accessible via U.S. E.P.A., *Clean Power Plan Proposed Rule Technical Documents* (2014), <http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-technical-documents>) (“Goal Computation Appendix”).

one sixth of the 2012 generation level—but would require offsetting increases in other building blocks. Implementation of the other building blocks to achieve the 2029 target emission rate of 692 lbs/MWh of CO<sub>2</sub> would be extremely difficult, and certainly not adequately demonstrated. Applying the renewable energy building block, Mississippi would have to more than double the quantity of renewable generation relative to the EPA-derived target to an equivalent of more than 3800 MW of wind capacity by 2029. Only Texas, Iowa, and California currently have this much wind generation capacity. Relying on increased energy efficiency under Building Block 4 would also require doubling the already difficult EPA-derived target to accommodate retention of the same small portion of coal generation.

Even the practically infeasible scenarios described above would not represent useful flexibility, however, because the small amount of accommodated coal generation would likely not allow the continued operation of even one coal-fired power plant under expected operational constraints. There are currently four coal-fired generating facilities in Mississippi, summarized in Figure 5.

**Figure 5. Mississippi coal-fired resources.**

<b>Plant</b>	<b>Operator (or contracting utility)</b>	<b>Capacity, MW</b>	<b>2012 Generation, GWh</b>
R.D. Morrow	SMEPA	400	1,071
Victor J. Daniel Jr.	MPCO	1020	1,759
Jack Watson	MPCO	700	1,910
Red Hills	TVA	440	2,763

The Watson units are currently expected to be converted to burn natural gas, and thus are not candidates for retention as coal-fired resources going forward. Of the remaining plants, only Morrow operated at a level in 2012 that would be accommodated under the flexibility scenarios described above, under which 1700 GWh of retained coal generation could be “purchased” at the expense of substantial increases in targets under Building Blocks 3 and 4. Plant Daniel would also be a candidate for retention, since it is nearing completion of a \$660 million environmental retrofit to install flue gas desulfurization for control of sulfur dioxide emissions. However, the efficient operating point for the retrofitted units would be much higher than could be accommodated under any feasible flexibility scenario. Moreover, a further planned retrofit to

install selective catalytic reduction (“SCR”) to control for nitrous oxide emissions, would result in operating restrictions that would require operation above 90 percent of capacity, likely in excess of 8000 GWh annually. The nature of efficient and effective operation with SCR is that a plant must be either fully on or off, and cannot be operated at low load or cycled to provide load-following service. These operating realities also mean that Mississippi would not easily be able to attain its fuel diversity objectives through regional coordination. Marginal exchanges with other states via joint plans or regional trading would be insufficient to accommodate efficient operation of even a single coal-fired plant in Mississippi.<sup>51</sup>

The lack of real flexibility is not only a question of the infeasibility of retaining any coal generation, but is also an issue with respect to gas-fired generation. Because the Mississippi emissions rate goals throughout the 2020-30 compliance period are all substantially below the already low rate EPA has assumed for existing combined cycle facilities, it is not possible for Mississippi to rely on gas-fired generation to manage the challenges of increasing the levels of renewable generation and energy efficiency. That is, because the emissions rate for existing NGCC units is well above the target rates for the state, increasing NGCC generation only increases the amount of renewable energy and energy efficiency needed to meet the goals. Thus, even though application of Building Block 2 results in an assumed capacity factor of 63 percent for existing NGCCs in Mississippi, rather than the maximum redispatch assumption of 70 percent, this does not imply that Mississippi has any more flexibility via extra “headroom” in gas generation. Since coal generation is effectively prohibited under the plan, there is no opportunity to run the gas-fired plants more to allow flexibility in achieving the other building blocks.

As proposed, the Clean Power Plan offers Mississippi no practical degree of flexibility. Rather, each building block would impose a significant and costly burden on Mississippi electricity consumers.

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<sup>51</sup> Some third-party modeling scenarios have indicated the potential for non-zero Mississippi coal generation under regional compliance alternatives. However, the Commission is not aware of any modeling that has focused on Mississippi specifically, or that has attempted to represent realistic operational restrictions expected for retrofitted Mississippi coal plants during the compliance period.

2. Displacing coal in Mississippi would have detrimental effects on fuel diversity.

Fuel diversity is a critical tool by which utilities and regulators ensure reliability and retail price stability in electric supply. Diversification of the fuel mix used for generation provides resiliency and can help protect against supply crises. It also tempers the exposure of ratepayers and businesses to price volatility. When the price of one fuel, such as natural gas, rises, a diverse portfolio of generating resources allows utilities to shift more generation to a cheaper fuel, saving customers money by managing a diverse fuel portfolio. By eliminating coal generation in Mississippi, the proposed rule would create large-scale reliance on NGCC generation and make ratepayers and electric generation more susceptible to disruptions in the natural gas supply and price spikes in the national gas markets.

The Commission is concerned that the proposed rule will exacerbate an already pronounced shift toward reliance on natural gas. As discussed above in Section I.A, Mississippi's specific fuel diversity concerns are related to the state's dearth of significant solar, wind, and hydroelectric potential due to its climate and geography. As a consequence of the limits on potential renewable generation, Mississippi does not have renewable portfolio standards, and now relies increasingly on natural-gas-fired power plants and existing nuclear capacity. Decreased fuel diversity can adversely impact the reliability and affordability of electricity. The Commission believes that preserving some coal-fired generation is crucial for maintaining fuel diversity and rate stability.

The need for fuel diversity is quite tangibly illustrated by weather events. Mississippi is already heavily dependent on natural gas, and increasing the role of NGCC generation will result in an even more severe impact in the event of a disruption, such as a hurricane. The 2014 polar vortex caused widespread impacts and highlighted issues with increased reliance on natural gas as well as a less diverse fuel supply, generally. A report by NERC noted that over 55 percent of the total outages during the polar vortex were attributed to natural gas and 26 percent were attributed to coal.<sup>52</sup> In MISO specifically, many of the natural gas-fired units were temporarily

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<sup>52</sup> North American Electric Reliability Corporation, *Polar Vortex Review* 13 (Sept. 2014), [http://www.nerc.com/pa/rrm/January%202014%20Polar%20Vortex%20Review/Polar\\_Vortex\\_Review\\_29\\_Sept\\_2014\\_Final.pdf](http://www.nerc.com/pa/rrm/January%202014%20Polar%20Vortex%20Review/Polar_Vortex_Review_29_Sept_2014_Final.pdf) ("NERC Polar Vortex Report").

forced off-line because of weather conditions.<sup>53</sup> The cold also affected other generation: low temperatures limited wind turbine function and hydro units experienced icing.<sup>54</sup> The availability of oil-fired power plants and dual-fueled plants (oil and natural gas) during the polar vortex was crucial to providing some relief; although oil-fired power provided only 0.35 percent of generation in the Northeast in 2012, this oil- and dual-fired generation provided 12 percent of the New England power supply during seven days in January 2014.<sup>55</sup>

***B) EPA failed to consider jurisdictional obstacles to redispatch.***

As discussed above, in Section II.A, EPA does not consider the limitations on its own jurisdiction and the jurisdiction of the state agencies that will have to prepare plans to comply with any final rule stemming from the proposed rule. This issue is particularly problematic in the context of Building Block 2.

