



**Sent Electronically**

December 1, 2014

U.S. Environmental Protection Agency  
Attention Docket ID No. EPA-HQ-OAR-2013-0602

**Re: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generation Units, Proposed Rule, Docket ID No. EPA-HQ-OAR-2013-0602, 79 Fed. Reg. 34830 (June 18, 2014)**

The American Chemistry Council (ACC)<sup>1</sup> is pleased to submit these comments on EPA's proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (also referred to as the Clean Power Plan) (79 Fed. Reg. 34,830, June 18, 2014). ACC represents the leading companies engaged in the business of chemistry, and our members are among the largest industrial consumers of electricity in the United States.

ACC supports and joined in the detailed comments on this proposed rule submitted to the docket by a coalition of industry associations ("the Associations"), dated December 1, 2014. We wish to take the opportunity to make several additional comments regarding the market impacts, legal concerns, and policy considerations raised in the proposal that have the potential to affect the business of American chemistry.

The chemical industry is a major energy consumer, and is distinctive in that it uses energy inputs as both a fuel and a feedstock for the products we make. Chemistry is the nation's top export industry, and energy cost and reliability is critical to our ability to compete in the global economy. As such, EPA's final Clean Power Plan (CPP) must be designed and implemented in a way that sustains competitively priced U.S. energy markets.

### **Energy Markets and Reliability Concerns**

The U.S. chemical industry is undergoing an unprecedented expansion made possible by the shale gas revolution. As of November 2014, the U.S. chemical industry has announced 211 projects – new facilities, expansions, and process changes to increase capacity – representing

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<sup>1</sup> *The American Chemistry Council (ACC) represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. ACC is committed to improved environmental, health and safety performance through Responsible Care®, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing. The business of chemistry is an \$812 billion enterprise and a key element of the nation's economy. It is one of the nation's largest exporters, accounting for twelve percent of all U.S. exports. Chemistry companies are among the largest investors in research and development. Safety and security have always been primary concerns of ACC members, and they have intensified their efforts, working closely with government agencies to improve security and to defend against any threat to the nation's critical infrastructure.*



potential cumulative investment of \$135 billion.<sup>2</sup> However, these projects will only go forward if the U.S. maintains its competitive advantage in energy affordability and reliability. EPA's CPP, as proposed, could undermine the reliability of the U.S. electric grid and increase energy costs. Such impacts are of great concern to ACC given that many chemistry processes require large amounts of electricity and natural gas. Reliable and affordable energy will be vital to ensure we maintain our global competitive advantage and continue to grow and create new jobs in the U.S.

ACC urges EPA to recognize the reliability issues identified by the North American Electric Reliability Corporation (NERC) in its November 2014 Initial Reliability Report.<sup>3</sup> This report highlighted several potential areas of concern, including the time required to integrate potential transmission enhancements and additions needed to address reliability impacts based on the proposed CPP; the need for regulators to employ an array of tools and regulatory authority to develop a reliability assurance mechanism, such as a "reliability back-stop," which could require timing adjustments and extensions; and coordinating the planning between the electric and gas sectors to ensure a strong, integrated fuel delivery system and adequate generation capacity, especially during extreme weather events (e.g., polar vortex).

The majority of concerns about the impact of the proposal on reliability center on EPA's proposed interim 2020 goals, which require the majority of the proposed emission reductions to occur in the first few years. These interim compliance goals do not give States the time needed to develop approvable plans, nor acknowledge that more time is needed to make significant infrastructure improvements to support such plans. EPA should remove the 2020 goals from the final Clean Power Plan. Instead, EPA should rely on States to make the needed progress to achieve the 2030 emission reduction target.

Before making the proposal final, EPA should also account for the impact of existing and anticipated domestic energy supply policies on implementation of the rule. Thanks to the natural gas production boom, the U.S. has become the most attractive place in the world to invest in chemical and plastics manufacturing. While there is an abundant supply of natural gas in the U.S. to meet current demand, any constraints on natural gas supplies, especially in the Outer Continental Shelf (OCS), could dampen the chemical industry's continued expansion. For that reason, ACC supports increased access to natural gas supplies on public lands (on shore and off shore).

By some estimates, natural gas consumption in the power sector will grow by more than 50 percent in the coming years. Natural gas demand is growing in the transportation, industrial and export sectors as well. As demand for natural gas increases in many sectors of the economy, much of it driven by government policy and economics, access to domestic natural gas supplies on public lands must grow too.

