



**State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES**

Scott Walker, Governor  
Cathy Stepp, Secretary

101 S. Webster St.  
Box 7921  
Madison, Wisconsin 53707-7921  
Telephone 608-266-2621  
FAX 608-267-3579  
TTY Access via relay - 711



**Public Service Commission of Wisconsin**

Ellen Nowak, Chairperson  
Phil Montgomery, Commissioner  
Mike Huebsch, Commissioner

610 North Whitney Way  
P.O. Box 7854  
Madison, WI 53707-7854

December 22, 2015

Ms. Gina McCarthy  
Administrator  
U.S. Environmental Protection Agency  
Attention: Docket ID No. EPA-HQ-OAR-2013-0602  
Mail Code 2822T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Subject: Request for Reconsideration of EPA's Final Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (Clean Power Plan), Docket ID No. EPA-HQ-OAR-2013-0602

Dear Administrator McCarthy:

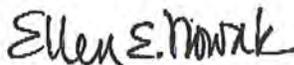
On behalf of the state of Wisconsin, the Wisconsin Department of Natural Resources (WDNR), in conjunction with the commissioners of the Public Service Commission of Wisconsin (PSCW), requests that EPA reconsider its final Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units ("Clean Power Plan") as published in 80 Fed. Reg. 64662 (October 23, 2015). This final rule establishes emission requirements for states to follow to reduce greenhouse gas emissions from existing fossil fuel-fired electric generating units.

The Clean Power Plan is beyond the authority of the EPA under the Clean Air Act and is currently being litigated by several states, including Wisconsin. Several issues raised in this reconsideration request were also raised in Wisconsin's comments on the proposed rule, submitted to the docket on November 30, 2014. This request also raises new issues based on changes or additions EPA made in its final rule. Regarding the treatment of biomass in the final rule, EPA does not have authority to regulate sustainability related to forestry or agricultural management practices.

Ms. Gina McCarthy  
Administrator  
U.S. Environmental Protection Agency  
December 22, 2015  
Page Two

EPA's prompt reconsideration is critical because of the sweeping nature of the final rule and the need for affected sources to consider fast-approaching compliance deadlines.

Sincerely,



Ellen Nowak  
Chairperson  
PSC of Wisconsin



Phil Montgomery  
Commissioner  
PSC of Wisconsin



Mike Huebsch  
Commissioner  
PSC of Wisconsin



Cathy Stepp  
Secretary  
Wisconsin DNR

cc: Jeff Ripp, Administrator, Division of Energy Regulation, PSCW  
Pat Stevens, Administrator, Environmental Management Division, WDNR

Attachment

DL: 01280429

## **Wisconsin’s Request for Reconsideration of EPA’s Final Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (“Clean Power Plan”)**

### **1. General authority and procedural issues**

#### **1.1. Electric Generating Units (EGUs) cannot be regulated under section 111 of the Clean Air Act (CAA), if the same EGUs are regulated under section 112**

As noted in Wisconsin’s previously filed comments,<sup>1</sup> the CAA does not allow duplicative regulations of the same source under both section 111 and section 112. Because this issue was raised in Wisconsin’s initial comments on the proposed rule, administrative process on this particular issue has been exhausted. This issue is currently being litigated by several states, including Wisconsin.

#### **1.2. EGUs cannot be regulated under section 111(d) of the CAA, if the regulation for new EGUs in the same source category is not successfully promulgated under 111(b)**

As noted in Wisconsin’s previously filed comments, a legally sound section 111(b) NSPS for a source category must be established before a section 111(d) ESPS can be promulgated on the same source category. The section 111(b) NSPS promulgated by EPA for EGUs is inherently illegal, preventing the regulation of EGUs under section 111(d). Because this issue was raised in Wisconsin’s initial comments on the proposed rule, administrative process on this particular issue has been exhausted. This issue is currently being litigated by several states, including Wisconsin.

#### **1.3. Adequate notice was not provided with respect to the changes made in final Clean Power Plan rule**

The final version of the Clean Power Plan is substantially different than the draft proposal on which the state of Wisconsin provided comments. These changes warrant a new comment period before finalization and publication of the rule. Publishing the final rule without more state and stakeholder input has resulted in uncertainty and confusion regarding implementation. Because of the interdependency of all sections of the Clean Power Plan, another round of comments on the rule as a whole before publication was necessary and would have benefitted both EPA and the states.

