cleanwisconsin
your environmental voice since 1970

August 29, 2014

To: Angela Dickens, Wisconsin Department of Natural Resources
Delanie Breuer, Public Service Commission of Wisconsin

From: Keith Reopelle, Clean Wisconsin

Subject: "WDNR and PSCW Questions on EPA's Clean Power Plan Proposal."

Clean Wisconsin thanks you for your analysis of the EPA Clean Power Plan, for taking the time to formulate specific questions for stakeholders, and for this opportunity to respond to these questions and help inform the state's comments to EPA on this important carbon pollution rule proposal. The following comments represent our thinking to date about the EPA proposed rule, but we will continue to share our thoughts and ideas as our evaluation evolves and as we develop what we believe is the best system of carbon pollution reductions for the power sector.

Reflecting on our discussions with other stakeholders in the state, we do have a concern that based on your outreach efforts to date, that you may not hear from all of the stakeholders in Wisconsin who have a stake in this proposed rule. Therefore, we have reached out and encouraged other stakeholders to engage with you and we hope that you will consider the perspectives of all the citizens and stakeholders in the state.

I. Overarching Issues

Electric reliability is always a concern for all stakeholders. There is no reason to think that the reduction schedule that EPA has proposed for Wisconsin will pose a threat to system reliability. Integration of renewable resources and increased dispatch of natural gas are long-standing functions of grid operators in Wisconsin and throughout the Midwest. The EPA deliberately created a long compliance horizon in the Clean Power Plan in order to provide all stakeholders with sufficient time to take thoughtful, informed, and deliberate actions. With over a ten year compliance period currently envisioned, states have more than a sufficient amount of time to anticipate any adverse impacts that the Clean Power Plan may have on electric reliability and subsequently address them in coordination with regional grid operators and other states.

Toward that end, there are meaningful steps that Wisconsin can take in preparation for any electric reliability concerns. The ISO/RTO Council suggests that, similar to an enforcement

policy related to the MATS rule, states work with their respective ISO/RTO organization to create a "'Reliability Safety Valve' that provides for reliability assessments and solutions, as well as the requisite compliance and/or enforcement flexibility to implement the reliability solutions" and "allows for implementation of [the Reliability Safety Valve] by incorporating a reliability review conducted by the relevant system operator, working with the states and relevant reliability regulators, prior to finalization and approval of the SIP."[1] The Department can and should work with MISO on assessing any electric reliability issues and subsequently address them through a mechanism such as the Reliability Safety Valve. At this time, there is no reason to believe that the Clean Power Plan will unduly impact electric reliability.

Stranded costs are a concern for ratepayers but more so for shareholders. Cost period is a more important overarching issue and we are encouraged that EPA designed a proposed rule that is based on the strategies with the lowest cost. Furthermore, states have the authority to pursue a compliance strategy that bests fits their unique circumstances. If a state made avoiding stranded costs a priority in its compliance plan, the state is empowered to do that under the Clean Power Plan so long as it achieves the necessary reductions. The Clean Power Plan is an opportunity for both utilities and independent power producers to maximize their value to their shareholders and to ratepayers by making smart investments in clean energy technologies.

We are concerned that among the issues the Department has identified you are not seeking comment on any of the potential benefits of the rule. We believe the biggest overarching issue is whether the proposed rule will make a significant difference in mitigating the adverse environmental and public health impacts that are certain to come absent this rule and many other actions. Given the Department's mission, it is somewhat shocking that in your list of roughly 80 questions not one of them hints at environmental or human health protection.

We would also suggest that the Department analyze the potential co-benefits that the Clean Power Plan may have, and implement compliance measures that help the Department fulfill other statutory and regulatory obligations. The Department can and should see the Clean Power Plan as a powerful regulatory vehicle toward a cleaner environment and a healthier population, and should solicit feedback from all stakeholders to help find opportunities for co-benefits, and specifically in how the Clean Power Plan may help power producers comply with existing laws and regulations. We have environmental justice concerns with the some approaches to carbon reductions and maximizing co-benefits of other air pollutants is an important to help reduce the health impact burden that is inevitably disproportionately borne by low-income communities.

