



Office of the Attorney General

Governor
Matthew H. Mead

Attorney General
Peter K. Michael

Water and Natural Resources
Division
Kendrick Building
2320 Capitol Avenue
Cheyenne, Wyoming 82002
307-777-6946 Telephone
307-777-3542 Fax

Chief Deputy Attorney General
John G. Knepper

Division Deputy
James Kaste

December 21, 2015

Sent via overnight mail and electronic mail

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

Re: Petition for Reconsideration of Final Rule on Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

Dear Administrator McCarthy:

The State of Wyoming hereby petitions the United States Environmental Protection Agency (EPA) to reconsider the Final Rule on Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units. *See* 80 Fed. Reg. 64662 (Oct. 23, 2015) (Final Rule); *see also* Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Proposed Rule. 79 Fed. Reg. 34830. (June 18, 2014) (Proposed Rule). In the Final Rule, the EPA dramatically changed the fundamental building blocks and analyses underlying the Proposed Rule without fair notice to Wyoming and other affected stakeholders. In fact, the Final Rule bears little resemblance to the Proposed Rule. For example, and most importantly, Wyoming's emission reduction goal more than doubled in the Final Rule even though Wyoming conclusively showed the EPA that it was impossible to meet the smaller

goal set forth in the Proposed Rule. This significant, inexplicable, and unreasonable change in course by the EPA cannot stand without reopening the rule.

Moreover, in the process of its course change, the EPA made significant and irreparable mistakes in its analysis. Most significantly, the best system of emission reduction has not been adequately demonstrated by any reasonable measure. The system proffered by the EPA in the Final Rule will be either prohibitively expensive for certain states in the Western region or will result in insufficient power in those Western states. The system relies on a host of unrealistic and flawed assumptions that ignore the realities of power generation and transmission in the West. In fact, the system proposed in the Final Rule is, at best, a fanciful theoretical exercise relying on lands that are not available for renewable energy development, transmission capacity that cannot be reasonably developed on the EPA's time schedule, and the spontaneous creation of nonexistent, and yet magically efficient, markets. EPA should reopen the rule and reconsider this analysis.

Finally, while the Final Rule will unquestionably affect threatened and endangered species, the EPA refused to consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service before issuing the Final Rule. The Final Rule requires significant development of new renewable generation. It is no secret where new renewable generation can be located in any given state. For example, in Wyoming, significant amounts of wind and solar resources are unlikely to be developed because they are located in core sage grouse habitat, which also supports threatened and endangered species such as the Piping Plover and the Preble's Meadow Jumping Mouse. The EPA abdicated its clear statutory responsibility to consult in the Final Rule, and the rule should be reopened so that the Rule's effects on the nation's threatened and endangered species can be fairly considered.

The substantial and unfairly surprising changes and miscalculations in the Final Rule violate the Administrative Procedure Act, the Clean Air Act, and the Endangered Species Act. Accordingly, the EPA must reopen and reconsider the Final Rule.¹ 42 U.S.C. § 7607(d)(7)(B) (EPA has a mandatory duty to reconsider where, as here, the grounds for objection arose after the period for public comment and the objections are "of central relevance to the outcome of the rule.").

I. The Final Rule is not a logical outgrowth of the Proposed Rule.

The Administrative Procedure Act requires that administrative agencies utilize a notice and comment rulemaking process to give interested parties the opportunity to provide meaningful input to the agency. 5 U.S.C. § 553(b). To ensure robust public participation, fairness to affected parties, and the opportunity to register all objections on the record, each final rule promulgated by an agency must be a "logical outgrowth" of the proposed rule. *Int'l Union, United Mine Workers of Am. v. Mine Safety & Health Admin.*, 407 F.3d 1250, 1259 (D.C. Cir. 2005). Changes to a final rule are a "logical outgrowth" if they could have been predicted by interested parties in advance,

¹ Wyoming also incorporates all its comments to the Proposed Rule to the extent applicable to the Final Rule, as well as all claims and issues that have been raised in pending litigation. *West Virginia v. EPA*, Docket No. 15-1363 (D.C. Cir.).

effectively putting interested parties on notice of the possibility of those changes. *City of Waukesha v. EPA*, 320 F.3d 228, 245 (D.C. Cir. 2003). Agencies may not “pull a surprise switcheroo on regulated entities.” *Envtl. Integrity Project v. EPA*, 425 F.3d 992, 997 (D.C. Cir. 2005). In a case that “stretches the concept of ‘logical outgrowth’ to its limit,” the EPA included a significant addition in a final rule but only where the change was repeatedly sought by multiple interested parties both before and during the comment period and the EPA notified industry representatives of the change two weeks before publication of the final rule. *Natl. Resource Def. Council v. Thomas*, 838 F.2d 1224, 1243 (D.C. Cir. 1988) (*NRDC*).

Here, the EPA made significant changes to its conceptual approach to the Final Rule resulting in, among other things, a state goal for Wyoming that is dramatically more stringent than the goal established in the Proposed Rule. In the Proposed Rule, the EPA proposed an interim goal for Wyoming of 1,808 pounds of carbon dioxide per net megawatt hour (lb/MWh), and a final state goal of 1,714 lb/MWh. 79 Fed. Reg. 34895. In the Final Rule, the EPA proposed an interim rate-based goal for Wyoming of 1,526 lb/MWh and a final rate-based goal of 1,299 lb/MWh. 80 Fed. Reg. 64824. This represents a change from a 19% emissions rate reduction to a 43.9% emissions rate reduction. Neither is achievable. *See* Minier letter at 34-38 for discussion of the impossibility of attaining either set of goals.