### **2. Authority under CAA Section 111(d)**

#### **2.1. EPA exceeded its authority under the CAA by setting emission requirements instead of setting guidelines and criteria for states to use in setting appropriate emission limits**

As noted in Wisconsin’s previously filed comments, EPA is restricted under section 111(d) to setting guidelines and approving state plans. Section 111(d) does not authorize EPA to set specific emission requirements for the states. Because this issue was raised in Wisconsin’s initial comments on the proposed rule, administrative process on this particular issue has been exhausted. This issue is currently being litigated by several states, including Wisconsin.

---

<sup>1</sup> Wisconsin’s comments on the proposed rule were submitted to the docket on November 30, 2014.

2.2. EPA, through the Clean Power Plan, exceeded its authority under the CAA by setting emission limits based on actions beyond the regulated source facility, on a system-wide basis (“beyond the fence line”)

As noted in Wisconsin’s previously filed comments, the CAA does not permit EPA to regulate activities outside of the physical boundary of a source, or “beyond the fence line”. Because this issue was raised in Wisconsin’s initial comments on the proposed rule, administrative process on this particular issue has been exhausted. This issue is currently being litigated by several states, including Wisconsin.

2.3. The CAA does not provide the authority to regulate new source “leakage” under section 111(d)

Under the final rule, EPA requires states to minimize the switching of generation from existing sources to new sources. EPA refers this switching of generation as “leakage.” In actuality, by regulating leakage under section 111(d), EPA is also regulating the type and operation of new sources. The CAA specifically limits section 111(d) to regulation of existing sources and requires new sources to be regulated under section 111(b). There is no provision in the CAA that permits EPA to develop a Best System of Emission Reduction (BSER) encompassing both existing and new sources, as EPA does in the final rule. Further, EPA cannot address leakage by mandating that energy generation be shifted to new renewable energy, as these sources are not regulated under the CAA.

2.4. The Clean Power Plan disproportionately impacts Wisconsin and is therefore arbitrary and capricious

The Clean Power Plan is written in a way that disproportionately impacts states that are reliant on coal for base-load power, as well as states with energy-intensive industries. Wisconsin relies on coal for approximately 54 percent of base-load power<sup>2</sup> and Wisconsin’s economy relies on manufacturing and food processing, both of which are energy-intensive industries. Combined with Wisconsin’s relatively limited wind and solar potential, the rule disproportionately affects Wisconsin and is therefore arbitrary and capricious.

### **3. EPA’s “Best System of Emission Reduction” methodology**

The methodology EPA used to set BSER in the final rule is fundamentally flawed and must be reconsidered. The intent of BSER is that it is widely achievable across the utility sector.<sup>3</sup> This means that each state must be able to meet the source category emission limits within their own utility system. This “least common denominator” approach ensures that all states can meet the limits.

In determining BSER in the final rule, EPA consistently used data and approaches that were designed to maximize CO<sub>2</sub> reductions from the system, without respect to achievability in a particular state. This approach resulted in more stringent goals for the states than might otherwise be the case. For example:

---

<sup>2</sup> 2012 generation data from U.S. EPA, *CO<sub>2</sub> Emissions Performance Rate and Goal Computation Technical Support Document for CPP Final Rule, Appendix I*. Docket ID No. EPA-HQ-OAR-2013-0602.

<sup>3</sup> See e.g. *National Lime Association vs. EPA*, 627 F.2d 416 (D.C. Cir. 1980).

