**COMMENTS OF MONTANA-DAKOTA UTILITIES CO.**

**ON THE**

**CARBON POLLUTION EMISSION GUIDELINES FOR EXISTING STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS; PROPOSED RULE**

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

# I. INTRODUCTION

Montana-Dakota Utilities Co. (Montana-Dakota) generates, transmits and distributes electricity to more than 134,000 customers in 177 communities and adjacent rural areas in North Dakota, South Dakota, Montana and Wyoming. Throughout this document, Montana-Dakota refers to customers in North Dakota, South Dakota and Montana as the company's Integrated System since transmission, generation and distribution in the Integrated System is not connected with Montana-Dakota's service territory in Wyoming. Montana-Dakota's service areas are unique in that they are experiencing unprecedented load growth. Montana-Dakota anticipates five percent load growth for the next five years, and is committed to meeting these increasing needs through a diverse portfolio of generating resources. Despite historically low natural gas prices, Montana-Dakota's coal-fired generating resources comprise approximately 70 percent of Montana-Dakota's portfolio and continue to be an important source of cost effective and reliable electricity for its customers. Montana-Dakota owns three wind farms and recently signed an agreement to purchase a new wind farm slated to be brought online in 2015. With this purchase, renewable resources will constitute 20 percent of Montana-Dakota's generation portfolio.

Montana-Dakota strongly opposes the United States Environmental Protection Agency's proposed rule regarding *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units* (the Proposed Rule).[1] The Proposed Rule is an unprecedented expansion of the narrow authority allocated to EPA under Section 111(d) of the Act to provide emissions guidelines for states to use in setting standards of performance for individual, existing fossil-fuel fired electric generating units (EGUs). Notwithstanding Section 111(d)'s focus on controls at the affected source and EPA's past precedent of applying Section 111(d) in a limited way, EPA is proposing emission rate reduction goals based on reductions purportedly achievable through redispatch from coal to gas, development of renewable energy, and implementation of energy efficiency measures. EPA's reliance on emission reductions beyond reductions achievable at the affected source and well beyond its jurisdiction is arbitrary and capricious and *ultra vires* regulation.

The consequences of EPA's overreach are compounded by the technical errors and fundamentally flawed assumptions embedded in EPA's emission rate goal calculations. EPA failed to consider constraints on (1) EGUs' abilities to achieve and sustain heat rate improvements, (2) redispatch from existing coal-fired EGUs to natural gas combined cycle units (NGCC), and (3) exponentially increasing investments in renewable generation and energy efficiency measures. The resulting rate goals are arbitrary and capricious and, as a practical matter, so stringent that they cannot be met without jeopardizing the reliability and stability of the electric grid. Montana-Dakota encourages EPA to amend the Proposed Rule based on emission reductions to measures that can be undertaken at affected sources and allow states to comply through a portfolio of measures. Failing this, it is imperative that EPA make changes to the Proposed Rule to address the most severe consequences of the rule.

Montana-Dakota is an active member of the Edison Electric Institute (EEI) and will address the broader legal infirmities of the Proposed Rule in detail through comments submitted

[1] 79 Fed. Reg. 34,830 (June 18, 2014).

by EEI.[2] Montana-Dakota focuses these comments on the application of the Proposed Rule to North Dakota, South Dakota, Montana, and Wyoming. Montana-Dakota respectfully submits the following comments on the Proposed Rule.

## II. SUMMARY OF THE PROPOSED RULE

On June 18, 2014, EPA published its proposed carbon pollution emission guidelines for existing power plants under Section 111(d) of the Clean Air Act (CAA or Act), which EPA refers to as the proposed "Clean Power Plan" (the Proposed Rule).[3] The Proposed Rule would require each state to meet an "interim goal" emission rate based on average emissions from 2020 to 2029 and a "final goal" emission rate in 2030 and beyond. The emission rates vary widely among states, and are lower than the emission rate standards for new coal-fired generation in all instances and the emission rate standards for new gas-fired units in most instances.[4] This result is arbitrary and capricious and an abuse of EPA's discretion under the Act.

The basis for the state-specific emission rate goals are four "Building Blocks" identified as the best system of emission reductions (BSER) by EPA. The four building blocks are: (1) heat rate improvements at existing coal-fired EGUs, (2) redispatch of existing generation to reduce output from existing coal-fired EGUs and to increase output from existing NGCC, (3) increased renewable energy resources and new or retained "at risk" nuclear generation, and (4) increased energy efficiency deployment. The starting point for the calculation is the average 2012 emissions rate of all fossil-fired EGUs, expressed as their aggregate carbon dioxide ($CO_2$) output divided by their aggregate generation in MWh. The final emission rate goals are expressed in pounds per megawatt hour (lb/MWh).

EPA has stated that it intends to issue a final rule in June 2015, and is proposing that each state submit a Section 111(d) compliance plan by June 30, 2016. EPA also is proposing an optional two-phased submittal process for state plans. Each state would be required to submit a plan by June 30, 2016, or if part of a multi-state plan by June 30, 2017, that contains certain required components. If a state needs additional time to submit a complete plan, then the state would be required to submit an initial plan by June 30, 2016, that documents the reasons the state needs more time and includes commitments to concrete steps that would ensure that the state would submit a complete plan by June 30, 2017 or a complete multi-state plan by June 30, 2018, as appropriate. Theoretically, EPA would review and approve proposed plans within a year. Montana-Dakota is skeptical that this is a realistic timeframe for plan approval, based on EPA's past practices for approving Regional Haze and other CAA implementation plans.

Based on EPA's proposed implementation timeline, affected sources will not have certainty regarding their compliance obligations until between one and three years before the onset of the obligations.

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[2] Montana-Dakota also incorporates by reference Montana-Dakota's responses to information requests from the North Dakota Public Service Commission Order AD-14-736 (Oct. 28, 2014) (Attachment A).

[3] 79 Fed. Reg. 34,830.

[4] *See* 79 Fed. Reg. 1429 (Jan. 8, 2014).