FERC, not EPA, has jurisdiction over, among other things, wholesale electricity markets, interstate transmission rates, natural gas pipeline siting and rates, and natural gas and electric sector coordination. While FERC regulates the wholesale rates for electric utilities and market rules for regional transmission organizations, that authority has never been interpreted to allow FERC to dictate to those entities what generation units they should dispatch and when or how to do so.<sup>56</sup>

States also have regulatory responsibility over electricity, including, as the MPSC described above, regulation of retail rates, distribution, and the siting of generation. Absent from the proposed rule is any consideration of the ability of individual states to require redispatch to the extent contemplated by Building Block 2.

The MPSC is authorized by state law “to encourage and promote harmony between public utilities ... and the environment.”<sup>57</sup> Additionally, the Commission has authority to

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<sup>53</sup> North American Electric Reliability Corporation, *2014-2015 Winter Reliability Assessment* 16 (Nov. 2014), [http://www.nerc.com/pa/rapa/ra/reliability%20assessments%20dl/2014wra\\_final.pdf](http://www.nerc.com/pa/rapa/ra/reliability%20assessments%20dl/2014wra_final.pdf).

<sup>54</sup> NERC CPP Report at 10.

<sup>55</sup> IHS Energy, *The Value of US Power Supply Diversity* 12 (July 2014), available at [www.energyxxi.org/sites/default/files/USPowerSupplyDiversityStudy.pdf](http://www.energyxxi.org/sites/default/files/USPowerSupplyDiversityStudy.pdf) (“IHS Report”).

<sup>56</sup> In FERC-regulated markets and in utility service territories outside of RTO markets, the universal principal has been least-cost dispatch.

<sup>57</sup> Miss. Code Ann. § 77-3-2(1)(e).

regulate public utilities “[t]o foster the continued service of public utilities on a well-planned and coordinated basis that is consistent with the level of service needed for the protection of public health and safety and for the promotion of the general welfare.”<sup>58</sup> While the MPSC interprets its authority expansively, the MPSC, like most state regulatory commissions, has not exercised authority to order utilities under its jurisdiction to dispatch specific units in any specific order or manner. Those decisions have always been left to utilities with the relevant technical expertise.

While dispatch is addressed through RTOs, Mississippi is located only partially within an RTO (MISO). The MPSC is uncertain whether it could control MISO’s dispatch of generating units located in Mississippi. Assuming for the sake of discussion that the MPSC has jurisdiction to direct in-state utilities not in MISO to change the dispatch of their in-state units, the MPSC has no experience in this regard. Mississippi Power Company is part of Southern Company, a utility holding company which operates in several states, including Mississippi, and which historically coordinates dispatch across its entire system (Entergy Mississippi, Inc., is similarly situated within the Entergy operating companies, though it is now operating within MISO). If all the states in which Southern Company operates attempt to re-direct the dispatch of units within their borders, the impact inside and outside of Mississippi is completely unknown, but it would almost certainly result in rate increases to consumers as the least-cost dispatch principle that underlies most utility dispatch is abandoned.

**C) *EPA has not fully analyzed the impacts or feasibility of redispatch on the electric grid.***

EPA has not sufficiently considered the effects that redispatch at the level Building Block 2 requires would likely have on the grid. These include reliability impacts, as well as the feasibility of implementing the required level of redispatch.

Generation dispatch must account for the variety of factors that can affect available generation, including higher- or lower-than-expected demand, planned or unplanned generator outages, planned or unplanned transmission outages, weather, fuel availability, and events on a neighboring system. Accommodating these factors is crucial to maintaining the reliability of the

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<sup>58</sup> Miss. Code Ann. § 77-3-2(1)(f).



transmission systems, but EPA has not fully examined the interaction of these issues for Building Block 2.

Additionally, as noted above, EPA has not fully analyzed and supported the feasibility of the level of redispatch required. There are obstacles to both increasing NGCC generation and to using that NGCC generation to displace coal generation.

First, although Mississippi does have a large amount of NGCC generation, there are some limitations on increasing generation at all units; the Commission is aware of a gas transport limitation that impedes the station output from at least one NGCC unit. Additionally, NGCC units may be limited in their operations by air permit conditions. For example, at least one NGCC in Mississippi has a permit condition that limits the hours of operation for each unit at the plant on a rolling twelve-month basis, which would prevent it from operating at Building Block 2's target capacity factor.

Second, available transmission and the transmission planning process present additional constraints on redispatch. The NERC CPP Report found that the timeline EPA proposes does not provide enough time to develop the resources that are needed to ensure grid reliability by 2020.<sup>59</sup> Even where systems are connected and integrated, there is not an unlimited ability to move flows between regions, and the proposed rule does not account for the restrictions that will necessarily come into play, given the aggressive goals and timeline contemplated under the Clean Power Plan. Addressing reliability problems either through modification of the bulk transmission system or construction of new generating units requires that transmission studies be performed. These studies—and any identified upgrades—take time to complete. Typically, the most optimistic time frame to propose, analyze and construct a new NGCC, with required transmission upgrades, is approximately two years. Larger transmission projects that may be necessary to accommodate large additions of renewable generation are more difficult and time consuming to evaluate, permit and construct. Seven to ten years is a more likely time frame for such projects,<sup>60</sup> putting aside any consideration of the potential need to study and build many

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<sup>59</sup> NERC CPP Report at 22.

<sup>60</sup> Letter from Tom Vinson, V.P. of Fed. Regulatory Affairs, American Wind Energy Association, et al., to David Meyer, Office of Elec. Delivery & Energy Reliability, U.S. Dep't of Energy re: Comments on Draft National Electric Transmission Congestion Study 2 (Oct. 20, 2014), *available at* <http://www.energy.gov/sites/prod/files/2014/10/f18/CScomments-AWEA-attach-102014.pdf>.

transmission projects simultaneously as all states and RTOs attempt to meet infrastructure needs under Clean Power Plan compliance.

NERC recommends that regions, states, and RTOs should prepare for the potential reliability impacts and consider the time required to plan and build infrastructure.<sup>61</sup> EPA, FERC, the Department of Energy, state commissions, RTOs, and industry all have a role to play in this process.

In addition to highlighting potential reliability concerns with the proposed rule, the NERC CPP Report reiterates a concept raised by numerous commenters already—a reliability “safety-valve.” This could be similar to the one-year compliance extension used to avoid retirement-related reliability impacts due to MATS.<sup>62</sup> While there is no consensus on what entity should be able to trigger the “safety-valve,”<sup>63</sup> the MPSC believes the basic concept has merit. NERC suggests “a set of reliability assurance provisions,” potentially including a reliability backstop, in order to maintain system reliability.<sup>64</sup> Given the interrelated nature of the grid, emissions reductions in one state may affect reliability in another state. Operational changes in one part of an RTO may impact other parts of the RTO, or areas outside the RTO. One state’s compliance plan could raise or lower emissions elsewhere. The need to protect reliability, however, will be common to all locations. The MPSC supports the concept of one or more reliability safety valves.

***D) EPA does not distinguish between operations of baseload versus intermediate resources.***

EPA acknowledges that different types of EGUs operate differently and that fossil fuel-fired EGUs are “generally the units that operators use to respond to intra-day and intra-week changes in demand.”<sup>65</sup> However, EPA does not further refine the category of “fossil fuel-fired

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<sup>61</sup> NERC CPP Report at 23.

<sup>62</sup> *Id.* at 22.

<sup>63</sup> FERC has suggested it should have this power. The RTOs would also like to have it. The MPSC believes that states should have the ability to protect reliability within their borders. See Rod Kuckrow, *FERC’s LaFleur Wants “Reliability Mechanism” in EPA Clean Power Plan*, EnergyWire (Nov. 10, 2014), <http://www.eenews.net/energywire/2014/11/10/stories/1060008615> (password required).

