215 South Cascade Street
PO Box 496
Fergus Falls, Minnesota 56538-0496
218 739-8200
www.otpco.com

November 25, 2014

Sent electronically via http://www.regulations.gov to:

EPA Docket Center
Environmental Protection Agency
Air and Radiation Docket and Information Center
Docket ID No. EPA–HQ–OAR–2013–0602

Subject: Otter Tail Power Company Comments on: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Proposed Rule

In regards to the above referenced proposed rule, Otter Tail Power Company appreciates the opportunity to submit the enclosed comments for consideration. Our comments identify numerous technical and methodological flaws in the proposed rule. They also demonstrate how the proposed rule may exceed EPA's lawful authority under the Clean Air Act.

Most alarmingly, the proposed rule threatens a $384 million investment the Big Stone Plant co-owners are currently making to comply with EPA's unrelated Regional Haze and Mercury & Air Toxics Standards (MATS) Rules. The construction of the air quality control system (AQCS) project underway at Big Stone Plant is over 80 percent complete and over 400 construction workers (primarily union laborers) are now on-site. Upon completion, Big Stone Plant's emissions control system will be state-of-the-art and among the most effective in the nation's fleet of coal generators.

EPA itself reviewed the AQCS project when it approved South Dakota's Regional Haze State Implementation Plan. The AQCS project was also reviewed and unanimously approved by public utility commissioners in Minnesota and North Dakota.

Thank you for your attention to this matter. Please feel free to contact me at btollerson@otpco.com or (218) 739-8865 if you have any questions or require further information regarding these comments.

Sincerely,

Brad Tollerson

Brad Tollerson
Vice President, Planning & Strategy

Enclosure

Otter Tail Power Company

Comments on

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

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

November 25, 2014

Introduction

Otter Tail Power Company (Otter Tail) welcomes this opportunity to comment on the U.S. Environmental Protection Agency's (EPA or Agency) proposed "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units" (proposed rule or Clean Power Plan).[1] Otter Tail is one of the smallest investor-owned utilities in the nation. In 2009, we celebrated our 100th anniversary of producing and delivering an economical, reliable supply of electricity in an environmentally responsible manner to more than 129,000 customers in 423 communities and rural areas across 70,000 square miles of western Minnesota, eastern North Dakota, and northeastern South Dakota. More than 60,000 of Otter Tail's customers are located in Minnesota and nearly 57,000 are in North Dakota. The remaining 12,000 customers are in northeastern South Dakota. South Dakota is also home to Otter Tail's largest source of baseload electric generation, Big Stone Plant. Otter Tail is the majority owner of this 475-megawatt (MW) net coal-fired plant, holding a 53.9% stake. NorthWestern Energy owns 23.4%, and Montana-Dakota Utilities Co. owns the remaining 22.7%.

Otter Tail Power Company places respect for the environment at the forefront of our operations. We live and raise our families in the communities we serve. We want our communities and their surroundings to have clean air, land, and water. We want them to support wildlife, wildflowers, game fish, and rural parks. Our company has a longstanding commitment to reduce air emissions, and reducing CO_2 is no exception. Over many years, Otter Tail has taken major steps, primarily through the following initiatives, to reduce our

[1] 79 Fed. Reg. 34830-958 (June 18, 2014).

carbon footprint and mitigate CO_2 emitted in the process of generating electricity for its customers:

- **Supply efficiency and reliability**: As a result of improving heat rates at our power plants and adding wind-powered generation, between 2005 and 2012 Otter Tail Power Company decreased its overall system average CO_2 emissions intensity by approximately 17%. With the addition of another wind resource in 2013 and the anticipated retirement of Hoot Lake Plant[2], we project a 24% decrease in carbon intensity by 2021.

- **Energy Efficiency/Conservation**: Since 1992 Otter Tail Power Company has helped its customers conserve approximately 83 megawatts of demand and nearly 2.8 million cumulative megawatt hours of electricity. This is roughly equivalent to the amount of electricity 233,000 average homes would use in a year and represents more than 200% of the annual energy sales of Otter Tail's entire residential customer base. Navigant Consulting has referred to Otter Tail as a "best-practice utility" in an energy efficiency/conservation study completed for the Minnesota Department of Commerce.[3] On October 1, 2014, Otter Tail Power Company received the E Source DSM Achievement Award for most energy savings per customer for an electric utility in recognition of our 2013 Minnesota portfolio accomplishments. [4] Otter Tail's 2014-2028 Integrated Resource Plan calls for an additional 106 megawatts of conservation and demand side management impacts by 2028.

- **Renewable energy**: Since 2002, customers have been able to purchase 100% of their electricity from wind generation through Otter Tail's TailWinds program. In addition, about 20% of our total system-wide energy comes from wind generation. Otter Tail owns 138 MW of wind-powered generation (substantial for a utility with only 800 MW of peak demand) and obtains an additional nearly 108 MW through power purchase agreements. Since 2007 we have invested more than $300 million in owned wind farms. This proactive investment in wind resources will enable us to meet Minnesota's "25% by 2025" renewable energy standard, as well as North and South Dakota's 10% renewable energy objectives.

- **EPA's SF6 (sulfur hexafluoride) Emission Reduction Partnership for Electric Power Systems**: We are proactively seeking to reduce our emissions of SF6, a potent greenhouse gas with 23,900 times the global-warming potential of CO_2. We also participate in carbon sequestration research through the Plains CO_2 Reduction Partnership (PCOR) at the University of North Dakota's Energy and Environmental Research Center. The PCOR Partnership is a collaborative effort of more than 80 public and private sector stakeholders working toward a better understanding of the technical and economic feasibility of capturing and storing anthropogenic CO_2

[2] Hoot Lake Plant is composed of two coal-fired electric generating units totaling 138 megawatts.
[3] Search edockets at http://mn.gov/puc/ Docket Number 10-356, Document ID 20111-58860-02.
[4] https://www.otpco.com/news-media-center/news-archive/ November 3, 2014.

emissions from stationary sources in central North America.

Otter Tail Power Company has also made significant investments in reducing emissions of criteria air pollutants. Since 1985 we have invested approximately $224 million in environmental control upgrades and efficiency improvements at our fossil fuel plants. By 2020, we will have invested an additional $151 million to comply with EPA regulations. These figures include our 53.9% share of a $384 million air quality control system (AQCS) at Big Stone Plant to reduce sulfur dioxide (SO_2), nitrogen oxides (NO_x), particulate matter, and mercury emissions by 80% to 90%, as required by EPA's Regional Haze Rule and Mercury and Air Toxics Standards (MATS). At this time, over 400 employees of the prime contractor and subcontractors, hundreds of which are union laborers, are working to complete the AQCS project earlier than required. The project is more than $100 million under the original budget and has an enviable OSHA incident rate of less than 0.5.

Before the AQCS project began, the EPA reviewed it through the promulgation of the State of South Dakota's Regional Haze State Implementation Plan.[5] It was also reviewed and unanimously approved by public utility commissioners in Minnesota and North Dakota, the states in which most of Otter Tail's customers are located. The project, now over 80% complete, represents the largest single investment our company has ever made. Any scenario in which Big Stone Plant would be shut down, stranding this investment to the detriment of Otter Tail's customers, would be unacceptable.

[5] 77 Fed. Reg. 24845-24857 (April 26, 2012).

Although EPA fact sheets and press materials suggest that each state will have flexibility under the proposed rule to design a program to meet its CO_2 reduction goal in a manner that reflects its particular circumstances, the reality is that the proposed rule contains technical missteps that do not account for the unique conditions we face in South Dakota. The proposed rule establishes targets that South Dakota *cannot* meet under existing industry and regulatory constraints. If finalized as written, the proposed rule would likely force retirement of Big Stone Plant shortly after installation of the $384 million air quality control system that will make it one of less than 10% of coal-fired units nationwide to use similar state-of-the-art technology to control SO_2, NO_x, and particulate matter emissions. [6] As a consequence of the plant's retirement, rates for Otter Tail's rural, low-income and elderly customers would increase by as much as 20%.

The Clean Air Act establishes clearly divided roles for EPA and the states, based on the principle of cooperative federalism, which we believe EPA has imprudently ignored. Under the plain text of the statute, *EPA* first determines the best system of emission reduction (BSER) that has been adequately demonstrated for existing electricity generating units (EGUs). The *states* then develop standards of performance and unit-specific emission reduction targets based on that BSER, certain limiting factors identified in the Act, and EPA's own longstanding regulations. With this cooperative approach to establishing standards of performance for existing sources, Congress empowered EPA and the states according to their unique competences. As the national agency with preeminent environmental expertise, EPA is in the best position to survey national emissions-reduction

[6] Based on a review of EPA's NEEDs v5.13 database of coal-fired units greater than 25 MW that are projected to have a wet or dry scrubber, selective catalytic reduction, and fabric filter installed.

techniques and technologies and determine the best systems that have been adequately demonstrated. EPA does not, however, have the data or detailed information available to determine precisely how and where these systems can or should be implemented on a unit-by-unit basis. This is particularly true in the technically complex, multijurisdictional realm of electricity generation and transmission. Such information and expertise is housed in, or more easily developed by, the individual states in which the regulated existing sources are located.

Recognizing this, Congress gave the states authority to set standards and targets for the specific *existing* facilities within their borders, reserving to EPA the ultimate right to review the states' plans for compliance with the statute. With its proposed rule, EPA upends Congress's intent, claiming for itself the authority to set binding state emissions reduction targets. In doing so, it exceeds its lawful authority and leaves states little leeway to use the rights afforded to them under Section 111(d) of the Clean Air Act to tailor the standards to the individual circumstances of each existing source. EPA's failure to act within the limited scope of the role assigned it by the Act foreseeably results in proposed state targets that misapply key baselines for South Dakota and require it to implement emissions reductions strategies that do not work under current industry and regulatory constructs.

Otter Tail Power Company is concerned about these technical missteps and the proposed rule's failure to account for South Dakota's unique circumstances. EPA must follow the Act by determining BSER for existing sources and then allowing the states to set performance standards and unit-specific emission reduction targets. If EPA insists on setting the targets despite the statute's language reserving that role for the individual states,

EPA should make technical corrections to the proposed rule to account for the unique situation in South Dakota.

In the first section of these comments, we detail Otter Tail's specific circumstances and the technical missteps and methodological shortcomings in the proposed rule that make the South Dakota targets arbitrary and capricious. We then identify the technical remedies that could make the proposed rule workable and the targets achievable, though they will not resolve the larger legal issues. In the second section, we address the legal shortcomings of EPA's approach.

Otter Tail Power Company believes that the most reliable and reasonable way to fix both technical flaws and the legal shortcomings of the rule is for EPA to adhere to its statutory role of determining BSER and then, as contemplated by the express terms of the statute, leave it to individual states to establish performance standards and emission reduction targets on a unit-by-unit basis.

I. Impossibility of Applying the Clean Power Plan to South Dakota and Otter Tail

A. Technical Infeasibility of Building Block 2 as Applied to the South Dakota Special Case

The unique circumstances of South Dakota make Building Block 2, which depends on redispatching energy from coal-fired EGUs to Natural Gas Combined Cycle (NGCC) plants within each state, impossible to implement. The essential premises of Building Block 2 are that every NGCC facility in a given state can be operated at a 70% capacity factor (CF) and that NGCCs running below 70% CF can take load from coal-fired plants until they reach their 70% limit, thereby reducing the state's net CO_2 emissions while still meeting its energy obligations. The redispatch of energy between coal-fired units and

NGCC units might be achievable in some states. In South Dakota, however, circumstances make application of Building Block 2 technically infeasible.

