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Docket ID: EPA-HQ-OAR-2013-0602

Gina McCarthy, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator McCarthy:

As the body responsible for the regulation of public utilities in Montana and for ensuring the provision of electric service at just and reasonable rates, the Montana Public Service Commission ("Commission") takes keen interest in the Environmental Protection Agency's ("EPA") proposed § 111(d) rule (*Carbon Pollution Emission Guidelines for Existing Stationary Sources*) and duly notes the rule's potentially profound impact on our state. After your full review of the concerns and recommendations contained in this letter, we encourage EPA's timely response and look forward to your questions, observations, and ongoing dialogue.

The Commission opposes the proposed § 111(d) rule in its entirety for its lack of jurisdictional basis. EPA applies a strained interpretation[1] to an already tenuous regulatory model.[2] The proposed regulation leaves the Commission with less discretion to regulate electric utilities, even though public utility commissions are best situated to make several of the decisions contemplated by the proposed rule.[3] This raises basic concerns of federalism.

Our objections notwithstanding, we have several concerns with the rule as proposed by EPA. A summary of those concerns follows, and the balance of this letter addresses them in detail.

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[1] "[E]ach State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been . . . emitted from a source category which is regulated under section 112." 42 U.S.C. § 7411 (2012). The EPA has issued a final rule regulating hazardous air pollutants for Mercury and Air Toxic Standards Rule for power plants under Section 112. 40 C.F.R. § 63 (2014). A literal reading of § 111(D) would preclude § 111(d) regulation of greenhouse gases. Further, § 111(d) is limited to stationary sources, 42 U.S.C. § 7411, and EPA requires considerable and creative legal analysis to define "system," as a component of best system of emission reduction, to include outside-the-fence reductions. Environmental Protection Agency, Legal Memorandum for Proposed Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units 43-48, 50-65 (2014).

[2] Philip Hamburger, *Is Administrative Law Unlawful?* (University of Chicago Press, 2014), 115 (critical of federal legislation leaving "overt exercises of lawmaking will" to agencies and using EPA's ambient air quality standards as an example of this problem).

[3] *See, e.g., Elec. Power Supply Ass'n v. FERC*, 753 F.3d 216, 221-222 (D.C. Cir. 2014) (citing *Niagara Mohawk Power Corp.*, 452 F.3d 822, 824 (D.C. Cir. 2006)) ("States retain exclusive authority to regulate the retail market").

Summary of Recommendations:

1. ***EPA should derive baseline data from a longer period than a single year. For states dependent on fluctuating hydrologic cycles, such as Montana, the baseline period should be 10 years.***

2. ***Before enacting a final rule, EPA should subject its proposed rule—and the application of the four building blocks—to transmission modeling.***

3. ***EPA should include in the rule a reliability safety valve to prevent the adoption of state plans that result in unreliable grid operations.***

4. ***EPA should modify a state's goal if sufficient evidence exists to demonstrate that a fossil facility cannot obtain a six percent heat-rate improvement because of efficiency measures already undertaken, i.e., operational before the beginning of the rule's baseline data period.***

5. ***A state's heat-rate efficiency target should take into consideration the nature of the fossil fuel stocks used and available in the state and the extent to which those fuels allow for the safe application of alternative methods of consumption for purposes of heat-rate improvement.***

6. ***Any emission of a facility that results from other air pollution rules should not be included in the calculation of that facility's emission rate for purposes of complying with the § 111(d) rule.***

7. ***EPA should exempt heat-rate improvements made to comply with the § 111(d) rule from a requirement to undergo EPA's New Source Review permitting process.***

8. ***In calculating renewable energy goals for states, EPA should utilize state-specific analysis of renewable portfolio standards (RPS) and other renewable energy development data to accurately determine the current level of renewable energy in the state and to arrive at a reasonable expectation for potential future development.***

9. ***EPA should tabulate the renewable energy already developed in a state and allow the emission-reduction effects of those facilities to be utilized in complying with the rule.***

10. ***EPA should perform state-specific analysis of transmission and grid capacity to ensure that renewable goals set for states are not established at levels that threaten grid reliability.***

11. ***The final EPA rule should assign compliance credit for all renewable energy produced in a state to the state where emissions responsibility falls. If a state is responsible for 100% of emissions, no matter where the energy is utilized, the state must also be credited for 100% of renewable energy produced within the state.***

12. ***EPA should establish energy efficiency savings rates based on state-specific analyses that take into consideration past and existing efficiency programs. EPA should recognize the savings achieved by those past and existing programs for compliance purposes.***

13. ***EPA should provide and rationalize a single acceptable method for translating a rate-based goal into a mass-based goal.***

14. ***EPA should revise its cost-benefit analysis to incorporate the direct costs required for rule compliance and to estimate benefits on a geographical scope used for the cost estimates.***

15. ***EPA should clarify several questions regarding the authority of states to administer, execute, and enforce a final § 111(d) rule.***

I. Adequately Demonstrated

Any rule adopted by EPA under § 111(d)(1) requires a state plan to "establish[] … standards of performance of any existing source."[4] Standard of performance under § 111(a)(1) requires the reduction to be both the "best" and "adequately demonstrated."[5] With these criteria, EPA must ensure the emission reduction is technically feasible.[6] EPA rules also require the administrator to "specify different emission guidelines … when costs of control, physical limitations, geographical location, or similar factors make subcategorization appropriate."[7] As applied to the particular circumstances of Montana, this proposed rule fails to achieve these standards in a number of ways. The Commission requests EPA's reconsideration of whether the reductions have been adequately demonstrated in the following areas.

