



November 30, 2014

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

Subject: Comments on EPA's Notice of Data Availability to the Proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, Docket ID No. EPA-HQ-OAR-2013-0602

Dear Administrator McCarthy:

The Wisconsin Department of Natural Resources (WDNR) is submitting these comments regarding the United States Environmental Protection Agency's (EPA's) notice of data availability (NODA) to the proposed "Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units" (EGUs) published on October 30, 2014 (79 FR 64543). These comments are in addition to, and supplement, the extensive comments submitted separately on this date by the State of Wisconsin on EPA's proposed Clean Power Plan ("Wisconsin's Clean Power Plan Comments"). Those comments are referenced throughout this letter, when appropriate.

First, we note that this NODA was released by EPA far too late in the comment period to inform necessary technical analyses, modeling, or otherwise be adequately reviewed. This lack of timely information on important elements of the proposal is unacceptable. The NODA offers additional alternatives to EPA's original proposal which, if adopted, would impact other important elements of the proposal. Therefore, it is critical that EPA provide the public with the opportunity to comment on the next version of the Clean Power Plan proposal, in its entirety, prior to finalizing any rule. With that as context, we provide the following comments on the specific alternatives raised by EPA in its NODA.

COMMENTS RELATED TO THE 2020-2029 GLIDE PATH

The EPA is taking comment on ways to mitigate the technical challenges states would face in meeting the interim goals beginning in 2020 (i.e., the emissions "cliff"). WDNR offers the following comments on this issue.

1. EPA should both allow credit for early emissions reductions and phase in building blocks 1 and 2 over time.

The EPA is taking comment on two approaches to mitigate these challenges. These approaches include allowing states credit for early reductions and phasing in building block 2 over time.

The State of Wisconsin advocated for both of these approaches in our comments on EPA's Clean Power Plan proposal.¹ It is essential that EPA allow states to bank early emission reduction credits for use during the compliance period. Doing so partially addresses the serious issues with equity among states that have and have

¹ See Wisconsin's Clean Power Plan comments, Part 1: General Comments, comments 10 and 19.

not already taken action to reduce their power sector CO₂ emissions, and it also removes the perverse incentive for states to delay action until the compliance period in order to receive more credit for those actions. It is also important that EPA allow credit for actions back to 2013, immediately following the baseline year of 2012. However, as allowing this early action credit will have very little effect on the “emissions cliff” for late-acting states, this approach is only a partial solution to the problem.

If EPA does not eliminate the state interim goals, EPA must, at a minimum, phase in both building blocks 1 and 2 when calculating state goals. Doing so is the only way to make a reasonable and achievable glide path for states that do not already have emission reduction programs in place.

EPA should not be concerned that using both approaches will make early acting states’ interim goals too lax, because all states will still be required to meet the same final goals and will thus have to install emission reduction measures during the interim period. Comments 2 and 3, below, specifically address adjustments to the interim goal for building blocks 1 and 2.

2. The timing and feasibility associated with building block 1 heat rate improvement (HRI) actions should be considered for any adjustments to the interim goal.

With regard to the 2020-2029 glide path, EPA is seeking comment on a suggestion from stakeholders that a phase-in of building block 1 would be appropriate.

EPA’s alternative proposal appropriately recognizes that the building block 1 HRI actions, as originally proposed, cannot be accomplished by 2020 when, among other reasons, approved plans are not expected prior to 2019. As noted in Wisconsin’s Clean Power Plan Comments regarding this issue,² EPA should eliminate the interim goal and allow each state to determine a schedule for compliance based on feasibility and cost.

3. Necessary additional infrastructure improvements and the timing associated with shifting from higher-emitting to lower-emitting generating units for meeting building block 2 requirements should be considered for any adjustments to the interim goal.