1. Redispatch Is Not Possible Under Existing Industry and Regulatory Constructs

(a) No Contractual Relationship

South Dakota has only *one* coal-fired unit and *one* NGCC unit. The two have different owners and no contractual relationship. They were built to serve separate loads, and are dispatched by different regional transmission organizations (RTOs). Big Stone Plant is a 475 MW net coal-fired unit jointly owned by Otter Tail Power Company, Montana-Dakota Utilities Co., and NorthWestern Energy. It generates a significant portion of the energy these companies need to serve customers in four states: Minnesota, North Dakota, South Dakota, and Montana. Deer Creek Station, on the other hand, is a 324 MW[7] NGCC unit owned by Basin Electric Power Cooperative (Basin Electric). It serves the needs of Basin Electric's customers in nine states.[8]

Redispatch of energy from one plant to another is feasible where the coal-fired unit and the NGCC unit are owned by the same company and where the incremental costs will be borne by the customers of the company serving the load. But where the coal-fired unit and the NGCC unit are owned by completely different entities serving separate loads, as is the case in South Dakota, any transfer of energy between those entities would require a willing buyer and a willing seller. The co-owners of Big Stone Plant, as well as the owner

[7] Deer Creek Station's capacity should be corrected to 300 MW as described elsewhere in these comments; however, 324 MW is used here to match EPA's goal computation methodology.
[8] The nine states are Colorado, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, South Dakota, and Wyoming.

of Deer Creek Station, built, own, and operate their generating stations for the purpose of meeting their own retail electric loads. Big Stone Plant and Deer Creek Station are not merchant units with unsubscribed capacity and energy available for sale. Since Basin Electric built Deer Creek Station to serve its own load obligation, energy from Deer Creek Station has not been available for sale to the co-owners of Big Stone Plant, and Basin Electric lacks incentive or means to sell energy committed to serving its own load. Big Stone Plant's co-owners have no right to the energy output of Deer Creek Station, making redispatch infeasible.

(b) Serve Unique Loads

Otter Tail owns 53.9% (256 MW) of Big Stone Plant, and the unit is our largest generation source. In 2012, Big Stone Plant provided our consumers with approximately 36% of their retail energy needs. The plant's co-owners are presently making a $384 million investment in an air quality control system to comply with regional haze and MATS requirements and to ensure the unit can continue to operate for several decades. These costs will be borne by customers of Otter Tail and the other co-owners. Likewise, Basin Electric built Deer Creek Station to satisfy its own load obligations and not the needs of the Big Stone Plant co-owners' customers.

Ultimately, Building Block 2 assumes that the energy generated by the NGCC unit is available for use by the customers of the displaced coal generation. In South Dakota, this is not true.

(c) Dispatched by Different RTOs

Redispatch between Deer Creek Station and Big Stone Plant is infeasible because the two units are dispatched by different RTOs. RTOs with centralized markets dispatch

generation in their footprints to provide the energy and ancillary services needs of those loads. Based on demand bids and independently developed forecasts, RTOs commit and dispatch generation within their footprints to ensure reliable operations by balancing supply and demand. Big Stone Plant is interconnected to the Midcontinent Independent System Operator (MISO) and operates within its footprint according to the MISO tariff. The co-owners of the unit either offer or schedule the energy through the MISO market, giving MISO operational control of the unit.

Deer Creek Station is currently situated within the Integrated System (IS) of the Western Area Power Administration, Basin Electric, and Heartland Consumers Power District. The Integrated System is expected to join the Southwest Power Pool (SPP) by October 2015, giving SPP operational control over Deer Creek Station when the emission reductions contemplated by the proposed rule take effect in 2020.

The flawed assumption of Building Block 2 is that Deer Creek Station will be dispatched to meet the needs of the Big Stone Plant co-owners' loads presently served by Big Stone Plant. Otter Tail is unaware of any current methodology that would permit this. Furthermore, a fundamental requirement of electrical interconnection is appropriate transmission infrastructure to support generation to load transfers. Detailed engineering studies and modeling are needed to ensure that energy can be transferred effectively from each generator to the load it is intended to serve. In South Dakota, adequate transmission capability and infrastructure supports delivery of Big Stone Plant generation to its retail customers and Deer Creek Station generation to its customers. This transmission infrastructure was not designed to support the transmission of energy from Deer Creek Station to customers of the Big Stone Plant co-owners.

In sum, EPA should not require implementation of Building Block 2 in South Dakota because it would be contrary to the contractual, planning, operational, and reliability realities facing the separate owners of Big Stone Plant and Deer Creek Station. As such, Building Block 2 is technically infeasible in South Dakota. In its final rulemaking, the EPA should remove Building Block 2 from the target-setting calculation for South Dakota.

2. The Proposed Rule Erroneously Exaggerates South Dakota's NGCC Redispatch Capacity

(a) Failure to Account for Unique Circumstances Surrounding Deer Creek Station's 2012 Operation

Even if it were feasible to redispatch energy between Deer Creek Station and the Big Stone Plant co-owners, the redispatch target set for South Dakota under the proposed rule is arbitrary and capricious because it is based on an erroneous exaggeration of the state's NGCC redispatch capacity. The error resulted from using 2012 as the baseline year. Deer Creek Station was under construction and generated only a very small amount of power in 2012. Yet EPA treated it as a fully operational generation source for that year, leading to an exaggerated assumption that Deer Creek Station could ramp up generation by an additional 69% in future years. In light of this faulty assumption, compliance with EPA's emission reduction goals for South Dakota would lead to the premature shutdown of Big Stone Plant soon after its co-owners have made the $384 million AQCS upgrades.

In 2012, Big Stone Plant produced nearly all of the 2,923,000 MWh generated by coal-fired EGUs in South Dakota.[9] Deer Creek Station was under construction for most of 2012 and came online in August.[10] It generated a mere 27,096 MWh in 2012. EPA's proposed plan illogically used Deer Creek Station's actual generation in calculating South Dakota's target reduction goal, rather than acknowledging that the unit ran for only a portion of the year and then only at very low levels of generation. Instead of classifying Deer Creek Station as "under construction" for the year, EPA assigned Deer Creek Station an unrepresentative 1% capacity factor in its redispatch calculation. EPA's target reduction goal for South Dakota is thus based on the flawed factual predicate that Deer Creek Station has as much as 69% additional generating capacity. South Dakota is the only state assigned an overall 2012 NGCC capacity factor of less than 10%, and one of only three states assigned a capacity factor under 20%.

Based on the unrepresentative capacity factor assigned to Deer Creek Station, Building Block 2 for South Dakota would require Deer Creek Station's annual energy generation to increase by 1,965,000 MWh to achieve a 70% capacity factor. Because Big Stone Plant is the only coal-fired unit in the state, the additional generation that EPA assumed exists at Deer Creek Station would have to displace an equal amount of generation at Big Stone Plant, dropping Big Stone Plant's total annual output from 2,923,000 MWh to just 958,000 MWh. In other words, to comply with the Building Block 2 emission target EPA assigned to South Dakota, Big Stone Plant would have to operate at

[9] Black Hill Power Corporation's Ben French Plant generated 93,000 MWh's in 2012 while Big Stone generated 2,830,000 MWh's in 2012. However, operations have since ceased at Ben French leaving Big Stone as the only coal-fired EGU in the State.
[10] Deer Creek Station had an announced commercial operation date of August 1, 2012. http://www.basinelectric.com/Electricity/Generation/Deer_Creek_Station/index.html

an *annual* capacity factor of just 23%.[11] Since Big Stone Plant's minimum operating load is approximately 40% of normal maximum load, running the plant at a 23% capacity would require it to be off-line at least half the year. Deer Creek Station does not have sufficient excess capacity to supplant such a significant reduction in Big Stone Plant energy production.

Operating a baseload generation unit such as Big Stone Plant so infrequently would be uneconomic, particularly after the unit has undergone a capital-intensive environmental retrofit to comply with the unrelated EPA regional haze and MATS rules. A replacement unit would need to be built to meet our obligation to reliably serve our customers all 12 months of the year in a least cost manner. Moreover, fixed operation and maintenance costs – including 80 jobs – would remain even if Big Stone Plant were not operational for a period of time. This result would strand the $384M investment in an AQCS driven by previous regulations (contrary to Administrator McCarthy's and EPA's expressed intent) [12] and require the co-owners of Big Stone Plant to incur the costs to replace the energy. It is important to remember that public utilities commissions in Minnesota and North Dakota granted advance prudence determinations for the Big Stone Plant AQCS. This approved investment to serve electric consumers and the continued viability of one of their primary sources of baseload electric energy should not be jeopardized by a flawed technical premise that EPA could rectify without affecting the overarching methodology of the

[11] 958,000 MWh / (475MW * 8760 hours) = 23%.
[12] In her July 23, 2014, testimony to the Senate Environment and Public Works Committee, Administrator McCarthy stated that the Clean Power Plan is intended to "ensure energy reliability and *avoid stranded assets*." *Regulating Greenhouse Gas Emissions: Hearing Before the S. Environment and Public Works Committee*, 113th Cong. (2014) (statement of Gina McCarthy, EPA Administrator of the United States) (available at http://www.c-span.org/video/?320607-1/hearing-epa-power-plant-standards&start=9069, remarks beginning at 00:56:44) (emphasis added).

proposed rule. And application of the rule should not contradict Administrator McCarthy's statement "that coal…plays a significant role in a diverse national energy mix."[13]

Emissions standards set under Section 111(d) must, by statutory requirement, take into account the "remaining useful life" of the unit in question. [14] EPA could prevent stranding assets in this case, which it has asserted it would do, by recognizing that Deer Creek Station was under construction for most of 2012 and so classifying it for purposes of goal computation for South Dakota.

After placing Deer Creek Station into the "under construction" category, if EPA continues to follow the proposed rule calculation methodology in the final rule, EPA should give the station a 55% capacity factor as the basis for South Dakota's Building Block 2 target calculation, as provided for in EPA's Goal Computation Technical Support Document:

> "The EPA looked at reported data for 2012 and calculated the average performance of NGCCs that came online in the past 5 years and observed that 55% was the average capacity factor for these units. Therefore, the EPA assumed that a 55% capacity factor would be a reasonable representation for the expected generation of "under construction" NGCCs capacity under a business as usual scenario. The EPA conservatively designated the generation associated with this 55% capacity factor as unavailable for redispatch to reduce CO2 (i.e., not qualifying for building block 2), instead, reserving that amount of generation potential to meet other system needs presumed to have motivated the construction of the "under construction" NGCCs. Because these sources are nevertheless covered under the state emission rate goal, the emissions and generation from this 55% generation are added to the "other" category and averaged into the state goal calculation. The EPA assumes that while these units would operate at 55% CF under a business as usual scenario, the average availability for these units is greater than 55%, and they too could ramp up to 70% CF ceiling, on average, under a BSER framework and displace relatively higher CO2-emitting generation. Thus, 15% of their ultimate CF

[13] *Id.*
[14] CAA § 111(d)(1)(B), 42 U.S.C. § 7411(d)(1)(B).

> (70% - 55%) is assumed to be available for redispatch purposes. The MWh associated with this 15% additional CF displaces coal and OG steam generation in the same manner as in step 3a."[15]

Following this methodology would result in a Building Block 2 target calculation for South Dakota that is similar in methodology to the target calculations for Wyoming and Kentucky. Because Wyoming and Kentucky had no existing NGCC units other than units that were considered under construction, EPA used a nationwide average NGCC emissions rate of 907 lb/MWh (net basis) as the assumed emission rate for these two states.[16] Although we believe that EPA should consider excluding under construction units from the calculation of state goals, if EPA does proceed with including under construction units in the final rule, we agree that using a nationwide average is a rational approach to determining the appropriate emissions rate. It is also more representative than using Deer Creek Station's 2012 CO_2 emission rate average of 1,131 lb/MWh (net). In fact, Deer Creek Station's 2012 emission rate further emphasizes the unrepresentative nature of the plant's operation for that year and the need to place it in the "under construction" category.

Electric consumers should not bear an egregious burden that is borne of a faulty assumption. If EPA insists on applying Building Block 2 to South Dakota despite its unique circumstances, EPA must recalculate the emission reduction targets to account for the reality of the situation in 2012.

(b) State-specific circumstances justify using a different base year in South Dakota

For the reasons described above, the year 2012 is a particularly unsuitable baseline for assessing South Dakota's CO_2 emissions reduction potential. Because of the unique

[15] See Page 12 of EPA's Goal Computation Technical Support Document.
[16] See footnote 16 of EPA's Goal Computation Technical Support Document.

situation in South Dakota, the extremely limited operations at Deer Creek Station during 2012 distort EPA's assumptions about the State and about the capacity of Deer Creek to ramp up generation to displace coal-fired generation. In its October 30, 2014 Notice of Data Availability, EPA requests comment on whether a different year or the average of a combination of years (such as 2010, 2011, and 2012) should be used to calculate the state fossil fuel emission rates used in state goal computations.[17] Otter Tail appreciates EPA's consideration of South Dakota's state-specific circumstances that justify using a different data year(s), and does not have a strong preference between using a single year versus an average of years, except that the assessment should in no way rely on data from 2012.