In another dramatic shift, the EPA kicked one of the legs out from under the four legged stool it offered in the Proposed Rule. In the Proposed Rule, the EPA concluded that the best system of emission reduction (BSER) was made of up of four distinct building blocks. 79 Fed. Reg. 34856. In the Final Rule, however, the EPA eliminated demand side energy efficiency measures. 80 Fed. Reg. 64728. The three building blocks in the Final Rule are: (1) Improving heat rate efficiency at affected coal-fired steam electric generating units (EGUs) in specified percentages; (2) Substituting increased generation from existing affected natural gas combined cycle (NGCC) units for generation from affected steam EGUs in specified quantities; and (3) Substituting generation from new zero-emitting renewable energy generating capacity for generation from affected fossil steam fired EGUs in specified quantities. 80 Fed. Reg. at 64745. While Wyoming had serious concerns about the demand side efficiency measures in the proposed rule, eliminating that building block was unforeseeable and has ripple effects through the remainder of the rule.

Intuitively, it would stand to reason that removing one of four parts of the BSER would reduce the stringency of the state goals, but that did not occur here. As the EPA stated in the Proposed Rule, “[t]he BSER forms the basis for each state’s overall emission limitation requirement, which the EPA determines as the state goal.” 79 Fed. Reg. at 34878. Yet, the EPA did not clearly explain in the Final Rule why removal of a significant portion of the BSER did not result in less stringent state goals. The EPA’s significant revamping of its conceptual approach towards calculating state goals likely caused this apparent incongruity.

In addition to changing from a four legged to a three legged stool, the EPA reworked the methodology for developing state goals. 80 Fed. Reg. at 64672. For example, in the Proposed Rule, the EPA calculated state-specific output-weighted-average carbon dioxide emission performance goals based on an application of four proposed building blocks to 2012 carbon dioxide emissions.

79 Fed. Reg. at 34895. In other words, the EPA calculated targets for states based on a linear application of four principles, based on the four building blocks, applied to state-specific data.² *Id.*

In the Final Rule, however, the EPA developed national performance rates that are much more stringent for the outlier states, including Wyoming. 80 Fed. Reg. at 64816-64819. The national performance rates, ostensibly “regional,” are based upon dividing the country up into three regions – the East, the West, and Texas. Although the EPA uses the word “regional” in the Final Rule, the agency’s analysis is truly done on the national level. The term “region” ordinarily denotes a much smaller subset of the country; the EPA has ten regional offices, not just one in Manhattan, one in Dallas, and one in San Francisco. By taking the national perspective, the EPA utilized an analysis that glosses over regional differences and has the practical effect of punishing states that are statistical outliers, Wyoming included. While the EPA still refers to building blocks, it is applying a single national calculation to the second and third building blocks in a manner utterly unlike the method in the Proposed Rule, and in a different order. The EPA has tried to mask the fact that the Final Rule is not a logical outgrowth of the Proposed Rule by claiming that this change, and others, were an “expected consequence of the use of uniform performance rates by source subcategory.” 80 Fed. Reg. at 64743. This statement, however, fails to take into account the EPA’s dramatic shift in conceptual thinking about how to calculate and apply the different building blocks of the BSER between the Proposed and Final Rules.

After eliminating the fourth building block, the EPA went on to significantly change how it calculated emission reductions available from each of the three remaining building blocks in the Final Rule. For example, in the Proposed Rule, Building Block 1 called for each state to achieve a 6% heat rate improvement, which was then incorporated into the calculation of state goals. As shown in the EPA’s Technical Support Document: Emission Performance Rate and Goal Computation, Appendix 4 (Appendix 4), the EPA calculated a collective fossil steam emission rate for each interconnection, which resulted in a region-specific heat rate improvement target. Since the initial fossil steam emission rate is higher for the western interconnection, likely a result of facilities operating at higher altitude, and the expected heat rate improvement is lower, use of the rates for the eastern interconnection applies a lower collective fossil steam rate, then applies a higher heat rate improvement. The overall western interconnection emission rate is 2,198 pounds of carbon dioxide per megawatt hour (lbs/MWh), and that drops to 2,154 lbs/MWh after the regional 2.1% heat rate improvement. By contrast, the overall eastern interconnection fossil steam rate is 2,071 lbs/MWh, or a reduction of 4.3%. Thus, state goals for Eastern states were reduced to 4.3%, compared with the across-the-board 6% reduction in the Proposed Rule.

² Wyoming explained why the targets developed through this approach were not achievable in several comment letters. *See* Letter from Governor Matthew H. Mead to Gina McCarthy, EPA Administrator (December 1, 2014), Letter from Wyoming Public Service Commission Chair Alan Minier (November 21, 2014); Letter from Wyoming Department of Environmental Quality Director Todd Parfitt (December 1, 2014). Wyoming also re-ran the EPA’s calculations based on achievable emission reductions for Wyoming electric generating units and demonstrated how many coal-fired power plants would need to be prematurely retired based on the EPA’s targets. *See* Minier Letter at pp. 34 – 38.