A system approach to setting BSER is clearly superior to a unit-based approach. A unit-based (inside the fence-line) approach is bound to cost more and achieve far, far less (assuming it's a

---

[1] ISO/RTO Council Report, "EPA CO2 Rule – ISO/RTO Council Reliability Safety Valve and Regional Compliance Measurement and Proposals". January 28, 2014. Accessed at: http://www.isorto.org/Documents/Report/20140128_IRCProposal-ReliabilitySafetyValve-RegionalComplianceMeasurement_EPA-C02Rule.pdf

half-way honest approach to addressing the problem of global warming). The system approach to setting the BSER better accounts for the integrated nature of our electrical system and provides a much greater range of compliance measures than does a unit-based approach. A unit-based approach would exacerbate utility concerns over compliance costs and decrease the Department's flexibility in creating a least-cost compliance strategy.

II. Setting State Goals

a. Baseline

We are supportive of an implementation plan that recognizes and rewards early action; early action that has occurred in the past AND early action as defined as action that can be taken between now and the time when state implementation plans are submitted and approved. It's important to distinguish the setting of a baseline for the purposes of setting a reduction target as opposed to setting a baseline for the purpose of compliance budgets. EPA set the reduction targets for each state based on calculations of emission reduction opportunities between the time they wrote the rule (most recent reliable data – 2012) and a flexible target date in the future. They also calculated what the emission reductions would be between 2005 and 2030. Neither of these exercises has any impact on whether or not utilities receive "credit" for early reductions.

The concept of credit for early reductions only makes sense in the context of compliance requirements. EPA has not proposed ANY compliance requirement limitations, so their proposal is silent on the issue of credit for early reductions and would therefore presumably allow states to attribute credit for early actions in their implementation plans. To the extent that the baseline is set to reward early action for the purpose of compliance, the threshold question is whether you want that baseline set by EPA (which would mean EPA dictates some of the compliance/implementation plan) or, as EPA is proposing in its draft rule, to leave it to the states to determine the best way to reward early action in the compliance requirements (implementation plan).

If EPA were to set the baseline for compliance and dictate how much credit is given for early action, clearly states would be losing control and flexibility relative to EPA's proposed rule. We think that states should have maximum flexibility and we would support a state implementation plan that which rewards utilities for early action and incentives more early action.

In general this question about the baseline is extremely confusing because it is asked in a way that suggests a lack of understanding of what EPA has proposed, yet we know that DNR staff understands the proposed rule very well.

b. Building Blocks

The "Building Block" approach to setting state goals is both appropriate and legally defensible. The EPA is required to make a determination of "best system of emissions reduction" ('BSER') for existing sources of pollution under CAA 111(d), It is based on a standard of performance that "reflects the degree of emission limitation achievable through the application of the best system of emission reduction...adequately demonstrated."[2] The EPA's approach to BSER is a systems approach, accounting for the integrated nature of the electrical system and the fungibility of electricity. The Building Blocks are measures that combine direct actions on the specific, carbon pollution-emitting EGUs (Building Block 1) with indirect actions that have an impact on those specific, carbon-emitting EGUs (Building Blocks 2, 3, and 4) that result in a reduction of carbon pollution.

The "Building Blocks" approach is the 'best' system of emission reduction because they achieve significant reductions of the pollutant, incentivize the deployment and further development of technology and practices that reduce the pollutant, are largely consistent with a general, historical trend of 'decarbonization' of the energy sector, dating back to the Industrial Revolution, and, lastly, achieve significant reductions at appropriate costs consistent with existing sector practices and technologies. This determination is in line with both the judicial authority granted to the EPA to regulate carbon pollution under the CAA as well as other administrative rulemaking proceedings where the EPA has determined BSER.

i. Block 1: Heat Rate Improvements

For the sake of calculating the state goals, the application of a uniform increase in the improvement of the heat rate of affected EGUs is appropriate. It is in no way construed by the EPA to be a legally binding compliance measure. While some EGUs in Wisconsin may not be able to achieve a 4% improvement in heat rate or a 2% improvement through equipment upgrades, compliance options for Wisconsin are not limited to a general heat rate improvement. Wisconsin can easily pursue compliance measures ranging from determining which affected EGUs are ripe for retirement to an efficiency-based re-dispatch, among countless others that are relevant to Building Block 1.