(c) A technical correction must be made to Deer Creek Station's nameplate capacity

The nameplate capacity used by EPA for Deer Creek Station is in error. As described by Basin Electric in its Application for an Energy Facility Siting Permit[18], its PSD Air Quality Construction Permit Application[19], and its April 2013 Integrated Resource Plan[20], the capacity for Deer Creek Station is 300 MW. EPA used an erroneous rating of 324 MW in calculating Deer Creek Station's additional capacity. The 300 MW rating can be verified by examining the gross hourly load data reported to EPA's Clean Air Markets Division by Deer Creek Station's continuous emission monitoring system. An examination of the data reveals that the full load achieved on a gross basis is typically 301 – 304 gross MW, which aligns with the 300 net MW rating.

[17] 79 Fed. Reg at 64553
[18] Page 1-1 at http://puc.sd.gov/commission/dockets/electric/2009/el09-015/ltrapplication.pdf.
[19] Page D-2 at http://puc.sd.gov/commission/dockets/electric/2009/el09-015/a.pdf.
[20] Page 58 at http://ww2.wapa.gov/sites/Western/es/irp/Documents/BasinElectric2012.pdf.

B. All Units That Began Operation After January 1, 2012 Should Be Treated as "Under Construction" Units for Purposes of Goal Computation

Similar to Deer Creek Station, any other unit that began commercial operation during 2012 will have reported an artificially low capacity factor because it did not accumulate a full year of operating data. Therefore, units that came online during 2012 should be classified as "under construction" so that EPA does not assign generation for redispatch that is needed to meet generation obligations not reflected in the partial year data. Based on Otter Tail's review of EPA's Goal Computation Technical Support Document Data File,[21] this change would affect approximately only a dozen units nationwide. Similarly, in its 2012 data EPA should not include generation from NGCC units that retired in 2012 or are scheduled to retire in the near future.

C. EPA Should Consider Excluding Under Construction NGCC Units For Purposes of Goal Computation

The decision to build a new NGCC plant does not happen in isolation and is generally motivated by another change within the system (such as an increase in electric demand, the retirement of another resource, or the addition of variable resources). EPA's failure to account for future unit closures, while simultaneously including under construction units, potentially overestimates the size of the NGCC fleet, as new NGCCs could be replacing older units scheduled to retire. The fact that EPA was forced to make production assumptions about new NGCCs further illustrates the unnecessary difficulty of including plants not fully in operation, as well as the inevitability of erroneous analytical

[21] See http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-plant-level-data-unit-level-inventory_0.xlsx.

outcomes. Removing units that were not operational by January 1, 2012, will result in calculations that better reflect reality.

D. EPA Cannot Propose Construction of and Reliance on New Natural Gas Units as BSER

Even less workable than EPA's proposed redispatch within South Dakota under Building Block 2 is the suggestion in the Notice of Data Availability that redispatch to *new* natural gas units might be part of BSER. EPA has also requested comment in the Notice of Data Availability on ways Building Block 2 could be expanded to include new NGCC units and natural gas co-firing in existing coal-fired boilers.

Otter Tail opposes these suggestions. Under Section 111(d), BSER for an existing source cannot possibly include a requirement that a new source be built to replace it. That would turn Section 111(d) into a mandate that companies build new sources subject to 111(b) new source performance standards, rather than a simple requirement that existing sources make such technological and operational changes as are reasonable available at the unit to reduce that unit's emissions. EPA has also never before required fuel-switching (which would include co-firing) as part of BSER for an existing unit, as that would require substantial redesign of the unit to accommodate the new fuel. Moreover, these suggestions would make it even harder than it already will be for existing sources to meet the proposed emission guidelines.

E. Inconsistent Treatment of Renewable Energy Credits and Hydropower Penalizes South Dakota's Nation-Leading Zero-Carbon Generation and Makes Building Block 3 Targets Unattainable

As EPA is no doubt aware, South Dakota is a national leader in the production of zero-carbon energy generation. Wind energy accounted for more than 24% of South Dakota's total energy production, and hydropower nearly 50%. Yet, the proposed rule's inconsistent treatment of South Dakota's energy resources *penalizes* the state for its proactive and successful use of its abundant clean power resources.

1. The final Clean Power Plan should be consistent in the interstate treatment of renewable energy and fossil energy

EPA has requested comment on whether a state should be able to take credit for emission reductions out of state due to renewable energy measures taken within the state.[22] Otter Tail Power Company owns or purchases a significant amount of renewable energy in one state in order to meet renewable energy standards or objectives in other states. For example, Otter Tail owns or purchases nearly 246 MW of wind generation each year. Although more than 98% of these wind resources are located in North Dakota, we apply them towards compliance with Minnesota's renewable energy standard and North Dakota's and South Dakota's renewable energy objectives because they were a cost-effective addition to our portfolio.

Given this fact, one might expect Otter Tail to wholeheartedly support the ability to credit our renewable energy located in North Dakota to either Minnesota or South Dakota under a 111(d) rule. But we are concerned that EPA be *consistent* in how it treats power produced in one state to meet demand in another, regardless of that power's source. Yes, Otter Tail uses wind energy sited in North Dakota to serve customers in North Dakota, South Dakota, and Minnesota. We do the same with energy generated by coal-fired EGUs.

[22] 79 Fed. Reg. 34922.

The Big Stone Plant property, for example, is less than a mile from the Minnesota border. Because only 9% of Otter Tail's customers are located in South Dakota, Big Stone Plant primarily serves Otter Tail's customers located in Minnesota and North Dakota. If EPA allows Minnesota to take credit for wind power produced in South Dakota but consumed in Minnesota, then it should also include generation from coal-fired plants located in other states but destined for use in Minnesota in the calculation of Minnesota's targets—*not* South Dakota's.

EPA could also structure the rule the other way: It could assign both the coal-fired emissions and the credits for the reductions from renewable energy generation to the state in which they are located. Inconsistent treatment of the interstate creditability of fossil-fired generation and renewable generation creates arbitrary and capricious inequities between types of generating resources.

The proposed rule also sets renewable energy targets as a percentage of total annual generation currently located within the state. If EPA allows the interstate movement of renewable energy, then EPA should recalculate the state goals to take into account the renewable energy that is both imported to and exported from a state. EPA should also exclude the amount of wind power produced in South Dakota to meet Minnesota demand from the calculation of South Dakota's renewable energy target. This is necessary to prevent penalizing a renewable energy-exporting state. A simpler methodology would be to peg the states' renewable energy targets as a percentage of each state's retail sales instead of as a percentage of in-state generation. [23]

[23] EPA has requested comment on several key methodological assumptions involved in the proposal to adjust each state's renewable energy target based upon regional availability of RE. These are but some of the concerns raised by such a proposal.

2. The Clean Power Plan Must Treat Hydropower Consistently for Purposes of Both Calculating and Attaining South Dakota's Renewable Energy Goal

Otter Tail Power Company supports efforts by the State of South Dakota to receive credit within the Clean Power Plan for the abundant, clean hydropower that presently exists within the state. While the proposed rule's preamble states that existing hydropower is excluded from 2012 generation for purposes of RE generation potential,[24] EPA's calculation methodology actually *penalizes* South Dakota for its exceptionally well-developed hydropower sources.

This penalty can be identified by retracing the steps EPA took in setting South Dakota's renewable energy (RE) target. Step 1 in the process involved determining South Dakota's total 2012 net generation, *including existing hydropower*, as shown in the table below.

South Dakota Generation Source	2012 Net Generation (MW):[25]	% of Total
Hydropower	**5,980,965**	**49.7%**
Coal	2,918,755	24.3%
Wind	2,914,666	24.2%
Natural Gas	214,100	1.8%
Petroleum	5,718	0.05%
Total	12,034,206[26]	

[24] 79 Fed. Reg. 34867 ("Hydropower generation is excluded from this existing 2012 generation for purposes of quantifying BSER related RE generation potential").
[25] Found at http://www.eia.gov/electricity/data/state/
[26] This total matches Table 4-1 from the GHG Abatement Measures Technical Support Document.

After determining South Dakota's 2012 total net generation, EPA next multiplied this value by a 15% RE target, resulting in an annual RE goal of 1,818,150 MWh.[27] Thus, existing hydropower is used to *calculate* South Dakota's future emission reduction target, but cannot be used to *comply* with it. While this inconsistent treatment of methodology might not have a significant effect in States with small amounts of existing hydropower, it actually penalizes South Dakota for its prudent use of abundant hydropower resources. If EPA chooses not to credit existing hydropower toward compliance with state targets, then it must exclude it from the calculation of South Dakota's RE target. As shown in the table below, the resulting RE target for South Dakota would be approximately 908,000 MW, or half that proposed in the rule. Unless EPA corrects this inconsistency, the proposed rule will require South Dakota to replace 15% of its existing zero-carbon hydropower with zero-carbon wind at the expense of South Dakota electric consumers, an absurd and punitive result.

South Dakota 2012 Total Generation Without Existing Hydropower (MW) (A)	Clean Power Plan SD RE target (%) (B)	Revised Clean Power Plan SD RE target (MW) (A) x (B)
6,053,241	15%	907,986

3. If EPA proceeds with requiring outside-the-fence measures, then it should allow utilities to determine a BSER that is specific to their portfolio

[27] 1,818,150 MWh is taken from Table 4.9 from the GHG Abatement Measures Technical Support Document. Note that multiplying 12,034,206 by 15% equals 1,805,131, which is slightly different than the TSD table for reasons unknown to Otter Tail.

If EPA proceeds with a final rule that includes the outside-the-fence measures of Building Blocks 2-4 then it should allow utilities (particularly multi-state utilities like Otter Tail) to apply the BSER on a unit-by-unit basis to determine a Section 111(d) target that is specific to the capabilities and limitations of their existing generation portfolios. This would enable utilities to meet a BSER target by managing the generation resources and energy-efficiency programs they control, instead of penalizing them based on the misfortune of operating in the same State as a different generating resource owned by an unrelated company. The proposed rule would require Otter Tail to reduce operation of Big Stone Plant to a level that condemns this significant asset to premature retirement and replacement simply because it is located in the same state as Basin Electric's Deer Creek Station. The rule should instead allow Otter Tail to determine an appropriate, utility-specific BSER based on a determination of the extent to which each of the four Building Blocks can feasibly and reasonably be applied to its specific portfolio of owned generation and its retail load. Although such an approach would still place a substantial burden on Otter Tail, it would allow Otter Tail and other companies to use the "tools in their toolbox" to achieve required emissions reductions rather than forcing premature retirements or inequitably transferring emission reduction burdens to neighboring utilities and their customers.

4. Requiring That Additions of Renewable Energy and Improvements in Energy Efficiency Displace Fossil Generation Would Create Insurmountable Reliability Problems

In its Notice of Data Availability, EPA proposes various goal computation methods that would directly replace existing fossil generation with new renewable energy generation or energy efficiency savings. Otter Tail disagrees with these methods that

would make the current unattainable targets even more stringent, and therefore EPA should decline to adopt these goal-setting formula adjustments. If States are forced to eliminate a MWh of fossil fuel-fired baseload generation for each MWh of intermittent renewable generation or each increase in energy efficiency, then what will States do when the wind fails to blow or the sun does not shine? What will States do if energy efficiency improvements are offset by growth in demand for electricity? Worse than failing to respond to reliability concerns raised by the proposed rule, these methods would exacerbate them by replacing reliable baseload generation with intermittent renewables or unpredictable energy efficiency improvements.

F. EPA's Heat Rate Improvement Targets in Building Block 1 Are Unattainable

The Building Block 1 presumption that an average 6% heat rate improvement (HRI) for coal-fired EGUs is attainable in South Dakota is not supported by the record. Big Stone Plant has a proud history of "best operating practices" and efficiency upgrades, and it should not now be penalized for early, proactive measures to reduce emissions prior to EPA's announcement of the Clean Power Plan. Furthermore, Big Stone Plant is already planning to complete the remaining large efficiency improvement projects identified by the Sargent & Lundy report[28] during a scheduled 2015 outage. Although these projects alone will improve overall net plant heat rate (on the order of 1%), EPA overlooks the fact that Big Stone Plant will also be installing a state-of-the-art AQCS during the same outage, which will essentially eclipse these HRIs due to the energy-intensive nature of the system.