## III. COMMENTS

### A. The Proposed Rule Jeopardizes Electric Grid Reliability.

As a threshold matter, Montana-Dakota has significant concerns that the Proposed Rule would jeopardize the reliability and stability of the electric grid. As proposed, the Proposed Rule does not provide companies sufficient time to evaluate potential compliance options and, if necessary, construct new generating resources and transmission facilities. If EPA continues to broadly define BSER to include emission reduction measures that cannot be implemented at affected sources, EPA must provide states and electric generation companies with sufficient time to evaluate and implement potential compliance options.

Montana-Dakota is a member of the Midcontinent Independent System Operator (MISO). MISO is an independent system operator and regional transmission operator that provides open-access transmission service and monitors the transmission system through much of the United States and portions of Canada. MISO dispatches electricity regionally on a least-cost basis throughout the region. The MISO region already faces reliability challenges associated with EPA's Mercury and Air Toxics Standards (MATS).[5] MISO has reported that the region likely will be *at, or potentially below*, the planning reserve margin starting in the summer of 2016, before companies take steps to comply with the Proposed Rule.[6] MISO anticipates that compliance with the Proposed Rule, particularly the interim emission rate goals, likely will force the retirement of an additional 25 percent of the remaining coal capacity in the region -- which equates to 14 gigawatts.[7] The Proposed Rule does not allow sufficient time for states and companies to replace this lost capacity.

Montana-Dakota is particularly concerned by the potential retirement of the Big Stone Plant. Big Stone is located in South Dakota and participates in MISO. The Proposed Rule anticipates a significant redispatch of generation from Big Stone to Basin Electric Power Cooperative's Deer Creek Station, which is the only natural gas combined cycle unit in South Dakota. Deer Creek and Big Stone are separately owned, serve different territories, and participate in different markets (Big Stone is in MISO, while Deer Creek will join the Southwest Power Pool (SPP) in 2015). Because Deer Creek was under construction during most of 2012, it operated very little and was assigned a one percent annual capacity factor when EPA calculated the emission rate goal for South Dakota. Based in large part on this misapplication of Deer Creek's 2012 capacity factor, the Proposed Rule inappropriately anticipates that 1,965,000 MWh of generation would shift from Big Stone to Deer Creek. If this shift occurred, Big Stone would operate at just 23 percent of its capacity. Because Big Stone's minimum operating load is approximately 40 percent of maximum load, running the plant at 23 percent of its capacity would require the plant to be off-line for at least half of the year. Under these conditions, it is likely that the plant would be retired.

[5] MISO Comments on the Proposed Rule at 4-5 (Nov. 25, 2014) (MISO Comments) (Attachment B).

[6] *Id*.

[7] *Id.* at 5.

If EPA does not adjust the emission rate goal for South Dakota to correct the capacity factor for Deer Creek, Big Stone likely would be required to reduce generation beginning in 2020 in order for South Dakota to meet its proposed interim emission rate goal. This would cause a generation gap in the MISO region, which could not be mitigated by redispatch to units in SPP like Deer Creek. It is unlikely that Montana-Dakota and the other owners of the Big Stone Plant would have sufficient time to construct new generation to replace the shortfall from Big Stone. Thus, the generation gap that would be caused by the premature retirement of Big Stone would raise reliability concerns for North Dakota, Montana, South Dakota, and possibly other states within the MISO region.

### B. Building Block 1: EPA Overestimates The Heat Rate Improvements That Are Achievable And Sustainable At Existing Coal Units.

Montana-Dakota disagrees with EPA's assumption under "Building Block 1" that existing coal-fired electric generating units can achieve a six percent heat rate improvement through the "adoption of best practices" and "equipment upgrades."[8] This claim is unfounded. While six percent may be technically feasible at a single point in time, at certain units, and under ideal conditions, in practice, the best heat rate improvements achievable for such upgrades and practices are significantly lower across the industry. In fact, the sixteen EGUs EPA cites as evidence of the feasibility of a six percent heat rate improvement[9] did not actually attain six percent heat rate improvements. The majority of reported reductions in gross heat rate were due to unrelated normal variations in continuous emissions monitoring systems (CEMS)-based heat input values, not the result of proactive steps to reduce heat rate.[10]

Further, most coal-fired EGUs already have implemented the types of equipment upgrades and best practices identified by EPA as the basis for its six percent heat rate improvement estimate. This is true for Montana-Dakota's coal-fired EGUs. Multiple incentives are in place to operate units at peak efficiency, and periodic turbine overhauls are already a best practice.[11] Montana-Dakota's units cannot achieve the *additional* six percent heat rate improvement that EPA is proposing. While these plants may, at best, be able to attain an additional one to two percent heat rate improvement, the work required to achieve this incremental improvement would be uneconomical. This is especially true for units like Wygen III, which is located near Gillette, Wyoming and co-owned by Montana-Dakota. Wygen III was brought online in 2010. Yet, EPA assumes that Wygen III can achieve a six percent heat rate improvement from its 2012 level. Any additional upgrades at Wygen III are expected to be marginally beneficial and economically unjustified, potentially costing far more than EPA's

[8] 79 Fed. Reg. at 34,861.

[9] *See* Clarification to GHG Abatement Measures Technical Support Document (Sept. 16, 2014), Docket ID EPA-HQ-OAR-2013-0602-17180.

[10] J. Edward Cichanowicz & Michael C. Hein, Utility Air Regulatory Group, *Critique of EPA's Use of Reference Units to Select Heat Rate Reduction Targets* (Oct. 13, 2014), Attachment C to Docket ID EPA-HQ-OAR-2013-0603-0215.