<sup>64</sup> NERC CPP Report at 22.

<sup>65</sup> Clean Power Plan, 79 Fed. Reg. at 34,862.

EGUs,” which reveals the inaccurate assumptions that the proposed rule makes about the interchangeability of coal-fired units and NGCC units.

Coal units are generally run as base load units, operating at or near full output around the clock. Coal-fired plants have long ramp times and are thus ill-suited to following variations in load over the course of the day. Such operation decreases the efficiency of the generating units—and increases emissions rates—and also significantly increases wear and tear and maintenance expenses. While NGCC units can also run as baseload, they are better suited to provide flexible service, including operation as intermediate resources, which can ramp up or down quickly in response to changes in demand and changes in other resources, such as wind and solar generation. Peaking resources, such as simple-cycle gas turbines (which generally are not affected EGUs under the Clean Power Plan) are also needed to ensure adequate supply during brief periods of very high demand. Electric systems require an appropriate mix of baseload, intermediate, and peaking generation resources to meet load reliably and cost-effectively. The Clean Power Plan as proposed would cause a substantial disruption in the mix of resources available to meet load, particularly in Mississippi. The mix of coal, NGCC and peaking resources in the state has been planned based on current and projected needs, including not only overall demand levels, but also the pattern of load expected under the particular economic and climate circumstances of the state. In particular, the mix of coal and NGCC resources has provided a balance of baseload and intermediate service, and the flexibility to shift between coal and gas as warranted—according to relative fuel prices or system contingencies.

The Clean Power Plan would effectively mandate shutting down Mississippi’s coal-fired plants, and would shift the burden of both baseload and intermediate service to NGCC units. Not only does this eliminate the economic hedge of being able to switch between coal and gas, it also reduces the operational flexibility and redundancy so crucial to reliable operation. While NGCC units would be required to operate most of the year at baseload, large additions of intermittent renewable resources will increase the need for intermediate service. EPA has not performed a proper assessment of whether the proposed Clean Power Plan will result in an appropriate mix of baseload and intermediate resources needed to serve load reliably and cost-effectively.

***E) EPA should use a more realistic estimate for Kemper emissions.***

The EPA formula hardwires in an assumed emissions rate for the Kemper IGCC plant that essentially treats it as a highly-efficient NGCC plant, which is inappropriate. EPA's assumed emission rate for Kemper is 806 lbs CO<sub>2</sub>/MWh, whereas EPA's assumed average emission rate for Mississippi NGCC units is 848 lbs CO<sub>2</sub>/MWh.<sup>66</sup> Yet it is crucial to emphasize that performance of the technology at Kemper has categorically *not* been demonstrated.

Under the proposed NSPS, EPA proposed an emissions limit of 1,100 lbs/MWh for IGCC units with partial carbon capture, such as Kemper.<sup>67</sup> This is the appropriate assumption that should be applied under the Clean Power Plan methodology with respect to Kemper. Kemper's prospective emissions are neither demonstrated nor assured, and EPA has no appropriate basis for assuming an emissions rate different than what it has proposed for new IGCC units.

***F) Any redispatch step should be subject to a phase in period.***

EPA acknowledged some of the concerns regarding the retirements of coal units in order to meet state interim goals.<sup>68</sup> As discussed above, Mississippi is one state where the stringency required to meet the interim goal, combined with the state's current generation make up, will lead to the complete displacement of coal generation. The Commission also recognizes that a phase-in period for this step may provide an opportunity to develop infrastructure necessary to fully realize the effects of Building Block 2. The Commission supports a phase-in for Building Block 2, as EPA discusses in the NODA.<sup>69</sup>

***G) EPA should impose a minimum gas generation share target by state.***

The Commission believes that several of the issues with the redispatch step may be addressed by requiring a minimum share of gas by state, and then adjusting other state requirements to provide actual flexibility in developing compliance plans. This would allow states such as Mississippi the ability to preserve some coal-fired generation. It is important for EPA to recognize the aggressive compliance timeline and substantial uncertainties regarding the

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<sup>66</sup> Goal Computation Appendix.

<sup>67</sup> EGU NSPS, 79 Fed. Reg. at 1436.

<sup>68</sup> NODA, 79 Fed. Reg. at 64,548-49.

<sup>69</sup> *Id.*

feasibility and timing of multi-state or regional compliance agreements it would require. EPA must also be realistic about the availability and applicability of trading mechanisms it envisions to support compliance. States and their utilities must plan based on the state-specific goals EPA has derived. As discussed above, those goals provide little or no useful flexibility for states such as Mississippi. Even if multi-state compliance and/or trading mechanisms could enhance flexibility in theory, the proposed goals and compliance schedule will in practice force states and utilities into actions that will increase costs and risk reliability impacts. A modified goal setting methodology with minimum state gas generation shares—or alternatively, maximum coal generation shares or maximum average emissions rates—would also provide real flexibility to states such as Mississippi to maintain some generation diversity and would help to minimize overall compliance costs because states would not be forced into potentially irreversible actions to ensure compliance on a single-state basis. The Commission has not evaluated what minimum share level could be appropriate, but believes such modification could increase true flexibility, enhance opportunities for coordinated state action, and decrease the overall economic burden of the Clean Power Plan, while maintaining overall emissions reduction goals.

**V. Building Block 3 fails to give credit for recent efforts and does not set realistic goals.**

EPA proposes that states encourage more carbon-neutral generation, such as renewable and nuclear generation, in Building Block 3. In addition to the jurisdictional issues discussed in Section II, above, the Commission is concerned about the proposed rule’s calculation of the renewable target and treatment of nuclear units.

**A) *EPA’s projection for renewable capacity is flawed and not realistic.***

To quantify renewable generation, EPA developed a “best practices” scenario based on the existing renewable portfolio standards (“RPS”) requirements for 2020 in each region.<sup>70</sup> This methodology does not take into account state-specific issues with RPS and renewables, and it projects an expansion of renewables that is unrealistic for Mississippi.

EPA’s method of using a regional average of RPS requirements is arbitrary and creates unattainable results for Mississippi. EPA notes that “renewable resource potential varies

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<sup>70</sup> Clean Power Plan, 79 Fed. Reg. at 34,867.

regionally,”<sup>71</sup> but its method of determining this potential by observing the existing RPS requirements of the states within its regional groups does not generate best practices representative of the capabilities within each region, and particularly not in the Southeast region (which includes Mississippi). Of the states included in the Southeast region, only North Carolina has a RPS (EPA determined this to be 10% in 2020).<sup>72</sup> However, EPA has provided no rationale for applying this RPS to Mississippi, and North Carolina’s RPS is not adequately demonstrated for Mississippi. Although EPA acknowledges that RPS are state policies,<sup>73</sup> EPA does not consider that some states specifically do not have such policies (or why they might not have them), but rather—in the case of the Southeast region—applies *one* state’s policy choices and technical capabilities to every other state in the region.

EPA makes no showing that the states in the Southeast region—and in particular, North Carolina—have renewable generation potential comparable to that of Mississippi. In fact, because of Mississippi’s climate and geography, Mississippi has very little wind and hydroelectric potential. North Carolina’s estimated technical potential for urban utility-scale photovoltaics is higher than Mississippi’s,<sup>74</sup> as is its potential for rooftop photovoltaics,<sup>75</sup> and offshore wind.<sup>76</sup> Any estimates for renewable potential must consider what is feasible and appropriate. EPA also fails to analyze any differences in permitting, transmission access, and project financing that might affect renewable potential in different states. For example, Mississippi has not been identified as a prime area to develop wind resources. EPA should establish targets based on reasonable, cost-effective, wind potential. While wind generation technology—in particular, increased mast heights—may, in the future, expand the areas of the

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<sup>71</sup> *Id.* at 34,866.