Our own analysis has shown that an 'efficiency-based re-dispatch', that is, the re-dispatch of generation from less-efficient to more efficient coal plants, could alone account for a 5% improvement in Wisconsin overall emissions per unit output for coal plants in Wisconsin.

It is true that increased operation of natural gas power plants per building block two will affect the overall required level of operation of coal plants. However, is not necessarily the case that

[2] 42 U.S.C. §7411(a)(1)

this will result in decreased capacity factors or EGU efficiencies. Indeed an intelligently dispatched system, which would include the efficiency-based re-dispatch of coal plants that is a compliance mechanism under Building Block 1, would result in increased capacity factors at the most efficient coal plants regardless of actions taken per Building Block 2.

The absence of any questions related to what possible co-benefits this Building Block may have is glaring. Improving the efficiency of affected EGUs could result in substantial reductions of other pollutants regulated under the CAA and that affect environmental and public health in Wisconsin. Additionally, re-dispatching from less efficient EGUs (presumably older) to more efficient EGUs (presumably newer) would also result in less emissions of other pollutants, as the newer units are likely to have greater and more effective pollution controls. Any reduction in the use of coal-fired EGUs or improvement in the efficiency of coal-fired EGUs have significant and quantifiable impacts on environmental and public health and should be considered by the Department in its formulation of a compliance strategy for Wisconsin.

ii. Block 2: Increased Dispatch of NGCC Units

According to a report by the Massachusetts Institute of Technology, natural gas combined cycle power generators are able to operate at capacities as high as 85%.[3] While there are a variety of factors that determine dispatch, there is no technical limitation for NGCC to ramp up their capacity to factor to at least 70%, as assumed by the EPA. An analysis conducted by Synapse Energy Economics, Inc. concluded that in the eGRID subregions that Wisconsin is in, there is a combined potential to increase generation from NGCC to 54 TWh assuming an 80% capacity factor.[4] They also conclude that there is "ample, existing, unused potential that would require no additional plant construction costs to displace the generation from existing coal capacity."[5]

Our own analysis of NGCC EGUs in Wisconsin provides evidence both that those units could operate at higher capacity factors, and that there is significant room for increases in operation. In particular, we found that half of the fleet was operating at capacity factors between 45% and 55% in 2012, with an overall system average of just under 40% . These capacity factors are significantly higher than those of so-called "peaking plants," which have an average capacity factor of less than 10% in the Midwest Reliability Organization's territory, according to the EIA,[6] suggesting that they could easily ramp up in the short-term, even before 2020, without a

---

[3] Rachakonda, Anil, "Potentially available natural gas combined cycle capacity : opportunities for substantial CO_2 emissions reductions." 2010. Accessed at: http://dspace.mit.edu/handle/1721.1/62774.

[4] Synapse Energy Economics, "Displacing Coal: An Analysis of Natural Gas Potential in the 2012 Electric System Dispatch," at 6. August 2013. Accessed at: http://www.synapse-energy.com/Downloads/SynapseReport.2013-09.EF.Displacing-Coal.13-020.pdf

[5] *Id.*, at 1.

[6] http://www.eia.gov/todayinenergy/detail.cfm?id=13191

significant impact on their existing operation. Again, there is no technical reason why all other NGCC EGUs in Wisconsin could not ramp up dispatch to 70%.

iii. Block 3b: Increased Generation of Renewable Energy

The method employed by the EPA to calculate the renewable energy goal for each state is based on a regional average of existing state renewable energy portfolio standards (RPS). RPS are a widely used and understood policy mechanism used by states to meaningfully develop renewable energy resources in their respective states. Clean Wisconsin feels that a technical potential analysis would be more appropriate in setting the renewable energy goal for each state, as it does a better job at accounting for the specific circumstances for each state and better illustrates the enormous potential that Wisconsin has to develop its own renewable energy resources. The Department should be soliciting feedback with regards to the economic and environmental benefits of developing in-state renewable energy resources and what compliance options would be best to encourage the development of renewable energy in Wisconsin.