[11] *See* NERC, Potential Reliability Impacts of EPA's Proposed Clean Power Plan: Initial Reliability Review (Nov. 2014) ("NERC Report") (Attachment C).

estimate of $100 per kilowatt (kW).[12] Realistically, the heat rate improvement that is actually achievable is unit-specific, and depends upon site-specific factors like current operating practices and past efficiency upgrades.[13] [14]

Even if an EGU could attain a six percent heat rate improvement, it would not be sustainable. Heat rate improvements achieved through equipment upgrades decline over time due to natural degradation, installation of emission control technologies, and the cycling of coal-fired EGUs (such as the increased cycling that EPA predicts will occur under Building Block 2). Heat rates at coal-fired EGUs gradually increase over time due to normal deterioration, which cannot be offset by routine maintenance.[15] Deterioration of steam turbine blades due to erosion and corrosion, along with buildup of blade deposits, are significant factors in loss of efficiency at coal-fired EGUs. These issues, over time, can result in an efficiency reduction of up to 15 percent of generating capacity.[16]

Additionally, the operation of controls installed to comply with other CAA programs, such as Regional Haze and MATS, results in heat rate increases that can be so significant that they overwhelm heat rate improvements achieved through the types of equipment upgrades and best practices on which EPA bases its six percent assumption. For example, Big Stone may require up to eight megawatts (MWs) of station power to operate Regional Haze pollution controls that currently are under construction at the unit. The additional load will negatively affect the units' current heat rate and make it technically infeasible for Big Stone plant to comply with a six percent heat rate improvement from its 2012 baseline heat rate. If EPA ignores the heat rate impacts of emission controls, states would be required to achieve not only the six percent heat rate improvement anticipated under Building Block 1, but also an additional heat rate improvement to offset the significant loss in efficiency from parasitic emission control technology.

For these reasons, EPA's assumption that a six percent heat rate improvement is nationally applicable across all vintage and type of electric generating units is erroneous. Montana-Dakota believes that states should have the flexibility to assess potential heat rate improvements on a unit-by-unit basis and set individual source performance standards accordingly. However, if EPA continues with its current goal-setting methodology, then it must

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[12] EPA v5.13 Base Case Documentation Supplement to Support EPA's Proposed Carbon Pollution Guidelines for Existing Electric Generating Units at 1 (June 18, 2014), Docket ID EPA-HQ-OAR-2013-0602-0445.

[13] Electric Power Research Institute (EPRI), *Comments of the Electric Power Research Institute on Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units* at 11 (Oct. 20, 2014), Docket ID EPA-HQ-OAR-2013-0602-21697 ("EPRI Comments").

[14] Montana-Dakota continues to evaluate the cost and feasibility of heat rate improvements across Montana-Dakota's entire fleet of coal units. Preliminarily, Montana-Dakota has concerns that improvements at lignite-fired EGUs would be significantly more costly than for other types of coal-fired EGUs. The potential cost differential among EGUs further demonstrates the arbitrariness of EPA assigning a *nationally applicable* heat rate improvement value to all coal-fired EGUs. Each EGU should be evaluated by the state on a case-by-case basis.

[15] *See* Documentation for EPA Base Case v.5.13 for the Integrated Planning Model at 3-21 (2013) (posted June 18, 2014), Docket ID EPA-HQ-OAR-2013-0602-0212).

[16] *See* EPRI, *Steam Turbine Efficiency and Corrosion: Effects of Surface Finish, Deposits, and Moisture* (2001), *available at* http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000000001003997.

adjust the assumptions made under Building Block 1 to address the heat rate improvements already achieved at existing units and factor in heat rate degradations resulting from EPA required and approved controls for other environmental regulations.

### C. Building Block 2: The Proposed Rule Impermissibly Abrogates State Authority Under The Act And Intrudes Into Energy Markets.

#### 1. EPA Must Consider Real-World Constraints On The Redispatch Of Generating Assets.

Montana-Dakota urges EPA not to include redispatch from coal- to gas-fired generation as part of the emission rate goal setting methodology. The redispatch of generating assets is outside the scope of EPA's authority under the CAA, which is limited to imposing controls at affected sources, and impermissibly intrudes upon the authority of both the states and the Federal Energy Regulatory Commission (FERC). If EPA continues to include redispatch in the goal-setting methodology, EPA must address the following real-world constraints on the redispatch of generating assets:

- **Resource Adequacy Requirements.** EPA's analysis of the existing NGCC capacity "available" for redispatch fails to consider reserve margin requirements. Reserve margin is the amount of generation capacity an entity must maintain in excess of its peak load-serving obligation. Erosion of the reserve margin increases the likelihood that MISO would need to manage peak demand through the use of emergency operation procedures. [17] MISO anticipates that the Proposed Rule would require the retirement of approximately 11 gigawatts of generation capacity in or around 2020.[18] To avoid reliability and resource adequacy issues, this generation would need to be replaced at the time it comes online. The Proposed Rule does not allow sufficient time to replace this generation capacity.

- **Limits On States' Authority To Mandate Redispatch.** MISO, like all system operators, dispatches electricity on a priority basis of (1) reliability and (2) least costs. Because compliance obligations and costs differ greatly among states, it would be impossible for a unit in one state to determine the bid price necessary to ensure that it would or would not be dispatched before generating units in other states within the MISO region. This is further complicated in states that fall within multiple regions, such as South Dakota. EPA *assumed* that generation from Deer Creek could be increased and, as a result, generation from Big Stone decreased. Because Big Stone and Deer Creek participate in different markets, the presumed increase in generation from Deer Creek could not displace load requirements for Big Stone.

- **Endangered Species Act Constraints.** Montana-Dakota's ability to perform transmission upgrades or build new transmission necessary to support redispatch is constrained by the Endangered Species Act (ESA). The Great Plains states are

[17] MISO Comments at 5.

[18] MISO Comments at 5.

within the migratory corridor for waterfowl and sensitive bird species, including the federally listed endangered Whooping crane, as well as the Greater Sage-grouse which has been proposed for listing. As a result, these areas may not be readily developed and would require extensive and lengthy consultation and permitting.

2. Mandating Redispatch Impermissibly Prohibits States From Considering The Remaining Useful Life Of Affected Units.

Importantly, Building Block 2 does not permit states to adequately take into consideration the "remaining useful life" of existing sources and "other factors" in setting performance standards as required by Section 111(d). Implementation of Section 111(d) is based on the principle of cooperative federalism that underlies Section 110 and many other aspects of the CAA. EPA does not and cannot set national emission standards or establish the standards of performance for individual sources. Instead, EPA is tasked only with the assignment to "establish a procedure" that the states can then rely on in setting the performance standards.[19] The states rely on EPA's emission guidelines in preparing a plan submission, but are specifically allowed to consider "among other factors, the remaining useful life of the existing source."[20] EPA has offered no justification that would excuse a state's failure to comply with an express requirement under Section 111(d).

