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**Public Service Commission of Wisconsin**

Ellen Nowak, Chairperson  
Phil Montgomery, Commissioner  
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December 22, 2015

Ms. Gina McCarthy  
Administrator  
U.S. Environmental Protection Agency  
Attention: Docket ID No. EPA-HQ-OAR-2013-0495  
Mail Code 2822T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Subject: Request for Reconsideration of New Source Performance Standards (NSPS) for  
Greenhouse Gas Emissions from Stationary Sources: Electric Utility Steam Generating  
Units, Docket ID No. EPA-HQ-OAR-2013-0495

Dear Administrator McCarthy:

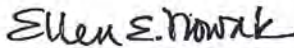
On behalf of the state of Wisconsin, the Wisconsin Department of Natural Resources (WDNR), in conjunction with the commissioners of the Public Service Commission of Wisconsin (PSCW), requests that EPA reconsider its final new source performance standards (NSPS) for greenhouse gas emissions from electric utility steam generating units, as published on October 23, 2015 (80 FR 64520). The NSPS regulation establishes separate CO<sub>2</sub> standards for coal-fired generating units, natural gas-fired baseload combustion turbines, and natural gas-fired non-baseload combustion turbines.

This final rule is beyond the authority of the EPA under the Clean Air Act and is currently being litigated by several states, including Wisconsin. Wisconsin's concerns with the rule are detailed in the attachment and in previously submitted comments. In particular, Wisconsin believes EPA's reliance on carbon capture and sequestration (CCS) to set the NSPS emission limit for coal power plants is illegal because the technology has neither been adequately demonstrated nor is available in all areas. EPA's reliance on CCS in establishing this limit effectively prohibits the construction of new coal power plants in Wisconsin. EPA should also reconsider the NSPS limit for baseload simple cycle combustion turbines and the regulation of biomass fired with fossil fuels.

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

EPA's prompt reconsideration is critical because the rule is effective immediately and impacts the ability of utilities to develop new, cleaner generation in a timely manner and maintain electric reliability.

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: 01280427



## **Wisconsin's Request for Reconsideration of New Source Performance Standards (NSPS) for Greenhouse Gas Emissions from Stationary Sources: Electric Utility Steam Generating Units**

The issues below are in addition to those raised in Wisconsin's submissions to the docket on the proposed rule, including technical comments developed by the Wisconsin Department of Natural Resources (WDNR) (dated May 4, 2014) and a letter to Gina McCarthy submitted jointly by the WDNR and Public Service Commission of Wisconsin (dated May 6, 2014).

Specifically, in its final rule, EPA failed to adequately address Wisconsin's previous comments related to the following:

- The coal plant NSPS limit is not widely achievable across the utility sector;<sup>1</sup>
- The coal plant NSPS is more stringent than greenhouse gas (GHG) Best Available Control Technology (BACT) recently established for a highly-efficient coal power plant in Wisconsin;<sup>2</sup>
- EPA cannot rely on carbon capture and sequestration (CCS) when determining the coal plant NSPS because CCS is an emerging technology;<sup>3</sup>
- Carbon sequestration capacity is not proven and available in Wisconsin;<sup>4</sup>
- The methodology used to derive the coal plant NSPS results in a competitive disadvantage to Wisconsin sources;<sup>5</sup> and
- Biomass fuels should not be regulated if co-fired with fossil fuel and should be creditable towards meeting the fossil fuel NSPS.<sup>6</sup>

Wisconsin raises the following additional issues based on changes or additions EPA made in the final rule.

### 1. EPA did not account for the full cost of CO<sub>2</sub> transportation and sequestration in the final rule

Wisconsin previously commented that EPA failed to consider the costs of transporting captured CO<sub>2</sub> to sequestration sites.<sup>7</sup> This is of particular concern to Wisconsin, since the state does not have proven carbon sequestration resources and the closest sequestration site is the Illinois Basin.

EPA adjusted some costs in its final rule. For example, EPA applies partial CCS at 20% capture, versus the 50% capture it applied in the proposed rule. Reducing the capture level from 50% to 20% reduces the capital cost of *capture* from \$267 million to approximately \$107 million (WDNR estimate) for a 550 MW power plant.<sup>8</sup> EPA did not, however, adjust its estimated CO<sub>2</sub> transportation costs in its final rule.

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<sup>1</sup> See Wisconsin's May 4, 2014 comment #2.A and the May 6, 2014 joint letter.

<sup>2</sup> See Wisconsin's May 4, 2014 comment #1 and the May 6, 2014 joint letter.

<sup>3</sup> See Wisconsin's May 4, 2014 comments #1 and 2.B.

<sup>4</sup> See Wisconsin's May 4, 2014 comment #3.A and the May 6, 2014 joint letter.

<sup>5</sup> See Wisconsin's May 4, 2014 comment #2.C and the May 6, 2014 joint letter.

<sup>6</sup> See Wisconsin's May 4, 2014 comment #4 and the May 6, 2014 joint letter.

<sup>7</sup> See Wisconsin's May 4, 2014 comment #3.B and the May 6, 2014 joint letter.

<sup>8</sup> Wisconsin was not able to locate the capital cost assumed for partial CCS in EPA's support documents for the final rule and requests that EPA make this information available. In the absence of updated capital cost information, Wisconsin scaled down the \$267 million capital cost in the proposed rule according to the fraction of boiler flue gas volume treated:  $\$267\text{M} \times [0.22/0.56]$ . This calculation assumes 90% capture applied to the fraction of flue gas treated, i.e., 50% control is achieved by applying 90% capture to 56% of the boiler flue gas volume.