A. Baseline Data

1. ***Recommendation: EPA should derive baseline data—generation, emissions, capacity factors,* et al.—*from a statistically representative period instead of from one year (2012 in the proposed rule). For states dependent on fluctuating hydrologic cycles, the baseline period should be 10 years.***

In its proposed § 111(d) rule, EPA used baseline data (generation, emissions, capacity factors, et al) based on one year of historical data: 2012. That approach runs counter to the more statistically defensible method of utilizing an average of multiple years to ensure that a representative sample of data is chosen and that an individual source of data is neither under- nor over-represented.

Specifically for Montana, 2012 is not a representative year for electrical generation and emissions data. Hydro generation in the state was 13.5% above average, and fossil fuel-fired generation was 16.8% less than usual.[8] Because there was less coal generation than usual in 2012, carbon emissions are under-represented. Thus, the effect of EPA's proposed rule is to make it appear that Montana's fossil-based generation operates less often than it actually does under ordinary circumstances.

Additionally, for Montana and the other states of the Pacific Northwest, the amount of thermal generation online is highly dependent on the hydrologic cycle. Even a three-year baseline will not serve to normalize the performance of the fleet in these states. Instead, we recommend that hydro conditions be normalized through the use of a 10-year period or through another method that identifies an average water year for the region and the consequent run times of local thermal generation. When a 10-year reporting window is analyzed, Montana's average coal generation is 61.67% of total generation, and hydro is 35.21%. Generation in 2012, expressed as a percentage of total generation, was 51.98% and 40.6% respectively—that is a 15% differential from the normalized 10-year average. Figure 1 is a graphical representation of Montana's situation.

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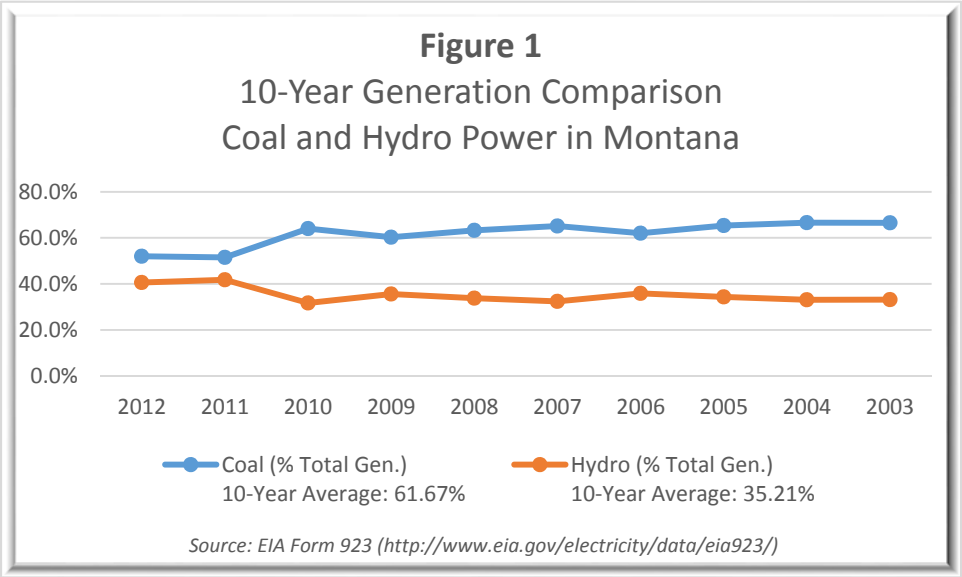
[4] 42 U.S.C. § 7411.
[5] *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 367 (D.C. Cir. 1973) (cert. denied, 417 U.S. 921 (1974)).
[6] *Essex Chemical Corp. v. Ruckelshaus*, 486 F.2d 427, 438 (D.C. Cir.1973) (tests at physical plant demonstrate emissions "well below the standard" set by EPA).
[7] 40 CFR § 60.22.
[8] Energy Information Administration, Form EIA-923 detailed data, (http://www.eia.gov/electricity/data/eia923/), (Nov. 14, 2014).