EPA contends that the structure of its rule allows states flexibility to consider remaining useful life for individual sources in the context of developing their State 111(d) plans.[21] However, to the extent a State makes an adjustment to the standard of performance for an individual source, EPA requires states to make "compensating emission reductions"[22] from other sources: "Therefore, to the extent that a performance standard that a state may wish to adopt for affected EGUs raises facility-specific issues, the state is free to make adjustments to a particular facility's requirements on facility-specific grounds, so long as any adjustments are reflected (along with any necessary compensating emission reductions) as part of the state's Clean Air Act section 111(d) plan submission."[23] Thus, under the Proposed Rule, states would not be able to deviate from the proposed emission rate goals. This requirement is unprecedented and imposes improper constraints on the authority reserved to the states under Section 111(d) of the Act. The practical implication of EPA's "compensation" requirement and the accelerated compliance timeline imposed by the proposed "interim goals"[24] is that states may be forced to (1) retire generating units ten or more years before the end of their remaining useful life, and, as a result,

[19] 42 U.S.C. § 7411(d)(1).

[20] *Id.*

[21] 79 Fed. Reg. at 34,925.

[22] *Id.* at 34,925-26.

[23] *Id.*

[24] EPA is proposing interim goals that would require states to achieve substantial emission reductions early in the 2020-2029 compliance period. *See* Goal Computation Technical Support Document at Appendix 1 and 2 (Steps 6 and 7) (June 18, 2014), Docket ID EPA-HQ-OAR-2013-0602-0460. Appendix 1 and 2 *available at* http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-technical-documents.

strand millions of dollars of assets that are dispatch-reliable, and (2) implement costly short-term solutions in order to meet customers' energy requirements.

EPA's continued implementation of Building Block 2 would have significant consequences for Montana-Dakota and its customers. As discussed above, the Proposed Rule may force the premature retirement of the Big Stone Plant in South Dakota.[25] Montana-Dakota depends on the plant as a source of low-cost reliable power. Big Stone is in the middle of installing a $384 million dollar Air Quality Control System (AQCS) required by an EPA rule establishing Regional Haze Program requirements for South Dakota.[26] South Dakota determined that the AQCS project was cost-effective for Big Stone considering that Big Stone is expected to operate for at least another 30 years.[27] However, because Big Stone is the only coal-fired electric generating unit located in South Dakota, it is unlikely that the state could make "compensating emission reductions" to account for continued operation of Big Stone to allow for amortization of these investments over the remaining useful life of the unit.

Given EPA's proposed inclusion of avoided generation from coal-fired EGUs as a primary component of its defined BSER, stranded costs from premature closures of coal-fired generation must be considered "costs of control" that states can consider in making decisions in their state plan submission regarding standards of performance. Moreover, the impacts of closing these units long before the end of their remaining useful lives are sufficiently significant that it would be contrary to Section 111(d) to limit the states' ability to consider them. States should have the authority to consider whether (1) modifications to the timing of compliance or (2) the level of the state goal are necessary to avoid unreasonable economic consequences for power generators and their customers.

3. Redispatch To New or Hypothetical NGCC And Co-Firing With Natural Gas Cannot Be Treated As BSER.

Through a late-released Notice of Data Availability related to the Proposed Rule (the NODA), EPA requests comment on a number of potential changes to the treatment of natural gas in Building Block 2. [28] EPA states that the proposed changes would narrow the "disparities in state goals between those states with little or no NGCC generating capacity and those with significant amounts of NGCC."[29] The disparities between the emission rate goals are the result of EPA's arbitrarily broad definition of BSER and erroneous assumptions regarding redispatch. The majority of the proposed changes will not correct, and indeed will exacerbate, these fundamental flaws. For the reasons set forth below, Montana-Dakota opposes the inclusion of co-firing and redispatch to new or hypothetical NGCC in BSER.

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[25] Montana-Dakota owns a significant share of Big Stone, and the plant represents nearly 28 percent of Montana-Dakota's generating resources.

[26] *See* 77 Fed. Reg. 24,845 (Apr. 26, 2012)

[27] *See* South Dakota's Regional Haze State Implementation Plan, revised August 18, 2011, at 87 and 93, *available at* http://denr.sd.gov/des/aq/aqnews/RegionalHaze.aspx; *see also* 77 Fed. Reg. 24,845 (Apr. 26, 2012).

[28] 79 Fed. Reg. 64,543, 64,549 (Oct. 30, 2014).

[29] *Id.* at 64,546.

- **Inclusion Of Hypothetical Lower-Emitting Generation.** In the NODA, EPA suggests that EPA could "include an assumption about some minimum level of generation shift from higher-emitting to lower-emitting sources for *all states*."[30] Montana-Dakota strongly opposes the proposal to presume "some minimum value" as the floor for the amount of generation shift for the purposes of Building Block 2. Such a presumption would arbitrarily and capriciously increase the stringency of the emission rate goals. States would be forced to add new, lower emitting generation or make even deeper reductions in some other area simply to offset the emissions presumed to be displaced by the goal setting methodology. A hypothetical compliance option, by its definition, is not "adequately demonstrated."[31]

- **Inclusion Of New NGCC Generation.** In the NODA, EPA suggests that new NGCC generation could be included as part of BSER.[32] Montana-Dakota strongly opposes the proposal to include newly constructed, modified, or reconstructed NGCC that are subject to regulation under Section 111(b) into Building Block 2. The CAA establishes two avenues for applying standards of performance to sources: (1) regulation of "new sources" under Section 111(b), *see* 42 U.S.C. § 7411(b)(1)(B), or (2) regulation of "existing source[s]" under Section 111(d), *see* § 7411(d)(1)(A). These two avenues are mutually exclusive. A unit cannot be both a new unit and an existing unit. Under Section 111(a)(6), "[t]he term 'existing source' means any stationary source *other than a new source*." (Emphasis added.) In contrast, Section 111(a)(2) defines a "new source" as "any stationary source, the construction or modification of which is commenced after the publication or regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source." Thus, EPA has no authority to subject new units to regulation under both Sections 111(b) and 111(d).

