

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Daniel L. Meyer, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711



October 31, 2018

Mr. Andrew Wheeler
Acting Administrator
U.S. Environmental Protection Agency
EPA Docket Center (EPA/DC)
Attention Docket ID No. EPA-HQ-OAR-2017-0355
1200 Pennsylvania Ave. NW
Washington, DC 20460

Subject: Comments on EPA's Proposed Rule "Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program," Docket ID No. EPA-HQ-OAR-2017-0355

Dear Acting Administrator Wheeler:

The Wisconsin Department of Natural Resources (WDNR), joined by the Public Service Commission of Wisconsin (PSCW) under separate cover, submits the following comments on the subject proposed rule. EPA's proposal consists of three distinct actions: (1) revised emission guidelines to inform state plans to address greenhouse gas emissions from existing electric utility generating units (the Affordable Clean Energy Rule); (2) revised implementing regulations for this action and any future emissions guideline issued under Section 111(d) of the Clean Air Act; and (3) revisions to the New Source Review (NSR) program. The proposed rule was published in the Federal Register on August 31, 2018 (83 FR 44746).

EPA solicited comments on many aspects of this proposal. Should EPA finalize this rule, Wisconsin identifies elements in the proposal that are consistent with Wisconsin's past positions on emissions guidelines for greenhouse gases from existing electric utility generating units, and other areas that EPA should change or otherwise address in any final action. These comments are detailed in the attachment.

Thank you for the opportunity to comment on this proposed rulemaking.

Sincerely,

Daniel L. Meyer
Secretary

cc: Lon Roberts, Chair, Public Service Commission of Wisconsin

Attachment

**COMMENTS ON THE PROPOSED EMISSION GUIDELINES FOR GREENHOUSE GAS (GHG)
EMISSIONS (AFFORDABLE CLEAN ENERGY RULE)**

Several aspects of the proposed rule align with policy recommendations Wisconsin has previously made about EPA's emission guidelines for GHGs. EPA should finalize these aspects of the rule as proposed:

- 1. Best System of Emissions Reduction (BSER) determinations should be based on a bottom-up methodology that reflects the actual achievable heat rate improvement (HRI) at units in each state.**

A unit-specific, bottom-up approach for BSER determinations is consistent with Wisconsin's past comments to EPA on this issue.¹ A bottom-up approach best reflects the actual emission reduction potential by better accounting for the different ages, sizes, configurations and other characteristics of individual electric utility generating units (EGUs) and EGU fleets. This approach also avoids penalizing utilities that have already taken HRI actions.

- 2. EPA should only require states to evaluate the most impactful HRI measures as candidate technologies for BSER. EPA should also allow non-BSER HRI measures to be credited towards compliance with the rule. [EPA Comment C-6]**

State evaluation of each HRI measure could potentially require the state to collect and analyze a significant amount of information for each affected unit in the state. To minimize this burden, the rule should require states to evaluate only the most impactful HRI measures, as listed in Table 1 of the proposed rule.

Facilities have also implemented (or could implement) unit-specific HRI measures not on EPA's list of candidate technologies for BSER. An initial assessment of HRI actions at Wisconsin EGUs, provided in comments from Wisconsin on EPA's proposed Clean Power Plan (CPP), identifies several such measures that have been implemented.² States should be allowed to credit these measures towards compliance.

- 3. Carbon capture and storage (CCS) and fuel co-firing should not be considered BSER, but these technologies should be allowed for compliance. [EPA Comment C-12]**

CCS has not been proven feasible or cost-effective for all EGUs and therefore should not be considered BSER.³ As noted by EPA, both fuel co-firing and CCS are not accessible to all

¹ "Wisconsin's Comments on EPA's Advance Notice of Proposed Rulemaking for State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units" ("Wisconsin's ANPR Comments"). Submitted by Wisconsin Department of Natural Resources (DNR) to Docket ID No. EPA-HQ-OAR-2017-0545 on Feb. 26, 2018. See Comments 3 and 12.