<sup>72</sup> U.S. E.P.A. Office of Air & Radiation, Technical Support Document, *GHG Abatement Measures*, 4-11 to 4-12, *Carbon Pollution Guidelines for Existing Power Plants: Emission Guidelines for Greenhouse Gas Emissions from Existing Stationary Sources: Electric Utility Generating Units*, Docket No. EPA-HQ-OAR-2013-0602 (June 10, 2014), available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-ghg-abatement-measures.pdf>.

<sup>73</sup> Clean Power Plan, 79 Fed. Reg. at 34,869.

<sup>74</sup> National Renewable Energy Laboratory, Report No. NREL/TP-6A20-51946, *U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis* 10 (July 2012), <http://www.nrel.gov/docs/fy12osti/51946.pdf> (“NREL Renewable Energy Report”).

<sup>75</sup> *Id.* at 12.

<sup>76</sup> *Id.* at 15.

U.S. in which some wind generation is plausible, this does not change the fundamental reality that Mississippi’s climate and topography are not conducive to generating electricity from wind. Not only should EPA’s assumptions be grounded on accurate assessments of technological and economic potential by state, but they should also account for *relative* potential, particularly in the context of very short lead times before the compliance period begins. It makes little sense for Mississippi to be competing intensively over the next five years for capital, equipment, and construction resources with other states that are much better suited to generating electricity from wind and solar.

Generally, EPA’s projections for renewable expansion are beyond other projections, including some of EPA’s own, as shown in Figure 6. EPA assumes growth in non-hydro renewable capacity that is out of line with other predictions and likely to be unattainable.

**Figure 6. Projected non-hydro renewable generation in TWh/year.<sup>77</sup>**

<b>Year</b>	<b>Clean Power Plan</b>	<b>Energy Information Administration, Annual Energy Outlook 2013</b>	<b>EPA’s Regulatory Impact Analysis</b>
2012	213	202	-
2020	281	275	-
2030	523	317	356

EPA also does not consider the details of North Carolina’s RPS in applying it across the Southeast, and the requirements of the RPS do not line up with the requirements of the Clean Power Plan. North Carolina’s standard includes eligible resources that EPA does not include in Building Block 3. In particular, North Carolina counts hydroelectric generation, landfill gas, biomass, and CHP/cogeneration toward meeting the RPS target.<sup>78</sup> North Carolina also allows energy efficiency measures to account for 25 percent of a utility’s requirement (40 percent after

<sup>77</sup> NERC CPP Report at 11.

<sup>78</sup> Database of State Incentives for Renewables & Efficiency, *North Carolina Incentives/Policies for Renewables & Efficiency: Renewable Energy and Energy Efficiency Portfolio Standard*, [www.dsireusa.org/incentives/incentive.cfm?Incentive\\_code=NC09R](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_code=NC09R) (last updated Oct. 31, 2014) (“NC RPS Overview”).

2021), and electricity demand reduction can meet up to 100 percent of a utility's renewable energy requirement.<sup>79</sup> Thus, even if it were appropriate to assume that North Carolina's RPS represents a good proxy for Mississippi's renewable energy development potential, the eligible technologies counted in North Carolina's RPS do not align with EPA's specification of Building Block 3, and are not reasonably supported for application with respect to Mississippi.<sup>80</sup>

The Clean Power Plan methodology assumes that Mississippi would be able to add renewable generation in large quantities—the equivalent of more than 1800 MW of wind capacity. Currently, *only ten states* have as much wind capacity—not surprisingly in regions of the country with substantially better wind profiles than Mississippi. Yet EPA considers the renewable energy building block to be a source of flexibility in creating a state compliance plan—i.e., that states have leeway to rely more heavily on this building block than on the redispatch under Building Block 2. In reality, it would be effectively impossible for Mississippi to rely on increased renewable generation under Building Block 3 to avoid elimination of valuable coal generation resources resulting from application of Building Block 2.

By basing the regional target on North Carolina's RPS, EPA is proposing a target that is more stringent than is justifiable or achievable for Mississippi. Not only does EPA ignore the policy choices of states, like Mississippi, without an RPS, but EPA ignores the policy behind implementing an RPS.<sup>81</sup> EPA also ignores the practical challenges and capabilities for renewable development in Mississippi. The Commission believes that the alternative renewable energy approach on which EPA has requested comment would produce a more realistic goal for Mississippi. The alternative approach, based on state-specific assessment of technical and market potential, would be far more appropriate than the rough RPS-based approach, which is particularly problematic for the Southeast region, including Mississippi.

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<sup>79</sup> See *id.* North Carolina law defines “electricity demand reduction” as “a measurable reduction in the electricity demand of a retail electric customer that is voluntary, under the real-time control of both the electric power supplier and the retail electric customer, and measured in real time, using two-way communications devices that communicate on the basis of standards.” *Id.*

<sup>80</sup> Some of what North Carolina includes in its RPS, such as energy efficiency measures, might be considered under Building Block 4.

<sup>81</sup> See GDS Associates, Inc., *A Study of the Feasibility of Energy Efficiency as an Eligible Resource as Part of a Renewable Portfolio Standard for the State of North Carolina: Report for the North Carolina Utilities Commission* (Dec. 2006), <http://www.ncuc.commerce.state.nc.us/reps/NCRPSEnergyEfficiencyReport12-06.pdf> (detailed analysis of the eligibility of energy efficiency in North Carolina).



**B) *EPA should allow for importing of renewables to meet renewable targets.***

As discussed above, Mississippi has a low potential for in-state renewable generation. Thus, the Commission asks EPA to allow Mississippi to claim credit for the procurement of out-of-state renewable generation.<sup>82</sup> EPA states that it recognizes that individual RPS polices “vary in their specification of where qualifying RE generation must occur.”<sup>83</sup> Although the Commission believes the RPS-based approach in the proposed rule is severely flawed, as discussed above, it should be noted that North Carolina does allow renewable energy credits from out-of-state to be used to meet the portfolio standard.<sup>84</sup> Failing to allow the same approach under the Clean Power Plan would further widen the gap between the RPS on which EPA relies to set a target and the target itself.

**C) *Biomass should be an option for meeting renewable goals.***

The Commission understands that EPA is in the process of developing a framework for addressing CO<sub>2</sub> emissions from biomass facilities.<sup>85</sup> The Commission urges EPA to recognize the benefits of these facilities. Biomass is the primary renewable energy option in Mississippi, although using biomass as a primary energy source is relatively high cost.<sup>86</sup> In 2010 Mississippi generated 2.8 percent of its electricity from renewables, and nearly all of this generation was from wood and wood waste.<sup>87</sup> Although the Commission does not believe North Carolina’s RPS is relevant for evaluating a renewables target for Mississippi, it should be noted that biomass is included in North Carolina’s eligible renewable/other technologies.<sup>88</sup>

**D) *Mississippi should get credit for renewable generation already achieved and that will be implemented before compliance is required.***

The Commission observes that EPA’s methodology does not give compliance credit for renewable generation that comes online before 2020. There is no reason to disincentivize or

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<sup>82</sup> Clean Power Plan, 79 Fed. Reg. at 34,922.

<sup>83</sup> *Id.* at 34,866 n.150.