- **Co-Firing With Natural Gas.** In the NODA, EPA suggests that co-firing of natural gas at existing coal-fired EGUs might be appropriate for goal setting and compliance and seeks comments on the benefits and potential costs of such an option.[33] While Montana-Dakota agrees that co-firing should be an available compliance option for coal-fired EGUs, Montana-Dakota opposes the inclusion of co-firing in the computation of emission rate goals. Based on existing EPA guidance, there is a risk that co-firing would be interpreted as triggering NSR or requiring units undertaking such projects to limit their future utilization.[34] Accordingly, co-firing is not an "available" control technology and should not be considered in the computation of the emission rate goals. At a minimum, before considering this option, EPA would need to evaluate the costs associated with obtaining an NSR permit for co-firing, including the potential installation of hundreds of millions of dollars in controls for conventional pollutants.

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[30] *Id.* at 64,549.

[31] 42 U.S.C. § 7411(a)(1).

[32] 79 Fed. Reg. at 64,546.

[33] *Id.* at 64,550.

[34] *See, e.g.*, Letter from Dianne McNally, Acting Associate Director, Office of Permits & Air Toxics, EPA Region III, to Mark Wejkszner, Manager, Air Quality Program, Northeast Regional Office, re Northampton Generating Company PSD/NSR Analysis at 3 (Apr. 20, 2010).

### D. Building Block 3: EPA's Proposed Treatment Of Renewable Energy Is Fundamentally Flawed And Prejudicial To Energy-Producing States.

#### 1. EPA's Inclusion Of Renewable Energy In The Goal-Setting Computation Is Fundamentally Flawed And Arbitrary And Capricious.

Montana-Dakota urges EPA not to include the development of renewable generation as part of the emission rate goal setting methodology. Renewable generation resources have not been "adequately demonstrated" as a substitute resource for coal-fired EGUs. Coal-fired EGUs have the ability to dispatch at controlled loads and, therefore, are available for both stabilizing the grid for reliability purposes and as capacity resources. Renewable generation is variable and cannot be dispatched at the varying loads necessary to ensure grid reliability. Further, EPA has no authority under the CAA to require the development of renewable generation.

If EPA continues to include the development of renewable generation in the goal-setting methodology, EPA must address fundamental flaws in its proposed approaches to renewable energy.

- **Limitations On The Alternative RE Approach.** EPA has proposed an alternative approach for including renewable energy in the goal setting methodology under Building Block 3 that purports to rely on the technical and market potential of new renewable energy (Alternative RE Approach).[35] This approach relies on benchmark, technology-specific renewable energy development rates. The Alternative RE Approach significantly overestimates the renewable generation that may best be supported in the states where Montana-Dakota operates.

  The renewable potential identified in the Alternative RE Approach largely is derived from a 2012 report by the National Renewable Energy Laboratory (NREL). None of the exclusion datasets that NREL utilized are necessarily based on the habitats of species listed under the ESA.[36] As a result, NREL failed to specifically consider exclusions for the habitats of roughly 740 threatened and endangered animal species.[37] This has a significant impact on the renewable potential of the areas served by Montana-Dakota, because there is significant overlap between the critical habitat of many threatened or endangered species and areas NREL presumes are available for high quality wind generation.[38] The Great Plains states are within the migratory corridor for waterfowl and

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[35] Alternative RE Approach Technical Support Document 1 (June 18, 2014), Docket ID EPA-HQ-OAR-2013-0602-0458.

[36] *See* Anthony Lopez et al., National Renewable Energy Laboratory, NREL/TP-6A20-51946, *U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis* at 24-31 (July 2012), *available at* http://www.nrel.gov/docs/fy12osti/51946.pdf; Douglas G. Hall *et al*., Idaho National Laboratory, DOE-ID-11263, *Feasibility Assessment of the Water Energy Resources of the United States for New Low Power and Small Hydro Classes of Hydroelectric Plants* at A-3 to A-6 (Jan. 2006), *available at* http://www1.eere.energy.gov/water/pdfs/doewater-11263.pdf.

[37] *See* 50 C.F.R. § 17.11.

[38] *See, e.g.*, Attachment D comparing NREL map identifying wind development potential and U.S. Fish and Wildlife Services maps identifying critical habitat for threatened and endangered species in the Great Plains. *See, also,* http://www.fws.gov/nebraskaes/images/Central_Flyway_Confirmed_Sightings.jpg;

threated or endangered species, including the Whooping crane, Greater Sage-grouse, Poweshiek Skipperling, and Dakota Skipper butterflies.[39] Concerns regarding these species, in particular the mortality of the Golden and Bald Eagles, significantly limit the potential for future development of the Great Plains and may make projects entirely infeasible.

If EPA finalizes the Alternative RE Approach, EPA must consult with state wildlife agencies and the U.S. Fish and Wildlife Service to ensure it has adequately considered ESA and sensitive species issues. Failure to adjust the goal-setting methodology to address these limitations would result in arbitrarily low emission rate goals.[40]

- **Limitations On Redispatch To Renewable Generation.** In the NODA, EPA suggests that renewables should be considered as pro rata in reducing equivalent coal-fired generation in the state emission targets, the same way in which EPA has calculated lower generation from coal-fired generation through Building Block 2 NGCC re-dispatch. EPA proposes that the numerator (tons of $CO_2$) in the emissions rate target would be reduced according to some projected coal-fired generation replacement with projected future renewable generation addition. Montana-Dakota opposes this proposal.

  EPA fails to recognize that renewable generation is variable and, thus, not equivalent to fossil-fuel fired generation. Variable generation cannot be dispatched at controlled loads and, therefore, is not available for both stabilizing the grid for reliability purposes and as capacity resources. Additionally, redispatch to renewable generation would further jeopardize reliability and grid stability. The areas served by Montana-Dakota, particularly North Dakota and Montana, have experienced rapid load growth in the Bakken Oil Field region. There is critical need to ensure the existing generation is available to serve the current load. Because these areas are experiencing significant and rapid load growth, variable energy resources can be added on top of but not in lieu of existing generating resources.