The practical result for Wyoming, however, is that the 6% reduction it was asked to meet in the Proposed Rule nearly doubled in the Final Rule. For Wyoming's coal fleet, with higher emission rates from air-cooled plants, the initial overall rate is 2,331 lbs/MWh, which requires an 11.57% reduction to reach the eastern interconnection rate adjusted for Building Block 1. A change this significant violates the logical outgrowth standard. *Shell Oil v. EPA*, 950 F.2d 741,752 (D. C. Cir. 1991) (holding that a final rule was not the logical outgrowth of a proposed rule because crucial component of the final rule was "considerably expanded and more specific" than in the proposed rule.). By not including this methodology, or even a suggestion that the agency might consider this new methodology in the Proposed Rule, Wyoming was unable to provide meaningful technical comments during the notice and comment period.

Turning to Building Block 2, in the Proposed Rule the EPA calculated the emissions reductions available by replacing coal-fired generation with natural gas-fired generation to the maximum of 70% of each state's available natural gas generation. 79 Fed. Reg. at 34896. In its comments, Wyoming noted that this calculation was problematic because the EPA relied upon incorrect information about Wyoming's sole natural gas-fired power plant. Parfitt letter at p. 20. The EPA fixed this error in the Final Rule, to little effect. Technical Support Document: Emission Performance Rate and Goal Computation, Appendix 2, at H125, H126. In the Final Rule, the EPA first replaced natural gas generation with renewable generation, then replaced coal-fired generation with natural gas generation, and finally replaced the remaining coal-fired generation with 75% available natural gas generation. 80 Fed. Reg. at 64818. This step is not rooted in a proper understanding of the manner in which utilities operate diverse sources of electricity generation and would have benefited from additional analysis from stakeholders. Practically, the EPA's new methodological approach to calculating emission reductions from Building Block 2 exaggerates available emission reductions from Building Block 3, increasing the stringency of the state goals.

The EPA's conceptual approach to Building Block 3 dramatically changed in the Final Rule as well. In the Proposed Rule, the EPA estimated available emissions reductions by replacing coal-fired generation with renewable generation based on existing renewable portfolio standards in the geographic region. 79 Fed. Reg. 34896. In its comments on the Proposed Rule, Wyoming noted that this was problematic for states such as Wyoming, which do not have renewable portfolio standards, but which export a significant amount of renewable energy to states that do. Minier letter at p. 14. In the Final Rule, the EPA developed a new process to calculate available emissions reductions through the application of Building Block 3. This new process involved the misguided and incorrect assumption that renewable generation can be used on a 1:1 basis to replace fossil steam generation. 80 Fed. Reg. at 64817. Replacing dispatchable generation with intermittent generation requires more than a 1:1 replacement to ensure that there is always sufficient capacity available.³ The EPA's inclusions of these new and irrational assumptions in its calculations in the Final Rule are not a logical outgrowth of the Proposed Rule.

³ Renewable generation is intermittent generation, which means that it is not continuously available. The extent to which it is available is captured by the capacity factor. By contrast, fossil fuel-fired generation or nuclear generation can be dispatched on demand, and can be considered firm capacity. Intermittent resources do not provide minute by minute generating capacity and cannot be used in the equation to provide firm load and resource balancing on a minute by minute

Further, the EPA's new process for Building Block 3 also relied on national data that was unavailable at the time the Proposed Rule was released. 80 Fed. Reg. at 64808. Crucially, in these steps, the EPA relied on data from the National Renewable Energy Laboratory (NREL), 80 Fed. Reg. at 64807, despite the fact that the NREL study explicitly states that its model did not capture "site-specific challenges of building electricity infrastructure." *2015 Standard Scenarios Annual Report: U.S. Electric Sector Scenario Exploration. National Renewable Energy Laboratory* at 19 (available at: <http://www.nrel.gov/docs/fy15osti/64072.pdf>) (last accessed Dec. 15, 2015). For Wyoming, this is particularly concerning, because it means that the EPA's state goals are based upon the assumption that there will be extensive renewable energy development in the sage grouse corridor. See Parfitt letter at p. 20. By making unreasonable assumptions about the size of land available for renewable generation, the EPA overstates the emission reductions available through Building Block 3. Ultimately, the application of Building Block 3 has the biggest influence on the state goal calculation, so it is of "central importance" to this rulemaking. 42 U.S.C. § 7607(b).

In addition to changes in the building blocks themselves, the new BSER has other features and qualities that the EPA does not clearly describe, and on which interested parties, even now, are not able to provide comment. For example, the BSER "encompasses a menu of actions," including emissions trading. 80 Fed. Reg. at 64727, 64734. The EPA does not explain what else is on the "menu," leaving states to wonder whether the EPA understands the BSER to include additional compliance measures.

In sum, the EPA changed fundamental aspects of the rule to the detriment of Wyoming without adequate notice. EPA did not even attempt to issue the last-minute warning that saved stack height regulations from a logical outgrowth challenge in *NRDC. NRDC*, 838 F.2d at 1242. Therefore, this Final Rule contravenes the Administrative Procedure Act. 5 U.S.C. § 553. Indeed, the changes from the Proposed Rule to the Final Rule were so substantial that the majority of technical criticisms highlighted in comments submitted by Wyoming agencies were inapplicable to the Final Rule. See, e.g., Minier Letter, pp. 1 – 13, pp 20 – 32; Parfitt Letter, pp. 10 – 11. The EPA should reopen and reconsider the rule to correct this "surprise switcheroo" and allow Wyoming and other interested stakeholders a fair opportunity to comment on the substance of the distinctly different Final Rule. *Env'tl. Integrity Project*, 425 F.3d at 997.