To facilitate further consideration of stakeholder concerns about the potential challenges associated with achieving all of the reductions that states may need to obtain as early as 2020, EPA is seeking comment on two additional specific adjustments to the interim goal calculations that would allow for a more gradual phase-in of building block 2 during the 2020-2029 period:

- *First, a phase-in schedule could be developed for building block 2 on the basis of whether, and to what extent, any additional infrastructure improvements (e.g., natural gas pipeline expansion or transmission improvements) are needed to support more use of existing natural gas-fired generation.*
- *Second, building block 2 could be modified to respond to stakeholder concerns about the pace with which generation in some states may need to be shifted from higher-emitting to lower-emitting units.*

Wisconsin commented on EPA’s Clean Power Plan proposal regarding these issues.³ EPA should eliminate the interim goal and allow each state to determine a schedule for compliance based on feasibility and cost. This approach would be similar to the state demonstrations of rate of progress already required under other parts of the Clean Air Act (CAA) and would rely on state determination of intermediate goals as part of their state plan.

However, if EPA chooses to retain the interim goals and allow states to phase in building block 2 over the 10-year compliance period, a phase-in schedule should consider additional necessary infrastructure improvements, due to

² Wisconsin’s Clean Power Plan Comments, Part 2: Building Block Comments, comments 13 and 23.

³ Wisconsin’s Clean Power Plan Comments, Part 1: General Comments, comment 10.

existing natural gas supply constraints and ensuring a reliable fuel supply. EPA should also consider the time required to integrate any transmission enhancements needed to address impacts to reliability from the proposed rule, as indicated by Midcontinent Independent Systems Operator (MISO) and North American Electric Reliability Corporation.^{4,5} MISO indicates that new transmission may be necessary to support new resources in order to comply with the rule and that the transmission planning process and construction could take between 6 and 10 years.

Relatedly, EPA's presumption that building block 2 can be implemented by 2020 is unrealistic. If EPA chooses to retain the interim goals and allows states to phase in building block 2, the time needed to shift from higher-emitting to lower-emitting generating units must definitely be provided for in the final rule. Building any combustion turbine NGCC capacity for new natural gas generation needed to comply with the rule will require at least five to seven years. It is clearly impossible for this capacity to be operational by 2020, given that it is very unlikely the state will have an approvable plan prior to 2019. Finally, EGU outages for equipment installations have to be coordinated by the independent system operators (ISOs). This planning and approval process, along with any necessary permitting, cannot occur by 2020.

COMMENTS RELATED TO THE STRINGENCY OF BUILDING BLOCK 2

4. EPA's rule should not result in a generation shift from coal to natural gas. If EPA decides to impose a rule that requires such a shift, EPA should not arbitrarily set a minimum floor requirement for states that currently have little or no NGCC capacity, as EPA contemplates in the NODA.

The EPA solicits comment on whether to establish some minimum value as a floor – and what that value should be – for the amount of generation shift for purposes of building block 2, whether that shift takes the form of re-dispatch from steam generation to existing natural gas combined cycle (NGCC) units, redispatch to new NGCC units, or co-firing natural gas in existing coal-fired boilers. In seeking comment on this area, EPA intends to help address a concern from stakeholders that the proposed approach to building block 2 creates disparities in state goals between those states with little or no NGCC generating capacity and those with significant amounts of NGCC capacity not currently being used fully.

Wisconsin agrees that EPA's original approach to building block 2 creates significant discrepancy between states. However, if EPA decides to require a generation shift when developing building block 2, Wisconsin does not support the alternative approach EPA contemplates in the NODA, which arbitrarily applies a minimum floor generation shift for all states. Instead, as detailed in comment 11, EPA should consider system-wide modeling for all building blocks together to inform how generation will move among states and what generation and emissions are offset in each state, including states without existing NGCC units, by the building block 2 requirements.

However, as noted Wisconsin's Clean Power Plan Comments, the CAA does not contemplate shifting generation between types of EGUs in setting a best system of emission reduction (BSER) requirement as EPA proposes in building block 2.⁶ Doing so is beyond the bounds set by the CAA, as BSER should reflect what is achievable and cost-effective for each specific source category and does not contemplate setting emission limits across different types of EGUs in the whole generation system. Also, expanding the shift to natural gas generation beyond the use of NGCC – to include fuel switching from coal to natural gas fuels directly at the steam boilers – is beyond the

⁴ "Outline of MISO Comments to EPA on Draft Clean Power Plan." Midcontinent Independent Systems Operator. November 2014.