- **Costs Associated With Renewable Development.** EPA has failed to adequately consider the costs associated with the development of renewable generation. Many of the areas identified by EPA as having significant renewable potential are rural areas. These areas have significantly lower load requirements and, as a result, do not have sufficient transmission and related infrastructure to transmit large quantities of generation to market where higher load centers are located. Thus, development of generation in these areas would require significant additional costs.

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http://www.fws.gov/greatersagegrouse/maps/20140815_GRSG_Range.jpg;
http://www.fws.gov/midwest/endangered/insects/posk/CHmaps/poskNDchUnitMaps.pdf.

[39] Additionally, the Great Plains states are home to the Golden and Bald eagles, which are separately protected.

[40] Additionally, Montana-Dakota believes that recalculation of the proposed emission rate goals based on the Alternative RE Approach would be a significant departure from the Proposed Rule and that EPA has not provided adequate notice of states' potential obligations under the Alternative RE Approach. Accordingly, EPA would be required to re-propose the rule with the revised goals and allow for further public comment.

2. EPA Must Treat Renewable Energy Consistently For Goal-Setting And Compliance Purposes.

EPA must provide clear, consistent treatment of renewable energy generated in one state, but sold or consumed out of state. EPA's decision to set goals based on renewable generation, but leave to the states the allocation of credit for that generation for compliance purposes, will promote disharmony, rather than cooperation, among the states, and incite economic protectionism. It also penalizes states that export renewable energy, by building into their goals exported renewable energy that cannot be counted toward compliance because it is not consumed in-state. For all purposes, goal setting and compliance, EPA must assign credit for renewable generation to either the state in which the resource is physically located or credited to the state where the generation is utilized.

**E. Building Block 4: EPA Overestimates The Feasibility And Cost-Effectiveness Of Energy Efficiency Improvements.**

Montana-Dakota urges EPA not to include energy efficiency as part of the emission rate goal setting methodology. The ability to require reductions through energy efficiency measures is well outside the scope of EPA's authority under the CAA, which is limited to imposing controls at affected sources. Further, EPA fails to consider regional and state limitations on the potential for energy efficiency measures to achieve emission rate reductions. Accordingly, EPA's assumption that states can achieve a 1.5 percent annual energy efficiency improvement rate is erroneous and results in arbitrarily low emission rate goals. [41]

EPA entirely fails to recognize the significant role state attributes play in the feasibility, effectiveness, and cost of energy efficiency measures. Numerous attributes influence energy efficiency, including climate and climate variations, latitude for daylight consideration, mix of customers and predominance of customer type, and population density. Despite the lack of homogeneity of these attributes between and among states, EPA relied on a select group of "high performing" states to determine the *nationally* applicable energy efficiency improvement rate. The resulting energy efficiency improvement rate of 1.5 percent annually is not representative of what is feasible and cost effective in the majority of states.[42]

For example, Montana-Dakota's service areas in North Dakota, South Dakota, Montana, and Wyoming are composed of small rural communities with residential and small commercial customers. These areas have far less potential for energy efficiency savings than areas with large industrial and commercial operations. In 2012, Montana-Dakota commissioned an Energy Efficiency Potential Study for the company's service territory in Montana.[43] The study concluded that achievable potential, assuming a rebate at 100 percent of the incremental cost of the measures, was 3.3 percent cumulative for the 10 year study period with a maximum one year savings potential of 0.6 percent of sales in year ten. Because of the similarities in Montana-

[41] *See* 79 Fed. Reg. at 34,872-3.

[42] EPRI has projected a range of 0.5 to 0.7 percent of retail sales through 2035 as achievable. *See* EPRI Comments at 25.

[43] Electric Energy Efficiency Potential Study Submitted to Montana-Dakota Utilities Co. Submitted By Nexant December 7, 2012 (Attachment E).

Dakota's service areas, these findings are equally representative of Montana-Dakota's expectations regarding the very limited potential for energy efficiency improvements in all of its service areas. Indeed, the state of South Dakota has cautioned EPA that 0.7 percent energy efficiency over a period of years in South Dakota is overly optimistic.[44]

Montana-Dakota shares North American Electric Reliability Corporation's (NERC) concern that EPA's overestimation of the feasibility of energy efficiency improvements likely would further eliminate state flexibility to achieve compliance.

> "If such energy efficiency growth cannot be attained, more carbon reduction measures would be required, primarily from reduced coal generation in most states. More low-emitting or new NGCC/CT generating capacity (not regulated under the CPP) would need to be built. Construction of new replacement capacity, as well as related infrastructure, would take time to plan, permit, finance, and build. If these needs are not identified at an early enough stage, either grid reliability or state $CO_2$ emission goals could be compromised."[45]

States likely would be forced to make further reductions from coal-fired generation, and thus be deprived of the ability to consider the remaining useful life of a unit in determining their compliance plan.

Additionally, EPA has significantly underestimated the costs associated with implementing energy efficiency measures in rural areas, like Montana-Dakota's service areas. Montana-Dakota estimates that the escalating annual investments required to achieve the proposed energy efficiency improvement rate in Montana-Dakota's Integrated System would be $14 million annually by 2029.[46] Also, North Dakota Public Service Commission's comments to the EPA on the Proposed Rule state concerns about EPA's underestimation of costs for the expansion of energy efficiency measures.[47]

### F. EPA Should Amend The Proposed Rule To Address Critical Obstacles To Implementation.

In these comments, Montana-Dakota has addressed the most egregious of the myriad legal and technical flaws embedded in the Proposed Rule. EPA cannot entirely alleviate these flaws without redefining BSER consistent with the scope of its authority, and past rulemakings, under the Act. However, Montana-Dakota recognizes that there are steps EPA can take to address and, hopefully, moderate some of the most severe consequences of the Proposed Rule. If

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[44] South Dakota's comments on "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units." *Available at* http://denr.sd.gov/EPAcommentsCarbonPollutionEmission.pdf.

[45] NERC Report.

[46] Montana-Dakota agrees with EPRI that EPA's estimated levelized cost of saved energy (LCOSE) may not assume the correct future ratio of participant costs to program costs, which could result in higher implementation costs to meet a 1.5 percent annual incremental goal. *See* EPRI Comments at 27.