II. The new BSER is not adequately demonstrated.

Section 111(d) of the Clean Air Act authorizes the EPA to develop procedures under which states can establish standards of performance. 42 U.S.C. § 7411(d)(1). The Clean Air Act defines

basis. An intermittent resource must be complemented with a firm generation resource to assure load and resource balancing. Only when the intermittent resource is complemented by a resource that can be dispatched at minutes when the intermittent resource is not generating can the system load be balanced with the system generation. A firm generation facility capable of minute by minute dispatch to meet the peak cannot be replaced by an intermittent generation resource that may not be dispatched, and may not be available on the system peak. An intermittent resource having 1 megawatt of capacity is not the same as a firm resource capable of providing 1 megawatt of capacity at any instant.

“standard of performance” as “a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.” 42 U.S.C. § 7411(a)(1). The D.C. Circuit has interpreted this definition to mean that:

It is the system which must be adequately demonstrated and the standard which must be achievable....An adequately demonstrated system is one which has been shown to be reasonably reliable, reasonably efficient, and which can reasonably be expected to serve the interests of pollution control without becoming exorbitantly costly in an economic or environmental way. An achievable standard is one which is within the realm of the adequately demonstrated system’s efficiency and which, while not at a level that is purely theoretical or experimental, need not necessarily be routinely achieved within the industry prior to its adoption.

Essex Chem. Corp. v. Ruckelshaus, 486 F.2d 427, 433 (D. C. Cir. 1973); *see also* 80 Fed. Reg. at 64720.

Here, the EPA incorrectly found that the BSER in the Final Rule has been adequately demonstrated. Instead, the BSER will create a system instability in the Western region, which means that it is not reasonably reliable. Moreover, the EPA bases its BSER upon incorrect assumptions about renewable generation so that it may ignore exorbitant costs. The Wyoming Public Service Commission’s analysis of the cost of compliance with BSER further proves that it is exorbitantly costly, and therefore, not adequately demonstrated. Furthermore, the EPA’s reliance on nonexistent markets cannot adequately demonstrate the BSER in the Final Rule, and the EPA’s conceptual framework of “headroom” does not ameliorate these concerns. For these reasons, the BSER is not adequately demonstrated and the EPA should reconsider this finding.⁴

a. The BSER is not reasonably reliable because it will create a system instability in the Western region.

The EPA’s calculations accompanying the Final Rule show that all fossil steam generation in the West will be eliminated by 2027 and NGCC will be at 75% capacity. Appendix 4 at T44. To shoehorn this rulemaking into the constraints of 111(b) and 111(d), the EPA designed the Final Rule to ignore the addition of NGCC generation. *See* 42 U.S.C. § 7411. This is not to reflect how the electricity generation system actually works but to ensure that the Final Rule does not extend to “new sources.” 80 Fed. Reg. 64729. In the Final Rule, renewable generation may be freely added but must be supported by existing generation. The PSC asked the Northern Tier Transmission

⁴ Wyoming showed why the standard announced in the Proposed Rule was not achievable, but in the Final Rule, the standard has only increased in stringency. *Compare* 79 Fed. Reg. 34895 with 80 Fed. Reg. 64824. To the extent that Wyoming’s prior arguments were focused on the achievability of the number itself, those critiques apply to the newer, more stringent standard as well.

Group (NTGG) to assess the effect of these assumptions and received a Planning Committee response dated November 18, 2015, regarding the effect within the NTTG footprint. *See* Attachment A.⁵ NTGG found that there would be “severe generation deficits by the year 2024 in the Northwest U.S. [i.e., Washington, Oregon, Idaho, Montana, Wyoming, northern Nevada, and Utah.]”

In other words, NTGG found that the BSER would result in insufficient generation in a large portion of the Western interconnect. Thus, the BSER cannot be adequately demonstrated because it creates a system instability in the Western interconnection. Insufficient generation is not a minor challenge that can be handled by regional power planning entities. It is a fundamental problem that would cause any power planning entity to go back to square one.

b. The BSER is exorbitantly costly because it includes flawed assumptions about renewable energy production.

The EPA has relied too heavily on the thought that in the bulk power system, “any power generated or consumed flows through the entire interconnection in real time....” 80 Fed. Reg. at 64739. This is only true when, as a practical matter, there is perfect and ubiquitous transmission serving all points in the interconnection. As a practical matter, this is not true of the Western interconnection. What occurs in subregions therefore can become important, despite the EPA’s dismissive approach to subregions. *Id.* While “subregions cannot be operated autonomously” within an interconnection, *id.*, they can fail autonomously. So, when the EPA participated in a Federal Energy Regulatory Commission (FERC) hearing in Denver in February 2015, it should have listened more carefully when FERC staff described one subregion with a generation profile of 72% coal and 13% natural gas and another with 63% coal and 15% natural gas – clearly situations in which there would be a generation deficit if all coal were eliminated, even if natural gas were ramped up to 75% of capacity. Agenda of February, 2015 FERC hearing available at <http://www.ferc.gov/CalendarFiles/20150106170115-AD15-4-000TC1.pdf> (last accessed Dec. 18, 2015).