- When developing the sub-category emission rates, EPA applied the building blocks in an order designed to maximize the stringency of these rates. If EPA applied the building blocks in a different order, it would result in a less stringent rate. For example, applying the building blocks in the following order: 1) heat rate improvements; 2) NGCC re-dispatch; and 3) additional renewable energy changes the emission rate for coal-fired generating units in 2030 from 1,305 lbs/MWh to 1,466 lbs/MWh, which is a 12 percent decrease in stringency.
- When calculating building block 1 (heat rate improvement at existing coal plants) EPA selected the most stringent of its three regionally-derived goals.<sup>4</sup>
- For building block 3 (increased deployment of renewable energy), EPA applied the average renewable energy growth rate only to the years 2022 and 2023, while applying the *maximum* growth rate for each of the remaining years through 2030.<sup>5</sup>
- EPA selected an average capacity factor for wind generation achievable in only the windiest places in the U.S. and then applied that to every state.<sup>6</sup>

Wisconsin has identified other specific issues with EPA's BSER methodology, as follows.

3.1. EPA did not use appropriate modeling to assess the electric reliability, cost and impacts of the final rule

EPA performed utility system modeling using the integrated planning model (IPM) to evaluate overall compliance costs of the final rule. EPA's evaluation ran a base case model without the Clean Power Plan and then performed runs to mimic compliance with the overall rule emission goals. EPA did not model the BSER building blocks together, or perform integrated utility system modeling in these compliance runs.<sup>7</sup> As noted in Wisconsin's comments on the proposed rule, the reductions achievable from each building block are not additive; in fact, when applied together, the building blocks appear to work against each other.<sup>8</sup> Therefore, feasibility, cost and other related impacts of the final rule were never truly evaluated.

Another significant flaw in EPA's modeling was that energy efficiency was used to meet the rule's emission reduction requirements. Implementing energy efficiency, however, is not one of EPA's building blocks, and therefore was inappropriate to include when modeling of the feasibility of implementing the building blocks. By including energy efficiency in its modeling, EPA significantly misrepresented both the achievability and cost of the final rule.

---

<sup>4</sup> EPA applied a 4.3 percent heat rate improvement to the Eastern Interconnect region; including Wisconsin, rather than applying 2.1 percent, the lowest (and therefore most broadly achievable) heat rate improvement EPA determined for the three interconnect regions.

<sup>5</sup> This approach results in 287 million MWh of renewable energy added to the Eastern Interconnect region by 2030. Applying the average implementation rate through the same timeframe adds only 138 million MWh – approximately 48 percent of EPA's 2030 renewable energy target.

<sup>6</sup> The 41.8 percent average capacity factor used by EPA is achievable only in the windiest areas of the country; see comment 5.5.

<sup>7</sup> Integrated utility system models consider dispatch and local and regional interconnections to assess electric system operation and reliability. IPM is not such a model and does not consider these factors.

<sup>8</sup> See *Wisconsin's Comments on Clean Power Plan, Part 6: EGEAS Modeling of the Wisconsin Electric Utility System Conducted by the Public Service Commission of Wisconsin*.

Further, EPA’s analysis of electric reliability was inadequate. The IPM model is not intended to be used as a tool to evaluate system reliability.<sup>9</sup> Reliability constraints have to be checked through both manual evaluation and through modeling of peak demand loads and generation resource dispatch using specific models designed for this purpose. The reliability aspects of the final rule are discussed further in section 4.

### 3.2. EPA did not adequately assess natural gas supply and infrastructure

The Clean Power Plan will significantly increase natural gas demand throughout all regions. The full impact of the costs of the rule cannot be known without integrated utility system modeling and additional natural gas supply analysis. EPA’s IPM modeling underestimates the need for new NGCC units in 2030 by at least 30,080 MW;<sup>10</sup> the cost to install this additional NGCC capacity is correspondingly underestimated in the final rule. In addition, EPA has not evaluated interstate or localized natural gas infrastructure constraints. A MISO study of natural gas infrastructure reflects this concern, concluding that “infrastructure expansion is still needed to move gas into the region and to address area-specific constraints”.<sup>11</sup>

Beyond the utility sector, industry is in a phase of retiring coal boilers and installing new natural gas power to comply with other federal rules. EPA has not fully evaluated the impacts of these conversions on natural gas supply and infrastructure as part of its analysis of this rule.

### 3.3. EPA did not adequately consider the need to move electricity between states

EPA failed to consider that many states import electricity from neighboring states to meet energy needs. States that export electricity have an advantage in complying with the final rule because they can curtail operations to reduce CO<sub>2</sub> emissions while still meeting their native energy requirements. Such curtailment could affect reliability in those states that must import electricity.