In a similar way, EPA's selection of 2012 as the baseline year for energy efficiency performance over-represents typical efficiency gains in Montana and leads to an inflated and excessive efficiency goal for the state. Specifically, NorthWestern Energy projected annual savings of 0.8% (approximately 55 GWh), but realized 1.4% (89 GWh) of retail sales in 2012. In its compliance schedule for Building Block 4, EPA specifies the starting savings for 2017 as 91 GWh, which is based on the reported 2012 energy efficiency. Clearly, NorthWestern Energy's 2012 saving provided most of Montana's energy efficiency savings in EPA's projection of expected savings for 2017. Historically, however, the annual savings for NWE is much lower, closer to the projected values stated above. By using one year, and essentially one utility, for its compliance calculations, EPA has proposed an unrealistic and unattainable goal for energy efficiency savings.

B. Transmission/Reliability

2. Recommendation: Before enacting a final rule, EPA should subject its proposed rule—and the application of the four building blocks—to transmission modeling. Only after such modeling is performed can stakeholders properly evaluate the proposal and its ramifications for the grid.

3. Recommendation: EPA should include in the rule a reliability safety valve to prevent the adoption of state plans that result in unreliable grid operations.

The application of the four building blocks contained within the proposed Best System of Emissions Reductions (BSER) has not been subjected to modeling that meaningfully studies its impact on system reliability. In the West, the potential changes pose a significant threat to grid reliability.

While other regions have subjected EPA's assumptions to some measure of analysis, no reliability analysis of EPA's proposed BSER has been conducted for the Western Interconnection, which spans 14 states, two Canadian provinces, and Mexico's Baja California. Absent a transmission modeling study that concludes that EPA's building block approach would

result in a system as reliable as the one we have today, it is inaccurate for EPA to assert that its BSER is adequately demonstrated.

EPA has modeled the outcome of its BSER assumptions using its Integrated Planning Model (IPM), but the IPM does not model the operations of the transmission grid. Instead, the model focuses on whether, in a particular region, there are an adequate amount of electric supply resources to meet consumer demand. While the question of resource adequacy is essential to reliability, it is equally necessary to understand whether the resources that exist in a particular region can be delivered to the consumer location of demand. Many critical resources that serve large pockets of consumer demand are located in transmission-congested areas. If that transmission congestion is not incorporated into a model—and, again, IPM does not incorporate such analysis—then that model cannot reach meaningful conclusions about system reliability. In other words, the way IPM has drawn the regions in its hub-and-spoke representation of the grid do not capture the significant complexity of grid operations *within* the given region. Additionally, IPM uses an old-world definition of regions that does not accurately represent the present realities of how the transmission grid has been divided into Regional Transmission Organizations (RTOs).

The Western Electricity Coordinating Council (WECC) is the Electric Reliability Organization (ERO) empowered by Section 215 of the Federal Power Act for establishing reliability standards in the Western Interconnection. In addition, it performs transmission reliability analysis similar to what RTOs conduct for other parts of the country. WECC has conducted a preliminary technical analysis of the BSER's application to the interconnection,[9] finding that system frequency is not impacted by a limited withdrawal of thermal resources and the addition of renewables, but also that any effects of the BSER on transmission path ratings, voltage stability, and remedial action schemes are as yet unstudied. WECC notes that conducting such studies will take more time than the comment period in this rulemaking allows.

An example of how the proposed EPA rule does not comport with transmission realities may be found in South Dakota, where EPA's proposed rule presumes that generation from the Big Stone coal facility would be displaced by production from the Deer Creek natural gas facility. There are flaws with that presumption. First, the dispatch of those respective facilities are performed by two separate operators: Big Stone by the Midcontinent Independent System Operator (MISO) and Deer Creek by the region's Integrated System (IS), jointly operated by Basin Electric Power Cooperative and the Western Area Power Administration (WAPA). Although a certain degree of interrelation between the two operator/markets exists, a coordinated dispatch of Big Stone and Deer Creek is not possible absent a reorganization of the way the two markets interact. Any changes or shifts in transmission service caused by a § 111(d) rule to the entities in this example will have direct impacts on Montana because one of the owners of the Big Stone facility, Montana-Dakota Utilities, serves customers in eastern Montana, and because parts of central and eastern Montana are served by WAPA transmission infrastructure.

Additionally, Big Stone and Deer Creek were built to their particular size and in their particular location to serve the needs of their utilities' respective customer bases, not those of other utilities. Each of the various owners of each of these plants own firm transmission rights from these units to their retail loads; naturally, they do not own transmission rights originating at a plant they do not own for delivery to their customers.

[9] Western Electricity Coordinating Council, *EPA Clean Power Plan, Phase I—Preliminary Technical Report* (September 2014).

EPA should also include in the final rule a reliability safety valve. This is especially important if EPA does not subject its proposal to thorough transmission reliability modeling. Such a provision would permit a state, if it had concerns about the reliability implications of its or another state's plan, to cause the plan to be submitted to the local transmission operator or operators, or to the regional transmission planning body that is constituted under Orders 890 and 1000 of the Federal Energy Regulatory Commission, or to the local ERO or RTO. The selection of the appropriate body to submit the plan to would depend both on the geographic scope of the body and its willingness to undertake the analysis. If the plan was found by the relevant body not to result in reliable operations of the grid, then the plan would be suspended and the state would be required to submit a revision to the plan to ensure reliability.