⁵ "Potential Reliability Impacts of EPA's Proposed Clean Power Plan – Initial Reliability Review." North American Electric Reliability Corporation. November 2014.

⁶ Wisconsin's Clean Power Plan Comments, Part 2: Comments on Building Blocks, comment 2.

EPA's authority under the CAA, as BSER should not dictate the use of fuels or the capacity factor of an EGU in any manner.

5. EPA should develop building block 2 based on what has already been achieved by the NGCCs in each state, rather than what has been achieved at the regional level.

EPA seeks comment on the appropriate structure to use in considering regional availability of NGCC generation rather than just in-state availability of NGCC generation in setting building block 2 targets. EPA further seeks comment on the appropriate manner in which the goals could be derived and allocated among states in such a structure.

As noted in Wisconsin's Clean Power Plan Comments, EPA should adopt a bottom-up approach, letting individual states implement building block 2 using unit-specific information from within their respective states.⁷ This would allow the building block to accurately reflect both what a state has accomplished to date and what it can actually achieve in the future. This approach also recognizes what EPA has already acknowledged in its June 2014 proposal: that each state is starting in a different place and therefore must have a unique reduction goal. A state-specific, bottom-up approach would recognize states that took early action, like Wisconsin, have less they can reasonably achieve when compared to those that have done little.

Wisconsin offers additional comment on this issue in comment 11.

COMMENTS RELATED TO THE METHODOLOGY FOR BUILDING BLOCK 3

The EPA is requesting comment on a third approach to setting the renewable energy goal for states based on the regional renewable energy (RE) potential. WDNR offers the following comments on this issue.

6. EPA should not determine the RE development rate on a national basis.

The regional technical/economic potential approach on which EPA is soliciting comment relies on the use of the development rate for different types of RE. As outlined in an earlier TSD,⁸ this rate was determined based on the top third of states nationwide ("benchmark states") and is multiplied by the NREL-determined technical potential to determine the potential for that RE resource for each state.⁹

It is not appropriate for EPA to use the "benchmark states" chosen to determine the potential development rates for wind energy in the North Central states. These benchmark states are located in the West, Northeast and Southeast regions. Not a single benchmark state is located in the North Central region, the region with the greatest wind resources in the country. More importantly, the technical potential of each of the benchmark states is much lower than that of each of the North Central states, as shown in the table below. The benchmark state with the highest potential (California) has a potential only 62% of the lowest potential North Central state (Michigan). In contrast, the technical potential for wind in South Dakota is over 100,000 times higher than that of Delaware (which has a benchmark development rate of 17%).

⁷ Wisconsin's Clean Power Plan Comments, Part 2: Comments on Building Blocks, comment 4.

⁸ Alternative RE Approach Technical Support Document, released June 2, 2014.

⁹ This value is compared with the IPM model-determined projections of market potential for each state, and EPA used the minimum of these two numbers as the technical/market potential. Note that this approach was used for solar, wind and geothermal energy. EPA followed a different approach for hydropower and biomass energy.

There is no reason to believe South Dakota should be able to develop its wind resources to anything like the scale achieved by the much smaller potential state of Delaware, or even of California, which has 1/30th the wind potential of South Dakota spread out over a much larger area and integrated into a much larger power system.

Under this alternative, the very high-potential North Central states will therefore face substantial additional barriers and difficulties to integrating large amounts of intermittent wind energy into their existing transmission systems, as well as in developing new transmission lines. EPA must account for limitations in incorporating RE into the operation of the grid. The ability to overcome these barriers cannot be represented by the development rate of states with much lower potential. A potential alternative would be for EPA to evaluate the development rate on a regional, not national, basis.

	"Benchmark" States	North Central States
2012 generation	4 - 9,800 GWh	1,100 - 14,000 GWh
NREL-determined technical potential	22 - 90,000 GWh	144,000 - 2,900,000 GWh
Development rate	2% - 26% (9% average)	0.1% - 1.2%

7. EPA should allocate regional RE generation based on total generation, not total sales.

EPA requests comment on the criteria that should be used for reapportioning state RE targets within given regions, and suggests that either total electricity sales or total generation might be useful criteria for such an approach.

