



Wisconsin
Electric
Cooperative
Association



Municipal
Electric
Utilities of
Wisconsin

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1200 Pennsylvania Avenue, NW.
Washington, DC 20460

Subject: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units [Docket No. EPA-HQ-OAR-2013-0602]

Via Electronic Submission to Federal eRulemaking portal:

<http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2013-0602-0001>

On behalf of Wisconsin's electric utilities, the Wisconsin Utilities Association (WUA), Wisconsin Electric Cooperative Association (WECA) and Municipal Electric Utilities of Wisconsin (MEUW) respectfully offer the following comments to the U.S. Environmental Protection Agency (EPA) regarding the proposed Clean Power Plan.

The following Wisconsin utilities have developed these comments as a joint working group on the EPA's Clean Power Plan Proposal:

- Dairyland Power Cooperative
- Madison Gas and Electric Company
- Northern States Power Company (Xcel Energy)
- We Energies
- Wisconsin Power and Light Company
- Wisconsin Public Service Corporation
- WPPI Energy

Together, these utilities account for over 90% of retail electric sales in Wisconsin. The response below provides joint perspective on the EPA proposal. In addition, some of the utilities will be providing company-specific comments. Hereinafter, the term "Wisconsin utilities" as used throughout this document shall mean those companies listed above.

Before addressing specific issues, we highlight some of our most significant concerns with the proposed rule.

Early Action and Equity between States

As a state, Wisconsin should be well-positioned to comply with a rule that limits carbon dioxide (CO₂) emissions. EPA's Clean Power Plan purports to reduce overall CO₂ emissions nationwide by 30% from 2005 levels. Since 2005, Wisconsin utilities have taken actions that reduced our CO₂ emissions by over 15% on a mass basis for the 2005 to 2012 period. However, the EPA's goal-setting methodology and use of a 2012 baseline for the purpose of setting state goals generally fails to recognize emission-reducing actions taken by states prior to 2012.

By assigning state-by-state emission reduction requirements using a baseline year of 2012, the proposed rule often requires deeper cuts by states that have taken early action than by states that have not. Wisconsin, for example, would be expected to reduce its CO₂ emission rate by more than 34% by 2030. Other states, including many who have done less to reduce CO₂ emissions to date, are given less stringent reduction targets.

Multi-state/Regional Approach

We believe that the most cost-effective compliance regime will embrace multi-state or regional solutions. While the proposed rule does contemplate such multi-state solutions, one of EPA's concepts of a regional approach — under which participating states would average their emissions rate goals to create a single regional goal — will likely be unattractive to many states. In particular, there is little reason to expect that states with goals less stringent than such an average would be willing to accept a more stringent regional average goal. Therefore, EPA should also state that an acceptable regional approach option would allow multiple states to retain their individual goals, while providing for trading between states of credits representing tons of emissions or megawatt-hours (MWh) of generation. EPA or another third party entity could provide a credit tracking system to be used by states wishing to participate.

Pace of Emission Reductions

The proposed rule's emission reduction goals are front-loaded, potentially resulting in unintended consequences that could impact Wisconsin utilities' ability to provide affordable and reliable energy to our customers. States would have until 2030 to comply with the rule's final emission goals, but Wisconsin's interim goal would require the state to be over 87% of the way toward this final goal during the decade beginning in 2020. While compliance with the interim goal would be measured on a 10-year average basis between 2020 and 2029, any delay in reducing emissions in the early years of this period would have to be compensated for by reducing emissions below the final goal in the later years.

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Since the state's plan may not be approved by EPA until as late as the middle of 2019, requiring such a significant emission reduction beginning only a half year later is not realistic. Therefore, the Wisconsin utilities recommend that the EPA's final guidelines should eliminate the interim goal (2020-2029) and allow states to establish a glide path to the 2030 final goal. At a minimum, the EPA's Clean Power Plan should not require reductions any sooner than five years from EPA's final approval of a state plan (or regional plan). Furthermore, as discussed below, the EPA's final guidelines should allow state plans to include provisions for a safety valve so that utility companies can address reliability issues.