An unreliable plan in this context could mean two things, broadly speaking. First, an unreliable plan could be one whose modeling results in an electric transmission grid (including common-case assumptions about transmission projected to be in service at the time of the plan's implementation) that cannot be depended upon to dispatch resources to serve loads because of a lack of available transmission capacity, or because frequency or voltage deviations prevent reliable service, or because necessary elements of the grid's architecture, such as remedial action schemes, are not supported by the plan. Second, an unreliable plan could be one where there are not sufficient resources to meet consumer demand. Since each state may be proposing and implementing state plans individually, EPA should be cognizant of the possibility that, while one state's plan may provide for reliable service to that state's consumers, it may jeopardize reliability in a neighboring state. Accordingly, EPA should allow plans to be studied in tandem and for their effects on the reliability of the region.

C. Building Block 1—Heat-Rate Improvements

4. ***Recommendation: A state's goal should be modified if sufficient evidence exists to demonstrate that a fossil facility cannot obtain a 6% heat-rate improvement because of efficiency measures already undertaken, i.e., operational before the beginning of the rule's baseline data period.***

5. ***Recommendation: A state's heat-rate efficiency target should take into consideration the nature of the fossil fuel stocks used and available in the state and the extent to which those fuels allow for the safe application of alternative methods of consumption for purposes of heat-rate improvement.***

6. ***Recommendation: Any emission of a facility that results from other air pollution rules should not be included in the calculation of that facility's emission rate for purposes of complying with the § 111(d) rule.***

7. ***Recommendation: EPA should exempt any heat-rate improvement made to comply with the § 111(d) rule from a requirement to undergo EPA's New Source Review permitting process.***

Heat-rate and efficiency improvements made on fossil-fuel generating units in 2012 and beyond should be considered and counted in the rate and goal calculations. Any site improvements or modifications made after the available data used in the goal calculation should be eligible for compliance consideration. No matter what baseline data is used for the goal calculation (2012 as proposed by EPA, or a ten-year or longer period as we suggest in this communication), any heat-

rate improvements made to existing units during or after the first year of the baseline data period should be counted for compliance.

Additionally, the goal calculation should be modified if sufficient evidence for a specific site shows that a 6% heat-rate improvement is not attainable due to improvements already made at that site. Specifically, Montana's 2,100 MW Colstrip facility, the second-largest coal-fired power plant in the West, is in this situation. The facility's operator, PPL-Montana, has made several improvements over the past 10 years that have increased efficiency of the plant by approximately 5%. These upgrades include 3-4% improvement in efficiency resulting from using a new blade design in the turbine rotors, allowing the plant to use the same amount of steam flow to generate more electricity; a 1% gain from boiler upgrades; and a 0.5% upgrade resulting from cooling tower and fan improvements. Those projects do not leave many heat-rate improvements available for the site.

We emphasize here that certain efficiency improvements that hold promise in one region of the country may not work in another region. For example, drying moisture out of coal to improve the efficiency of combustion will not work for Colstrip because de-moisturized Powder River Basin coal, the fuel for Colstrip's generation, becomes highly combustible. Experiments at Colstrip with de-moisturized coal have resulted in spontaneous combustion events.

After consideration of the efficiency improvements already made at Colstrip, as well as the particular combustion characteristics of the plant's fuel stock, it becomes apparent that only 1-2% in efficiency gains are available at the facility and that the achievement of a 6% increase in efficiency is not a realistic expectation.

A third issue with the heat-rate improvement section of the goal calculation relates to the installation of pollution control equipment required under other air quality rules. A specific example of this can be seen at the Big Stone plant located in South Dakota and co-owned by Otter Tail Power, Montana-Dakota Utilities, and NorthWestern Energy. In order to comply with EPA's Regional Haze Rule for South Dakota, Big Stone is in the process of installing upgrades to its Air Quality Control System, at a cost of nearly $400 million. However, in addition to requiring a significant capital cost, those haze-reducing upgrades will also require approximately 8 MW of the plant's production. This "parasitic load" means that a portion of the plant's power production—and associated carbon emissions—no longer serve consumer load but will be used in compliance of an EPA rule. So, while one EPA rule has the effect of increasing the plant's rate of carbon emissions output per unit of customer-consumed energy, the proposed § 111(d) rule requires significant reductions in that same pollution metric.