## 4. **EPA did not appropriately model, consider, or address electric reliability**

### 4.1. EPA did not accurately model the rule’s impact on electric reliability

EPA did not accurately model or assess the final rule’s impact on electric reliability. As noted in section 3.1, EPA’s compliance modeling applied energy efficiency, instead of just including the building blocks. This reduced electricity demand by 7 percent (or 77,741 MW) below the base demand in 2030. The result is that EPA’s modeling retires significant amounts of coal generation and installs much less new NGCC generation when compared to the base case. In addition, EPA’s modeling installs only 20 GW of renewable energy nationwide, instead of the 233 GW called for under building block 3.

---

<sup>9</sup> IPM provides forecasts of least-cost capacity expansion, electricity dispatch, and emission control strategies for meeting energy demand in response to environmental policies. It has limited capacity to consider reliability impacts in these forecasts.

<sup>10</sup> U.S. EPA, *Technical Support Document: Resource Adequacy and Reliability Analysis, August 2015*, page 9, Docket ID No. EPA-HQ-OAR-2013-0602.

<sup>11</sup> MISO Summary Doc, Phase III Gas Infrastructure Analysis, page 9, November 2013.

Under EPA's model, 27,284 MW of coal generation must be retired by 2030, while continuing to run the remaining coal units at a 70 percent capacity factor. In contrast, modeling by MISO and Wisconsin indicates that some of this coal generation that EPA slates for retirement must remain online to meet electric reliability needs.<sup>12</sup>

EPA's modeling assumes no transmission constraints within reliability regions and only minimally addresses inter-region transmission. As noted in section 5.6, for states like Wisconsin, there is a need for substantial transmission capacity to deliver wind generation to load centers. EPA's modeling failed to account for the time required to build out the necessary transmission associated with the 233 GW of additional renewable energy assumed under the rule.

The electric utility system already experiences electric reliability issues. For example, during the 2013-2014 heating season, which included prolonged and severe cold weather, NGCC generation was curtailed in favor of coal generation. At one point during that time, MISO had less than 3,000 MW in operating reserve capacity. This resulted in severe price swings for electricity in the wholesale market; locational marginal prices (LMPs) for electricity were as high as \$800/MWh in the Milwaukee market, compared to typical LMPs between \$25 to \$40/MWh. Wholesale electricity price increases, and reliability concerns, were even more severe in the PJM area.<sup>13</sup>

Nuclear plant retirements (such as those raised in section 5.3), in addition to the Clean Power Plan, will exacerbate these reliability issues in Wisconsin.

#### 4.2. The electric reliability safety valve is not accessible under all compliance scenarios

The electric reliability safety valve that EPA included in the final rule is insufficient to address reliability concerns. The final rule allows a state to trigger the electric reliability safety valve only if that state does not implement a trading program. Not allowing an electric reliability safety valve in conjunction with trading programs requires states to "buy their way out" of reliability issues at unknown expense. In addition, there is considerable uncertainty about how trading under the Clean Power Plan will work, including how trading programs will operate and how many states will participate in them. This does not allow for adequate planning for reliability purposes and further underscores why at least some version of a reliability safety valve should be allowed even if a state is included in a trading program.

In total, this restriction is arbitrary; the electric reliability safety valve should instead be allowed under any compliance scenario. If there is truly an electric reliability issue, as confirmed by the reliability coordinator, there should be no restriction as to how to make up the excess emissions.

---

<sup>12</sup> MISO indicates that this will drive capacity factors to 33-56 percent, thereby making EPA's building block 1 heat rate improvement goals harder to achieve. MISO is the regional transmission organization (RTO) coordinating the movement of wholesale electricity in all or parts of 15 U.S. states and the Canadian province of Manitoba, including Wisconsin.

<sup>13</sup> PJM is the RTO for all or parts of 13 states in the upper South and mid-Atlantic, as well the District of Columbia. The electric bill for customers in the PJM reliability region for January 2014 was nearly a third of their entire 2013 bill.