The total generation is the most appropriate criteria for reallocation of RE generation within regions. EPA bases the requirements for building blocks 1, 2 and 3a (nuclear) on generation, not sales, and generation could be said to be the “currency” of the proposal. The only exception is with energy efficiency, which, by its nature, tracks sales rather than generation (by lowering demand at all facilities that serve that state). However, renewable energy is more closely tied to total generation than to total sales, so reapportionment should track generation.

8. EPA should not limit RE purchases to states within a given region and, in particular, should allow purchases from Canada and Mexico.

As discussed in Wisconsin’s Clean Power Plan Comments,¹⁰ Wisconsin currently purchases significant wind energy from Manitoba, Canada. Wisconsin utilities have contracts in place to significantly expand purchases of wind energy and hydropower in the future. EPA should allow such international RE purchases to count towards compliance, even though this RE originated from outside the region and the country. Manitoba and Wisconsin are both part of MISO, so as a practical matter, electricity generated in this province may be used to meet demand in Wisconsin regardless. Similarly, EPA should not limit states from using RE for compliance with the rule just because that RE originated in a different region.

¹⁰ Wisconsin’s Clean Power Plan Comments, Part 2: Comments on Building Blocks, comment 34.

COMMENTS RELATED TO CALCULATING STATE-SPECIFIC CO₂ GOALS

The EPA is taking comment on ways to adjust the goal calculation formula and their choice of baseline year. Wisconsin offers the following comments on these issues.

9. EPA should assume that incremental RE and EE first displace growth in fossil generation and then replace generation from either NGCC units or from the fossil fleet on a pro rata basis, if EPA assumes these incremental measures displace fossil generation at all.

EPA solicits comment on approaches to apply generation from building blocks 3 and 4 to reduce fossil generation in the goal calculation. They discuss approaches to displace either historical fossil generation on a pro rata basis or prioritizing fossil steam generation and also ask whether incremental RE and EE should first be assumed to displace future growth in fossil generation.

If EPA assumes that incremental RE and EE displaces fossil generation in the goal calculation formula, they must assume that this incremental generation would first displace growth in fossil energy sources (i.e., new fossil generation) before displacing any existing generation. An alternative means of determining how RE and EE displaces generation is to model these actions along with the other building blocks as discussed in comment 11. A modeling exercise will show how actions offset generation through the entire electric supply system.

If EPA assumes that these incremental measures (RE and EE) displace fossil generation, they should be assumed to do so in a pro rata (i.e., proportional) manner or be assumed to replace NGCC generation. It is completely unrealistic to assume these measures would preferentially displace coal steam generation. RE generation is inherently intermittent and tends to displace other, more easily dispatchable electricity sources such as NGCC units instead of baseload coal power. EPA often assumes that NGCC units are the marginal units on the grid, so it is more likely that incremental RE and EE would displace these units. At the very least, EPA should assume that incremental RE and EE displace fossil generation on a pro rata basis.

In addition, if EPA uses any calculations of future growth rates in its goal-setting methodology, they should use growth rates that are derived from the ISOs and RTOs, rather than the regional estimates from EIA. MISO, the Midcontinent ISO that includes Wisconsin, uses a growth rate of 0.8% per year¹¹ for states in the ISO, whereas EPA used a much lower estimate of 0.40% per year based on EIA's estimates for the MRO East region. The ISOs and RTOs are in the best position to forecast future growth, and EPA should rely on them for any growth rates used.

This question also highlights the importance of EPA conducting a system-wide analysis of the impacts of applying all of the building blocks together rather than the piecemeal analysis they have done. For all of the scenarios discussed above (with the exception of replacing entirely coal generation), adjusting fossil generation in this manner drives NGCC dispatch below the 70% goal of building block 2.

10. EPA should use a baseline based on an average of several years and allow states to adjust this baseline.

EPA requests comment on whether they should use a different single data year or the average of a combination of years for the goal calculation and whether state-specific circumstances exist that could justify using different data years for individual states.