[28] As described in EPA's GHG Abatement Measures Technical Support Document, a Sargent & Lundy 2009 study was the basis for EPA's assessment of heat rate improvement potentials from equipment and system upgrades (See page 2-33 of the TSD).

EPA should allow South Dakota to take credit for improvements already made at Big Stone Plant and also allow an offset for the substantial new station service requirements of the AQCS required by EPA's Regional Haze and MATS rules.

EPA asserts that it is possible under Building Block 1 to achieve overall HRIs of 6% (or 4% under the alternate goals) on average at existing coal-fired EGUs.[29] By applying this 6% average HRI to all EGUs in a state without consideration of unit-specific limitations, EPA violates its statutory obligation to allow states to conduct unit-specific assessments in establishing standards of performance for existing sources. In violating this statutory obligation, EPA acts arbitrarily, capriciously, and contrary to law. Big Stone Plant is the only coal-fired EGU operating in South Dakota. Therefore, South Dakota's ability to attain the 6% (or alternate 4%) HRI required by the proposed rule depends *entirely* on whether each of the HRI measures identified in the Sargent & Lundy report can be made at Big Stone Plant.

As we detail below, Big Stone Plant has already made or plans to make all applicable HRIs identified by Sargent & Lundy. Furthermore, Otter Tail is in the process of installing $384 million in AQCS upgrades at Big Stone Plant pursuant to EPA's Regional Haze and MATS rules. Initial permit estimates indicated approximately 8 to 9 MW of the energy produced by Big Stone Plant will be consumed by operation of the newly-installed AQCS, degrading the plant's net heat rate by 1.7%.[30] In the best case scenario, the two remaining planned HRI projects at Big Stone Plant will merely offset this degradation and return Big Stone Plant to its baseline heat rate. Consequently, it will be impossible to attain the

[29] 79 Fed. Reg. at 34861.
[30] Big Stone Plant's normal full load output is 475 MW, thus 8 MW of new station service would be equivalent to a 1.7% impact to net plant heat rate (8/475 = 1.7%).

additional 6% HRI contemplated by the proposed rule. The lack of a site-specific evaluation of feasible HRI at Big Stone Plant illustrates the arbitrary and capricious nature of EPA's across-the-board 6% HRI target. It also demonstrates EPA's technical misapprehension of the nature, cost, and availability of HRI measures.

1. HRI Projects Available at Big Stone Plant

According to EPA's proposed rule and the GHG Abatement Measures Technical Support Document (TSD), EPA assumes that a 4% heat rate improvement can be achieved through best operating practices and an additional 2% heat rate improvement can be achieved through specific equipment upgrades. The proposed rule includes examples of best operating practices, such as "turning off unneeded pumps at reduced loads, installation of digital control systems (DCS), more frequent tuning of existing control systems, or earlier like-kind replacement of worn existing components".[31] The TSD also cites nine projects identified in a 2009 Sargent & Lundy study as falling under the category of best operating practices.[32] For the equipment upgrade portion of EPA's assumed available improvement in heat rate, EPA relies on the 2009 Sargent & Lundy study to specifically identify four "higher cost upgrade actions."[33]

As can be seen from the following table, Big Stone Plant has already implemented, or plans to implement within the next year, *all* of the applicable HRI measures identified in the TSD.

[31] *Id*. at 34860.
[32] GHG Abatement Measures TSD page 2-33.
[33] *Id*. at page 2-35.

Table 1. HRI measures Identified in Table 2-13 of EPA's GHG Abatement Measures TSD

Practice/Project	Available at Big Stone Plant?	Comments
Condenser Cleaning	No	Big Stone Plant uses a cooling pond and also installed stainless steel tubes in 2007
Intelligent Soot Blowers	No	Installed in 2011
Electrostatic Precipitator (ESP) Modification	No	N/A to Big Stone Plant
Boiler Feed Pump Rebuild	No	Already overhauled as needed
Air Heater and Duct Leakage Control	No	Already routinely addressed
DCS Replacement	No	Already upgraded twice, most recently in 2011
SCR and FGD System Modification	No	N/A to Big Stone Plant
Cooling Tower Advanced Packing	No	N/A to Big Stone Plant
Economizer Replacement	Yes	Will be accomplished in 2015
Acid Dew Point Control	No	N/A to Big Stone Plant
Combined VFD and Fan	Yes	Will be accomplished in 2015
Turbine Overhaul	No	Already accomplished

To follow is a comparison of Big Stone Plant activities to the projects identified in the 2009 Sargent & Lundy study and relied upon by EPA as best operating practices and "higher cost upgrade actions."

(a) Higher Cost Upgrades and Best Operating Practices Already Undertaken at Big Stone Plant

Condenser Cleaning

Big Stone Plant personnel have always recognized the importance of maintaining condenser efficiency because this is the largest heat exchanger in a coal-fired EGU. Plant engineers diligently monitor turbine cycle performance by tracking such parameters as cooling water temperature and backpressure for any indication of condenser plugging or fouling. Big Stone Plant is unusual in that it uses a 340-acre closed-cycle cooling pond

system to cool its condenser. This system enables Big Stone Plant to minimize condenser debris and control water chemistry so as to prevent tube fouling. Big Stone Plant also proactively installed stainless steel condenser tubes in 2007. Compared to other commonly used metals, such as copper alloy, stainless steel tubes decrease the need for routine mechanical cleaning and offer optimum corrosion and biofouling resistance. The Sargent & Lundy report recognizes this by stating: "Today's condensers are designed more efficiently to reduce circulating water pressure drop and to enhance the cooling and condensing of the steam turbine exhaust. The materials of construction are more resilient towards erosion from cleaning and corrosion. Additionally, the newly designed condensers can reduce stress induced failure due to cycling service."[34] No additional heat rate improvements can be achieved at Big Stone Plant through condenser cleaning measures.

Intelligent Soot Blowers

In 2011 Big Stone Plant installed an intelligent soot blower system in conjunction with a DCS upgrade. The efficiency improvement from this project was small, primarily because Big Stone Plant's boiler was originally designed for lignite coal. Lignite boilers are designed to handle greater quantities of ash and ash slagging is not a major issue at Big Stone Plant, particularly after a fuel switch to subbituminous coal in 1995.

Boiler Feed Pump Rebuild

Big Stone Plant has two high-pressure, steam turbine-driven boiler feed pumps. These pumps are overhauled as warranted based on pump/turbine performance as outage schedules dictate. The boiler feed pumps were last overhauled in 2011.

[34] Sargent& Lundy report page 3-3.

Air Heater and Duct Leakage Control

Coal-fired EGUs use air heaters to pre-heat the combustion air for improved combustion and overall unit efficiency. The Big Stone Plant air heater is a regenerative Ljungstrom® air heater, which rotates a cylindrical shell and basket-packed rotor through counterflowing air and flue gas streams. Big Stone Plant personnel recognize the importance of air heaters for unit efficiency and have been proactively replacing rotor baskets and seals every 5-10 years. In 1994, Big Stone Plant installed an adjustable sector plate sealing system.

The seal replacement example demonstrates the fallacy in EPA's assumptions that HRIs are sustainable and can be performed at any time. Although small heat rate gains can be achieved by installing new seals in air heaters, those gains are unsustainable because the seals begin to wear from the first day of operation. Furthermore, contrary to EPA's assumption that seals can be replaced at any time, in reality they can only be replaced during major outages that typically occur every three to six years.

Neural Network/DCS

Big Stone Plant made DCS upgrades in 1996 and 2011. Specific reasons for performing the 2011 upgrade included obsolescence of the previous controls, the knowledge that additional emissions controls requiring advanced DCS would likely be needed in the future, the ability to better optimize plant performance, and the ability to better respond to system load demand in the face of today's changing energy supply market (largely driven by increased renewables in the region). Improved ability to respond to system load allows Big Stone Plant to move the unit to different set points at higher ramp rates and to maximize the ability to control emissions during these periods.

Economizer Replacement

As noted in the 2009 Sargent & Lundy Report,

> "economizer replacements do occur during some selective catalytic reduction (SCR) retrofit projects. Because the SCR design is dependent on the temperature of the flue gas being controlled below a specific temperature, a specific plant may be operating with a higher economizer exit gas temperature, which would require a new or upgraded economizer section to lower the gas temperature for an SCR retrofit project. The temperature reduction may range from 20-40°F…."[35]

Otter Tail agrees with this statement. In fact, Big Stone Plant will be replacing the economizer in 2015 during the planned AQCS outage for the very reason given by Sargent & Lundy: lowering the exit gas temperature by a minimum of 20 degrees for the SCR catalyst. If the economizer project were undertaken on its own, and notwithstanding the fact that the long-term payoff of this project may be significantly smaller than the immediate reduction in heat rate observed after implementation, the median heat rate improvement suggested by Sargent & Lundy report is approximately 0.7% for Big Stone Plant.[36]

Turbine Overhaul

As noted in the 2009 Sargent & Lundy Report,

> "[f]or the average unit that has undergone an upgrade, and is approximately 500-MW and 30 years old, the typical performance improvements of the high-pressure (HP) and low-pressure (LP) units range from 2-3%pt and the intermediate pressure (IP) units range from 1-2%pt, totaling 2-3% in overall power generation. These upgrades take into account the loss in performance over time (degradation)."[37]

[35] Sargent & Lundy Report Page 2-3.
[36] The median suggested heat rate reduction by the Sargent & Lundy report for a 500 MW plant is 75 Btu/kWh, which equates to approximately 0.7% for Big Stone Plant. See Table 2-1 of the Sargent & Lundy report.
[37] Sargent & Lundy Report page 3-1.

Again, Otter Tail agrees with the Sargent & Lundy report. However, turbine overhauls have been performed proactively throughout the industry to improve plant efficiencies, and Big Stone Plant is no exception. The LP portion of the Big Stone Plant turbine was replaced in 1996, and the HP/IP portion was replaced in 2005. Therefore, this project is not available in the future at Big Stone Plant.

(b) Higher Cost Upgrades and Best Operating Practices That Are Planned for Big Stone Plant

SCR and FGD System Modifications

Big Stone Plant is currently installing an SCR and FGD using the most advanced technology and controls currently available. Consequently, there are no SCR or FGD systems to modify. One SCR technique suggested by the Sargent & Lundy report is the use of secondary air as dilution air for the ammonia vaporizer, which will be used for the Big Stone Plant SCR.

Combined VFD and Fan

Big Stone Plant currently utilizes centrifugal fans with variable speed drive steam turbines on the forced draft fans, and electric motor drives with dampers for flow control on the induced draft fans. Otter Tail agrees with EPA and the Sargent & Lundy report that variable frequency drives (VFDs) are a more precise and energy-efficient method of flue gas control, especially at reduced loads. In fact, the co-owners of Big Stone Plant had already recognized the potential benefits of VFDs, and as part of the AQCS project we will be installing new centrifugal induced draft fans and motors with VFD drives. If this project

were undertaken on its own, the median improvement suggested by Sargent & Lundy report is approximately 0.7% for Big Stone.[38]

(c) Upgrades and Best Operating Practices That Cannot Be Undertaken at Big Stone Plant

Acid Dew Point Control

Acid dew point control is a measure designed to address an SO_3 formation issue that is not applicable to Big Stone Plant because of the low sulfur subbituminous coal fuel source combined with the type of FGD that will be used at Big Stone Plant.

ESP Modification

ESP modification does not apply to Big Stone Plant because a baghouse, not an ESP, is used for control of particulate matter.

Cooling Tower Advanced Packing

Big Stone Plant uses a cooling pond rather than a cooling tower, so this option is not available.