[47] North Dakota Public Service Commission News Release re: PSC Submits Official Comments to EPA Outlining Concerns with Proposed Regulations on Carbon Emissions at 8 (Nov. 25, 2014) (Attachment F).

EPA continues to base BSER on the proposed "Building Blocks" approach, Montana-Dakota urges EPA to make the changes identified below.

Consistent with recommendations made by MISO and NERC, Montana-Dakota urges EPA to eliminate the proposed interim goals or allow states to demonstrate compliance with the goals on a voluntary basis. The interim goals are too stringent due predominantly to the requirement to make reductions from all Building Blocks by 2020, or even beginning earlier in the case of Building Block 3 and Building Block 4. We do not agree with EPA that phasing in Building Block 2 would solve the issues and allow compliance with an interim target.

EPA's proposed glide-path solution, which is addressed in the NODA, would allow for compliance options to be done sooner and then average these reductions over a longer period of time, for example from 2017 to 2029. This is not a workable solution. To have any success in implementing Building Blocks 2, 3 and 4 and achieve the emission rate reductions required by the Proposed Rule, states must permit, site, and construct substantial new infrastructure and promulgate new legislative initiatives. These changes simply cannot be completed by 2020. As the timeline below demonstrates, the construction of infrastructure *alone* is prohibitive.

**ANTICIPATED IMPLEMENTATION TIMELINE**

- June 2015 - Final GHG Rule
- June 2017 – State Plan Proposed, with allowed one year extension
- June 2018 - EPA approves State Plan
- 2017 to 2018 - North Dakota Public Service Commission (NDPSC) 2-yr Integrated Resource Plan completed and submitted to commission for proposed generation resources
- 2019 – NDPSC issuance of Advanced Determination of Prudence order of new resource implementation and retirement of existing resource if determined a prudent decision by the commission via certification of public convenience and necessity filing
- 2019 to 2021 – MISO interconnect and network upgrade study completed for existing resource retirement and new resource – re-evaluate resources and resource locations depending on network upgrades identified or if major reliability concern identified
- 2020 to 2021 - Obtain major permits and public service commission siting approval
- 2020 to 2025 – Obtain major permits for electric and/or natural gas transmission infrastructure, depending on location, project length and environmental concerns
- 2020 to 2025 – Obtain NEPA Record of Decision, if required
- 2019 to 2022 - Design, engineer, develop bid specifications, award bids and procure resource equipment and receive delivery
- 2022 – Begin resource construction
- 2022 to 2025 – Begin infrastructure construction
- 2025 – Begin resource construction if NEPA review required
- 2025 to 2026 - Commission and resource online, depending on infrastructure construction schedule
- 2028 – Commission and resource online if NEPA review required

This timeline reflects a realistic timeframe for constructing new infrastructure and generation necessary to achieve the emission rate reductions required by the Proposed Rule. It is readily apparent that states and generating companies would not have time to construct the infrastructure necessary to meet the interim goals.

In addition to eliminating the proposed interim goals, Montana-Dakota recommends that EPA make the following changes to the Proposed Rule:

- **Exclude Under Construction NGCC From Goal-Setting And Compliance.** Montana-Dakota adopts and supports EEI's recommendation that EPA should exclude all units under construction in 2012, such as the Deer Creek Station, from both the goal-setting calculation and from a requirement to comply with 111(d). Removing the units that were not operational in 2012 will result in calculations that better reflect the real potential for redispatch and, thus, moderate potential reliability concerns.

- **Set Goals Based On A Multi-Year Baseline.** EPA should set emission rate goals based on a multi-year baseline period, rather than historic generation in a single year. As EPA has noted in previous rulemakings, electric demand and resultant utility operations fluctuate greatly within a single year.[48] In 2012, Lewis & Clark Station had a major outage year resulting in much lower generation from the unit than routinely occurs. Using this lower generation value arbitrarily and capriciously lowers the State of Montana emission rate goal. Utilizing a multi-year baseline would correct for scheduled maintenance outages and similar anomalies. Montana-Dakota recommends that EPA use an average of emissions between 2003 and 2006, as this time period also would provide consideration to utilities that have invested in renewable energy.

- **Credit Renewable Energy Brought On Prior To 2020 Toward Compliance.** EPA should allow emissions reductions achieved by existing company-driven renewable energy programs during the compliance period to count toward compliance. For renewable energy programs online in 2012, excluding from the compliance determination emission reductions achieved by these programs during the compliance period would be unfair and bad environmental policy. Similarly, excluding emission reductions achieved during the compliance period by renewable energy brought online between 2012 and 2020 would be inconsistent with EPA's goal setting methodology, and create a powerful disincentive for states and companies to bring renewables online prior to the compliance period.

- **Credit Fossil MW Displaced Between 2012 And 2020 Toward Compliance.** EPA should allow states to use renewable energy megawatts that displace fossil megawatts between 2012 and 2020 toward compliance. This change would play an important role in cushioning the harsh effects of the interim goals if any interim goal would remain in a final rule. Further, this step would create an economic incentive for companies to bring on renewable resources as quickly as possible. Allowing states to apply these pre-

[48] *See* 57 Fed. Reg. 32,314, 32,325 (Jul. 21, 1992) (applying a presumption that any 24-month period in the five years preceding a project is representative of normal operations to address operational variability of the electric generating industry).

compliance period reductions toward compliance would benefit both the environment and the economy.

- **Do Not Make Compliance Credit Contingent On A State Plan.** It is imperative that EPA not make the eligibility of emission rate reductions−whether they occur before or during the compliance period−contingent on state requirements. Companies should not be penalized for showing leadership in developing renewable resources, especially since they cannot control their state governments.

- **Exempt $CO_2$ Emission Increases That Result From Pollution Control Additions.** Implementation of future pollution controls may increase $CO_2$ emissions through chemical reactions to capture pollutants. For example, Montana-Dakota will be adding limestone to the R.M. Heskett Station's fluidized bed to capture sulfur dioxide emissions beginning in 2017 in compliance with North Dakota's approved Regional Haze State Implementation Plan. Limestone reacts with sulfur dioxide to form calcium sulfate and $CO_2$. In determining compliance with the Proposed Rule, states should be allowed to exempt increases in $CO_2$ emissions due to pollution control projects required by other EPA and state regulations.