The EPA’s second error in determining that the BSER is adequately demonstrated results from ignoring the practical challenges of rapidly scaling up renewable generation in a relatively short time period. For example, the EPA assumes that additional renewable energy generation required by the BSER can be calculated by exclusive reliance on existing NGCC generation. 80

⁵ The NTTG Technical Work Group analysis was limited in several respects. It relied on three 2024 Western Electricity Coordinating Council (WECC) power flow cases (maximum export, peak coincident summer load, peak coincident winter load) produced for development of the 2014-2015 NTTG Regional Transmission Plan. These cases in turn were based on output of a WECC 2024 production cost model. Projections for 2027 are unavailable, but the 2024 values are still instructive. WECC’s 2024 Common Case, which is the premise for NTTG’s analysis, projects the expected system in 2024 to have changed in ways consistent with the directions anticipated by the EPA: retirements of 7 gigawatt (GW) of coal and 16 GW of other steam; natural gas additions of 25 GW; addition of 13 GW solar and 9 GW wind; demand side additions of 13 GW.

Fed. Reg. 64729. The EPA assumes that any increase in NGCC capacity required to comply with the BSER will be “less expensive and take less time than new pipelines.” *Greenhouse Gas Mitigation Measures Technical Support Document*, p. 3-18. This is untrue. New renewables, at a new location, are typically supported by new gas generation, at a new location. Without new gas generation, the location of new renewables will be limited in ways that cannot be determined without further study. By incorporating this assumption into its analysis, the EPA failed to account for a real problem that can only drive up costs.

The EPA makes a similarly inappropriate assumption regarding transmission associated with the new renewables themselves. In the *Greenhouse Gas Mitigation Measure Technical Support Document*, the EPA concluded that additional renewable energy will not require additional transmission investment. *Greenhouse Gas Mitigation Measures Technical Support Document*, p. 4-23. This is unlikely, particularly in the West, where federal land presents unique permitting challenges. In developing the BSER, the EPA did nothing to eliminate the standard bottlenecks, including lengthy delays in permitting land and prohibitions on development for wildlife protection, associated with developing projects on federal land. Time and location constraints add significant costs. The EPA may not conclude that the BSER is adequately demonstrated without considering the practical realities of developing transmission in the West. To put this into perspective, the Gateway West project, a joint venture between Idaho Power and Rocky Mountain Power to build and operate approximately one thousand miles of new high-voltage transmission lines, has been in the federal permitting process for almost ten years, and all necessary approvals have not been granted yet.

c. The BSER is not adequately demonstrated because it is exorbitantly costly.

To determine whether a BSER is adequately demonstrated, the EPA must consider cost. 42 U.S.C. § 7411(a)(1). The BSER in the Final Rule would be exorbitantly costly in the West. This could cause industrial consumers of electricity to choose to generate their own electricity, which in turn would increase the costs of the BSER even further for remaining ratepayers.

The PSC estimated the cost of the Final Rule on Wyoming’s coal fleet by analyzing what would happen if the state opted for rate-based regulation and Wyoming EGUs invested in renewable generation directly. *See* 80 Fed. Reg. at 64747. The PSC took this approach because it is impossible to estimate the costs of purchasing commodities on a market or markets that have not been developed. To do so would require a crystal ball. *Int’l. Harvester Co. v. Ruckelshaus*. 478 F.2d 615, 629 (D.C. Cir. 1973). Conceptually, this is an estimate of the capital expense and ongoing depreciation, operations, and maintenance costs that are necessary to operate the coal fleet at reduced output. The estimate is conservative for two reasons. First, it is unlikely that future investors in renewable generation will be able to maintain transmission expenses at their current level. Second, facilities will be operated less efficiently because heat rates tend to decline when EGUs are operated substantially below full capacity.

In doing this exercise, the PSC made several reasonable assumptions.⁶ *See* Attachments B and C. The PSC estimated that reaching Wyoming's interim goal would require a capital expenditure for the interim period of over \$10 billion, with an ongoing annual expense of over \$500 million. Using the first year goal calculated in Appendix 4, that is, assuming that the interim goal will not be reached in the first compliance year, the capital expenditure drops to over \$9 billion in 2022 and rises to \$11.3 billion in 2024, with corresponding annual expenses of \$451 million and \$566 million. These numbers stand in stark contrast to the EPA's own cost benefit analysis. 80 Fed. Reg. at 64679-64680.

While these numbers would be shared among states in the systems of the three sets of generators, they would be added onto the cost of operating the existing fleet. This kind of rate increase could prompt industrial consumers to select self-generation, which would increase the financial impact to the customers remaining in each system.

To illustrate this concept, from 2005 to 2011, PSC approved \$210 million in increases to rates paid by PacifiCorp customers. One industrial consumer opted to self-generate power, which reduced PacifiCorp's Wyoming load by 5%, but left the remaining customers responsible for 100% of the rate increases. In Wyoming, the majority of electricity is consumed by industrial consumers. This means that Wyoming ratepayers who are unable to self-generate electricity if electricity rates become too expensive may end up with even more expensive electricity rates when industrial consumers opt out of purchasing electricity from the grid. The EPA was wrong to determine that the BSER was adequately demonstrated without thoroughly analyzing the costs, particularly in states that have large percentages of industrial consumers.