2. Heat Rate Impact of Future Emissions Control Equipment at Big Stone Plant

As required by the South Dakota Regional Haze State Implementation Plan approved by EPA on April 26, 2012,[39] Big Stone Plant is required to install an SCR, dry scrubber, and baghouse to remedy visibility impairment at certain Class I areas. This project – currently estimated to cost $384 million – will equip Big Stone Plant with a state-of-the-art AQCS that is projected to reduce emissions of NO_x and SO_2 by

[38] The median suggested heat rate reduction by the Sargent & Lundy report for a 500 MW plant is 80 Btu/kWh, which equates to approximately 0.7% for Big Stone Plant. See Table 4-3 of the Sargent & Lundy report.
[39] 77 Fed Reg. at 24845-24857.

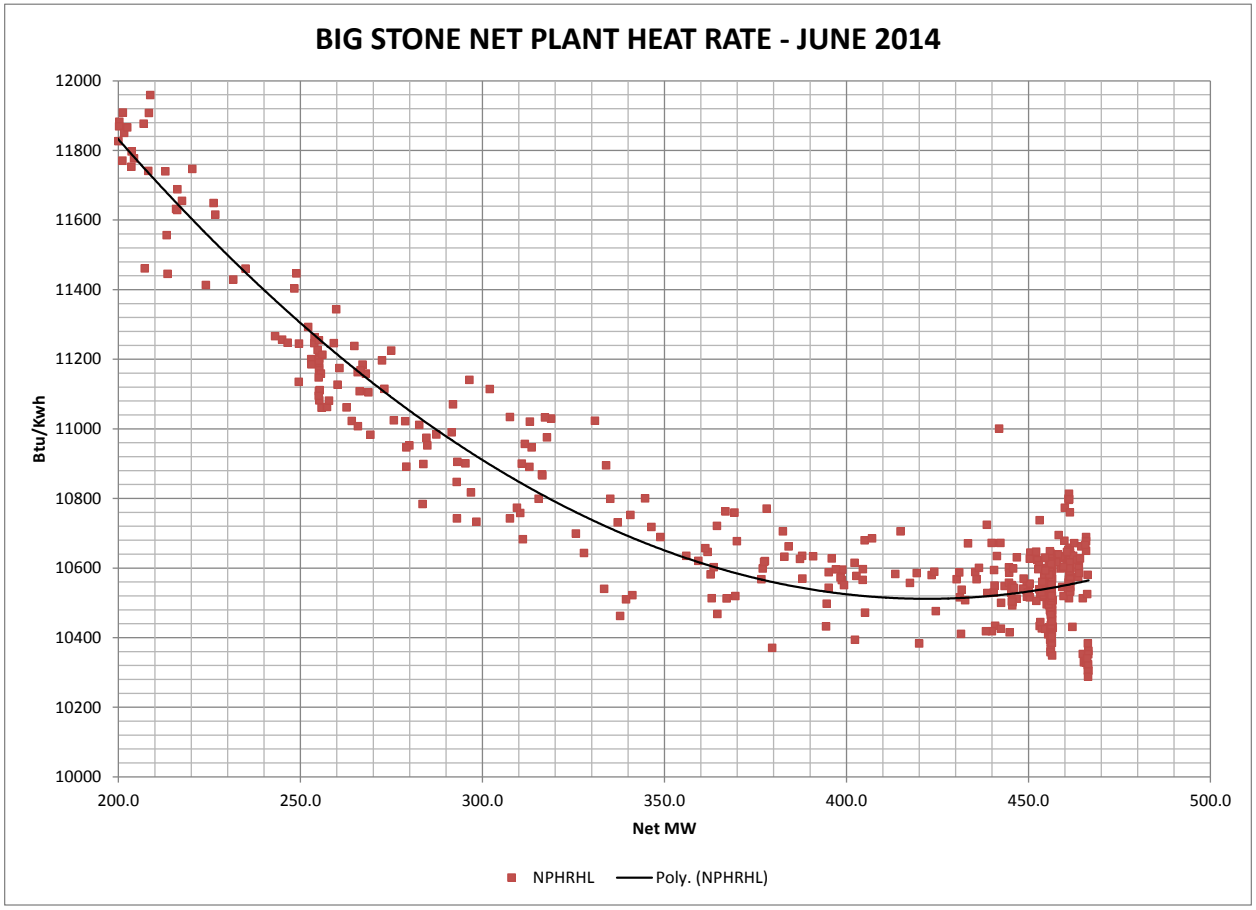
approximately 90%. When paired with an activated carbon injection system, these controls will also enable Big Stone Plant to comply with EPA's MATS rule.

The AQCS will itself consume energy that would otherwise be transmitted and distributed to consumers. This will degrade Big Stone Plant's overall heat rate. As described in the Statement of Basis to the Big Stone Air Quality Construction Permit that was reviewed by EPA and issued to Otter Tail on January 6, 2012, an estimated 8 to 9 MW of station service may be attributable to the project. Project engineers are diligently working to minimize this parasitic load and the final station service requirements will not be known until project completion. This degradation will be offset somewhat by the economizer and induced draft fan projects described previously, but even with those offsets Big Stone Plant will likely experience degradation in heat rate in 2015 due to operation of the AQCS required by other EPA rules.

3. Impact of Reduced Capacity Factors at Big Stone Plant

Aside from incorrectly assuming an unachievable 6% HRI for South Dakota's singular coal-fired plant, EPA ignores the interrelationship between HRI and the other Building Blocks EPA proposed. Implementing Building Block 2 in South Dakota necessarily requires reducing coal-fired generation in the state. As previously discussed, Building Block 2 reductions could be achieved only by running Big Stone Plant at significantly less than its full capacity. Even if this were possible, the reduced capacity factor would have a deleterious effect on heat rate as reflected in the GHG Abatement Measures TSD

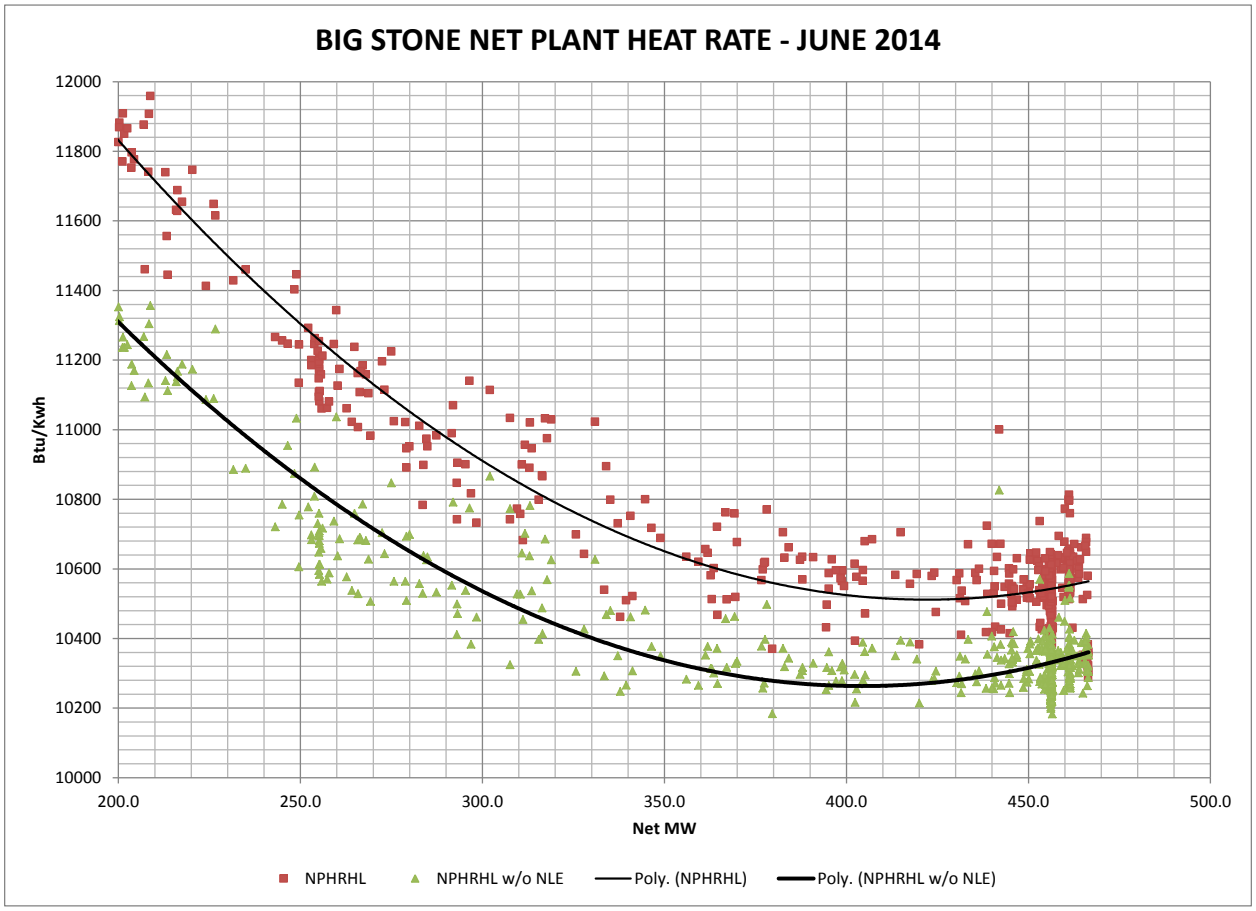
document.[40] The following graph of a typical monthly net plant heat rate chart at Big Stone Plant plainly illustrates the heat rate impact of operating at less than full load. A 50% reduction in normal generation loading results in approximately an 8% degradation in heat rate.[41] Far from affording states flexibility in achieving overall emissions reductions, the proposed rule's Building Blocks interfere with one another, so that meeting the target in one block (e.g., the redispatch target in Building Block 2) makes it impossible to meet the target in another (e.g., the heat rate improvement target in Building Block 1).



[40] GHG Abatement Measures TSD page 2-23 ("Coal-fired units are designed to operate most efficiently at full capacity. As a unit drops below this level, in general, heat rate will increase").
[41] At 240 MW the regression line projects a heat rate of 11,400 Btu/kwh as compared to a full load heat rate of 10,560 Btu/kwh.

4. Meeting HRI Targets at Big Stone Plant May Require Terminating an Associated Biofuel Co-Generation Project

Since 2003 Big Stone Plant has provided a co-generation benefit to the nearby ethanol plant owned by Northern Lights Ethanol, LLC, providing the plant with a reliable, economic source of steam. EPA and the State of South Dakota reviewed this project. Big Stone Plant's Title V permit was amended on August 8, 2001 specifically for the purpose of authorizing this activity. This co-generation project has a 2% to 3% negative impact on Big Stone Plant's overall heat rate, but the steam is used for the critical purpose of producing biofuel with very low lifecycle GHG emissions. The chart below shows the heat rate impact of co-generating steam for the ethanol plant, with the green line representing what Big Stone Plant's heat rate would be if co-generation load for the ethanol plant were removed. If EPA were to proceed with requiring 6%, or even 4%, HRI at Big Stone Plant based on the baseline found in the proposed rule, then this economically and environmentally responsible co-generation of steam may be terminated. By depriving states of authority to consider "other factors" in determining how to apply BSER to each designated unit within the state, EPA would cripple another of the Administration's own GHG reduction efforts: the effort to ramp-up production of low-GHG biofuels.



For all these reasons, EPA should reconsider the emission targets proposed for South Dakota. Because EPA has not comprehended the unique circumstances within the state, and because it has not allowed the state to consider unit-specific factors in determining what Big Stone Plant can achieve, EPA has overestimated what South Dakota can achieve. Much, if not all, of this problem could be avoided if EPA confined itself to the role expressly contemplated by Section 111(d) – determining BSER – and left to the states their statutorily-assigned task of establishing standards of performance applicable within their borders and applying those standards to individual units after consideration of statutorily-specified factors such as the remaining useful life of each existing source. We

now turn to a discussion of why, as a matter of law, EPA must adopt that approach if it wishes to go forward with the existing source emission guidelines.

II. The Proposed Rule Grossly Exceeds EPA's Lawful Authority Under Section 111

In stark contrast to Section 111(b) of the Clean Air Act, which gives EPA the authority both to determine BSER and to establish the standards of performance for *new* sources in a category, Section 111(d) assigns EPA only a limited role in regulating emissions of air pollutants from *existing* sources. Section 111(d) envisions the regulation of existing sources as a joint activity, carving out discrete and separate tasks for EPA and state authorities in an exercise in cooperative federalism.[42] Under this section of the Act, EPA determines BSER, sets the "procedures" under which states submit plans to implement BSER, and reviews those plans to ensure that they comply with the Act. The *states*, meanwhile, establish the actual standards of performance and apply those standards to each individual source in the state.