² "Wisconsin's Comments on Clean Power Plan". Submitted by Wisconsin DNR and Wisconsin Public Service Commission to Docket ID No. EPA-HQ-OAR-2013-0602 on Nov. 30, 2014. See Part 2 – Comment 6.B.

³ Wisconsin's ANPR Comments, see Comment 13.

EGUs. However, these and other inside-the-fence GHG reduction measures should be allowed for compliance.

4. States should be able to determine custom compliance schedules for units subject to this rule. [EPA Comment C-13]

States must be able to set compliance deadlines that allow utilities to pay off existing debt on their power plants and pollution control equipment. Setting fixed compliance dates could strand existing debt and make the installation of new, cleaner replacement generation more costly.

5. States should be allowed to use continuous emission monitoring system (CEMS) data submitted to EPA to meet monitoring, recording, and recordkeeping requirements. [EPA Comment C-19]

Most utility-scale, steam-fired EGUs already report CEMS data to EPA. Using this data for compliance with this rule would be a straightforward way to fulfill monitoring, reporting and recordkeeping requirements.

6. Facilities should be allowed to average emissions among affected EGUs at an individual facility. [EPA Comment C-29]

Averaging of emissions among affected units at a facility is consistent with the facility-level determination of BSER proposed in the rule and should be allowed for compliance.

EPA should clarify or change the following aspects of the emission guidelines for GHGs:

7. EPA should provide a list of steam EGUs subject to the rule, and explicitly state whether natural gas fired boilers are subject to the rule. [EPA Comment C-4]

The ACE Rule applies to fossil fuel-fired electric utility steam generating units (e.g., boilers), and fossil fuel is defined in the rule to include natural gas. As written, the rule applies to all fossil fuel-fired boilers including natural gas fired boilers yet EPA's discussion of HRI technologies for affected sources appears to focus solely on coal-fired boilers.

To provide clarity as to what units would be subject to this rule, EPA needs to provide a list of the specific steam EGUs that are affected by the rule. EPA should also explicitly state whether natural gas boilers are subject to this rule. If EPA determines that natural gas boilers are subject to the rule, EPA should clarify whether the heat recovery steam generator (HRSG) portion of a natural gas combined cycle (NGCC) unit qualifies as an affected source. In addition, EPA should clarify whether the entire NGCC unit is to be subject to the rule, or if the HRSG alone is to be subject to the rule.

8. If natural gas boilers are subject to the rule, EPA should not apply the same BSER candidate HRI technologies to these units as to coal-fired boilers.

EPA's assessment of HRI technologies for affected sources focused on coal-fired boilers and did not examine technologies for gas-fired boilers.

If natural gas boilers are subject to the rule, EPA must evaluate the costs and efficiency gains for candidate HRI measures for these units separate from those determined for coal boilers. EPA cannot assume that the same HRI measures will apply to these different types of units. In addition, natural gas boilers converted from coal to gas should not be required to evaluate the list of HRI measures due to the carbon dioxide (CO₂) emission reductions that have already been achieved.

9. Instead of setting an emission rate standard, EPA should allow states to set standards of performance that require EGUs to install and operate certain HRI technologies. If EPA finalizes an emission rate-based standard, EPA should provide presumptively approvable plan language and methodologies for setting and complying with the emission rates. [EPA Comment C-15]

EPA proposed that standards of performance should be emission rates (e.g., lb CO₂/MWh-gross). EPA is not proposing a specific methodology or formula or a presumptive numerical standard.

Since BSER would be based on specific HRI technologies, states should have the flexibility to set standards of performance that only require those technologies to be installed and operating. This approach would simplify implementation and compliance with this rule and avoid the need to determine an emission rate standard for a specific unit based on the utilization of certain technologies.