⁶ The PSC assumed that the entire fleet would remain in business through 2030 and that two facilities would retire as scheduled in 2027 and 2029. The PSC also assumed that each of the facilities will be assigned the subcategory goals, *i.e.*, 1,305 lbs/MWh in 2030, and would be assigned the interim goals for the three compliance periods. Finally, the PSC assumed that, in order to meet these targets, each facility would reduce MWh output in proportion to its respective 2012 rates. (For example, a plant with a 2012 rate of 2,201 lbs/MWh would reduce its output of MWh in the same proportion that 2201 bears to the ultimate goal of 1305). The PSC then used these assumptions to calculate the emission rate credits (ERCs) needed to have the fleet operate at reduced capacity. *See*, Attachment B. Based on the required ERCs, the PSC then calculated the hours of wind generation capacity that would need to be purchased to create the ERCs necessary for the fleet. In the Final Rule, to calculate Building Block 3, the EPA uses a wind capacity factor of 41.8%, which far exceeds any nationally based historical factor. Yet, when the EPA calculated available renewable generation for the purpose of the clean energy incentive program, it utilizes a 30% capacity rate. 80 Fed. Reg. 64830. The PSC calculated an alternative and more realistic capacity factor of 29.4%, using adjusted data from the U.S. Energy Information Administration instead. *See*, Attachment C. The PSC relied upon the KWh purchase price found in the most recent PacifiCorp Integrated Resource Plan, together with estimated operating and maintenance costs from the same source. PSC also calculated depreciation based on 30 year lives.

d. The BSER is not adequately demonstrated because it relies upon the existence and development of unpredictable markets.

It is difficult to assess the practical effects of the Final Rule because they depend heavily on the emergence of one or more regional or national markets in different carbon emission commodities. *See, e.g.*, 80 Fed. Reg. 64731. The emergence of these markets depends heavily on the choices that the EPA makes before releasing its model federal implementation plan (FIP) in the summer of 2016. At this point, the EPA could opt for a rate-based FIP, a mass-based FIP, or a combination of rate-based and mass-based FIPs for different regions. The EPA's carbon emission currency choices and its decisions about how to structure interrelated FIPs will greatly impact what type or types of markets develop, and how. The EPA is incorrect to determine that its BSER is adequately demonstrated when the BSER is heavily dependent upon markets that are not yet even nascent. If the EPA's assumptions about the emergence of markets fail, then the EPA's most compelling reason for ignoring state flexibility to modify targets to accommodate remaining useful lives likewise fails. *See, e.g.*, 80 Fed. Reg. at 64871.

By including a market component in the BSER, the EPA is unleashing a policy overlay in a realm largely governed by economics. The EPA did not consider whether the markets that develop as multiple states with diverse interests seek to develop plans will actually work toward the common goal the EPA has envisioned. For example, state policies were responsible for the boom and collapse of a western market for renewable energy credits, which the EPA has not analyzed relative to its proposed BSER. *See* Attachment D, redacted testimony of Stacey J. Kusters, Origination Director for Rocky Mountain Power (March 2012) at pp. 6-8. The EPA also did not consider the impact to markets if certain states or private entities choose to purchase and retire credits. These aspects of the BSER all merit further discussion from stakeholders, and the EPA should convene a proceeding for reconsideration of the Final Rule to do so.

e. The EPA's notion of "headroom" does not ameliorate the BESR's lack of adequate demonstration.

In yet another surprise in the Final Rule, the EPA introduced the notion of "headroom." 80 Fed. Reg. at 64718. The EPA does not define this term, but it appears to be the EPA's attempt to round down to the more achievable value in any given situation to ensure that, overall, the BSER is adequately demonstrated. This is not a recognized Clean Air Act rulemaking term of art, but rather is a concept that the EPA developed as an extra layer of justification for this particular rulemaking. It seems to be an attempt to provide additional confidence in the EPA Administrator's determination that the BSER has been adequately demonstrated by attempting to ensure that the BSER is achievable for the source category and the individual sources. 80 Fed. Reg. at 64718, 64730. However, because headroom has a conceptual rather than a mathematical basis, the EPA never quantified how much headroom is appropriate or how much has actually been provided to sources located in different regions of the country.

The EPA cannot bootstrap an adequate demonstration of the BSER from the concept of headroom. Several aspects of this novel idea highlight that, the EPA's characterizations notwithstanding, headroom does not provide additional leeway in the BSER to buttress a claim

that it has been adequately demonstrated. The EPA claims one source of headroom to be its choices about the stringency of certain features of building blocks 2 and 3. 80 Fed. Reg. at 64730, 64798, 64872. Whatever leeway these choices provide still results in a BSER that eliminates fossil steam generation in the western interconnection by 2027.

Other details of the EPA's method of calculating a target also indicate the EPA may be overstating headroom. If the purpose of headroom is achievability, then the EPA's calculations overstate what can be practically achieved by substituting new renewable generation for existing fossil generation and by substituting existing NGCC generation for fossil steam generation. For example, the EPA substantially overstates the capacity of anticipated wind generation as 41.8%. The practical effect of using an inflated capacity factor is to overstate the amount of non-renewable generation that can be displaced by renewable generation, thereby ratcheting up the stringency of the required carbon reductions from existing fossil generation. Yet, in the context of the Clean Energy Incentive Program, in which the EPA will provide early action carbon credits or allowances for certain renewable projects, the EPA uses the more reasonable capacity factor of 30%. 80 Fed. Reg. 64830. If, instead, the EPA chose to use 41.8% in its calculation of carbon credits, then the EPA's own rule would require it to distribute more carbon credits for each unit of qualifying renewable investment. The EPA cannot have its cake and eat it, too – renewable generation displaces a consistent amount of carbon-based generation and the EPA may not cherry-pick capacity factors to achieve a desired policy outcome.

Additionally, EPA fails to note that a majority of all existing NGCC generation in the West is located in California, which, as a practical matter, may be too far from new renewable energy development to provide adequate support for the entire Western interconnection. New renewable energy growth accordingly implies both new NGCC support and new transmission. Thus, EPA overstated available emissions reductions from Building Block 2 in the West.