By establishing the standards of performance itself and specifying binding, statewide emission reduction goals, providing states with little leeway for determining how those standards apply to each individual existing source and no flexibility to adjust the emission reduction goals in the event that affected facilities cannot fully implement any element of BSER, EPA grossly exceeds its lawful authority. The proposed rule should be revised to eliminate the binding statewide emission reduction goals, leaving the development of the standards of performance and the identification of the unit-specific

[42] *See* CAA § 111(d), 42 U.S.C. § 7411(d).

emission reduction goals to the states. In so doing, EPA would allow states to solve the technical and practical problems created by the proposed rule.

A. Section 111(d) assigns separate roles to EPA and each of the states. EPA proposed rule oversteps EPA's designated role and impinges upon the role of the states

Under the Section 111(d) framework, neither states nor EPA possesses sole authority to determine the appropriate method or degree of emission reductions for existing units. Instead, Section 111(d) of the Act assigns federal and state regulators distinct and separate, but complementary, responsibilities in the process of regulating air pollutant emissions from existing sources, thus embodying the principle of cooperative federalism. EPA violates both the plain text of the statute and the fundaments of this cooperative federalism principle in the proposed rule by usurping functions the Clean Air Act plainly reserves to the states.

The Clean Air Act limits EPA's role in regulating existing sources to three tasks: setting a "procedure," identifying BSER, and providing a federal plan where a state fails to submit a compliant plan of its own.[43] In particular, the Act instructs the Agency to establish procedures, similar to those the development and review of state implementation plans ("SIPs") under Section 110, by which each state submits a plan establishing standards of performance for existing sources within its borders. The Act instructs the Agency to determine BSER by identifying a finite, adequately-demonstrated system of emission reductions upon which the States are to rely in setting the applicable standards of performance. [44]

[43] 42 C.F.R. § 7411.
[44] *Id.*

Section 111(d) reserves to the *States* the power to establish the "standards of performance" for existing sources based on EPA's designated BSER, and to apply those state-developed standards to existing sources on a unit-by-unit basis.[45] Unlike the new source category, for which EPA itself is authorized to establish the performance standard, *only States* can establish standards of performance for sources in an existing source category. In the proposed rule, EPA usurps the role the Act created for the states, unlawfully prescribing binding specific emission targets for each state, which are then relegated to the role of mere functionaries, implementing the substantive standards of performance and binding statewide emission reduction goals EPA has established. If a particular source within a state cannot feasibly or reasonably implement BSER as EPA has envisioned it, then states have no power under the proposed rule to change the emission reduction goal EPA has set for it based on that inability. Instead, the state must either shut down or curtail that source's operation in violation of the statute's command that states be permitted to consider factors such as an existing facility's remaining useful life in determining whether or to what extent to apply a standard to it, or the State must shift the emission reduction burden to other sources inside the State (thus impermissibly subjecting those other sources to "BSER-plus"). This unprecedented interpretation of EPA authority cannot be reconciled with the plain text of the Act or the principles of cooperative federalism it enshrines.

EPA has long recognized that its role in developing state-specific existing source emission guidelines is limited. In the preamble to EPA's 1975 rules establishing the framework for developing existing source emission guidelines, EPA explained that it used

[45] *Id.*

the term "emissions guidelines" rather than "limitations" to make it clear that the guidelines were not intended to be binding requirements but rather "criteria for judging the adequacy of State plans."[46] From the very beginning, then, EPA has recognized that its pronouncements are merely nonbinding "guidelines," and that the States are to set and apply the specific standards of performance.

With its proposed rule, EPA abandons its prior restraint and exceeds its statutorily-limited role of identifying appropriate procedures and a finite system of emission reductions that the states themselves are to consider in establishing and applying state-specific standards of performance for existing sources in a source category. Instead, EPA is unilaterally requiring the States to meet EPA-developed, state-specific emission reduction targets by 2030. These targets are premised on EPA's faulty conclusions about the amount of emissions that may be eliminated through the maximum effective deployment of four disparate Building Blocks across the universe of existing sources within each state. In so doing, the Agency has set for the states precisely the type of binding "limits" that both the statute and EPA's regulations prohibit. At the same time, it has left the states almost no ability to effectively consider the sorts of source-specific factors that Congress intended the States to be able to consider in applying the standards of performance they developed.

Accordingly, the proposed rule must be revised before it may be lawfully finalized. A lawful final emission guideline must be limited to identifying the best system of emission reduction that the Administrator has determined has been adequately

[46] 40 Fed. Reg. at 53,343 (Nov. 17, 1975).

demonstrated for coal- and gas-fired designated facilities and specifying the procedures for submission of state plans to establish and apply standards of performance.

B. EPA's longstanding regulations affirm that EPA's role under Section 111(d) is to provide "information" to the States that aids them in formulating their plans

Even if Section 111(d) did not so clearly bar EPA from promulgating binding statewide emission reduction goals for existing sources, the proposed rule would still be barred by EPA's own, longstanding regulations prohibiting EPA from adopting binding emission limits in a Section 111(d) rule. In particular, Section 60.22 of those regulations specifically authorizes EPA to issue only a nonbinding "guideline document" that "contain[s] information pertinent to control of the designated pollutant from designated facilities."[47] EPA's regulation also articulates the limited purpose for providing this information:

> Guideline documents published under this section *will provide information for the development of State plans*, such as:
>
> > (1) *Information* concerning known or suspected endangerment of public health or welfare caused, or contributed to, by the designated pollutant.
> >
> > (2) A *description* of systems of emission reduction which, in the judgment of the Administrator, have been adequately demonstrated.
> >
> > (3) *Information on the degree of emission reduction which is achievable* with each system, together with information on the costs and environmental effects of applying each system to designated facilities.
> >
> > (4) *Incremental periods of time normally expected* to be necessary for the design, installation, and startup of identified control systems.

[47] 40 C.F.R. § 60.22.

> (5) *An emission guideline* that reflects the application of the best system of emission reduction (considering the cost of such reduction) that has been adequately demonstrated for designated facilities, and the time within which compliance with emission standards of equivalent stringency can be achieved. The Administrator will specify different emission guidelines or compliance times or both for different sizes, types, and classes of designated facilities when costs of control, physical limitations, geographical location, or similar factors make subcategorization appropriate.
>
> (6) Such other available *information as the Administrator determines may contribute* to the formulation of State plans.[48]

The use of the words "guidance" and "information," rather than "standards" or other, similar words meant to convey an intent to bind, indicates that *information* is *all* EPA may provide to States in its final emission guideline. These words cannot reasonably be read to authorize EPA to issue binding statewide emission reduction goals that are "guidelines" in name only.

Before EPA may finalize a new substantive rule that conflicts with what is contemplated by its existing rules and regulations, EPA must change its existing regulations through ordinary rulemaking procedure – that is, it must first undertake a notice-and-comment proceeding seeking to revise the existing regulation.[49] Here, EPA would need to revise its regulations limiting its role in the development of standards of performance for existing sources to that of providing "guidance" and "information" to the

[48] 40 C.F.R. § 60.22(b) (emphasis added).
[49] *National Environmental Development Ass'n's Clean Air Project v. EPA*, __ F.3d __, No. 13-1035 (D.C. Cir. May 30, 2014) ("NEDACAP"). (EPA could not adopt guidance document providing for region-specific applications of aggregation policy where existing procedural regulation required nationwide applicability of a single policy under the Clean Air Act; EPA could, however, amend its regulations through notice-and-comment rulemaking to allow such region-specific applications).

States. Without such an amendment, the proposed rule, if finalized, would necessarily be arbitrary, capricious, and contrary to law, as the D.C. Circuit determined in *NEDACAP*.[50]

EPA has neither amended, nor has it proposed to amend, its longstanding regulations limiting it to providing the States "information" and "guidance" for the States' establishment and application of standards of performance for existing sources. EPA cannot finalize the proposed rule in its present form, because that proposed rule purports to impose binding emission reduction goals on the individual States in contravention of those longstanding regulations. The proposed rule thus arrogates to the Agency functions that EPA's existing regulations make the exclusive province of the States: the setting and application of the state-specific standards of performance.

C. EPA's inclusion of binding statewide emission reduction goals contravenes the Clean Air Act's requirement that States establish standards of performance and apply them *on a unit-by-unit basis*

The proposed rule is unique among standards developed under Section 111 because it purports to apply not to an individual source, but to sources as a conglomeration. Section 111 expresses clear congressional intent to require the promulgation of standards of performance that apply to *individual* existing sources. The proposed rule is thus contrary to law and must be revised.

Section 111 is replete with language demonstrating Congress' intent that Section 111 standards, whether for new sources under Section 111(b) or for existing sources under Section 111(d), apply to *individual* sources. "New source," for instance, is defined in Section 111(a)(2) to "mea[n] any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed

[50] *Id.*

regulations) prescribing a standard of performance under this section which will be applicable to *such source*."[51] That definition clearly prescribes a standard of performance that is applicable to a single, identifiable source. The definition of "existing source" is tied directly to the definition of "new source": it "means any stationary source other than a new source."[52] Once again, the reference is to "any stationary source" – that is, a single source, rather than a group of sources or a category or subcategory of sources as a whole.

Section 111(b), which requires the promulgation of new source performance standards for identified categories of sources, states that such standards shall apply to "new sources within such category."[53] The fact that Congress differentiated between source categories and individual sources within source categories is significant. Had Congress intended to grant EPA broad authority to regulate the structure and operations of whole source categories– specifying which sources could operate, or in which order, or how much–it could have done so. All that would have been required is a direction that EPA issue standards of performance *for the source category*, rather than for the individual sources in the category.

Similarly, Section 111(d) requires EPA to issue standards of performance "for any existing source … to which a standard of performance would apply if *such source* were a new source…."[54] Again, the statute refers to an *individual* source: "such source." The Section further provides that EPA's regulations "shall permit the State in applying a standard of performance *to any particular source* under a plan submitted under this paragraph to take into consideration, among other factors, the *remaining useful life of the*

[51] 42 U.S.C. 7411(a)(2) (emphasis added).
[52] 42 U.S.C. 7411(a)(6).
[53] 42 U.S.C. 7411(b)(1)(B).
[54] 42 U.S.C. 7411(d)(1)(A), (A)(ii).

existing source to which such standard applies."[55] The fact that Congress expressly referred to each "particular source" and specifically authorized the States to take into consideration various factors, including "the remaining useful life of *the* existing source," in applying the standard of performance to an existing source, again indicates that Congress intended such standards to be source-specific, so that they could be implemented at each particular source.

For existing sources, the Clean Air Act empowers States to approach emission reduction with attention to detail and awareness of particular circumstances and difficulties faced by each existing source. When managing emissions of existing units, Section 111(d) anticipates the States will be "applying a standard of performance *to any particular source*."[56] The section instructs that EPA's regulations must "permit the State … to take into consideration, among other factors, the remaining useful life of the existing source to which the standard applies."[57] In so prescribing, the statute outlines two expectations: (1) States will look with particularity at specific units when developing and applying standards of performance, and (2) EPA's guidelines will allow States to make prudential assessments based on the remaining useful life of particular existing units and other factors when developing and applying standards of performance.