<sup>84</sup> NC RPS Overview.

<sup>85</sup> Memorandum from Janet G. McCabe, Acting Assistant Administrator, U.S. E.P.A. Office of Air & Radiation to Air Div. Dirs. Regions 1-10 re: Addressing Biogenic Carbon Dioxide Emissions from Stationary Sources (Nov. 19, 2014), available at <http://www.epa.gov/climatechange/downloads/Biogenic-CO2-Emissions-Memo-111914.pdf>.

<sup>86</sup> MEI Biomass Fact Sheet.

<sup>87</sup> *Id.*

<sup>88</sup> NC RPS Overview.

otherwise fail to recognize the contribution of projects that are underway or are being planned and will soon be implemented that will work toward the goal of decreasing CO<sub>2</sub> emissions. The Commission urges EPA to allow states to count for compliance purposes pre-2020 renewable generation.<sup>89</sup> Since the environmental goals of the Clean Power Plan are concerned with aggregate future emissions of CO<sub>2</sub>, it is appropriate that any and all actions reducing CO<sub>2</sub> emissions from affected EGUs should be credited toward compliance. EPA should establish baseline references for each state by year and allow quantities of renewable generation achieved in excess of reference levels prior to 2020 to be carried forward for application in the compliance period.

***E) EPA has not analyzed reliability impacts of increased renewables.***

The increase in renewable generation contemplated by the Clean Power Plan has not been fully assessed.<sup>90</sup> As resource mix changes, the reliability characteristics associated with different generation types must be considered. The challenge of steep daily ramps associated with intermittent resources such as wind and solar generators all coming online or going offline at the same time are well known.<sup>91</sup> Some renewable resources generally operate at full production, rather than below maximum related output, which provides less flexibility.<sup>92</sup> Different generators also have different ramping capabilities,<sup>93</sup> and there may be visibility and control issues associated with different resources.<sup>94</sup> The reliability challenges associated with Building Block 3 should be comprehensively studied and addressed.

***F) The proposed rule penalizes prior investment in nuclear generation and does not incentivize new investment in nuclear power.***

The proposed rule notes that existing and under-construction nuclear generation is CO<sub>2</sub>-free generation with relatively low variable operating costs.<sup>95</sup> EPA proposes to include six

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<sup>89</sup> See NODA, 79 Fed. Reg. at 64,545-46.

<sup>90</sup> NERC CPP Report at 13.

<sup>91</sup> *Id.* at 25-26.

<sup>92</sup> NERC Reliability Paper at 6.

<sup>93</sup> *Id.* at 6-7.

<sup>94</sup> *Id.* at 8.

<sup>95</sup> Clean Power Plan, 79 Fed. Reg. at 34,870.

percent of each state's historical nuclear capacity in the state's goal.<sup>96</sup> The Commission is concerned that a recent uprate at Entergy's Grand Gulf Nuclear Station has resulted in an overly stringent calculation of Mississippi's goal and that states with existing nuclear that have invested in upgrades are being unnecessarily penalized.

EPA's treatment of nuclear generation penalizes states with nuclear resources by including "at risk" nuclear in the denominator of the state goal. While the Commission does not believe it is appropriate to penalize a state for having any zero-carbon emission nuclear capacity, the Commission asks that EPA at least remove recent investment in nuclear generation, such as the Grand Gulf uprate, if nuclear generation remains in the denominator. Grand Gulf completed a power upgrade on June 16, 2012, increasing its production by over thirteen percent for a total output of 1,443 MW.<sup>97</sup> The Commission does not believe that including the full power output of Grand Gulf (following the uprate) in the calculation is appropriate.

Although EPA recognizes the value of nuclear generation, the proposed rule does not reward states that have invested in nuclear generation; rather, these states have stricter goals, because a percentage of existing nuclear generation is included in the denominator of the calculation of the state goal. This adds pressure to states with nuclear generation—even though that generation is carbon neutral and should be considered a beneficial prior investment—that is not felt by states without nuclear generation. And EPA fails to recognize that states often have little to no control over whether a nuclear unit remains operational. The Nuclear Regulatory Commission is responsible for licensing, and barring a safety or operational issue, the owners of nuclear plants largely exercise control over the decision to shut down a unit. Although a state may very much want a nuclear plant to remain operational as a source of zero-carbon electricity, the state may be limited in its ability to affect the market revenues that a nuclear unit receives in organized markets. EPA's inclusion of any existing nuclear generation in the denominator merely serves to penalize states that already have this zero-carbon, relatively climate-resilient<sup>98</sup>

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<sup>96</sup> *Id.* at 34,871.

<sup>97</sup> Entergy Corp., *Grand Gulf Nuclear Station*, [http://www.entergy-nuclear.com/plant\\_information/grand\\_gulf.aspx](http://www.entergy-nuclear.com/plant_information/grand_gulf.aspx) (last visited Nov. 26, 2014).

<sup>98</sup> NERC reported that the polar vortex had the least impact on nuclear units. NERC Polar Vortex Report at 13. Additionally, nuclear fuel prices are driven by different factors from coal and natural gas prices, illustrating the price-stabilizing advantages of a diverse generation portfolio. IHS Report at 18.

resource, and it is out-of-touch with any understanding of how nuclear units are planned and operated.

**VI. The calculation of Building Block 4 is flawed, and EPA fails to give credit for existing energy efficiency programs.**

The Commission has a variety of concerns with how Building Block 4 will operate and the assumptions behind it. The Commission observes problems with the goal-setting method for this building block and the enforceability of this building block, and seeks credit for energy efficiency programs underway.

**A) EPA's methodology for setting energy efficiency goals is flawed.**

1. EPA's cost assumptions for economically achievable energy efficiency are too low.

EPA has evaluated the reasonableness of its energy efficiency assumptions by estimating net costs of CO<sub>2</sub> reduction from the assumed best-practices levels of energy efficiency of between \$16 and \$24 per metric ton of CO<sub>2</sub>.<sup>99</sup> However, the energy efficiency cost estimates applied by EPA in this analysis are not conservative, as claimed, but rather significantly underestimate the costs of incremental energy efficiency. An analysis of impacts from the Clean Power Plan performed by NERA Economic Consulting concluded that the best assessment of actual historical energy efficiency costs supported values roughly 60 percent above those assumed by EPA.<sup>100</sup> This suggests that the energy efficiency volumes assumed by EPA to be economically achievable are significantly overstated. If the assumed energy efficiency volumes are not modified appropriately, it will mean that the compliance burden of meeting the currently proposed emissions rate goals will be shifted even more toward renewable generation, and that the cost of compliance will be significantly greater than EPA has estimated.

2. The load basis for deriving energy efficiency volumes should be modified.

The Clean Power Plan assumes that energy efficiency will grow faster than energy demand. The MPSC does not believe that this assumption is likely to be true, given reports that

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<sup>99</sup> Clean Power Plan, 79 Fed. Reg. at 34,875.

<sup>100</sup> NERA Economic Consulting, Potential Energy Impacts of the EPA Proposed Clean Power Plan S-5 (Oct. 2014), available at [http://www.americaspower.org/sites/default/files/NERA\\_CPP%20Report\\_Final\\_Oct%202014.pdf](http://www.americaspower.org/sites/default/files/NERA_CPP%20Report_Final_Oct%202014.pdf) ("NERA CPP Report.").

question the Clean Power Plan's energy efficiency assumptions.<sup>101</sup> As a result, other building blocks will have to be used to compensate for load growth.