Maintain Reliability and Regional Energy Markets

Wisconsin utilities believe there is a role for the Regional Transmission Organizations (RTOs), Independent System Operators (ISOs), or the North American Electric Reliability Corporation (NERC) to assist in modeling the impacts of the rule on electric reliability. The models used by the RTOs, ISOs, and NERC are more appropriate for assessing electric system reliability than is the EPA's Integrated Planning Model (IPM), and these organizations also have planning expertise that could promote a more robust analysis. Specifically, the Clean Power Plan needs to recognize that many states have established well-functioning energy markets that are in existence today. The Midcontinent Independent System Operator, Inc. (MISO) is responsible for the non-discriminatory operation of the bulk power transmission system and wholesale energy markets in the Midwest and South-Central U.S., including Wisconsin.

The MISO market is designed to commit and dispatch the most cost-effective deliverable generating units to provide energy to customers. MISO also supports reliable operations through assurance of sufficient operating capacity reserves to meet customer demands. This wholesale market has proven to be effective in providing low-cost energy to our utility customers and ensuring power is available when they need it. Therefore, EPA's final guidelines must recognize the need for energy markets to continue to operate in a reliable and economic manner to minimize impacts. Furthermore, a safety valve is needed to ensure the reliability, safety, and security of the electrical system. The safety valve should align with MISO procedures, which define levels of progressive action necessary to ensure reliability during abnormal operating conditions or emergency situations (such as an extreme weather event).

Therefore, to assure that goals are set which ensure reliability, manage cost and recognize the need to balance the interactions between the four building blocks on an hourly basis taking into account the regional market impacts, the EPA should consult with the NERC and the states' modeling capabilities, or if the states defer to their RTO/ISO, the RTO/ISO's modeling capabilities when establishing the final CO₂ rate goals. The EPA's final guidelines should provide states sufficient time to conduct reliability assessment and resource adequacy studies and to implement changes in order to support proper planning and system transition with the least disruption. Eliminating the interim goals and allowing states to establish their own specific glide path to the 2030 final goal could provide the time needed for these steps. At a minimum, EPA must recognize the need for case-specific extensions where reliability critical units are needed for "must-run" situations.

Thank you again for the opportunity to provide comments. We believe in pursuing a balanced approach to protecting the environment and lowering our carbon emissions without placing an unfair economic burden on Wisconsin's homes and businesses. We are willing to work with the EPA and our state regulators for sound energy and environmental policy that finds that right balance for Wisconsin. Further questions on this submission may be directed to Bill Skewes, WUA Executive Director at (608) 257-3151 or bskewes@wiutilities.org.

Below, we address our specific concerns with the proposed rule, and provide recommendations to address these issues.

1. Representative Baseline and Credit for Early Action

a. Alternative to 2012 single year baseline

The emission rate goals in the proposed rule were developed using 2012 emissions and generation data as a baseline. The use of a 2012 baseline for the purpose of setting state goals fails to recognize emission-reducing actions taken by states and utilities prior to 2012. In addition, 2012 was not a representative year for Wisconsin and does not fairly reflect typical operations. Between 2005 and 2013, 2012 had the lowest natural gas prices, the greatest percentage of electric generation from natural gas, and the highest level of renewable generation and the highest level of energy efficiency savings, as shown in the tables below.

Recommendation – *A baseline period earlier than 2012 would allow some credit for early emission reductions. Wisconsin utilities support EPA's approach proposed in the Notice of Data Availability (79 Fed. Reg. 64,543) to use a multi-year baseline such as 2010-2012, or alternatively for states to be able to elect this option. The use of a three-year average for the baseline would be consistent with the final goal, which is measured on a three-year rolling average basis (i.e., 2030-32, 2031-33, 2032-34, etc.). Furthermore, a three-year baseline period reduces the impact of abnormal conditions during any one particular year.*

**Natural Gas Citygate
Price in Wisconsin**

| Year | Price |
|------|--------------|
| 2005 | \$8.35 / Mcf |
| 2006 | \$8.57 / Mcf |
| 2007 | \$8.04 / Mcf |
| 2008 | \$8.71 / Mcf |
| 2009 | \$6.70 / Mcf |
| 2010 | \$6.14 / Mcf |
| 2011 | \$5.65 / Mcf |
| 2012 | \$4.88 / Mcf |
| 2013 | \$4.88 / Mcf |