There is significant technical potential in Wisconsin to greatly expand our use of renewable energy. In July 2012, NREL published a report that performed a technology-by-technology analysis on the renewable energy potential in the U.S.[7] Broadly, the results of the report represents the "achievable energy generation of a particular technology given system performance, topographic limitations, environmental, and land-use constraints." This report analyzed the technical potential of several renewable energy technologies in every state in the U.S. The report found that Wisconsin has enormous technical potential for renewable energy: the potential for approximately 3,523 GW of installed capacity and upwards of 6,347 TWh of generation capacity. Contrast this with our current installed RE capacity of 1.684 GW and only 4.75 TWh of generation. It is therefore entirely possible, on a purely technical basis, for Wisconsin to expand renewable generation to 11% of total generation by relying only on in-state resources.

However, it is not necessary that Wisconsin derives all of its renewable energy generation from in-state sources. The Clean Power Plan makes it explicitly clear that out-of-state renewable generation can be counted as a state's compliance measure. There is already a sufficient system to track renewable energy credits (RECs) and it wouldn't likely need any major modifications in order to be used to account for and verify out-of-state purchases of renewable energy.

Clean Wisconsin supports the utilities continued use of both in-state and out-of-state renewable resources to meet electric demand in Wisconsin, and the infrastructure needed to utilize those resources.

---

[7] National Renewable Energy Laboratory, "U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis." July 2012. Accessed at: http://www.nrel.gov/docs/fy12osti/51946.pdf

iv. Block 4: Energy Efficiency

Energy efficiency is the most cost-effective compliance measure available to states. According to the American Council for an Energy-Efficient Economy, on a levelized cost of energy (LCOE) basis, energy efficiency is the least cost resource—with an average cost of 2.8 cents per kWh.[8] Even more compelling, energy efficiency had a cost of only 1.5 cents per kWh in Wisconsin in 2012.[9] Not only is energy efficiency a "no regrets" policy for Wisconsin's overall energy policy based on its cost alone, it has enormous potential to be an effective compliance measure in Wisconsin.

Focus on Energy has a proven track record of success. It provides almost $3 in primary economic benefits for every $1 spent on its energy efficiency programs. Furthermore, when secondary economic benefits such as jobs and spending are considered, Focus on Energy provides over $7 in benefits for every $1 in cost.[10]

The Focus on Energy program should remain the centerpiece of Wisconsin's energy efficiency strategy, and serve as the compliance vehicle for Building Block 4 of the Clean Power Plan. In 2009, the Energy Center of Wisconsin ("ECW") determined that by 2012, Wisconsin could obtain annual energy savings equivalent to 1.6% of total electricity sales.[11] Contrasted with EPA's assumption that Wisconsin will achieve energy savings equal to 1.5% of total electricity sales by 2020, we have an enormous opportunity to make energy efficiency a central compliance strategy in Wisconsin. In this same report, ECW found that Wisconsin could achieve cumulative energy efficiency savings of 13.0% of total electricity sales by 2018.[12] This stands in stark contrast to EPA's assumption that Wisconsin can achieve cumulative energy efficiency savings of 12.17% by 2030. By expanding the Focus on Energy program that provides funding for qualifying energy efficiency projects around our state, Wisconsin can relatively easily achieve the goal EPA set for our state under the Clean Power Plan.

However, the FOE program is just one delivery system for energy efficiency achievement and we should take advantage of others. Some EE programs, such as certain behavior programs, lend themselves better to being run by the utilities themselves and we will work with the PSC and utilities to determine the most appropriate role for utility-run programs in Wisconsin. In

---

[8] Maggie Molina, ACEEE, "The Best Value for America's Energy Dollar: A National Review of the Cost of Utility Energy Efficiency Programs," at iii. March 2014. Accessed at: http://www.aceee.org/research-report/u1402

[9] *Id.*, at 19. See Table 3.

[10] The Cadmus Group, Inc. "Focus on Energy Calendar Year 2012 Economic Impacts Report." Public Service Commission of Wisconsin (November, 2013).