EPA derives the energy efficiency MWh targets based on total 2012 MWh sales. The Commission believes it would be more consistent with methodologies applied in other building blocks for the energy efficiency targets to be based off of 2012 generation from affected EGUs. The Commission observes that the Clean Power Plan effectively establishes CO<sub>2</sub> emissions rates for load currently served by affected EGUs, and modifies that load based on assumed reductions from energy efficiency programs. It therefore appears inconsistent that energy efficiency MWh goals are derived from total sales rather than just the portion associated with generation from affected EGUs. The Commission suggests that EPA should instead calculate energy efficiency MWh for purposes of setting the goal based on 2012 EGU generation.

Further, EPA does not distinguish between residential, industrial, and commercial energy efficiency programs in determining achievable energy efficiency potential. For example, the energy efficiency potential for an industrial operation will not be applicable in other scenarios.<sup>102</sup>

The Commission also questions whether the incremental growth rate in energy efficiency savings, once achieved, will be sustainable. EPA offers no support for its belief that it will be.<sup>103</sup>

***B) Energy efficiency measures should not be subject to federal enforcement.***

The Commission is concerned that the threat of federal enforceability will make it more difficult for states to pass legislation authorizing energy efficiency programs. Such programs are a matter of state policy and regulatory decision-making, and the potential to lose control over these programs once incorporated into a state implementation plan submitted to EPA for approval provides an obstacle to moving forward on these programs.

***C) Mississippi has already taken significant steps to implement energy efficiency programs and should get credit for these actions.***

Mississippi has already taken a number of steps to promote energy efficiency. For example, Mississippi's commercial building code is progressive and being used as a model for

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<sup>101</sup> *Id.* at 16.

<sup>102</sup> *Id.* at 15.

<sup>103</sup> *Id.* at 15 (stating that "this sustainability is not supported by any peer-reviewed or technical studies of energy efficiency potential").

other states.<sup>104</sup> The Commission's Rule 29, related to Conservation and Energy Efficiency Programs, requires the implementation of energy efficiency programs by covered utilities and promotes cost-effective investment in program development.<sup>105</sup>

A cursory catalogue of energy efficiency programs implemented or in development by utilities shows that there are creative and effective programs in place in Mississippi. For example, Entergy's Quick Start Plan includes five different programs for residential, commercial, industrial, and governmental end-users. The South Mississippi Electric Power Association started the Good Cents program in 1988 (renamed Comfort Advantage in 2001), which is a standard for energy efficient construction and home products.<sup>106</sup> Mississippi Power Company has a variety of programs, from community light bulb giveaways to time-of-use rates. TVA also has a wide range of programs for residential, commercial, and industrial customers. Additionally, most cooperative utilities offer energy efficiency programs to their customers.

Mississippi is proud of these measures and is unwilling to slow momentum on implementing these programs. However, EPA should allow states like Mississippi to bank credits for what it accomplishes before the first compliance date. As discussed above with respect to renewable energy targets, it is appropriate that any and all actions reducing CO<sub>2</sub> emissions from affected EGUs should be credited toward compliance. EPA should establish baseline references for each state by year and allow quantities of energy efficiency achieved in excess of reference levels prior to 2020 to be carried forward for application in the compliance period.

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<sup>104</sup> Miss. Code Ann. § 57-39-21.

<sup>105</sup> Final Order Docket No. 2010-AD-2.

<sup>106</sup> Comfort Advantage, *Unlock the Comfort Advantage in Your Home* (2012), <http://www.comfortadvantage.com/comfort%20Advantage%20brochure.pdf>.

**VII. The building blocks will cause significant rate impacts in Mississippi.**

The Commission is concerned that EPA has not thoroughly analyzed anticipated cost impacts on a case-by-case basis.<sup>107</sup> The Commission does not believe that the expected benefits to Mississippi of the proposed rule are justified by the magnitude of the expected costs that Mississippi ratepayers will bear under the Clean Power Plan.

As discussed above (see Section I.C), Mississippi ratepayers spend more of their money on electricity than ratepayers in nearly any other state. Unsurprising given its climate (high sustained temperature and humidity), electricity intensity (consumption per real GDP) is also high, see Figure 7. The high electricity intensity of Mississippi's economy indicates that the state and its citizens are particularly exposed to the costs that would be imposed by the Clean Power Plan. Not only would the proposed rule impose a disproportionate burden on Mississippi by effectively mandating elimination of low-cost coal generation, but the impacts will also have a magnified effect on the state GDP.

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<sup>107</sup> See Raymond L. Gifford, et al., Wilkinson Barker Knauer, LLP, *EPA's CO<sub>2</sub> Rule and 18 States' Resolutions and Legislation: EPA's Proposed CO<sub>2</sub> Rule Collides with Flexibility Asserted by States 2* (Aug. 2014), <http://www.wbklaw.com/uploads/EPA's%20CO2%20Rules%20and%2018%20States'%20Resolutions%20and%20Legislation.pdf>.

**Figure 7. Electricity intensity by state in 2012.**<sup>108</sup>

<b>Rank</b>	<b>State</b>	<b>Electricity Intensity (kWh of Electricity Consumption per Real GDP)</b>
1	Kentucky	0.541
2	Mississippi	0.503
3	Alabama	0.496
4	West Virginia	0.468
5	South Carolina	0.467
6	Wyoming	0.465
7	Arkansas	0.449
8	Idaho	0.424
9	Oklahoma	0.386
10	Indiana	0.368

In particular, EPA states that the redispatch anticipated by the proposed rule can be achieved without causing significant economic impacts.<sup>109</sup> This is certainly not the case with respect to Mississippi. As discussed above, the Clean Power Plan would effectively require elimination of coal generation in Mississippi, causing a radical shift in resource mix and reliance on NGCC units to provide baseload service. EPA has neither evaluated the impacts of such a significant shift in resource roles, nor whether the resulting mix of baseload, intermediate, and peaking resources will be appropriate to serve load reliably and economically, particularly with the assumed addition of large quantities of intermittent renewable generation. It is simply infeasible that such substantial shifts in dispatch of resources planned for very different circumstances will not entail large economic costs.

<sup>108</sup> Table from Commonwealth of Kentucky, Energy and Environment Cabinet, *Greenhouse Gas Policy Implications for Kentucky under Section 111(d) of the Clean Air Act 3* (Oct. 2013), <http://eec.ky.gov/Documents/GHG%20Policy%20Report%20with%20Gina%20McCarthy%20letter.pdf>.

<sup>109</sup> Clean Power Plan, 79 Fed. Reg. at 34,865.



There are a variety of ways to estimate costs of the Clean Power Plan. Using calculations from the Mississippi Energy Institute, the proposed rule is estimated to cost Mississippi ratepayers \$14 billion by 2030, not including fuel costs. These costs are primarily caused by the need for increased renewable energy required to meet the emission target. As the price of electricity increases, the Commission is also concerned about impacts on industry and job creation.

The Commission has also attempted to derive a cost estimate based on national modeling. Under the proposed rule, Mississippi is slated to achieve a 39 percent reduction in CO<sub>2</sub> emissions, compared to the national reduction of 30 percent. Starting with estimates from NERA Economic Consulting,<sup>110</sup> and adjusting for the fact that Mississippi will need to achieve about 9 percent greater reductions per MWh than the national average, the Mississippi adjusted share would be about \$5.38 billion for a plan based on Building Blocks 1-4, and \$7.05 billion for a plan based on only Building Blocks 1-2, which is an alternative on which EPA is seeking comment.<sup>111</sup> Mississippi's lower target will be more difficult to achieve from a technical, operational, and utility perspective, and this adjustment does not capture the additional costs that these factors are likely to create.