Finally, we are concerned that significant heat-rate improvements at generation facilities may trigger a New Source Review, which, according to EPA, is intended to "ensure that air quality is not significantly degraded from the addition of new and modified factories, industrial boilers and power plants" and that require "stationary sources of air pollution to get permits before they start construction."[10] Because EPA states that New Standard Reviews "are legal documents that the facility owners/operators must abide by" and which specify "what construction is allowed, what emission limits must be met, and often how the emission source must be operated,"[11] we are concerned that any requirement to comply with this provision of the Clean Air Act faced by

[10] Environmental Protection Agency, *New Source Review* (Oct. 8, 2014) (http://www.epa.gov/nsr/) (Nov. 16, 2014).
[11] Environmental Protection Agency, *New Source Review—Basic Information* (Oct. 8, 2014) (http://www.epa.gov/nsr/info.html) (Nov. 16, 2014).

generation facilities identified for potential heat-rate improvement projects under a final § 111(d) rule will add time, expense, and complexity to a state's effort to comply with a § 111(d) rule through use of Building Block 2. Because EPA's proposed rule does not address New Standard Review in the context of utilizing heat-rate improvement projects, we request that EPA clarify this issue and explicitly exempt heat-rate projects from any New Source Review requirements.

II. Outside-the-Fence Measures

As mentioned earlier in this letter, a rule must be adequately demonstrated to meet the requirements of § 111(d). In addition to this requirement, EPA's scope of authority in § 111 of the Clean Air Act is limited to stationary sources.[12] Regulation under this section has traditionally focused on "at-the-stack" regulation of emitting facilities.[13] The proposed rule's outside-the-fence measures fail to be adequately demonstrated and contradict the text and historical treatment of stationary sources under § 111(d).

A. Building Block 3—Renewable Energy

8. ***Recommendation: In calculating renewable energy goals for states, EPA should utilize state-specific analysis of RPS and other renewable energy development data to accurately determine the current level of renewable energy in the state and to arrive at a reasonable expectation for potential future development.***

9. ***Recommendation: As part of the recommended analysis above, EPA should tabulate the renewable energy already developed in a state for purposes of carbon reduction and allow the emission-reduction effects of those facilities to be utilized in complying with the rule.***

10. ***Recommendation: EPA should perform state-specific analysis of transmission and grid capability to ensure that renewable goals set for states are not established at levels that pose threats to transmission capacity and grid reliability.***

11. ***Recommendation: The final EPA rule should assign compliance credit for all renewable energy produced in a state to the state where emissions responsibility falls. If a state is responsible for 100% of emissions, no matter where the energy is utilized, the state should also be credited for 100% of renewable energy produced within the state.***

The assignment of states into geographical regions, and the subsequent use of regional averages for the calculation of state renewable energy goals, does not give a representative or justifiable outcome, as suggested by EPA. When multiple states have either none or relatively large renewable portfolio energy (RPS) requirements, the "average" of those requirements is not the appropriate measure. A median would be more representative if the geographical approach is used, as in EPA's proposal. This would prevent outliers from skewing the results – for example, in the West, California with an RPS target of 33% or Wyoming with a target of 0%.

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[12] 42 U.S.C. § 7411; *see also* Environmental Protection Agency, *Legal Memorandum for Proposed Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units* 1 (2014).

[13] *See generally* 40 C.F.R. § 60 subparts Cb – OOOO (provides EPA's existing regulated sources under § 111(d), which is limited to "at-the-stack" emission reductions).

RPS requirements are not representative of the actual renewable statewide goals. In Montana, for instance, public utilities that own generation in Montana but serve out-of-state consumers, merchant utilities, and consumer-owned electric cooperatives are exempt from the state's nominal 15% RPS. In effect, using the 15% Montana standard (and other states' nominal percentage standards) inflates the regional averages on which Building Block 3 relies. If an average methodology is used, it should reflect states' true percentage targets. In the case of Montana, renewables are required, in fact, to equal approximately 7.5% of the load, versus the 15% RPS requirement used in EPA's calculation for Montana's contribution to the West region. Applying Montana's 15% RPS requirement and looked at in the context of total electrical generation in Montana in 2012, renewable energy makes up 5%, not 15%, of generation in the state.[14]

Just as EPA should evaluate the scope and net effect of a state's RPS, it should also acknowledge that, in a state that has already taken steps to develop renewable energy, it is a mistake to believe that future increases in the renewable portion of an energy portfolio will occur along a linear, each-step-is-the-same-as-the-last, path. Because of the variable, weather-dependent, and unpredictable generation patterns of wind and solar facilities (the most common and scalable renewable technologies), the growth of renewables in a portfolio is accompanied by an ever-intensifying set of operational, dispatch, and transmission challenges. Whereas one or two wind farms in a traditional fossil- or hydro-based portfolio may be incorporated into that portfolio with relative ease, a 20%, 30%, or 40% level of renewables in a portfolio brings new operational demands and sizeable investments in ancillary support, such as for energy imbalance and regulation and frequency response. EPA should drop its proposed general and formulaic approach, i.e., using a regional average of current renewable portfolio levels in its emission goal calculation, in favor of an approach that recognizes previous renewable development on a state-by-state basis.