4.3. The electric reliability safety valve needs to be amended to make it functional for all reliability incidents

The reliability safety valve presents states with a very limited ability to address reliability issues. It is unclear how this provision interacts or impacts any North American Electric Reliability Corporation (NERC) reliability criteria or requirements, if at all. The safety valve, as currently designed, provides almost no value to states in being able to plan for, and assure the reliability of, the interconnected grid.

The design of the safety valve is based on the assumption that severe weather and short-term events are unlikely to create situations that warrant the use of the safety valve. However, EPA does not take into account the circumstances that may arise from a particular emergency situation and does not allow states adequate flexibility to address the range of emergencies affecting reliability that might occur.

EPA should modify the notification requirements so the reliability safety valve is more functional in the case of an electric reliability situation. First, EPA should amend the rule to allow utilities to make the first notification to EPA directly, instead of requiring states to make that notification. Second, there is no reason to limit how long states or utilities have to provide a second notice to EPA to confirm the need for a source to continue operation.

**5. Wisconsin-specific issues**

5.1. The 4.3 percent heat rate improvement EPA used in calculating the coal power plant emission limitation is not achievable by the Wisconsin coal fleet

EPA assumes an average 4.3 percent heat rate improvement can be applied to all coal plants in the Eastern Interconnection, which includes Wisconsin. EPA treats this value as an average. It expects that while some power plants will not be able to achieve this level of improvement, others may achieve more.

On average, the Wisconsin coal fleet cannot achieve a 4.3 percent heat rate improvement. In its comments on the proposed rule, Wisconsin assessed the heat rate improvement potential of its fleet based on measures EPA included in the proposed rule.<sup>14</sup> In this assessment, it is estimated that the Wisconsin coal fleet could achieve only a 2.3 percent heat rate improvement. However, attaining even this level of efficiency improvement is unlikely under the final rule, because it assumes that the coal fleet operates at full load. Under the final rule, it is likely that coal units would have a lower heat rate due to cycling and dispatch constraints. EPA cannot require the state to meet limits that are based on actions which are not achievable in Wisconsin.

---

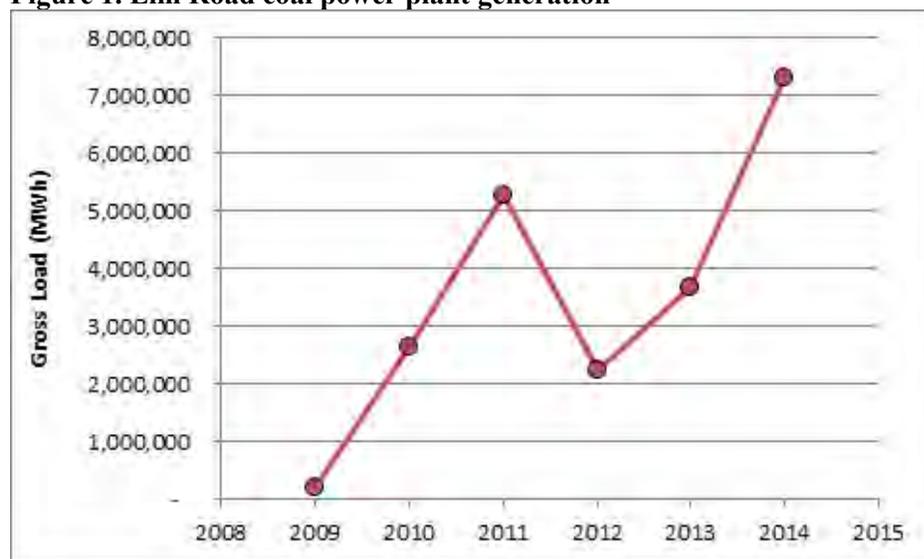
<sup>14</sup> See *Wisconsin's Comments on Clean Power Plan, Part 2: Building Blocks*, pages 3-13.

5.2. EPA did not adjust Wisconsin’s baseline to account for the operation of the Elm Road Generating Station

EPA must adjust Wisconsin’s baseline to reflect operations at the Elm Road Generating Station. Under the final rule, EPA adjusted the baseline information for certain EGUs if their heat input for 2012 was less than 25 percent of both its 2010 and 2014 totals and if the unit’s adjusted heat input was greater than 10 percent of the state’s total heat input. Based on information in EPA’s Clean Air Markets Division (CAMD) database, in 2014 the Elm Road plant accounted for approximately 15 percent of the heat input and generation for all fossil fuel plants in Wisconsin.<sup>15</sup> Therefore, Elm Road meets EPA’s criteria for adjusting the baseline based on 2014 data.