[11] Energy Center of Wisconsin, "Energy Efficiency and Customer-Sited Renewable Resource Potential in Wisconsin," at EE-2. Accessed at: http://psc.wi.gov/reports/documents/wipotentialfinal.pdf

[12] *Id.*

addition, there are a number of opportunities for the state to increase electric efficiency that are currently being missed. A great example is the state building codes which have not been updated in many years. Wisconsin's current codes are similar to the 2009 vintage of the International Energy Conservation Code. Most states have adopted the 2012 version of that code and the 2015 version is, or will soon be, available. Wisconsin, once a building code leader, has fallen way behind. While types of efficiency improvements are allowed and can assist in meeting the overall emissions reduction goals as laid out in the Clean Power Plan, it will be up to Wisconsin to determine the precise method of providing credit to utilities in the state compliance plan. We would like to be part of a discussion about how Wisconsin utilities can receive credit for efficiency gains through building codes and other efficiency measures by helping with stronger code adoption and compliance. This has been done in several other states.

Lastly, the rule needs to account for and encourage private sector ESCO efficiency projects such as performance contracting conducted by Johnson Controls and others. This is only one example of countless ways the Clean Power Plan can be viewed as an opportunity for states rather than a burden. EPA should give significantly more guidance in their final rule on EM&V procedures and how to track and credit these commercial and industrial projects financed in the private sector. Unlocking more pathways for energy efficiency to play a role in Wisconsin's compliance strategy can lead to significant economic benefits.

c. Alternative Approaches

There are many aspects of the Clean Power Plan that are conservative projections of what states can achieve. Clean Wisconsin believes that our state is well positioned to far exceed the requirements that the EPA is proposing, and so an even less stringent approach will only limit our potential for greater carbon pollution reductions and public health benefits. Further, a shorter compliance window as outlined in the alternative approach provides less time for states in implementing their plans.

III. Compliance with the Rule

a. Compliance Flexibility

The flexibility in the rule is extremely robust. That's a good thing. EPA is basically giving the states 100% latitude in deciding how to reduce its emissions. The only sidebar on how reductions can be made is requiring that they be made within the source category – the electric sector. This is a critical distinction for many reasons including legal reasons. Given that EPA is required to set a BSER for each major source of stationary emissions it is important that they not require or allow one source to count reductions in another source that is yet to be regulated.

There may be limited exceptions to this general rule and you have noted one in your question which is CHP. The proposed rule is somewhat vague on the treatment of CHP and we would argue that the emission reductions achieved by reducing fossil heating that is replaced with the waste heat from a CHP unit is integral to the EGU. In the case of CHP units owned by utilities this rule seems to clearly be the best opportunity to capture those emission reductions but even in the case of an industrial self-generator, we view this rule as an opportunity that such potential projects do not fall between the regulatory cracks.

EPA is also affording states tremendous flexibility in giving states a timeline with two compliance dates, one of 2030 which is 15 years from now and 12 years after EPA is likely to approve state plans, and an interim goal which an average over 10 years (from 2020 to 2030). States need to show progress towards the average reduction (they can't wait until the last minutes) but this is still very flexible. This gives states ample time to enact any necessary legislation and undergo the long-term planning necessary to ultimately implement compliance plans in an informed, deliberative, and comprehensive way.

b. Responsible Parties

As you have described emission limit approaches and portfolio approaches the proposed rule does not seem to preclude either approach but rather encourage both. In addition to utilities is makes sense to for states to be responsible parties for lots of reasons. Beyond utilities and the state it becomes difficult to consider stand-alone responsible parties.

EPA should give more guidance in the final rule on the treatment of entities such as ESCOs that will be delivering EE achievement through performance contracting directly with large commercial and industrial customers.

c. Rate and Mass based Standards

There are potential advantages and disadvantages of both rate- and mass-based standards. The fact that the EPA allow states to propose their own conversion methods is another good example of unprecedented flexibility, and will allow states to take their own particular situations and detailed knowledge into account. However, it would be useful if EPA would give more guidance on acceptable methodologies for determining mass-based targets. It would also be useful if EPA did this calculation for each state and offered those as alternative targets. Generally, we anticipate that conversion to a mass-based standard will provide a level of certainty that the proposed rate-based standard does not.

d. Use of New Facilities for Compliance

We do not see any significant problems with using newly constructed EGU's (e.g. new NGCC units) that are allowable under 111(b) to be used for compliance under 111(d). We understand why EPA did not spend more time defining their use or including them in one of the building blocks – because they were focused on the lowest cost solutions, but we do think that new, natural gas fired combined heat and power units in particular, could play an important role in compliance with the proposed rules so long as their use is Wisconsin's compliance strategy is coupled with concomitant reductions from existing fossil-fueled power plants.