Renewable energy has great promise in Montana and neighboring Western states, but the ability to construct new wind energy facilities is limited by transmission system constraints and grid reliability. WECC has modeled scenarios in which large amounts of remote renewables are located in Montana and Wyoming but serve out-of-state customers.[15] In those studies, the path constraints of the transmission lines from Montana to the Northwest were pushed to the limit, resulting in energy generated but not transmitted nearly half of the time. EPA's proposed regulation has failed to identify the monetary costs and timeline delays that are associated with constructing or upgrading transmission lines and building sufficient generators to ensure the provision of ancillary services to renewable generators.

Finally, the proposed EPA rule is vague on where credit for additional renewables will flow: to the producing states or the consuming states. EPA's proposed rule assigns to a state the compliance responsibility for all emissions that are produced in that state by thermal assets. The rule likewise should be unmistakably clear that all renewable energy produced in a state is also credited entirely to that state. Montana's Colstrip facility, for instance, is largely dedicated to

[14] Calculation: add expected retail sales of RPS-obligated entities in Montana, multiply sum by 15% to arrive at a total RPS obligation, and divide RPS obligation by total Montana generation in 2012 (from Energy Information Agency, *State Historical Tables for 2012* [Dec. 2013]), i.e., (6,341[NorthWestern Energy]=819[Montana-Dakota Utilities]+2,307[wholesale customers]GWh) x 0.15 ÷ 27,805 GWh x 100 = 5%.

[15] Western Electricity Coordinating Council, *2019 Study Report* (Sep. 2011), (https://www.wecc.biz/_layouts/15/WopiFrame.aspx?sourcedoc=/Reliability/2011Plan_2019_StudyReport.pdf&action=default&DefaultItemOpen=1).

serving customers out of state, yet the emissions burden for that facility falls under Montana's responsibility. There is no feasible way for Montana to reach its goal using the building blocks unless credit for renewables that are built in Montana, but whose energy, like Colstrip's, would flow out of state, is given to Montana.

The concern expressed by EPA about not wishing to upset the existing renewable energy credit (REC) market is understandable. However, because RECs are a creation of state law, the definition of what fuel stock can be used to produce a REC varies among states. In addition, the Clean Air Act does not anticipate or define RECs, nor is the inclusion of RECs workable in a regime where a state has obligations related to emitting units located in the state, regardless of where that energy is ultimately consumes. States would have, of course, the option of trading RECs for compliance under a multi-state approach, but EPA cannot and should not mandate cross-state trading programs.

B. Building Block 4—Energy Efficiency

12. Recommendation: EPA should establish energy efficiency savings rates based on state-specific analyses that take into consideration past and existing efficiency programs. EPA should recognize the savings achieved by those past and existing programs for compliance purposes.

The energy efficiency targets in the proposed rule, based on a national average, presume that it is possible to achieve an annual 1.5% savings through energy efficiency measures. EPA's national average approach differs greatly from that taken by most state utility commissions, which typically estimate the potential efficiency savings in their respective states by evaluating specific criteria for regulated utilities, including regional climate, daylight hours, consumer mix (residential, commercial, industrial), and, perhaps most importantly, how much energy efficiency has been gained by previous or ongoing efficiency programs. In addition, many state commissions perform evaluations of potential energy efficiency savings because state law requires regulated utilities to acquire all cost-effective energy efficiency savings available to them.

By applying an average-based expectation of future efficiency savings to states that have already achieved significant savings through established programs, the proposed rule serves to punish early adopters of efficiency.[16]

Building Block 4, as applied to states, ramps up by 0.2% annually to a 1.5% annual energy savings. So a state that is already aggressive in its energy efficiency programs, and which may have invested in increasingly costly energy efficiency investments over time, may be starting out at around a 1.5% savings, a rate which Building Block 4 obligates the state to maintain *and achieve again* within the compliance timeframe. Meanwhile, a state with a modest energy efficiency portfolio may start with, say, a 0.5% annual savings, and it would take five years to ramp up the savings to 1.5%. Thus the proposed rule is more punitive for early adopters and those states that have already achieved many energy efficiency gains than states that have not.

[16] Some regulated utilities and electric co-operatives of Montana have had energy efficiency programs in place for several years. Together those established program save about 11 MW per year (96,360 MWh annually), or 0.7% of total annual retail sales in the state.

C. Conversion From Rate-Based Emissions to Mass-Based Compliance Goals

13. Recommendation: EPA should provide and rationalize a single acceptable method for translating a rate-based goal into a mass-based goal.

EPA should provide an acceptable method for translating the rate-based goals within the rule to a mass-based goal. This will prevent misinterpretation and miscalculation between and among states that discuss entering into a multi-state or regional plan. It would also allow for a comparable standard between different states and ensure that multiple entities involved will arrive at the same goal after conversion. EPA should not allow different methodologies for conversion when the goal calculation methodology is consistent for all states.

III. Cost-Benefit Analysis

14. Recommendation: EPA should revise its cost-benefit analysis to incorporate the direct costs required for rule compliance and to re-calculate its benefits analysis by revising the current global scope of estimated benefits to a state or regional scope that more closely matches the geographical scope of the estimation of direct costs.