If EPA finalizes a rate-based standard, the absence of an approvable methodology or formula for establishing standards of performance could be problematic, especially when states try to set and provide compliance methods for emission rate limits. To address this issue, EPA should provide guidance and/or presumptively approvable methodologies that states could choose to rely upon to establish a rate-based standard. These could address areas such as: choice of a baseline year(s); the specific HRI values associated with each HRI measure; how to address variable loads at EGUs; and how to handle degradation of heat rates over time.

10. EPA should provide presumptively approvable approaches to guide states as they determine standards of performance. [EPA Comments C-22 and C-23]

States have considerable flexibility in determining standards of performance and can consider factors such as remaining useful life (RUL). States can group, sort or subcategorize affected EGUs, and can also determine that no candidate technologies are applicable to a given EGU.

As EPA has proposed, states should have the flexibility to consider factors applicable to the generating unit and supporting facilities such as the type of generation unit, fuel types, size, age and RUL, cost-effectiveness and remaining debt. The flexibility of such a bottom-up approach best reflects the actual emission reduction potential at individual units. As noted by EPA, this flexibility also allows states to group, sort or subcategorize affected EGUs and to determine that no measures in the candidate technologies are applicable.

EPA should also describe in the rule or in guidance presumptively approvable approaches to considering certain factors. For example, to help states evaluate HRI measures, EPA could

suggest what is a reasonable cost (\$/ton) for CO₂ reduction.⁴ In addition, to ensure consistency in application, EPA should describe how states should estimate RUL for this rule. Finally, EPA should specifically allow states to consider future changes at EGUs that may affect the unit's ability to achieve the performance standard, such as decreased capacity utilization, fuel changes or addition of control equipment.

11. EPA should allow biomass from managed forests, as well as waste stream-derived biomass, to be counted as carbon neutral when used for compliance with this rule. States should also be able to approve additional types of biomass for compliance with a state plan. [EPA Comments C-20 and C-21]

EPA is proposing that states can allow sources to meet their standard of performance using either BSER technologies or non-BSER technologies or strategies. Specifically, EPA intends that forest-derived biomass could be used for compliance. EPA also requested comments on the eligibility of non-forest biomass for compliance.

EPA should finalize its proposed inclusion of forest-derived biomass as a compliance option for affected units under this rule. This proposed inclusion is consistent with EPA's recent policy that biogenic CO₂ emissions from combustion of biomass from managed forests for energy production will be treated as carbon neutral.⁵

More generally, EPA should treat the following types of biomass as carbon neutral when used to comply with this rule:

- Biomass harvested using sustainable forestry practices established by states or the federal government, such as Wisconsin's Forestland Woody Biomass Harvesting Guidelines.⁶
- Biomass harvested as part of a fire hazard reduction or pre-commercial thinning activity, slash or tree residue, biomass collected during clean-up from natural storms or disasters, and biomass obtained from the demolition of buildings and removal of invasive trees by municipalities.

⁴ For example, in the preamble to the final CPP, EPA suggested that \$23/ton would be a reasonable cost for HRI applications (page 446 of the pre-publication version, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units Clean Power Plan, August 3, 2015). The \$23/ton cost was based on a 4% HRI and \$100/kW cost. EPA could reconsider this figure or provide other cost thresholds for states to use to evaluate HRI measures.

⁵ EPA, "Treatment of Biogenic Carbon Dioxide (CO₂) Emissions from Stationary Sources that Use Forest Biomass for Energy Production", April 2018; https://www.epa.gov/sites/production/files/2018-04/documents/biomass_policy_statement_2018_04_23.pdf.

⁶ The biomass harvesting guidelines are designed to address different sustainability issues including forest regeneration, water quality and wildlife habitat. Wisconsin state forests and other state lands, county forests, and forests enrolled in the state's managed forest law program receive third-party certification of sustainable forestry management under nationally and internationally accepted standards.