Data Reference

http://www.eia.gov/dnav/ng/ng_pri_sum_dcw_SWI_m.htm

**Percent of Electric Generation in
Wisconsin from Natural Gas**

| Year | Percent |
|------|---------|
| 2005 | 10.3% |
| 2006 | 8.7% |
| 2007 | 10.2% |
| 2008 | 8.3% |
| 2009 | 9.1% |
| 2010 | 8.5% |
| 2011 | 9.9% |
| 2012 | 18.1% |
| 2013 | 12.6% |

Data References:

<http://www.eia.gov/electricity/data/state/>
<http://www.eia.gov/electricity/data/eia923/>

Renewable Generation in Wisconsin

| Year | Generation (MWh) |
|------|---------------------|
| 2010 | 2,473,956 |
| 2011 | 2,765,011 |
| 2012 | 3,223,178 |

Data Reference:

<http://www.eia.gov/electricity/state/wisconsin/>

The renewable generation shown is only from wind and biomass renewable generation

**Energy Efficiency in Wisconsin
Demand Side Management (DSM)**

| Year | DSM (MWh) |
|------|-----------|
| 2010 | 170,811 |
| 2011 | 587,155 |
| 2012 | 721,884 |

Data Reference:

<http://www.eia.gov/electricity/data/eia861/>

b. Credit for early action from 2005 to 2012

The proposed rule fails to provide credit for CO₂ emission reduction activities undertaken by states prior to 2012. In many cases, states are penalized for taking such early action. For example, EPA’s current approach results in more stringent goals for states in which coal units have been converted to natural gas-fired units or replaced with a natural gas combined cycle (NGCC) unit prior to 2012. Wisconsin utilities believe that these CO₂ emission reduction actions should be given credit and considered in EPA’s baseline and goal setting computation. EPA should finalize a rule that rewards good faith actions taken by utility companies as a preferred environmental policy approach to continue to encourage proactive efforts in the future.

***Recommendation** – Provide a methodology allowing states to request adjustment to the baseline and/or obtain credit towards compliance with the EPA’s goals for CO₂-reducing early actions such as retirements, fuel-switching and repowering, renewable energy, and customer energy efficiency that occurred in or after 2005 and prior to 2012. Specific early actions reducing CO₂ emissions taken between 2005 and 2012 by Wisconsin utilities are provided in company-specific filed public comments.*

c. Credit for actions from 2012 to 2020

The proposed rule provides little or no incentive for states to implement emission reduction measures prior to 2020, since these measures would provide no compliance benefit until 2020. In the case of energy efficiency projects, since such projects have a limited measure life, implementing energy efficiency projects before 2020 would reduce the total benefit received over the life of the project.

***Recommendation** – States should be allowed to bank credits from emission reduction measures implemented after 2012 and prior to 2020. Such credits could be in the form of either tons of emissions reduced or MWh of carbon-free generation. States should be able to use such credits for compliance purposes beginning in 2020, and should be able to bank excess credits generated during a compliance period for use during a subsequent compliance period.*

2. Building Blocks

a. Building Block 1 - Heat Rate Improvement

- (i) The use of a standard assumption of 6% heat rate improvement applied to all coal units will not be feasible on some units, and results in more stringent goals for states whose coal units have already undertaken heat rate improvement projects than for states whose coal units have not undertaken such projects. Many utilities already implement ongoing heat rate improvement programs to capture the efficiency gains that EPA is assuming in the “best practices” portion

of its Building Block 1 assumption, making a further 4% improvement unlikely. The ability to achieve a 2% improvement through equipment upgrades will vary from plant to plant. New coal units and coal units that have already implemented heat rate improvement projects will have more difficulty achieving further heat rate reductions than older units and units that have not previously undertaken these projects/programs.

Recommendation – *Allow the option for states to replace the assumed 6% heat rate improvement in the goal-setting formula with a case-by-case evaluation of the potential for, and cost-effectiveness of, further heat rate improvement projects at individual electric generating units (EGUs).*

- (ii) Many existing coal plants will be required to implement emission reduction projects to comply with the Mercury and Air Toxics Standards (MATS), Cross State Air Pollution Rule (CSAPR), Consent Decrees and other environmental regulations. These projects frequently decrease a unit's gross output and/or increase the unit's auxiliary load, both of which will increase the unit's net heat rate.