EPA's cost-benefit analysis is flawed, both because it fails to incorporate the direct costs required to comply with a carbon-emissions reduction of the size the proposed regulation contemplates and because it overstates the value of avoiding those carbon emissions.

In Montana, renewable development has slowed, and a significant contributing factor underlying the slowdown has been the expense of electrical transmission upgrades necessary to accommodate additional energy. For example, a proposed upgrade to the existing 500 kV Colstrip line, which connects the Colstrip coal-fired generation units in eastern Montana to the grid of the Pacific Northwest and energy customers in Washington and Oregon, would cost $240 million to add 550 to 900 MW of transmission capacity for potential new wind projects in Montana.[17] That expense is a formidable hurdle for wind developers, and work on the upgrade has yet to begin.

Another proposal, the 430-mile, 500 kV Mountain States Transmission Intertie, was announced in 2010 by NorthWestern Energy for the purpose of moving 1,500 MW of potential new wind energy in Montana to markets in the West. That project, which has been suspended, had an estimated cost of $1 billion.[18] That represented the cost only of developing point-to-point transmission capacity. Significantly, that cost did not include the cost of resources needed to integrate and balance the wind energy onto the grid.

Montana currently has one such integration facility, a $200 million simple cycle natural gas plant that provides 105 MWs of so-called regulation service, of which 45 MWs is dedicated to the use of 250 MWs of wind capacity.[19] A facility sized to accommodate 1,500 MWs of wind, then,

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[17] NorthWestern Energy, *Colstrip 500 kV Upgrade Project Variable Energy Resource Integration* (August 30, 2012).

[18] State of Montana Department of Commerce, *Energy Transportation Infrastructure*, (http://commerce.mt.gov/Energy/transmission.mcpx (Nov. 14, 2014).

[19] Montana Public Service Commission, *Application for Approval to Construct and Operate the Mill Creek Generating Station to Supply Regulation Service-Order 6943a* (May 2009).

would cost more than $500 million.[20] Meanwhile, the generally accepted capital cost for wind resources is about $2.2 million per MW of installed capacity.[21] So while the wind resource itself could be harnessed for perhaps $3.3 billion (1,500 MWs x $2.2 million), it would require roughly half of that amount again, $1.65 billion, to transmit and integrate it onto the grid. Gas transmission costs are also significant for those states where it is assumed that dispatch of existing EGUs (or the construction of new units) would be increased. These are significant costs that EPA apparently has failed to incorporate.[22]

Even while understating the direct costs associated with the rule, EPA has overstated the degree to which benefits will obtain from the rule. Carbon-dioxide emissions may have a cost associated with them, although there remains disagreement on this point. Notwithstanding that debate, there can be no debate that the benefits of avoiding carbon are, if real, diffuse and global in nature. EPA's Regulatory Impact Analysis (RIA),[23] through its incorporation by reference to the Social Cost of Carbon technical support document, measures benefits inasmuch as they avoid "the worldwide damages caused by carbon dioxide emissions in order to reflect the global nature of the problem." It further opines, "[W]e expect other governments to consider the global consequences of their greenhouse gas emissions when setting their own domestic policies."[24]

EPA's expectation is unrealistic and naïve, and ignores the real-world problems of free-ridership and leakage that are bound to manifest in one country's quest to control the emission of a diffuse gas. So far, the United States has managed to attract only anemic global commitments, voiced in the language of "intentions," on the part of other major actors like China. It has received no commitments whatsoever from other developing countries that either are or will be major emitters of carbon dioxide. EPA does not evaluate at all the consequences of further increasing the price of a significant input like electricity through regulation, causing processes that use large quantities of it to seek refuge in places where those and other emissions remain unregulated. Without grappling with this essential question of economics and geopolitics, EPA's approach to reasoning about global "marginal climate impacts" of one country's emissions is fundamentally flawed.[25]

IV. State Role Under § 111(d)

The Clean Air Act reserves a significant role for states in formulating § 111(d) plans[26] and EPA claims the states are provided this flexibility in the proposed rule.[27] However, flexibility cannot

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[20] Calculation: (45 MWs/ 105 MWs regulating capacity) x $200 MM cap-ex x (1500 MWs/250 MWs of wind integrated) = $514 million.
[21] Energy Information Administration, *Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants, Table 1* (April 2013), http://www.eia.gov/forecasts/capitalcost/ (Nov. 18, 2014).
[22] The Regulatory Impact Analysis does not identify them, and in discussing the cost-benefit paradigm identifies only "the net change in the annualized cost of capital investment in *new generating sources and heat rate improvements at coal steam facilities."* ES-8.
[23] Environmental Protection Agency, *Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants* (June 2014), http://www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf (Nov. 18, 2014).
[24] EPA, Regulatory Impact Analysis, ES-14.
[25] EPA, Regulatory Impact Analysis, ES-9.
[26] 42 USCS § 7411 ("[E]ach State shall submit to the Administrator a plan which (A) establishes standards of performance . . . and (B) provides for the implementation and enforcement of such standards of performance").
[27] EPA's CO2 Emission Guidelines for Existing Sources, 79 Fed. Reg. 34830, 34832 (June 18, 2014) (to be codified at 40 C.F.R pt. 60).