Here, EPA has grossly overstepped its authority and displaced the States' ability to act with the specificity envisioned by the Clean Air Act. EPA proposes binding

[55] 42 U.S.C. 7411(d)(1)(B) (emphasis added). EPA's regulations indicate that the other factors that States may consider in establishing and applying standards of performance include " (1) [u]nreasonable cost of control resulting from plant age, location, or basic process design; [] (2) [p]hysical impossibility of installing necessary control equipment; or [] (3) [o]ther factors specific to the facility (or class of facilities) that make application of a less stringent standard or final compliance time significantly more reasonable." 40 C.F.R. 602.24(f).
[56] 42 U.S.C. 7411(d)(1)(B) (emphasis added).
[57] 42 U.S.C. 7411(d)(1)(B).

state-specific emission reduction targets and emission rates based on reductions in emissions from *all* units within each State (all the while purporting to give States the flexibility to determine how and from where emission reductions will be obtained). Any assertion of flexibility is illusory. In setting statewide targets, EPA has impermissibly stripped the States of their statutory and regulatory authority to develop standards of performance and to apply those standards on a unit-by-unit basis after consideration of the statutory and regulatory factors. As a consequence, States are unable to relax a standard of performance for a specific existing unit even where consideration of those factors – the remaining useful life of the existing facility; the costs associated with controlling emissions from that existing facility when considered in the context of the plant age, location, or basis process design; the physical impossibility of installing the necessary control equipment; and other factors specific to the facility – suggests that the standard should be relaxed. Simply transferring that facility's emission reduction burden to some other facility or requiring it to obtain reductions by some other measure (e.g. curtailment or shutdown of the designated facility, or regulation of entities outside the identified source category) is impermissible.

The inevitable consequence of this overreach is contravention of congressional intent. In many instances, the standards EPA has set are so stringent that they *cannot* be met except by closing or drastically curtailing operations from existing coal-fired EGUs.[58] Thus, while EPA's proposal gives lip service to the concept that States may take a facility's remaining useful life and other factors into account when applying their standards of

[58] *See supra* at 13.

performance, in practice any real consideration of such unit-specific factors is likely to cause a State to miss the EPA-specified emission reduction target.

This result is contrary to both Section 111(d) and EPA's longstanding implementing regulations. Under these regulations,

> States may provide for the application of less stringent emissions standards or longer compliance schedules than those otherwise required …, provided that the State demonstrates with respect to each such facility (or class of facilities)…(1) Unreasonable cost of control resulting from plant age, location, or basic process design; [](2) Physical impossibility of installing necessary control equipment; or [](3) Other factors specific to the facility (or class of facilities) that make application of a less stringent standard or final compliance time significantly more reasonable.[59]

Simply assuming that the proposed rule gives the States all the flexibility they need to consider the remaining useful lives of the facilities or other factors specified in the statute and EPA's regulations does not make it so. EPA's proposal is likely to result in premature closures of units that would otherwise have substantial remaining useful lives and that have recently invested heavily in a state-of-the-art AQCS. This will strand significant assets, thus contravening Congress' express intent to allow consideration of unit-specific factors for existing facilities, and violating EPA's own regulations authorizing States to relax standards for a specific unit where costs, physical impossibility, or other factors make application of a less stringent standard to a specific source significantly more reasonable. EPA must reconsider its approach to the rule.

[59] 40 C.F.R. 60.24(f).

D. Establishing statewide emissions reduction targets violates the principles of Federalism that underlie Section 111

As proposed, EPA's rule presents significant compliance and enforcement issues, and portends unnecessary federal-state conflict. EPA's criteria for approving or rejecting a State's plan are fundamentally amorphous, giving EPA unfettered discretion to reject plans, standards of performance, and source-specific applications of those standards even when those submissions are compliant with the intent of statute. As discussed above, the statute expressly directs *States*, not EPA, to set and apply the standards of performance. EPA may judge only whether those plans comport with the "procedures" that EPA has established, whether States' standards of performance are arbitrary, capricious, or otherwise contrary to law, and whether the States have rationally applied the statutory and regulatory factors in assessing the extent to which those standards apply to each particular existing source. To the extent that the EPA has exceeded this mandate, it is operating outside of its lawful authority under Section 111(d).

Under its proposal, many of EPA's binding state emission targets are 40 to 50 percent *lower* than the emission rates required by the new source performance standards. This absurd result is manifestly unreasonable and contrary to congressional intent expressed by Section 111. Congress' clear purpose in creating Section 111(d) was to recognize that existing sources cannot achieve the levels of emission reduction that new sources can achieve; accordingly, it established procedures allowing for greater flexibility.

Furthermore, Section 111(d) entrusts the source-by-source tailoring inquiry to the States and gives them tools to particularize their approach to emission reduction at existing units. In particular, the section allows States to consider the life of a unit and take measures to avoid stranded asset problems. EPA's longstanding regulations bear this out; under

them, States may consider various factors, such as remaining useful life, unreasonable costs, and physical impossibility, in determining whether to apply a less stringent standard of performance to an individual source.[60] As both the statute and EPA's regulations make clear, source-by-source determinations of the emission reductions that may reasonably be achieved are best left to the States. Furthermore, this function is one that Congress has legislatively placed beyond the control of EPA.

E. Because it imposes binding statewide targets, the Proposed Rule violates congressional intent to subject existing sources to a less stringent standard than new sources

Because existing sources have shorter remaining useful lives[61] and employ older designs and technology than new sources, it has long and logically been presumed that new source performance standards promulgated under Section 111(b) will be at least as stringent as, if not more stringent than, existing source performance standards. Given the constraints facing existing facilities, it would be illogical to subject them to a more stringent standard than a new source must meet. It may, for instance, be difficult to retrofit existing facilities with new emission reduction technologies, given design constraints, impracticalities or impossibilities due to siting of the facility, and the overwhelming cost of installing such controls when compared to the remaining useful life and value of the existing facility.

One would assume then that EPA's proposed existing source emission guidelines would be less stringent than its proposed NSPS, yet that is not the case. For 26 of 48 States

[60] 40 C.F.R. § 60.24(f).
[61] Congress expressly authorized the States to consider the remaining useful life of each designated facility in setting and applying standards of performance for existing sources under Section 111(d). 42 U.S.C. § 7411(d) (providing that EPA's emission guidelines must allow each State, in applying performance standards to existing sources, "to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies").

for which final emission rates are proposed, including two of the three States within which Otter Tail Power operates, the proposed final emission rate for existing sources is significantly *more stringent than* the rate for new NGCC units under the proposed NSPS.[62]

EPA reaches this absurd result only by grossly overstepping the bounds of its authority under Section 111(d), which is limited to promulgating guidelines prescribing the best system of emission reduction applicable *to each existing source itself*. Only by reaching well beyond its traditional interpretation of Section 111(d) can EPA assert authority to regulate dispatch of units and require reductions in demand for electricity as a means of controlling emissions. Had EPA abided by the plain terms of the statute and its own regulations, it would have determined the best system of emission reduction that could be implemented *at each designated existing facility*, namely, the unit-specific heat-rate improvements that comprise Building Block 1 of the proposal.

Since the enactment of Section 111(d), EPA's consistent practice has been to require only that level of emission reduction that could be achieved by installing controls at, making improvements to, or optimizing operations at, an individual designated facility in the source category.[63] Because EPA has gone beyond such source-specific "systems" here, its present proposal leads to the absurd result of regulating many existing sources more stringently than new sources. EPA should abandon this approach and reconsider its interpretation.

[62] *See* Table 8: Proposed State Goals (Adjusted Output-Weighted-Average Pounds of CO2 Per Net MWh From All Affected Fossil Fuel-Fired EGUs), 79 Fed. Reg. at 34,895.
[63] *See* Section III, *infra*.

III. The Individual Building Blocks EPA has Proposed as BSER are Arbitrary, Capricious, and Contrary to Law

In the proposed rule, EPA stretches the statutory term "system of emission reduction" beyond all recognition, transforming what previously has been understood as a term referring to technological and operational improvements that can be made *at a specific unit* into something that supposedly authorizes EPA to take command of the electric grid as a whole. Under the guise of Section 111(d), EPA attempts not only to require heat-rate improvement projects at EGUs, which may be permissible to the extent feasible, but also to require redispatch of power from coal-fired EGUs to lower-emitting natural gas-fired EGUs, redispatch from fossil fuel-fired EGUs to non-emitting renewable energy sources and nuclear power plants, and reductions in end-users demand for electricity. Put another way, EPA proposes a definition of BSER that allows it to do several unlawful things: (1) require reductions from sources other than the "affected facility"; (2) require reductions from facilities and measures that are beyond the regulated source category; and (3) effectively define reduction or elimination of demand for a good as a permissible required means of controlling emissions associated with the production of that good.

Such authority would be virtually limitless and cannot be squared with the carefully circumscribed powers Congress gave EPA in Section 111(d). As the Supreme Court said in *Utility Air Regulatory Group v. EPA*, "When an agency claims to discover in a long-extant statute an unheralded power to regulate 'a significant portion of the American economy,' … we typically greet its announcement with a measure of skepticism."[64] Rather, the Court

[64] __ U.S. __, No. 12-1146 (U.S. June 23, 2014), slip op. at 19 (citations omitted).

"expect[s] Congress to speak clearly if it wishes to assign an agency decisions of vast economic and political significance."[65]

No such congressional intent is present here. Rather, EPA seeks to radically expand its authority under Section 111(d), contrary to the statute's language, the governing regulations, and all prior interpretations of Section 111(d) EPA has offered. In light of these considerations, EPA's proffered "system of emission reduction" cannot withstand scrutiny, and EPA must revise accordingly.

Instead of outlining a definite system of BSER, EPA has prescribed a laundry list of items that, in its view, might conceivably lead to emissions reductions, no matter how far afield they are. No *ad hoc* styling can render this motley assortment a "best system of emission reduction." EPA's proposed BSER is no system at all, but instead a hostile takeover of the electric generating and consumption market by an Agency that has no authority to do so.

A. Building Block 1 (Heat-rate Improvements)

Only one of EPA's "blocks," Building Block 1 heat-rate improvements, makes an arguably permissible attempt to curtail emissions from designated facilities. Building Block 1 stands alone as the sole block aiming to accomplish what *all* BSER is required to do: derive emission improvements from an existing source.

Even so, Building Block 1 is fatally flawed. EPA's emission reduction targets for Block 1 are unrealistic and unsupported by any administrative record put forward to date. There is no precedent or record basis for suggesting that emission reductions of 6 percent

[65] *Id.*

are achievable by any source, let alone across-the-board. The 6 percent assumption cannot be squared with the existing landscape of utility assets. As we discussed previously in the context of Otter Tail's own inability to wring additional emission reductions through Building Block 1 measures,[66] in compliance with other regulatory efforts, many existing facilities have already made substantial investments in emission reductions. There is scant evidence to suggest that these facilities can do much more. Moreover, there is no administrative record to support the efficacy of such efforts, or their cost-effectiveness when placed in the context of the remaining life of a given facility. It is precisely this unit-by-unit assessment that the Clean Air Act requires and that EPA's proposed rule abandons.

B. EPA's "Outside the Fence Line" Building Blocks (Blocks 2-4) Are Not Lawful BSER

EPA suggests that, in determining BSER under Section 111(d), it may factor in reductions beyond those that can be achieved by individual sources within the relevant source categories. But that is not so. Section 111(d) requires EPA to establish a procedure, including the issuance of emissions guidelines, for each State to develop "a plan which establishes standards of performance for *any existing source* for any air pollutant." The Act defines "stationary source," in turn, as "any building, structure, facility, or installation which emits or may emit any air pollutant." Elsewhere, Section 111(d) speaks in terms of "*the* existing source."[67] Plainly, then, Section 111(d) standards must be based on emissions reductions that *a particular source—i.e.*, an individual "building, structure, facility, or installation"—can achieve by controlling its own emissions. To that end, the D.C. Circuit

[66] *See supra* at 24-36.
[67] 42 U.S.C. § 7411(d)(1)(B) (emphasis added).

has said that emission controls under Section 111(d) must apply directly to "a single building, structure, facility, or installation—the unit prescribed in the statute," rather than to "a combination of such units."[68] Thus, the BSER on which a Section 111(d) standard of performance is based can only derive from reductions that are attainable "inside the fence line," *at the affected source*.

EPA's "portfolio approach," which is predominately composed of "outside-the-fence" measures for reducing emissions, obviously exceeds that limitation. The last three of EPA's four proposed Building Blocks can *only* be achieved when multiple facilities operate in coordination with one another—through emission averaging, allowance trading, incentivizing demand-side reductions, and redispatching generation from one facility to another. Portfolio management as BSER would effectively regulate the entire category of existing electric generating units as a single source and base the "standards of performance" on the emissions reductions that arguably might be achievable by the category as a whole (including by sources, such as renewables and nuclear plants, that are not even in the category), rather than basing standards on reductions demonstrated and achievable at individual sources. Section 111(d)—with its emphasis on "individual building[s], structure[s], facilit[ies], [and] installation[s]"—does not permit so broad an approach.