Recommendation – *Consider heat rate increases from emission reduction projects when determining the heat rate improvement that can be achieved by units that are required to implement these projects.*

- (iii) In setting interim goals, the EPA assumes that heat rate improvement projects can be implemented by 2020. It is unlikely that heat rate improvement projects could be completed by 2020, given that a state-only plan may not be approved until 2018 and a multi-state regional plan may not be approved until 2019. Longer time periods for compliance provide for more flexibility in project management and cost control. The projects that offer the greatest heat rate improvement potential are long lead time projects. If many parties across the country are attempting to accomplish similar projects during the same time period, there may be cost increases or scheduling concerns due to supply chain bottlenecks in obtaining equipment.

Recommendation – *Eliminate the interim goal (2020-2029) and allow states to establish a state-specific glide path to the 2030 final goal. If the interim goals remain, the EPA should allow states to determine a reasonable schedule for implementing heat rate improvement projects on a case-by-case basis. At a minimum, as suggested in the Notice of Data Availability (NODA), the EPA should phase-in the Block 1 heat rate improvements for coal-fired power plants in the Best System of Emissions Reduction (BSER) goal computation calculation.*

b. Building Block 2 – Natural Gas Combined Cycle Redispatch

- (i) If existing NGCC units are redispatched to a capacity factor of 70%, as assumed by the EPA, the role of these units will essentially shift from load-following, intermediate resources to baseload resources. However, the need for load-following resources will not be eliminated as a result of the rule. If anything, the need for load-following resources will increase due to the rise in renewable penetration assumed in Building Block 3. If NGCCs become baseload resources, their intermediate and load-following role will likely be taken up by a combination of coal units operating at reduced loads and/or simple cycle peaking units operating at increased capacity factors. Both of these actions will likely result in higher emission rates at those load-following units than those of the existing NGCCs currently serving these functions.

***Recommendation** – When determining the level of emission reduction that is achievable by NGCC redispatch, the EPA needs to consider the effect of changes in load following resources.*

- (ii) In setting interim goals, the EPA assumes that 70% NGCC redispatch can be accomplished by 2020. This is not realistic if air, water or other permit amendments, or upgrades to natural gas pipelines and electric transmission facilities, are required to accommodate increased NGCC operation and changes to the operation of the electrical grid. In some cases, NGCC dispatch of 70% may not be achievable due to physical site limitations or equipment design constraints.

***Recommendation** – Eliminate the interim goal (2020-2029) and allow states to establish a state-specific glide path to the 2030 final goal. Alternatively, EPA should allow states to determine a reasonable schedule and feasible level for implementing NGCC redispatch in their states based on the extent to which permit modifications and additional infrastructure improvements (e.g., natural gas pipeline expansion or transmission improvements) are needed to support increased use of existing NGCCs. If the interim goals remain, then Wisconsin utilities support the suggestion in the NODA of phasing Building Block 2 in gradually over time by assuming a ramp up period.*

- (iii) In its calculation of the energy that would be produced by the operation of NGCCs at a capacity factor of 70%, the EPA used the nameplate rating of the NGCCs, rather than the net capacity at which the units can actually operate. Nameplate capacity is the nominal maximum output of a generator, assuming a particular set of ideal, often location-specific, operating conditions, including altitude, temperature, humidity and other factors that cannot be controlled by unit operators. Nameplate capacity is not demonstrated capacity, which

represents the maximum output that can be delivered to the grid as measured by a unit's historic performance.

Recommendation – *Assuming that the permits are revised and infrastructure accommodates base load operation, we believe a 70% capacity factor may be reasonable under anticipated unit availability and market conditions. However, EPA's analysis should be based on the net seasonal capability that has been demonstrated to be achievable (instead of nameplate capacity) to avoid overestimating the potential for re-dispatch. In addition, EPA should allow states to adjust goals for units with design or other constraints that prevent achieving the 70% capacity factor.*

c. Building Block 3a - Renewable Energy

- (i) There are numerous problems with the baseline renewables used by the EPA in its goal-setting calculation. One specific issue for Wisconsin is that a significant portion of the renewable energy in Wisconsin's baseline is from behind-the-meter facilities owned by industrial customers (primarily black liquor recovery and wood-waste-fired boilers owned by paper mills). Wisconsin utilities generally do not purchase renewable energy credits (RECs) from these facilities, so it isn't clear that they would be able to take credit for these facilities for compliance purposes.