The Commission's estimates show that using all four building blocks, Mississippi retail ratepayers will experience an 11 percent increase in average delivered electricity prices over the 2017-2031 time period.<sup>112</sup> Using only Building Blocks 1 and 2, this figure is 14 percent.<sup>113</sup> Wholesale rates could increase 20-25 percent. The Commission notes that electric cooperatives—from which fifty-one percent of Mississippi residential customers get their electricity, see Section I.A)—have voiced particular concern about the potential burdens of the Clean Power Plan on cooperatives: “Co-ops serve some of America's communities most sensitive to, and least able to afford, increases in the cost of energy.”<sup>114</sup>

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<sup>110</sup> NERA CPP Report.

<sup>111</sup> Clean Power Plan, 79 Fed. Reg. at 34,877-78.

<sup>112</sup> NERA CPP Report at 25.

<sup>113</sup> *Id.* at 26.

<sup>114</sup> *Electric Co-op Members Cannot Afford Price Increases, Job Losses from Carbon Regulations* (June 2, 2014), available at <http://www.nreca.coop/electric-co-op-members-afford-price-increases-job-losses-carbon-regulations/> (statement of Jo Ann Emerson, CEO, Nat'l Rural Elec. Coop. Ass'n).

An analysis conducted by Energy Ventures Analysis shows that Mississippi is among the states hit hardest by the Clean Power Plan along multiple metrics.<sup>115</sup> Out of all the regulated states, Mississippi is projected to experience the largest increase in electricity production cost (a 177 percent increase from 2012 to 2020, measured in real 2012 dollars).<sup>116</sup> Total electricity cost is expected to increase 57 percent from 2012 to 2020 (measured in real 2012 dollars).<sup>117</sup> Over the same time period, residential electricity bills are estimated to increase 35 percent, and industrial electricity rates are expected to increase 69 percent (measured in real 2012 dollars).<sup>118</sup> Multiple events are expected to increase natural gas demand by 2020: increased industrial use of natural gas, export of natural gas, and the Clean Power Plan.<sup>119</sup> In Mississippi, the price of natural gas is projected to increase 114 percent from 2012 to 2020 (measured in real 2012 dollars).<sup>120</sup>

The displacement of coal as a Mississippi resource option also penalizes utilities—and their ratepayers—for making pollution-control investments in existing coal plants in compliance with prior EPA rulemakings, such as MATS. Mississippi Power Company’s Plant Daniel, which consists of two coal generating units, is currently undergoing a new scrubber project pursuant to a Certificate of Public Convenience and Necessity issued by the MPSC in April 2012 in order to comply with MATS. This \$660 million project will implement a flue gas desulfurization system to remove up to 96 percent of sulfur dioxide and 90 percent of mercury from flue gas. The new environmental control equipment is anticipated to be operational in the fourth quarter of 2015, and Plant Daniel is estimated to have 32 useful years left. However, the proposed rule is predicated on the closure of Plant Daniel’s coal-fired units, stranding the capital costs not yet recovered plus the newly incurred \$660 million upgrade costs. In all, Mississippi Power

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<sup>115</sup> Energy Ventures Analysis, Energy Market Impacts of Recent Federal Regulations on the Electric Power Sector 5 (Nov. 2014), <http://evainc.com/wp-content/uploads/2014/10/Nov-2014.-EVA-Energy-Market-Impacts-of-Recent-Federal-Regulations-on-the-Electric-Power-Sector.pdf> (“EVA Market Impacts Study”).

<sup>116</sup> *Id.* at 26.

<sup>117</sup> *Id.* at 28.

<sup>118</sup> *Id.* at 30-31.

<sup>119</sup> *Id.* at 33.

<sup>120</sup> *Id.* at 35.

Company ratepayers could be forced to shoulder \$1.019 billion in costs related to Plant Daniel in utility rates over the next 32 years, even if the plant never generates another megawatt-hour.<sup>121</sup>

EPA should consider the impacts on coal-fired units, such as those at Plant Daniel, that have seen significant investment in reliance on prior EPA actions.<sup>122</sup> The utilities making these investments—and the rate-payers who are ultimately paying for them—had a reasonable, investment-backed expectation that these upgraded, coal-fired units, would be able to operate through the end of their useful lives.<sup>123</sup> EPA does not appear to have fully considered or quantified the stranded costs associated with premature retirements of these facilities.

### **VIII. The proposed rule does not sufficiently incentivize or provide for plans that address cross-jurisdiction impacts.**

The proposed rule's scheme, requiring state plans, is incompatible with the multi-state structure of the utility industry. Utilities often operate across state lines, and utilities in Mississippi are no exception. The Commission is not alone in recognizing the superiority of a regional approach.<sup>124</sup> There are projected cost savings of a regional approach; MISO estimates a benefit of approximately \$3.5 billion annually.<sup>125</sup> However, the proposed rule neither incentivizes such an approach nor provides sufficient time to develop a comprehensive regional approach.

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<sup>121</sup> The Commission cannot and will not prejudge the outcome of cost recovery matters before it or likely to come before it.

<sup>122</sup> See *Hearing on FERC Perspective: Questions Concerning EPA's Proposed Clean Power Plan and Other Grid Reliability Challenges Before the Subcomm. on Energy and Power of the H. Comm. on Energy and Commerce*, 113th Cong. 5-6 (2014) (Written Testimony of FERC Commissioner Phillip D. Moeller), available at <http://www.ferc.gov/CalendarFiles/20140729091755-Moeller-07-29-2014.pdf> (discussing utility investments in air quality improvements—paid for by ratepayers—that are being taken for granted in the Clean Power Plan).

<sup>123</sup> See, e.g., *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 335-36 (2002); *Maritrans Inc. v. United States*, 342 F.3d 1344, 1358 (Fed. Cir. 2003).

<sup>124</sup> See Paul Ciampoli, *FERC Chairman Sees EPA CO<sub>2</sub> Plan Approach Having "Significant Consequences" for Resource Choice*, Public Power Daily (Oct. 22, 2014), <http://www.publicpower.org/Media/daily/ArticleDetail.cfm?ItemNumber=42484>; Laura D' Alessandro, *Commissioner Applies RGGI Lessons to EPA's Proposed CO<sub>2</sub> Rule* (Nov. 3, 2014), <http://www.publicpower.org/media/daily/ArticleDetail.cfm?ItemNumber=42579>.

<sup>125</sup> MISO, *Analysis of EPA's Proposal to Reduce CO<sub>2</sub> Emissions from Existing Units* 12 (Nov. 2014), <https://www.misoenergy.org/Library/Repository/Communication%20Material/EPA%20Regulations/AnalysisofEPAProposalReduceCO2Emissions.pdf>.

Mississippi is partially in the MISO footprint, and this makes it particularly difficult to develop a state plan, because Mississippi also needs to be aware of MISO planning approaches, even though MISO's plans—even if comprehensive—will not entirely account for Mississippi. Of the two major investor-owned utilities in Mississippi, Southern (Mississippi Power Co. in Mississippi) is not in MISO, but coordinates its operations across multiple states, and Entergy is in MISO and thus coordinates within MISO. In other words, there are many moving parts.

Further, Mississippi utilities own generation resources in other states, and out-of-state entities own shares in generation resources in Mississippi. For example, although Grand Gulf is entirely within Mississippi, over half of its generation is owned by entities serving load outside of Mississippi. And as discussed in more detail above, the Commission views out-of-state options as crucial for meeting the proposed rule's renewable targets. Additionally, demand response or energy efficiency programs in Mississippi may reduce emissions in other states.