Additionally, much of the so-called headroom in Building Block 1 is related to the EPA's choice of using heat rate improvements from the Eastern interconnect. However, applied in Wyoming, these assumptions provide the opposite of headroom. *See* discussion of Building Block 1 in Section I. The Eastern region is far better suited to improve its fleet-wide heat rate and to build new facilities to replace older units because its assets are typically older, nearing the end of their remaining useful lives, and are therefore less efficient. In short, the Eastern region has not yet harvested its low-hanging fruit. Moreover, the Eastern interconnect has a much larger population base to absorb investments, minimizing the cost of stranded assets.⁷ This is not true in the Western interconnect, where assets are typically newer, more efficient, and paid for by a smaller population. Whatever headroom the EPA believes it has created through its new methodological approach to Building Block 1, if anything, makes the standard less achievable in Wyoming.

⁷ For a discussion of stranded assets and remaining useful lives, see Letter from Wyoming Public Service Commission Chairman Alan B. Minier to EPA Assistant Administrator Janet McCabe (December 1, 2013).

This is not an exhaustive list but rather an illustration that the concept of headroom does not change the fact that the EPA has not shown that the BSER is adequately demonstrated.

III. The Final Rule violates the Endangered Species Act because the EPA did not consult with the Fish and Wildlife Service and the National Marine Fisheries Service before issuing the Final Rule.

The EPA declined to engage in consultation under the Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1544, before issuing the Final Rule in violation of Section 7 of the ESA.

a. The ESA's Consultation Process

Congress designed the ESA “to save from extinction species that the Secretary of the Interior designates as endangered or threatened.” *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687, 690 (1995). To further this goal, Congress enacted Section 7 of the ESA, which provides for a collaborative consultation process between a federal agency proposing to take an action that could potentially affect listed species and the nation’s expert wildlife agencies – specifically, the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) (collectively, the Services). 16 U.S.C. § 1536(a)(2). In short, Section 7 requires that federal agencies like the EPA, in consultation with the Services,⁸ ensure that “any action authorized, funded, or carried out by such agency” is not likely to jeopardize the continued existence of any endangered or threatened species. *Id.* (emphasis added).⁹

To assist agencies in complying with this requirement, Section 7 of the ESA and its implementing regulations set out a detailed process for determining the biological impacts of a proposed activity. 16 U.S.C. § 1536; 50 C.F.R. Part 402. The critical first step in this process is for the action agency to determine if its proposed action “may affect” a listed species or critical habitat. 50 C.F.R. § 402.14(a). In making this determination, the agency has the option of seeking the Services’ agreement with the agency’s “may affect” determination. 50 C.F.R. § 402.13. This process is known as informal consultation. *Id.* If the Services agree with the action agency that the proposed action is not likely to adversely affect a listed species or critical habitat, the consultation process is terminated and no further action is necessary. *Id.* By contrast, if the action agency or the Services determine that the proposed action “may affect” listed species or critical habitat, this triggers the formal consultation requirements of Section 7. 50 C.F.R. § 402.14(a). Regardless of whether the action agency chooses to pursue informal consultation, the first key determination that the action agency must make under Section 7 of the ESA is to determine whether the intended action “may affect” listed species or critical habitat. 50 C.F.R. § 402.14(a).

⁸ NMFS has regulatory authority for ESA-listed marine fish and marine mammals, while FWS has regulatory authority for resident fish species and terrestrial species – plants, birds and mammals – listed under the ESA. 16 U.S.C. § 1536(a)(2).

⁹ To “jeopardize the continued existence of” means to “engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild[.]” 50 C.F.R. § 402.02.

b. The EPA's refusal to consult with the Services and "no effect" determination

In the Final Rule, the EPA determined that the Clean Power Plan would have "no effect" on threatened or endangered species, 80 Fed. Reg. at 64662, 64925-64927 (Oct. 23, 2015). The EPA came to this conclusion even though the agency designed the Final Rule with the express purpose of forcing utilities to drastically increase their wind and solar energy generation.¹⁰ Moreover, the EPA was, and is, well aware that wind and solar energy projects can have a significant impact on threatened and endangered species. *See* 80 Fed. Reg. at 64926. And, in fact, the EPA has taken a uniquely aggressive approach to this rulemaking, providing a proposed FIP in advance, 80 Fed. Reg. at 64966 (Oct. 23, 2015). Yet, EPA arrived at its "no effect" determination because:

EPA does not believe that the effects of potential future changes in the energy sector – including increased reliance on wind and solar power as a result of future potential actions by states or other implementing entities – or any potential alterations in the operations of any particular facility are caused by the current rule or sufficiently certain to occur so as to require ESA consultation on the rule.

80 Fed. Reg. at 64926.

In other words, the EPA believes that the Final Rule is too distant from the "on the ground" activity tied to energy development to require the EPA to consult under the ESA. *See id.* The EPA came to this determination without pursuing consultation, either informal or formal, with the Services. *See* 80 Fed. Reg. at 64925-64927.

c. The EPA should informally consult with the Services.

As an initial matter, the EPA should have engaged in informal consultation with the Services before making its "no effect" determination, even if the agency was not explicitly required to do so. It is difficult to overstate the potential impact of the Final Rule, and the EPA's refusal to engage in the minimal effort involved with informal consultation shows a disregard for threatened and endangered species that is inconsistent with the ESA's cautionary approach. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978). Wyoming encourages the EPA to reconsider its decision and, at a minimum, engage in informal consultation with the Services in order to determine whether the nation's expert wildlife agencies agree with the EPA's "no effect" determination.

d. The EPA's "no effect" determination violates the ESA.