Recommendation – *EPA should exclude from the 2012 baseline used for setting state goals any renewables not eligible for state Renewable Energy Standards (RES) or Renewable Portfolio Standards (RPS) compliance, such as industrial behind-the meter sources.*

- (ii) In its proposed approach for determining renewable energy potential in the "North Central Region," EPA used the average RPS requirement of the five states with an RPS requirement in the nine-state region to arrive at a 15% "effective renewable level". EPA concludes that states in the same region have similar renewable energy potential, as measured by existing renewable energy standards adopted by some states in the region. In this process, EPA has not considered that some states do not have RPS programs in-place.

Recommendation – *If EPA's final guidelines continue to apply regional RPS levels to determine renewable potential, this assessment should factor in a zero into the regional calculation for states without an RES or RPS. This would result in the North Central Region's effective renewable level being 8.4% as opposed to 15%. Wisconsin utilities do not support the alternative approach to renewable energy as published along with the proposed rule or, without additional information, the regionalized approach in the NODA.*

- (iii) Biomass. The proposed rule is inconsistent in its treatment of biomass power between goal-setting and compliance. Biomass is treated as carbon-neutral in calculating state goals (since all biomass MWh eligible for state renewable portfolio standards are included in the denominator, with no CO₂ emissions in the numerator); this makes the interim and final goals more stringent for any state with existing biomass plants. How biomass will be treated for compliance is unclear. EPA's recently-issued November 19th guidance memorandum on biogenic CO₂ emissions appears to support the treatment of certain biomass feedstocks as being carbon neutral, implying that CO₂ emissions may be assigned to biomass facilities utilizing other feedstocks. In addition, the revised *Framework for Assessing Biogenic CO₂ Emissions from Stationary Sources*, on which the guidance memorandum is based, remains a draft document subject to revision. This uncertainty regarding the carbon neutrality of biomass penalizes states for having existing biomass plants, and will act as a disincentive to biomass use for compliance.

Recommendation – *EPA should clarify that biomass power and biomass co-firing in fossil plants is considered carbon-neutral when used for goal achievement. Based on our preliminary review, the EPA's November 19th guidance memorandum represents a step in the right direction indicating that "waste derived feedstocks and sustainably-derived forest feedstocks are likely to have minimal or no atmospheric contributions of biogenic CO₂ emissions, or even reduce such impacts, when compared to an alternate fate of disposal." In defining what constitutes sustainably-derived forest feedstocks EPA should defer to the responsible state forestry agency. EPA's guidelines should also recognize the methane avoidance associated with waste-derived feedstocks, such as biogas and landfill gas, in providing benefits beyond carbon-neutral.*

- (iv) New and incremental hydro. The proposed rule did not include generation from existing hydro in the 2012 baseline used in building block #3, but allows state plans to give compliance credit to "incremental hydropower generation from existing facilities (or later built facilities)." (79 Fed. Reg. at 34,867). The rule is unclear whether this applies regardless whether the new/incremental hydro is in or outside of the United States.

Recommendation – *EPA should clarify that any qualifying hydro measure (incremental or new capacity) is eligible for compliance credit whether the dam in question is in or outside the United States, as long as the hydro MWh are not counted in another state's 111(d) plan.*

d. Building Block 3b – At-Risk Nuclear

- (i) The proposed "at-risk" nuclear provision results in more stringent goals for states with existing nuclear capacity than for states without. In addition, states

in which nuclear plants increased their output prior to 2012 are penalized rather than rewarded.

Recommendation – *The EPA should eliminate the at-risk nuclear provision from the goal-setting calculation. Rather than penalizing states in which nuclear plants shut down, the rule should provide an incentive for nuclear units to continue to operate, and, if possible, to increase their output and capacity factor. Excluding existing nuclear from the goal-setting calculation, but allowing states to take credit for a portion of their nuclear generation for compliance purposes, would provide such an incentive. In addition, the EPA should recognize early action taken to increase nuclear plant output, such as the 2011 extended power uprate at the Point Beach Nuclear Plant. At a minimum, if the at-risk nuclear provision is retained, it should be applied only to nuclear units that are truly at risk. A non-regulated merchant plant could be considered at-risk, while a utility-owned plant in a rate-regulated state or a plant with a long-term power purchase agreement, such as Point Beach, would not.*

- (ii) Even if a nuclear unit is prevented from shutting down prematurely, it will still be required to shut down upon expiration of its operating license, and the state in which the unit is located will have to add additional carbon-free generation or implement other emission reduction measures in order to maintain emissions relative to the state’s goal.