be said to exist when inflexible guidelines are created using generic assumptions that are misleading or false when applied to the facts of a specific state. The EPA rule governing § 111(d) emission standards provides for the possibility of "case-by-case" exceptions or variances for "designated facilities or classes of facilities" based on factors such as "[u]nreasonable cost of control resulting from plant age, location or basic process design . . . ."[28] The proposed rule does not allow for these types of exceptions or variances.[29] If the reduction measures suggested by EPA are impossible, states may be forced to shut down coal-fired generators, an action which cannot genuinely be considered to be flexibility. EPA's guidelines also expect the states to implement reductions in areas where many states do not currently have jurisdiction over energy markets.

15. ***Recommendation: EPA should clarify several questions regarding the authority of states to administer, execute, and enforce a final § 111(d) rule, including how litigation delay will affect timing of state plan submittal.***

The question of state authority arises from other presumptions and provisions of EPA's proposed rule:

- In a state that includes territory in two or more regional market organizations, what authority will the state agency responsible for developing and (presumably) administering the § 111(d) emissions plan have to compel a regional organization's compliance with the state plan, when that regional organization may encompass several states?

- Similarly, what authority will a state have to compel multi-state transmission organizations to alter their dispatch or operating procedures?

- If § 111(d)-related operational directives from states within a regional market differ from one another, how will the states resolve conflict, and with what authority?

- What authority will a state have to compel compliance with a § 111(d) rule by generating or transmission facilities that are financed and/or administered by the federal government? (Often, federally administered facilities consider themselves exempt from state energy policies.)

- For a state in which electric generating units (EGUs) export electricity out-of-state, will the rule allow the state to assign the costs of Building Blocks 3 and 4 to be charged to those EGUs, even though their owners may not serve load in the state? If so, what kind of procurement and payment structure does EPA contemplate in this regard?

- What are the consequences for an entity assigned responsibility in a state plan that has failed to perform? If the mix of responsible entities in a state plan includes local,

[28] 40 C.F.R. § 60.24(f)(1).
[29] EPA's CO2 Emission Guidelines for Existing Sources, 79 Fed. Reg. at 32926 ("The EPA therefore proposes that the remaining useful life of affected EGUs, and the other facility-specific factors identified in the existing implementing regulations, should not be considered as a basis for adjusting a state emission performance goal or for relieving a state of its obligation to develop and submit an approvable plan that achieves that goal on time").

state, regional, and federal organizations, what authority will a state have to evaluate, judge, and penalize non-performance?

- What provisions or contingency plans has EPA made in developing its compliance timetables and deadlines in anticipation of litigation that is almost certain to arise from a final § 111(d) rule promulgated by EPA?

- The proposed rule is likely to face legal challenges delaying clarity on what is actually required in states' plans. The proposed rule[30] and EPA rules governing adoption and submittal of state plans[31] do not provide sufficient flexibility to account for litigation delays. The Commission requests clarification on how litigation delay will affect timing of state plan submittal.

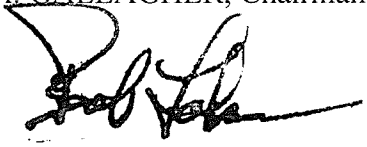
V. Concluding Remarks

We appreciate having the opportunity to submit this letter, and we stand ready to discuss any questions or observations you might have about our comments and recommendations. We welcome any chance to communicate further with EPA about the proposed rule and the profound impacts that it may have on the functionality, reliability, and cost of the electricity infrastructure in the state of Montana.

[30] EPA's CO2 Emission Guidelines for Existing Sources, 79 Fed. Reg. at 34915.
[31] 40 C.F.R. § 60.23.

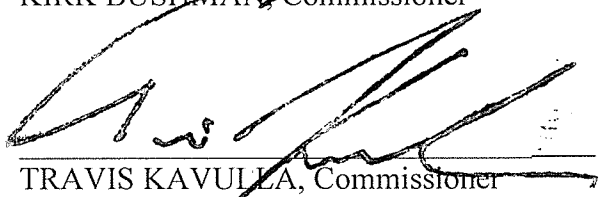
BY THE MONTANA PUBLIC SERVICE COMMISSION

W. A. GALLAGHER, Chairman

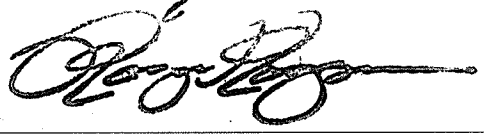


BOB LAKE, Vice Chairman

KIRK BUSHMAN, Commissioner



TRAVIS KAVULLA, Commissioner



ROGER KOOPMAN, Commissioner