Even if EPA *could* base BSER on factors other than what is demonstrated and achievable for particular sources, it would be manifestly unreasonable for it to do so uniformly, as it has here. EPA has acknowledged this limitation in the past. In a guidance document addressing new source performance standards under Section 111, EPA

[68] *ASARCO Inc. v. EPA*, 578 F.2d 319 (D.C. Cir. 1978).

explained that, "For listed *source categories*, EPA must establish 'standards of performance' that apply to sources that are constructed, modified or reconstructed after EPA proposes the NSPS *for the relevant source category*."[69] Thus, even under an extremely permissive reading of Section 111's BSER requirement, EPA is limited to considering distinct source categories. EPA's definition of "system," however, would afford a basis for EPA to prescribe requirements for renewable energy sources, nuclear power plants, and end-user energy efficiency improvements. It is difficult to discern how a regulation intended to limit CO_2 emissions *from fossil-fuel-fired power plants* can afford a basis for such far-reaching regulation by EPA. Indeed, the effect of EPA's definition is to lump nearly every conceivable use of energy together as a single "source category" for BSER purposes. That definition is ultimately unworkable, since it interprets the term "source category" so broadly as to render the term a nullity.

In the alternative, EPA might treat "system" as including all units and facilities comprising a particular electrical generating utility. Though such a reading would be unreasonable in light of the plain language of Section 111 and judicial and agency interpretations of that language, EPA could, perhaps, argue that a utility is itself a sort of commercial "system," as that term is sometimes used. Even so, the last three of EPA's proposed BSER Building Blocks cannot be part of the "system," simply because the utility does not necessarily have control over them. For example, order of dispatch and portfolio standards—both important components of EPA's proposed BSER determination—exceed what an individual utility can control. A single utility cannot control the order in which

[69] EPA, *Background on Establishing New Source Performance Standards (NSPS) Under the Clean Air Act* 1 (Sept. 2013), *available at* http://www2.epa.gov/sites/production/files/2013-09/documents/111background.pdf.

another utility dispatches its electric generating units. EPA's Building Block formula would therefore require utilities to coordinate their operations. Likewise, improvements in end-use energy efficiency, another key Building Block, are entirely outside the universe of actions over which utilities can exercise any enforceable degree of control. The scope of EPA's proposed BSER, then, is too broad even for the most expansive definition of "system."

Never before has EPA adopted emissions guidelines based on "outside-the-fence" considerations. There have been 13 separate occasions, for example, where EPA has adopted guidelines for emissions from particular source categories. On each of those occasions, EPA focused exclusively on technological or operational standards designed to be applied at the designated facilities. That approach makes sense, since Section 111 deals with "stationary sources" of air pollutants. EPA's proposed basis for determining BSER, however, sweeps in a host of other actors (*e.g.*, end-users) who simply cannot be considered "stationary sources" at all. Such BSER cannot be reconciled with the plain language of Section 111, with agency or judicial interpretations of that section, or with common sense. It is overbroad and well beyond what is permissible under the Clean Air Act.

C. Building Blocks 2 and 3 impose limitations on unit operation, rather than improving the environmental performance of those units

Building Blocks 2 and 3 lie far afield of any lawful authority EPA may exercise under Section 111(d). Rather than prescribing systems of emission reduction that can produce lower emissions from specific designated facilities operating at a given rate of production, EPA has effectively proposed to require certain sources either to curtail or cease operations completely.

More specifically, Building Block 2 (which requires shifting dispatch from coal- to natural gas-fired units) is impermissible because it is, in essence, a determination that the BSER for a coal-fired unit is to run it less (or not at all) and run something else more. If that is BSER, then for almost any source of any pollutant EPA could simply order the source to curtail its operations or shut down. Building Block 2 is thus clearly contrary to congressional intent.

Similarly, Building Block 3 (which requires shifting dispatch from fossil fuel-fired to non-GHG-emitting sources such as renewable energy or nuclear generation) is unlawful. Building Block 3 effectively commands fossil fuel-fired units to run less or not at all. Furthermore, in promoting additional dispatch to renewable energy sources and nuclear power plants, the regulation unlawfully sweeps in a host of sources that are outside of the rulemaking's identified source category. This too is unlawful.

Rather than pushing for incremental improvements through application of unit-specific technology, as required under the Clean Air Act, EPA has set a course for significant curtailment or complete cessation of operations at many of the nation's existing power plants. Not only is this bad business and poor policy, but it is action unsupported by law. Nowhere does the Clean Air Act instruct or permit EPA to shutter the nation's existing energy infrastructure in the goal of achieving emission reductions, no matter how laudable that goal. Nor is such a drastic expansion of authority the type of change that Congress authorizes through vague implication. As the Supreme Court recently held in striking down EPA's PSD/Title V Tailoring Rule, which, like the present proposed regulation, would radically expand EPA's authority compared to what Congress intended,

> EPA's interpretation is … unreasonable because it would bring about an enormous and transformative expansion in EPA's regulatory authority

> without clear congressional authorization. When an agency claims to discover in a long-extant statute an unheralded power to regulate 'a significant portion of the American economy,"…we typically greet its announcement with a measure of skepticism. We expect Congress to speak clearly if it wishes to assign to an agency decisions of vast "economic and political significance."[70]

The holdings of *UARG* and *American Trucking Associations* apply with force here. In the proposed rule, EPA transforms a provision allowing the States considerable flexibility in establishing standards of performance for specific existing sources into a vast program giving EPA unprecedented and almost limitless power. It would effectively allow EPA to take control of the nation's electric grid for the sole purpose of achieving reductions in the emissions of a single pollutant, without regard to reliability or other generation or dispatch considerations. To that end, EPA specifies not only the level of emission reductions that it expects at each designated facility through heat-rate improvements, but also how electricity generation dispatch decisions are to be made. This is flatly unlawful.

D. Because it deals exclusively with end-user demand, Building Block 4 does not affect the environmental efficiency of affected facilities at all and is therefore unlawful

Similarly, nowhere does Section 111 authorize EPA to extend its jurisdiction beyond stationary sources by attempting to regulate *demand* for a good, service, or product. Building Block 4, which requires increases in end-user energy efficiency and other efforts to reduce demand for electricity, sits egregiously outside of EPA's lawful authority and looks to derive "emission reduction" from something over which utilities have no enforceable control: efficiencies that might be gained by consumer efforts.

[70] *Utility Air Regulatory Group v. EPA*, __ U.S. __, No. 12-1146, slip op. at 19 (June 23, 2014) (quoting FDA v. *Brown & Williamson*, 529 U.S. 120, 159-160 (2000)). *See also Whitman v. American Trucking Association*, 531 U.S. 457, 468 (2001) (Congress does not "hide elephants in mouseholes.").

With Building Block 4, EPA has proposed a category of action truly beyond limits. To search for efficiencies outside the source is to conceive of regulating nearly all activity in the Nation. Almost everything requires energy, the majority of which by definition comes from existing units. While EPA's goal of reducing demand for electricity is laudable, the design of the Agency's proposed goal would authorize an expansion of agency authority beyond the comprehension of anything Congress anticipated in enacting the Clean Air Act. As the Supreme Court warned in *UARG*, this is action that cannot proceed without *clear* congressional authorization. Section 111 authorizes EPA to regulate existing units within identified source categories, not societal behavior in general.

EPA's attempt to expand BSER for existing sources beyond the fence line does precisely that, and thus the proposed rule is impermissible. In proposing to go beyond the fence line, EPA has served up an administrative nightmare, a quagmire of vagaries. By what metrics will EPA evaluate demand reduction? How will it distinguish between demand growth and efficiency improvements? Nowhere has EPA even attempted to answer these questions, nor is the Agency likely to do so soon. The plain and simple truth is that such an all-encompassing plan to reduce demand is not within the experience, competence, or jurisdiction of EPA. There is neither the administrative record nor the programmatic structure to support such an initiative. To call such ill-defined, untested efforts a "best system of emission reduction" is to deny any meaning or sense to the term.

Vital to the Supreme Court's decision in *UARG* that EPA may regulate greenhouse gases under the Clean Air Act at least to some extent was the Court's observation that EPA was "not talking [in the rules before the Court] about extending EPA jurisdiction over millions of previously unregulated entities, but about moderately increasing the demand

EPA . . . can make of entities already subject to its regulation."[71] The Court emphasized that EPA should not interpret its narrow decision largely upholding EPA's rules to allow a vast jurisdictional expansion. In particular, the Court rejected EPA's assertion of "newfound authority to regulate millions of small sources—including retail stores, offices, apartment buildings, shopping centers, schools, and churches."[72] Yet that is exactly the jurisdictional expansion EPA contemplates in Building Block 4. When the Agency calls for demand reduction as a means of controlling emissions from the production of a good, it is calling for the regulation of millions of small actions, by entities that are not even "sources" under the Clean Air Act, before they hit the grid. This is precisely the type of gross expansion of regulatory authority rejected by the *UARG* Court.

IV. Conclusion

Otter Tail Power Company has long demonstrated best practices in environmental stewardship, and our cost-effective addition of renewables is ahead of the national curve. Long before EPA issued its proposed Clean Power Plan, Otter Tail Power Company already had a plan to reduce carbon dioxide emissions intensity by 24% by 2021. Our commitment to our customers and the environment leads us to comment on EPA's proposed emission guidelines for existing sources. We are concerned that faulty assumptions and arbitrary inconsistencies in the proposed rule, however unintentional, will strand hundreds of millions of dollars of recent clean energy improvements and counterproductively penalize Otter Tail and the State of South Dakota for being early adopters of clean energy resources and technology.

[71] *Id.* at 28.
[72] *Id.* at 23.

In particular, EPA's selection of an unrepresentative baseline year for South Dakota and its consideration of Deer Creek Station as a fully operational NGCC plant in calculating the state's baseline emissions threatens to shutter Big Stone Plant, which by 2016 will be among the less than 10% of coal plants in the nation using similar state-of-the-art technology for SO_2, NO_x, and particulate matter removal. Not only would closing Big Stone Plant strand the considerable capital Otter Tail expended in good faith to modernize the facility, it will also threaten our ability to provide reliable energy to our customers, subjecting them to rate increases of about 20% to replace the plant. The assumption that the energy produced by Big Stone Plant can be replaced by Deer Creek Station—an NGCC facility owned by different owners, subject to separate contractual obligations, and controlled by a separate regional transmission organization—reveals EPA's misunderstanding of power generation and transmission in South Dakota. In addition, the proposal's inconsistent treatment of hydropower relative to other renewables, and its potentially inconsistent treatment of renewable energy credits and fossil fuel generation exports, imposes crippling penalties on South Dakota for its exceptional hydropower output. It also imposes penalties on Otter Tail Power Company for having built in South Dakota a coal-fired plant that primarily serves out-of-state demand. If EPA does not correct these inaccuracies and inconsistencies, the resulting rule will be arbitrary, capricious, and impossible to implement.

The errors in EPA's proposed rule result from EPA's decision to overstep its statutorily assigned role in regulating existing sources under Section 111(d). The Clean Air Act establishes a rulemaking regime for existing sources premised on cooperative federalism, in which *EPA* determines BSER while the *states* establish the standards of

performance and, after unit-by-unit evaluation, determine the extent to which those standards can reasonably and feasibly be applied to each existing source within the states' boundaries. The proposed rule upends this regime, with EPA imposing binding state emission reduction targets from Washington, D.C., without benefit of the local knowledge necessary to understand whether those targets are attainable after considering source-specific factors. The proposed rule also would require that states implement three Building Block strategies that range beyond the realm of lawful BSER by requiring curtailment of source operations and regulation of consumer demand.

EPA must substantially revise its proposed rule so that it determines lawful BSER and then leaves to each state the establishment of standards of performance and source-by-source determination of the extent to which those standards can be implemented within the state's border. EPA's authority to review those standards and their application to individual sources, and to promulgate a federal plan if a state fails to submit a plan or submits a defective one, will ensure that the states fulfill their obligations and that the Clean Air Act's laudable goals are met.

Otter Tail Power Company thanks EPA for the opportunity to comment on this proposed rule and on this important issue.