¹¹ As shown in MISO's 2014 Carbon Analysis Study Assumptions (November 12, 2014): <https://www.misoenergy.org/Library/Repository/Communication%20Material/EPA%20Regulations/2014CarbonAnalysisAssumptions.pdf>.

This issue is addressed in great depth in Wisconsin's Clean Power Plan Comments.¹² Using a single baseline year is problematic for a number of different reasons, and the selection of 2012 as that baseline year is particularly troublesome. EPA should instead use a multi-year baseline that is more representative of normal system operation, addresses the considerable year-to-year variability in the power sector, and is more reflective of early actions to reduce CO₂ emissions. Ideally, any multiyear baseline selected should include the year 2005 to credit early action and EPA should allow states to adjust this baseline to account for specific actions back to 2000.

COMMENT RELATED TO BUILDING BLOCK INTERACTION AND APPLYING REGIONAL REQUIREMENTS

EPA in this NODA has asked for comment on how to allocate NGCC dispatch on a regional basis, whether all states with coal-fired EGUs should be subject to a minimum amount of generation offset by natural gas generation, and whether EE and RE should offset coal-fired generation. WDNR offers the following comments on this issue.

11. EPA must determine the requirement for each state based on evaluating the interactions of the building blocks and the response of the electric generation system as a whole.

Wisconsin's Clean Power Plan Comments pointed out that EPA must first use a bottom-up approach in establishing building blocks that are achievable in each state.¹³ EPA must then take an additional step of evaluating the interaction of the building blocks across the states in context of the entire electric generation system. This is necessarily an iterative process where the interaction of the building blocks will inform adjustments to the final determination of achievable building blocks for each state. In the past, EPA used the Integrated Planning Model (IPM) to perform such evaluations, including development of the proposed CAA 111(b) NSPS standards. The IPM model is not a perfect tool that identifies all issues and constraints, but it will provide a more comprehensive representation of the collective impacts caused by the interactions of the proposed building block. For this reason, EPA will also have to consider adjustments to the IPM results raised by each state.

This type of evaluation is needed to understand many of the questions raised by EPA in this NODA. Specifically, building block 2 should not be based on an arbitrarily-applied generation offset to each state. Instead, the building block should be based on what has been demonstrated to be achievable in each state at existing NGCC units. The IPM model should then be run based on these NGCC capacity factors for each state. The model will re-dispatch generation through the grid, regardless of state or regional boundaries, based on cost-effectiveness and taking into account available generation resources. This same exercise applies to establishing EE and RE offset of other generation resources.

This type of analysis applies to all of the building blocks being considered by EPA. In addition to the interaction of the building blocks, the modeling accounts for electricity growth, nuclear plant retirements, and the real operation of the electric system. The modeling should also reflect constraints identified in our comments, including keeping major coal-fired EGUs with major investments in operation and maintaining coal-fired EGUs at capacity factors of 50% annually or greater to avoid efficiency losses. The results of this system-wide modeling, for all building blocks together, should then be used to inform how generation will move among states, what generation and emissions are offset by the building block requirements, and finally the resulting emission targets in each state. This is similar to how EPA established state emission budgets under the Clean Air Interstate Rule (CAIR) and the Cross-State Air Pollution Rule (CSAPR).

¹² Wisconsin's CPP comments, Part 1: General Comments, comment 8.

¹³ Wisconsin's Clean Power Plan Comments, Part 2: Comments on Building Blocks, comment 4.

The comments set forth in this letter should not be interpreted as Wisconsin's endorsement of this initiative. We note there are significant legal and policy issues regarding EPA's authority to regulate CO₂ emitted from existing fossil fuel electric power plants. Therefore, these comments do not waive any future legal claims or proceedings that Wisconsin may have regarding the promulgation or enforcement of the regulations.

Thank you for the opportunity to comment on this NODA to the Clean Power Plan. Please contact David Bizot at 608-267-7543 or David.Bizot@wisconsin.gov if you have any questions concerning our comments.

Sincerely,



Bart Sponseller
Director, Air Management Program

cc: Ellen Nowak, Commissioner, Public Service Commission of Wisconsin
Pat Stevens, Administrator, Division of Air, Waste, and R&R