Finally, EPA should not adopt a mass-based approach *in lieu of* an emission rate approach. Montana-Dakota's service areas are unique in that they are experiencing unprecedented load growth. Montana-Dakota anticipates five percent load growth for the next five years. Montana-Dakota believes the rate-based approach provides more flexibility for the company to meet these increasing needs. Accordingly, while Montana-Dakota supports state flexibility to implement a mass-based cap approach, it is imperative that EPA continue to allow states to comply with emission rate based goals.

### G. EPA Does Not Have The Authority To Enforce The Proposed Emission Rate Goals Against Affected Sources.

EPA has no clear path to enforcing the proposed emission rate goals under the Proposed Rule or the CAA. Montana-Dakota is skeptical that states would accept enforcement risk under the CAA, and EPA cannot hold affected EGUs solely responsible for meeting the entirety of a state's emission reduction goal. Because EPA proposes to set emission rate goals based on Building Blocks 2, 3, and 4, the proposed goals cannot be met solely through emission reduction measures achievable at affected EGUs short of wholesale retirement of existing fossil fuel-fired generation, given that several state goals are well below the $CO_2$ emission rate achievable by fossil fuel-fired generation, even for new NGCCs. Such a result would clearly circumvent Section 111's requirement that standards of performance be "achievable."

EPA must provide clear guidance on when EPA would enforce a state plan or measures therein, or issue a federal plan. If a state is not on track to meet its interim state goal (per the progress checks every two years), EPA must explain how it will handle such situations, such as whether it would issue a federal plan or whether it would require the state to amend its plan.[49]

[49] While giving testimony at a September 9, 2014 Energy and Commerce Subcommittee hearing on Energy and Power, Montana Public Service Commissioner Travis Kavulla questioned how enforcement under the CAA could be enforced considering Building Block 4 when "…the points of compliance would be possibly thousands of

Based on EPA's regulations, it appears EPA would issue a revision to the state plan, *see* 40 C.F.R. § 60.29, which raises questions about how EPA could issue a federal plan that imposes obligations on sources outside the affected source category. EPA does not have jurisdiction to directly implement renewable energy and energy efficiency measures. Thus, EPA could not promulgate a federal plan that includes these measures without unlawfully commandeering state resources in violation of the Tenth Amendment.[50]

### H. The Exorbitant Costs Of The Proposed Rule Are Not Adequately Justified.

EPA has not adequately considered or justified the exorbitant costs associated with compliance with the proposed rule. The potential retirement of Big Stone and the associated costs for Montana-Dakota's customers is just one example of EPA's failure to consider the costs of the Proposed Rule. EEI and NERA have identified similar examples. In particular, NERA has made the following findings regarding the cost impacts of the Proposed Rule:

- First, NERA estimates the net cost to consumers from energy systems from implementing rule requirements in 2017 to 2031 would be $366 billion under a scenario where states have flexibility to comply, including the ability to implement a sufficient amount of energy efficiency measures. The net cost to consumers would be $479 billion under a scenario where flexibility is limited to Building Blocks 1 and 2 only being utilized for compliance in that timeframe.

- Second, NERA estimates that the increases in electricity costs alone would be $34 billion per year in 2017 to 2031 under the more flexible compliance scenario which includes energy efficiency programs costs and generation avoidance and the more constrained compliance scenario would result in an increase in electricity costs of $48 billion per year.

- Third, NERA has determined that the avoided costs to customers from any energy efficiency gains at the end-use customer do not offset the costs of compliance with the Proposed Rule.

In the final rule, EPA must acknowledge the true compliance costs that result from the replacement of coal-fired generation resources with other, more expensive, generation resources.

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consumers performing small, discrete actions, and not typical of other environmental regulations that require a single plant operator to install pollution control technologies." *See* Written Testimony of Travis Kavulla Montana Public Service Commissioner Before the Committee on Energy and Commerce Subcommittee on Energy and Power, United States House of Representatives Hearing on State Perspectives: Questions Concerning EPA's Proposed Clean Power Plan (Sept. 9, 2014) (Attachment G).

[50] It is well-established that the Tenth Amendment dictates that federal agencies may not usurp the authority of states, *Printz v. United States*, 521 U.S. 898, 925 (1997), nor may states be forced to administer federal programs. *New York v. United States*, 505 U.S. 144, 188 (1992). Indeed, courts already have rejected a previous attempt by EPA to commandeer state action. *See Maryland v. EPA*, 530 F. 2d 215, 226 (4th Cir. 1975); *Brown v. EPA*, 521 F. 2d 827, 838-42 (9th Cir. 1975).

## IV. CONCLUSION

The Proposed Rule is the most complex and far reaching in EPA history. The impacts of the Proposed Rule will dictate energy policy and reverberate throughout every area of the United States' economy for years to come. These stakes are too high for EPA to rush completion of the rulemaking in order to meet a deadline that is not mandated by the CAA or any other Congressional act.

Montana-Dakota urges EPA to carefully consider these and other comments and re-propose the Proposed Rule applying a definition of BSER that is consistent with its authority and past practices under Section 111(d) of the Act. EPA cannot correct the fundamental legal and technical flaws inherent in the Proposed Rule through amendments to its Proposed Rule. However, if EPA continues down its current path, it is imperative that EPA adopt Montana-Dakota's proposed amendments to the Proposed Rule. At a minimum, EPA must: (1) properly evaluate resource adequacy and potential reliability impacts; (2) provide states with additional time to craft implementation plans that address *all* factors identified under Section 111, including remaining useful life; (3) correct the data errors in the Building Blocks; and, (4) take steps to mitigate the consequences of EPA's goal-setting methodology. These changes are necessary to ensure the continued supply of reliable and affordable power throughout the United States.

Sincerely,

Abbie Krebsbach
Environmental Director

Enclosures

cc: Jay Skabo, Vice President of Electric Supply
Geoff Simon, MDU Resources Governmental Affairs
Nicole Kivisto, Vice President of Operations
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