e. Expansion of Renewables

N/A

f. Interstate Effects – RE

We do feel it is appropriate to count renewable generation from other states as long as it is not double counted. As mentioned earlier, the EPA explicitly states that renewable energy generated out of state will count toward a state's compliance plan, and there already mechanisms in place to track RECs. Augmenting these existing mechanisms to be useful for compliance accounting and verification should not be a major, or even a minor, obstacle in complying with the Clean Power Plan.

g. Interstate Effects – EE

We believe that the credit for emissions savings that result from energy efficiency measures should be assigned to the states in which those measures are implemented. We recognize that there are potential complications associated with cross-border effects due to the interconnectedness of the electricity system, however we don't think that net importers of electricity like Wisconsin should be effectively penalized at the point of energy efficiency for a lack of immediate control over electricity sources. These types of interactions are instead related to dispatch and more appropriately and effectively handled in that context.

h. Trading Program

Yes, emissions averaging and trading are important tools to ensure a more efficient implementation of the emissions reductions required under the Clean Power Plan. However, the

manner in which averaging and trading are conducted is both a challenging and important issue for implementation, and can have a significant impact on their ultimate effectiveness. As a result, the EPA should provide both guidance for states or regions wishing to implement their own programs, and a default national trading program for states wishing to opt-in to such a program. In order to maintain flexibility, the guidance and national program provided should allow for the participation of states that are using either a rate-based or mass-based compliance plans.

i. Displacement of generation/emissions

While it may be helpful for the EPA to provide suggested guidance on this issue, the way in which emissions reduction from renewable energy or energy efficiency measures will be determined is ultimately a question to be addressed in state compliance plans.

j. Federal Enforceability of Compliance Measures

No, there is no fundamental reason that existing state programs in Wisconsin should not become federally enforceable; federal enforceability is not anticipated to have any negative impacts (e.g. loss of state control) on those programs.

k. Regional Approaches to Compliance

Wisconsin should carefully consider participating in a regional or national approach to compliance before committing to any particular compliance pathway. A regional or national approach to compliance may have opportunities for cost-effectiveness that a state approach may not be able to provide. Cooperating in a regional or national approach can allow Wisconsin to focus on sharing our strengths while relying on other states to assist us with our weaknesses. However, these advantages to regional cooperation should be weighed against other items of consideration, including effects of participation on direct economic and environmental impacts in the state, and the (e.g. job potential effects on ancillary benefits to the state associated with carbon pollution reductions at EGUs opportunities in the clean energy sector, money kept in state instead of importing fuels or electricity, emissions reductions of other pollutants, reduced electricity bills associated with efficiency measures, etc.).

l. Treatment of Biomass

Due to Wisconsin's recognized history and knowledge of using biomass for energy, the state could play a significant role in helping EPA determine how to treat biomass in the rules. When properly conducted, there is no doubt that replacing fossil fuels with biomass for electricity generation can have environmental benefits. In formulating comments to the EPA however, it is important to note that the basis of the rules is the endangerment finding for carbon vis-à-vis public health and welfare.

In this context, EPA should not assume that all biomass generation is carbon neutral. While the carbon emissions from biomass are part of what is called "biogenic carbon cycle" as opposed to the "geologic carbon cycle," they still result in net increases in the levels of greenhouse gases in the atmosphere – particularly in short- to medium- time horizons. Indeed, the carbon emissions from some biomass plants are greater than those from coal plants. EPA should differentiate between different biomass feedstocks a way that matches the reality and life-cycle nature of biomass carbon emissions. This would give more carbon reduction credit to those that use waste streams, and would likely result in some biomass energy applications being net positive, some net neutral, and some net negative with regard to carbon emissions. One example of particular interest in Wisconsin is that of anaerobic digesters, which should get credit both for fossil-fuel displacement and for methane destruction. Those methane reductions would not likely be addressed in a separate rule on methane sources.

Thank you very much for this opportunity to comment.

Sincerely,

Keith Reopelle, Senior Policy Director

Clean Wisconsin