The Elm Road power plant began operations late in 2009. Upon startup, one of the units at Elm Road experienced technical problems preventing it from operating at its full capacity. As a result, in 2012, the plant was operating at 20 percent capacity.<sup>16</sup> After repairs were made, the plant continued to increase operations every year. EPA should not consider 2010 data for Elm Road, because this was the first year both units operated and is not representative of normal operations. This is particularly important because Elm Road is a modern, efficient plant that is likely to be dispatched at a high capacity factor in future years. Figure 1 shows the combined generation from the two coal fired units at the plant. This data shows that generation reached approximately 66 percent of capacity in 2014.

**Figure 1. Elm Road coal power plant generation**



Source – U.S. EPA Clean Air Markets Division

<sup>15</sup> EPA’s criteria are on a unit-by-unit basis. Although there are two units at Elm Road, they both experienced startup concerns, operate as a plant, and should be viewed as a whole.

<sup>16</sup> Elm Road units 1 and 2 are listed with a capacity of 634 and 615 megawatt (MW) in the IPM NEEDS database. At 100 percent capacity these units would generate 10,941,240 megawatt-hours (MWh).

5.3. EPA did not adjust Wisconsin’s baseline to account for the closure of Kewaunee Nuclear Plant

As described in Wisconsin’s comments on the proposed rule, the Kewaunee Nuclear Plant closed in May of 2013. EPA’s 2012 baseline includes generation from Kewaunee and thus does not represent Wisconsin’s power sector at the time that the Clean Power Plan was finalized. In the final rule, EPA adjusted other states’ baselines based on specific conditions that made 2012 unrepresentative. EPA should make similar adjustments to Wisconsin’s baseline to account for the loss of this carbon-free generation resource. Specifically, EPA should increase the state’s baseline fossil generation to reflect the actual increases in generation that occurred in response to the retirement of the Kewaunee Plant.

Wisconsin recalculated the state’s goals based on historical expansions of steam, NGCC and renewable generation following the closure of the Kewaunee Nuclear Plant.<sup>17</sup> This adjustment would have a large impact on Wisconsin’s mass-based goals, as shown in Table 1. Adjusting for lost generation from Kewaunee’s closure increases the state’s annual mass emission limits by roughly 2 million tons per year, or about 6.5 percent. These adjusted values more closely represent the current state of Wisconsin’s power sector.

**Table 1. Wisconsin’s annual mass-based goals (tons CO<sub>2</sub>) as determined in EPA’s final Clean Power Plan and as adjusted for the retired Kewaunee Nuclear Plant.**

Approach	Interim Goal - Step 1 (2022-2024)	Interim Goal - Step 2 (2025-2027)	Interim Goal - Step 3 (2028-2029)	Final (2030)
Final Rule	33,505,657	30,571,326	28,917,949	27,986,988
Adjusted for loss of Kewaunee generation	35,722,680	32,601,420	30,823,592	29,806,993

5.4. Building block 2 (NGCC re-dispatch) should reflect what is achievable in Wisconsin

When developing building block 2, EPA assumed that existing NGCC units could operate at a 75 percent capacity factor (summer). This is far beyond levels that have been demonstrated, even with recent historically low natural gas prices. In Wisconsin, the three-year average of the highest annual capacity factors for the Wisconsin NGCC fleet is 37 percent, when considering all years starting in 2005.<sup>18</sup> EPA should set Wisconsin’s goal based on a 37 percent capacity factor, rather than EPA’s theoretical estimate of 75 percent.

In addition, EPA’s assumptions about how quickly NGCC capacity factors can be increased are overly optimistic. EPA should use the long-term historic average rate increase of 5 percent per year, rather than the 22 percent used in the final rule. This value more closely represents natural gas usage

<sup>17</sup> This calculation is an update of one included in Wisconsin’s comments on the proposed rule. A more thorough description of the methodology and data used to make this correction can be found in Wisconsin’s comments on the proposed rule. See *Wisconsin’s Comments on Clean Power Plan, Part 3: Technical Corrections*, Comment #1, Scenario 3.