In any event, the EPA violated the ESA when the agency declined to pursue formal consultation with the Services before promulgating the Final Rule. In the Final Rule, the EPA justified its decision to forgo any form of consultation under the ESA by claiming that the impacts

¹⁰ *See, e.g.*, <https://www.whitehouse.gov/climate-change> (stating that the Final Rule will lead to thirty percent more renewable energy generation in 2030) (last visited Nov. 30, 2015).

of the Final Rule on listed species were too attenuated to require consultation. 80 Fed. Reg. at 64925-64927. The ESA requires more of federal agencies.

The ESA requires action agencies to “analyze the effect of the entire agency action.” *Conner v. Burford*, 848 F.2d 1441, 1453 (9th Cir. 1988). The reason for this is that the level of caution required by the ESA “can only be exercised if the agency takes a look at all the possible ramifications of the agency action.” *N. Slope Borough v. Andrus*, 642 F.2d 589, 608 (D.C. Cir. 1980). Claims of insufficient information do not absolve an action agency from this responsibility. *Conner*, 848 F.2d at 1453. The Ninth Circuit’s analysis in *Conner v. Burford* is particularly instructive.

In *Conner v. Burford*, the federal government claimed that it was not required to analyze the extent of post-leasing oil and gas activities prior to authorizing leases to conduct such activity because “there was insufficient information on post-leasing activities to prepare a biological opinion.” 848 F.2d at 1453. The Court of Appeals for the Ninth Circuit soundly rejected this justification as violative of the ESA. *Conner*, 848 F.2d at 1453-54. The court held:

Although we recognize that the precise location and extent of [the proposed action] were unknown at the time, extensive information about the behavior and habitat of the species in the areas covered by the [proposed action] was available.

With the post-leasing and biological information that was available, the [Service] could have determined whether post-leasing activities in particular areas were fundamentally incompatible with the continued existence of the species.

With the information available, the [Service] could also have identified potential conflicts between the protected species and post-leasing activities due to the cumulative impact of oil and gas activities. For example, species like the grizzly and the gray wolf require large home ranges making it critical that ESA review occur early in the process to avoid piecemeal chipping away of habitat. Furthermore, although the [Service] justified the decision to delay completing comprehensive biological opinions on the inexact information about post-leasing activities[,] Congress, in enacting the ESA, did not create an exception to the statutory requirement of a comprehensive biological opinion on that basis.

Id. at 1453-54 (citations omitted). The same logic applies here.

The EPA is well aware that the Final Rule will result in a significant amount of new solar and wind power generation projects.¹¹ The EPA also is aware that such projects have the potential to significantly impact listed species. *See* 80 Fed. Reg. at 64926. Accordingly, the EPA was obligated to formally consult with the Services in order to determine whether the Final Rule would jeopardize the continued existence of listed species. 16 U.S.C. § 1536; 50 C.F.R. Part 402. The

¹¹ *See* <https://www.whitehouse.gov/climate-change> (stating that the Final Rule *will* lead to thirty percent more renewable energy generation in 2030) (last visited Nov. 30, 2015).

EPA's categorical refusal to engage in consultation violated the ESA. *See, e.g., Conner*, 848 F.2d at 1453-54.

e. The EPA could have pursued incremental consultation.

As an alternative to traditional consultation, the regulations that implement the ESA allow an action agency to consult with the Services in incremental steps over time. 50 C.F.R. § 402.14(k). Compounding its error in refusing to engage in traditional consultation, the EPA also completely neglected to consider whether it should engage in consultation with the Services under an incremental approach prior to issuing the Final Rule. *See* 80 Fed. Reg. at 64925-64927. This also violated the ESA.

According to the nation's wildlife experts, "[i]ncremental step consultation is most appropriate for long-term, multi-staged activities for which agency actions occur in discrete steps..." *Endangered Species Consultation Handbook* at 5-8. That is precisely the situation here. 80 Fed. Reg. at 64663-64682. The EPA could have conducted the first step of an incremental consultation prior to issuing the Final Rule and could have pursued further consultation at later stages. *See* 50 C.F.R. § 402.14(k). The EPA's refusal to even consider engaging in an incremental consultation process was arbitrary and capricious.

IV. Conclusion

The Final Rule is fundamentally different from the Proposed Rule in many critical respects. The changes the EPA inserted could not be reasonably anticipated from the Proposed Rule, but they significantly and adversely affect the state. Wyoming and the other interested stakeholders deserve a fair opportunity to comment on the rule the EPA actually intends to promulgate. Moreover, many of the conclusions in the Final Rule are based on incorrect assumptions, faulty methodology, and frankly, bad science. Whatever policy differences may exist between Wyoming and the EPA related to the Clean Power Plan, surely both parties agree that this rule should be the result of a fair process based on accurate data and sound methods. Wyoming requests that the EPA reopen and reconsider the Final Rule to correct these procedural and substantive deficiencies.

FOR THE STATE OF WYOMING:



Peter K. Michael
Wyoming Attorney General

cc: Governor Matthew M. Mead
Alan B. Minier, Chairman, Wyoming Public Service Commission
Todd Parfitt, Director, Wyoming Department of Environmental Quality