While the proposed rule would allow for a regional approach,<sup>126</sup> it fails to recognize the hurdles to the implementation of a regional plan that make such an approach unlikely to work. It is unclear under the current proposal why a state would want to switch to a regional goal more stringent than its individual goal.

The proposed rule offers two additional years for states to submit plans if they decide to collaborate with other states, but fails to give extra time for compliance for multi-state plans. The modeling and planning requirements of the Clean Power Plan are quite significant, and modeling different regional scenarios requires additional efforts. In order to achieve the most efficient approach, which is likely multi-state, EPA should allow sufficient time to fully plan, as well as to understand and address concerns with such an approach.

EPA must also understand that some state agencies may need additional legislative authorization to collaborate with other states. Such legislation takes time to draft and enact before any multi-state approach can be formalized. By failing to consider all of the barriers—not necessarily insurmountable ones, but obstacles nonetheless—EPA does not provide a realistic framework for developing regional plans.

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<sup>126</sup> Clean Power Plan, 79 Fed. Reg. at 34,897.

Overall, EPA has not acknowledged the challenges to developing and implementing a multi-state approach. EPA has provided little direction on a multi-state perspective, and more guidance is necessary to begin to make a regional approach feasible. For example, EPA should develop (with input from stakeholders) and provide guidance for how trading mechanisms can be established and accounted for in demonstrating compliance.

In the absence of guidance from EPA, and assurance that reasonable coordination approaches and/or trading mechanisms will be acceptable and accounted for in determining future compliance, states will be forced to plan for standalone compliance, which may foreclose lower-cost compliance opportunities. The Clean Power Plan contemplates a filing date as late as June 2018 for multi-state plans. It is unknown how long it will take EPA to review and either approve or reject such plans. In any event, there will be insufficient time before 2020 to develop and implement an alternative plan. Compliance would therefore require that certain efforts be in progress prior to EPA approval, and could entail irreversible actions, such as coal plant retirements, that would increase compliance costs and reduce opportunities for less-costly coordinated action.

The Commission requests that EPA provide guidance and assurances that will allow states to develop compliance plans that take advantage of coordination with other states and trading mechanisms that may not be in place by the filing deadline. Ideally EPA will also extend the period prior to compliance to allow sufficient time for states to properly evaluate compliance alternatives and develop plans with real flexibility for cost-effective compliance.

**IX. EPA has not provided sufficient time to submit comments or to develop successful compliance plans.**

The timeline proposed by EPA for commenting on the proposed rule, issuing a final rule, submitting state plans, and beginning to comply is ambitious, and the Commission believes overly so. While the Commission recognizes that EPA provided an extended comment period, the complexity of the rule and its potential to affect myriad aspects of the electricity system, along with related gas and other systems, barely allowed the Commission time to scratch the surface of what the rule might mean within the borders of Mississippi, and almost no time to consider coordination with other states. The implementation timeline does not leave room for the

modeling and coordination necessary to implement workable plans. The Commission is also concerned that there is insufficient time to fully understand or address reliability impacts.

*A) States need more time to develop plans.*

As discussed above, a regional or multi-state approach requires extensive modeling and planning—in other words, more time. States are undertaking modeling and projection efforts in order to prepare comments on the Clean Power Plan and anticipate a relatively short time frame in which to prepare these plans with no additional opportunity to comment after EPA releases a final rule.

Any plan for Mississippi will have to take into consideration any MISO action or planning in response to the Clean Power Plan, as well as the multi-state operations of utilities that serve in Mississippi. Plan development will require stakeholder input and feedback, as well as coordination between state agencies.

States also will likely need time to develop and enact legislation necessary to implement some of the building blocks. In addition to legislation for collaboration, discussed in Section VIII, above, the Commission believes that legislation to implement an RPS or mandate certain energy efficiency measures may be needed.

The Commission also notes that EPA provided guidance for conversion of a rate-based goal to a mass-based one in prepublication version on November 6, 2014—less than thirty days before the close of this comment period. This does not provide sufficient time to analyze and comment on this component of the proposed rule. EPA should provide maximum flexibility to the states in choosing a rate-to-mass conversion method. EPA could establish several ways to do so in guidance and let states determine which method is best-suited to the particular state.

The Commission recognizes that there are many unknowns and uncertainties regarding the Clean Power Plan. The appropriate way to address these issues, though, is to allow more time for developing plans, to make clear that EPA is committed to being responsive to state concerns after this comment period is over, and to welcome the input of other entities with expertise in areas such as fuel diversity, reliability, and rate-setting. The Commission urges EPA to recognize that there should be additional opportunities for public comment as stakeholders gain experience with the Clean Power Plan. While pre-proposal meetings were a

good step, they are not a substitute for continuing to be responsive to feedback as the plans are developed and implemented.

***B) Utilities will likely require additional time to prepare for compliance.***

Under the timeline in the proposed rule, all states must submit initial emissions plans by June 30, 2016. States have the option to seek a one-year extension to June 30, 2017 for individual plans or to June 30, 2018 for multi-state plans. However, the January 1, 2020 start date for affected sources would not be extended under the proposed rule. If EPA has one year to review a submitted state plan, then the earliest a final plan would be approved would be June 2018 (two-and-a-half-years before compliance begins). But if granted an extension, a plan might not be finalized and approved until June 2019—only six months before the start date.

The redispatch required by Building Block 2 will require extensive construction in multiple areas of the country. It takes three to five years to build additional pipeline capacity, which entails planning, permitting, financing, and construction.<sup>127</sup> Planning and constructing replacement capacity is yet another undertaking.

Construction of new high-voltage transmission can take between five and fifteen years, depending on the voltage class, location, and availability of necessary crews.<sup>128</sup> Any such new transmission required to implement the Clean Power Plan would not be available for compliance with the interim goal. Additionally, the transmission planning process will need to take into account resource retirement projections in state plans.<sup>129</sup>

The time frames in the proposed rule are woefully inadequate to implement the sort of infrastructure, resource, and planning projects that would be required by the Clean Power Plan. The Commission is concerned about the cost and reliability impacts of being forced to choose a compliance path based on time constraints, rather than what will actually accomplish the goals of reducing CO<sub>2</sub> from power plants while maintaining system reliability, protecting ratepayers, and promoting smart development.

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<sup>127</sup> NERC CPP Report at 10.

<sup>128</sup> *Id.* at 20.

<sup>129</sup> *Id.*

**X. Conclusion**

The Commission thanks EPA for providing an opportunity to comment on this rulemaking and urges EPA to consider the concerns and practical experience that the MPSC has offered in these comments. Please do not hesitate to contact us with any questions that you may have.

**SUBMITTED BY:**

*/s/ Lisa G. Dowden*

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Lisa G. Dowden  
David E. Pomper  
Jessica R. Bell  
Spiegel & McDiarmid LLP  
1875 Eye Street, NW  
Suite 700  
Washington, DC 20006  
(202) 879-4000  
Lisa.Dowden@spiegelmc.com  
David.Pomper@spiegelmc.com  
Jessica.Bell@spiegelmc.com

Shawn S. Shurden, General Counsel  
MS Public Service Commission  
Post Office Box 1174  
Jackson, MS 39215-1174  
(601) 961-5497  
Shawn.Shurden@psc.state.ms.us

Counsel for Mississippi Public Service Commission

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