These transportation costs significantly increase the overall cost of the proposal, which has been underestimated by EPA in the final rule. Wisconsin estimates that new CO<sub>2</sub> pipeline from a 550 MW plant in Wisconsin to the Illinois basin would cost \$250 to \$300 million.<sup>9</sup> This would be in addition to EPA's \$107 million capture cost considered in the final rule.

2. EPA cannot rely on fuel switching to natural gas to determine the coal plant NSPS

In its final rule, EPA identifies co-firing coal with natural gas as an alternative to applying partial CCS, or installing a NGCC plant wherever carbon sequestration is neither available nor cost-effective. EPA states that sources may meet the final standard by co-firing approximately 40% natural gas in a new, highly efficient super-critical pulverized coal (SCPC) power plant. For Wisconsin sources, this is the only possible option due to the wide range of issues associated with CCS presented to EPA in previous state comments.

EPA cannot, however, base the NSPS limit on the assumption that sources can switch fuel to natural gas, as this changes the inherent nature of the project. Court decisions addressing the comparable concept of BACT under the Prevention of Significant Deterioration (PSD) regulations have found that changing the nature of the process or project in this manner are beyond the scope of the PSD regulation.<sup>10</sup>

The flexibility to switch fuels from coal to natural gas to this degree in a SCPC coal fired boiler is not a viable compliance alternative in setting the NSPS limit. Co-firing up to 40% natural gas would require the boiler to be specifically designed for that capability. EPA's own reference documents show that co-firing natural gas up to 30% (on a heat input basis) has not moved beyond the design/pilot stage; therefore co-firing gas at 40% has not been adequately demonstrated and is not a practical option in setting a limit for new coal plants.<sup>11</sup> EPA cannot rely on a technology as "available" when it is still considered an emerging technology and has not been widely applied.

Moreover, coal boiler operators would likely need to fire even more than 40% natural gas to be in compliance with EPA's final standard, since 1) they need to have a sufficient compliance margin below the standard, and 2) EPA's assumed base rate of 1,618 Lb/MWh-gross CO<sub>2</sub> is lower than what has been achieved in practice (see comment 3).

In sum, EPA cannot rely on fuel switching, which changes the inherent nature of the regulated process and has not been demonstrated for co-firing in a new SCPS coal-fired boiler.

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<sup>9</sup> This estimate uses U.S. Department of Energy's March 2010 document "Estimating Carbon Dioxide Transport and Storage Costs" and assumes: 1) a new 550 MW supercritical coal unit in the Milwaukee area; 2) a cost factor of \$100,000 per inch-diameter per mile; 3) a 10-12 inch diameter pipe; and 4) 270 miles of piping. This estimate does not include any other infrastructure costs that may be needed to connect to sources.

<sup>10</sup> See e.g. *In Re: Prairie State Generating Company, LLC*, 13 E.A.D.3 (EAB 2006), *Sierra Club v EPA*, 499 F.3d 653 (7<sup>th</sup> Cir. 2007).

<sup>11</sup> Electric Power Research Institute, "Gas Cofiring Assessment for Coal Fired Utility Boilers: Final Report," August 2000, available at [www.epri.com](http://www.epri.com).

3. The base CO<sub>2</sub> emission rate EPA used in setting the NSPS coal plant limit is not reflective of achievable emission rates for new coal generation

In setting the NSPS in its final rule, EPA assumes a base emission rate of 1,618 CO<sub>2</sub> pounds per megawatt-hr gross (lbs/MWh-gross) for a SCPC generation unit. This is a change from the 1,800 CO<sub>2</sub> lbs/MWh-gross EPA assumed in the proposed rule. As noted in previous state comments, the Elm Road power plant in Wisconsin is comprised of the latest, most efficient and well-operated coal-fired generation units in the national fleet.<sup>12</sup> However, the demonstrated CO<sub>2</sub> emission rate for this plant is 1,950 lbs/MWh-gross, well above EPA's assumed base rate. EPA's base emission rate is unrealistic and far below actual current emission rates from the most technologically advanced coal plants.

4. The final baseload simple cycle combustion turbine (SCCT) NSPS is not achievable and effectively precludes constructing new SCCTs

EPA's final rule sets an emission limitation for new SCCTs operating for peaking generation based on an efficient and readily available new SCCT. However, the NSPS emission limitation for a new SCCT operating as a *baseload* unit is based on a more efficient combined cycle combustion turbine (NGCC) configuration. A new SCCT cannot meet this baseload emission limitation. Therefore, the final rule effectively precludes constructing a new SCCT for baseload purposes.

The rule needs to allow SCCTs to be built when they best fit the need. Otherwise, this may delay the replacement of existing SCCT capacity, or industrial combined heat and power units, thereby encouraging higher-emitting boilers and SCCTs to continue operating. SCCTs must also remain an option for applications not suitable for, or warranting the cost of, NGCC units.

In addition, since a NGCC is more efficient and will have lower fuel cost than a SCCT in baseload applications, there is already a cost incentive to install an NGCC over a SCCT, when appropriate. Lastly, similar to fuel switching, the CAA does not allow EPA to dictate what type of unit should be installed for specific applications.

For these reasons, the NSPS emission limitation for a baseload SCCT unit should be the same as for a peaking SCCT, which is equivalent to an efficient and readily available SCCT.

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<sup>12</sup> See Wisconsin's May 4, 2014 comment #3.D and the May 6, 2014 joint letter.