Recommendation – *If the at-risk nuclear provision is retained in the final goal-setting calculation, the EPA should allow states’ goals to be adjusted upon expiration of nuclear plant operating licenses. To encourage the continued operation of existing nuclear plants, EPA should allow states to claim compliance credit for nuclear plants that have their licenses renewed beyond 60 years.*

e. Building Block 4 – Energy Efficiency

- (i) The EPA’s proposed energy efficiency approach presents many challenges that will be difficult to resolve in the final rule. EPA’s methodology fails to sufficiently recognize early action by states and utility companies that have already supported robust energy efficiency programs. For example, since the goal-setting calculations assume that all states will ramp from 2012 levels of energy efficiency to 1.5% at the same rate, states with higher initial levels of energy efficiency will have more stringent goals during the interim period than states with lower initial levels of energy efficiency.

Recommendation – *Energy efficiency would be better addressed as part of the state plan processes. EPA should allow states to make this assessment for the final goal computation, based on data and specific circumstances provided by each state that is applicable to individual affected utility companies.*

f. Interaction of Building Blocks

The EPA considered the effects of each building block strictly on a stand-alone basis, rather than in an integrated manner. The redispatch of NGCC units (as assumed in Block 2) and the increase in use of renewable energy (as assumed in Block 3) will likely increase the cycling of coal units and push coal units to operate at less efficient points on their load curves. The efficiency difference between low load and optimum efficiency (typically near full load) can be significant. These factors were not considered by the EPA when determining the level of heat rate improvement achievable under Building Block 1. The interaction between generation resources is beyond the control of the state and is in fact controlled by the ISO. An individual state cannot operate as if it were an island. To do this would require higher reserve margins to maintain reliability.

Recommendation – *The effects of each of the building blocks need to be evaluated in an integrated manner. The EPA needs to consider the impact of Block 2 and Block 3 operating assumptions on coal unit operating heat rates when determining the appropriate Block 1 heat rate improvement value. This can be accomplished by consulting with the states or, at the states direction, the states’ ISOs, who have the modeling capability to identify the interaction between the building blocks.*

g. EPA NODA Seeking Comment on Accounting for Blocks 3 and 4

EPA’s NODA published on October 30th provides another approach to the goal setting calculation that would further include accounting for displacement of fossil generation by renewable generation (Block 3) and energy efficiency (Block 4). The NODA (79 Fed. Reg. at 64,552) seeks comment on alternative approaches whereby incremental renewables and energy efficiency would (1) be assumed to replace 2012 steam generation and NGCC generation levels on a *pro rata* basis (i.e., in proportion to each generation type’s historical generation) or (2) be assumed to displace fossil steam generation below 2012 levels first and then replace all fossil generation *pro rata*.

Recommendation - *Wisconsin utilities believe it would be inappropriate to adjust the EPA’s proposed goal calculation to assume the displacement of fossil generation with energy provided by Blocks 3 and 4. Little, if any, of the Block 3 and 4 energy would be available to displace fossil generation, as most or all of the energy would likely be required to meet the growth in electrical load after 2012. This can be demonstrated using EPA’s goal calculation spreadsheet and the data file provided with EPA’s Technical Support Document “Translation of the Clean Power Plan Emission Rate-Based CO₂ Goals to Mass-Based Equivalents,” published on November 6, 2014.*

- *As of 2029, the EPA’s goal calculation spreadsheet shows a nationwide total of approximately 313.6 million MWh of incremental RE generation and 380.6*

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million MWh of EE avoided generation, for a total of 694.2 million MWh of energy from Blocks 3 and 4.

- The analysis in the EPA's rate-to-mass translation data file shows an increase in the need for annual generation of approximately 577.1 million MWh between 2012 and 2029. This is equivalent to over 83% of the energy assumed to be provided by Blocks 3 and 4.
- However, this comparison understates the amount of additional generation that would actually be required, since the Annual Energy Outlook forecast on which it is based is net of the effect of energy efficiency measures.