<sup>18</sup> See *Wisconsin’s Comments on Clean Power Plan, Part 2: Building Blocks*, page 16.

increase associated with infrastructure build-out at a pace that maintains system reliability. More fundamentally, EPA should not be assuming an increase in natural gas supply capacity at all, as that is beyond existing conditions that should be evaluated in determining BSER.

In assessing demonstrated operation and impacts, EPA also failed to consider that operating NGCCs at higher capacities often requires additional duct-firing which consumes additional fuel and decreases the unit's efficiency.

Finally, EPA failed to consider the amount of NGCC capacity that would need to be dedicated for load following to correspond with the required increase in renewable energy generation from wind and solar.

#### 5.5. EPA's assumptions about wind generation do not reflect conditions in Wisconsin

In setting emissions limits, EPA relied on an average capacity factor for wind resources that cannot be realistically achieved by the majority of the state's wind facility installations. The 41.8 percent average capacity factor that EPA assumes in the final rule, based on National Renewable Energy Laboratory (NREL) model inputs, does not reflect wind generation in the Midwest, including Wisconsin. An analysis of wind facilities registered in the Midwest Renewable Energy Tracking System (M-RETS) yielded an average capacity factor of only 29 percent for Wisconsin wind facilities in 2014.<sup>19</sup>

EPA's assumed capacity factor results in an unrealistically large wind generation target and an overly stringent state goal. EPA's final rule would require the installation of over 20 new, very large (150 MW) wind farms in Wisconsin by 2030.<sup>20</sup> For context, Wisconsin installed only 578 MW of wind capacity from 2008-2011 and has not installed any major new wind facilities since.

EPA should not set wind capacity requirements beyond what is actually achievable according to historic Wisconsin-specific data. EPA cannot rely on wind generation characteristics associated with only the best wind resource locations in the U.S. to set goals for all states.

#### 5.6. EPA did not account for wind generation transmission constraints

EPA failed to consider the amount of transmission needed to make new renewable energy facilities deliverable to load centers, including those in Wisconsin. EPA also ignored the time needed to conceive, design, gain local, state, and federal approvals, and construct transmission projects.<sup>21</sup> As a result, transmission infrastructure may not be in-service in time to support the large amount of new renewable energy capacity needed to meet the EPA goals during the interim (2022 to 2029) compliance periods.

---

<sup>19</sup> Wisconsin estimate based on analysis of M-RETS data and proprietary information.

<sup>20</sup> If this new generation had to be located in Wisconsin, it would be approximately 3318 MW of wind. At the realistic capacity factors, this would be approximately 22 new facilities.

<sup>21</sup> Wisconsin's Badger-Coulee Transmission Line Project, for example, is scheduled to take ten years to plan, permit, construct, and place into operation.

5.7. EPA does not permit Wisconsin to adjust its emission requirements to reflect unanticipated changes

EPA's final rule does not allow Wisconsin, or other states, to adjust their goals to ensure that state requirements maintain equivalency to the goals EPA set in the final rule. In particular, EPA must allow states the option of adjusting their mass-based goals if the original projections of energy demand or generation prove to be inaccurate. In addition, the state should be able to adjust the new source complement based on modeled requirements or other information, such as growth or expansion of industry or increased energy demand from electric cars.

5.8. EPA did not base Wisconsin's mass-based goals on appropriate projections of future demand growth

In calculating state mass-based goals, including Wisconsin, EPA limited the growth of fossil fuel generation based on the amount of available renewable energy.<sup>22</sup> Instead, EPA should apply projections of demand growth for different regions of the country from a reliable source such as the independent system operators, state public utility commissions or the U.S. Energy Information Administration to determine future generation for the different states. EPA should then apply state rate limits to these growth projections to determine mass-based goals for each state. This approach is straightforward and results in a realistic estimate of future demand growth.

---

<sup>22</sup> Using additional renewable energy to calculate a new growth mass cap is beyond BSER.