- Industrial and commercial process biomass waste, municipal solid waste, landfill gas, anaerobic digester gas, and wastewater treatment plant gases, among others. The use of such waste stream-derived materials may provide additional reductions in greenhouse gas emissions if it captures and destroys waste methane, a potent greenhouse gas that is a major component of biogas.

EPA should also allow states to include other types of biomass as compliance mechanisms under a state plan provided carbon neutrality is demonstrated and appropriate evaluation, measurement and verification procedures are in place.

COMMENTS ON THE PROPOSED SECTION 111(d) IMPLEMENTING REGULATIONS

EPA should finalize the following updates to 111(d) implementing regulations as proposed:

12. EPA should align 111(d) timing requirements with state implementation plan (SIP) timing requirements as proposed. [EPA Comments C-52 through C-55]

State plans for this rule will vary widely due to the unit-specific requirements of this rule and will require more time for states to develop and EPA to review than the implementation regulations currently allow.

13. EPA should update the variance provision to allow states to take into account RUL and other factors as proposed. [EPA Comment C-57]

Current implementation regulations do not align with the Clean Air Act (CAA) amendments promulgated in 1990 which allow states to take into account RUL and other factors in setting a performance standard.

EPA should clarify or change the following aspects of the proposed 111(d) implementing regulations:

14. EPA should allow full, partial and conditional approvals of state plans.

EPA solicited comment in the Advance Notice of Proposed Rulemaking on which CAA Section 110 mechanisms for SIP approvals EPA should adopt for state plans under CAA Section 111(d) but did not include partial or conditional approvals in the proposed rule.

CAA Section 110(k)(3) allows for full approvals and partial approvals/disapprovals of SIPs, and Section 110(k)(4) allows for conditional approvals of SIPs. EPA should adopt and utilize all of these mechanisms regarding any state plans required under Section 111(d) in order to align the Section 110 and Section 111(d) planning processes and avoid the potential for unnecessary delays in EPA approval of individual 111(d) plan elements.

15. EPA should be able to determine a 111(d) state plan is complete before a state has adopted the plan into state code. [EPA Comment C-50]

EPA is proposing that states must provide evidence that the state has adopted the plan in the state code or body of regulations in order for EPA to determine the submittal is complete.

EPA should not require states to have completed adoption of their plans into state code in order for the plan to be determined complete because this does not consider the time it can take to adopt state rules. For example, the Wisconsin administrative rulemaking process takes around two to three years to complete. This means that Wisconsin will need several years after any 111(d) plan has been developed and submitted before the plan can be adopted into state code. EPA must be able to make a completeness determination while any state rulemakings are in progress; approval of the plan can remain conditional upon completion of any required rulemaking.

COMMENTS ON PROPOSED REVISIONS TO NEW SOURCE REVIEW (NSR) PROGRAM

EPA should clarify or change the following aspects of the proposed NSR modifications:

16. EPA must ensure that EGUs making modifications to comply with these emission guidelines do not trigger NSR.

EPA proposes to amend the NSR regulations to include an hourly emissions increase test as part of the NSR applicability criteria for all existing EGUs. EPA's intention in adding the hourly test is to make it less likely that EGUs seeking to comply with these emission guidelines will trigger major NSR review. States would have the discretion to decide whether to incorporate the NSR hourly emissions test for EGUs into their rules.

EPA's proposed hourly test will prevent some, but not all, actions EGUs might take to comply with these emission guidelines from triggering major NSR. This is insufficient, as any modification taken by an EGU to comply with this rule should not trigger NSR review. There are several ways EPA could ensure that this occurs:

- EPA could exempt projects undertaken to comply with these emission guidelines from the NSR program;
- EPA could allow states to limit HRI actions to those that will not trigger NSR; or
- EPA could revise its Prevention of Significant Deterioration (PSD) and Nonattainment NSR permitting requirements to specifically exempt these projects from the NSR program.

Any of these alternatives would ensure that EGUs would not be forced into NSR permitting as a result of complying with these emission guidelines.