Since the Block 4 calculation determines the total, rather than incremental, potential for energy efficiency, existing energy efficiency measures must be removed from the AEO forecast, resulting in higher load growth than assumed by EPA. Therefore, it is likely that most or all of the energy from Blocks 3 and 4 will be required to serve new load, leaving little or no energy available to displace existing fossil generation. As a result, EPA should retain its treatment of Block 3 and 4 energy as originally proposed.

In the event that EPA nonetheless determines that some or all of the energy from Blocks 3 and 4 should displace fossil generation in the goal-setting calculation, EPA's spreadsheet analysis is too simplistic to accurately account for the interaction between the four blocks used to achieve the CO₂ rate goal. It is one thing to simulate "redispatch" from coal and oil/gas steam EGUs to NGCCs in a simple spreadsheet, since these are dispatchable resources which can operate at intermediate or baseload duty cycles. However, it is entirely different to include renewables and energy efficiency, which are typically non-dispatchable.

3. Conversion of Rate-Based Goals to Mass-Based Goals

- a. The proposed rule provides minimal guidance on an acceptable methodology for developing a reference case scenario for translating rate-based goals to mass-based goals.

Recommendation – As suggested in the proposal (79 Fed. Reg. at 34,912), the EPA should provide "presumptive" translations of rate-based goals to mass-based goals for each state. Along with these mass cap values, the EPA should also provide detailed guidance, including examples, on their proposed method for developing these using a reference case scenario. Based on their review, states should be allowed to either adopt the presumptive translation, or propose an alternative mass-based goal as part of the state plan process.

- b. The proposed rule requires a state that elects to use mass-based goals rather than rate-based goals to produce a "reference case" forecast of generation by affected EGUs through 2030. This forecast would be done at the time a state's plan is prepared, and would determine the state's mass-based compliance goals for all

compliance periods. Preparing an accurate forecast this far in advance would be extremely problematic.

Recommendation – *In order to make a mass-based approach an attractive alternative to a rate-based approach, states should be able to adjust their mass-based goals based on changes that occur after the generation projection is originally made.*

4. Options for Compliance

- a. Emissions Reductions. EPA states (at 79 Fed. Reg. 34,853) that "the affected EGUs, to comply with the applicable standards of performance in the state plan, may rely on any efficacious means of emission reduction, regardless of whether the EPA identifies those measures as part of the BSER." However, elsewhere in the proposed rule (79 Fed. Reg. 34,923), the EPA lists a number of measures such as partial CCS and transmission and distribution system efficiency improvements and states that "[t]he agency solicits comment on whether these measures are appropriate to include in a state plan to achieve CO₂ emission reductions from affected EGUs."

Recommendation – *The EPA should clarify that states and EGUs may rely on any efficacious means of emission reduction to comply with the state's goal, and that the list on page 34,923 is merely illustrative, not exhaustive.*

- b. Offsets. The proposed rule seems to give conflicting guidance regarding the use of offsets for compliance, initially stating (at 79 Fed. Reg. 34,910) that "the EPA is not proposing that out-of-sector GHG offsets could be applied to demonstrate CO₂ emission performance by affected EGUs in a state plan," then stating in the next sentence that "emission limits for affected EGUs that are included in state plans could still include provisions that provide the ability to use GHG offsets for compliance with the emission limits, provided those emission limits would achieve the required level of emission performance for affected EGUs."

Recommendation – *Out-of-sector GHG offsets represent one of the most powerful mechanisms for flexibility and cost containment available in existing cap-and-trade programs, and can deliver significant economic and environmental (wildlife habitat, water quality, air quality, etc.) co-benefits. The EPA should clarify that out-of-sector offsets may be used for compliance.*

- c. New NGCCs. The EPA has requested comment on an approach to include new NGCCs that would be subject to the 111(b) NSPS requirements into 111(d) plans for existing units.

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Recommendation – Wisconsin utilities support that a state should be allowed, but not required, to include new NGCC units in its state plan, allowing the units to be included in the state’s compliance calculations under Section 111(d).

- d. Credit for Useful Thermal Energy. At 79 Fed. Reg. 34,914 EPA invites comment on a range of two-thirds to 100 percent credit for useful thermal output from cogeneration plants and combined heat and power plants.

Recommendation – Wisconsin utilities recommend that full credit (100 percent) should be given to useful thermal output from these facilities to acknowledge the energy and carbon efficiencies associated with them.