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<sup>2</sup> See ACC, "[Shale Gas and New U.S. Chemical Industry Investment: \\$125 Billion and Counting](#)"

<sup>3</sup> See NERC's "[Potential Reliability Impacts of EPA's Proposed Clean Power Plan, Initial Reliability Review](#)" November 2014.



Unfortunately, natural gas production on federal lands has declined steadily in recent years, as the U.S. Energy Information Administration reported last summer. Production is down 43 percent by FY 2013 from FY 2003.<sup>4</sup> The once-larger federal offshore volumes have declined every year through FY 2013, down 74 percent from FY 2003. Much of the drop is linked to policies that sharply restrict access to natural gas resources in the OCS, especially the Atlantic and Eastern Gulf of Mexico planning areas. Today, only 13 percent of the OCS acreage is open to development.

## Legal Issues

ACC cautions EPA that there are a number of potential significant legal issues in the proposed CPP, as highlighted in the comments submitted by the Associations noted above. One of the more controversial aspects is EPA's proposal to apply a Best System of Emission Reduction (BSER) analysis that looks beyond the fence line of the fossil fuel-fired electric generating units (EGUs) that are the subject of this rulemaking, and seeks to incorporate emissions reductions that it asserts can be achieved by shifting electricity generation to other sources or by reducing consumer demand for electricity. ACC believes that EPA's "Building Block" approach is unlawful and contrary both to the plain language of Section 111 and the broader context of the Clean Air Act, which require a BSER analysis that is focused solely on the existing source that is subject to regulation under Section 111(d).

In prior Section 111(d) rulemakings, EPA has consistently taken the position that BSER must be applied in a manner that focuses primarily on pollution control technologies that can be retrofitted at individual sources. In the proposed CPP, however, EPA is looking at emission reductions that may be achieved well beyond the fence line of EGUs. EPA's approach has implications for the entire energy system. By expanding its BSER analysis beyond the fence line and authorizing a "portfolio approach" for compliance, the CPP proposal would most likely result in sources other than fossil fuel-fired EGUs becoming subject to legally enforceable compliance obligations.

As touted by EPA, the "portfolio approach" is a central component of the "flexibility" inherent in the proposed CPP. It would authorize States to comply with the emission reduction targets by "impos[ing] requirements on other affected entities (e.g., renewable energy and demand-side energy efficiency measures) that would reduce CO<sub>2</sub> emissions from the affected EGUs." (79 Fed. Reg. at 34,853.) ACC believes EPA has overstepped its authority here, and cannot legally require emission reductions from any source outside of the fossil-fuel fired EGUs subject to this proposed rule. However, ACC would support the ability of sources not subject to regulation under the CPP to *voluntarily* opt-into a State plan. If such an option were to be included in the final CPP, it must be clear that such action would be taken solely at the discretion of the non-regulated source, and under no circumstances should be required by any State. In return, States should have the discretion to provide non-regulated sources that voluntarily opt-in with incentives, such as offsets or exclusion from future State plans directly targeting the sector.

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<sup>4</sup> See [EIA Analysis](#).



As noted in previous comments,<sup>5</sup> ACC is very concerned that EPA is proposing that modified and reconstructed electric generating units be subject to both CAA §111(b) and §111(d), which have widely disparate proposed compliance requirements. Under the proposed §111(b) language, new, modified or reconstructed fossil-fuel fired EGUs must emit no more than 1,100 lb CO<sub>2</sub>/MWh.<sup>6</sup> However, under this §111(d) proposal, over half of the States have proposed final CO<sub>2</sub> emission performance goals below 1,100 lbs CO<sub>2</sub>/MWh.<sup>7</sup> These disparate CO<sub>2</sub> emission rates could result in some States requiring modified and reconstructed EGUs to emit less than 1,100 lb CO<sub>2</sub>/MWh as per §111(d), even though the EGU would be regulated by and compliant with §111(b).

In its preamble to the CPP proposal, EPA states that §111(b) standards will serve an important purpose by providing information and incentive for existing sources to structure their actions to achieve their operating and business goals without triggering the modification or reconstruction standards. (79 Fed. Reg. at 34,964.) For example, EPA says that an existing source could make modifications that do not increase its emission rate. But with EGUs facing competing regulations from the §111(d) carbon pollution emission guidelines for existing EGUs, the §112 Mercury and Air Toxics Standard (MATS), and potential lower ozone National Ambient Air Quality Standards (NAAQS) in 2015, this may be difficult to achieve in practice, as many fossil-fired EGUs will need to make substantial modifications in order to comply with all of these recent regulations.

EPA should ensure that modified or reconstructed EGUs have a clear path forward for compliance with environmental regulations when they are making changes to improve efficiency or reduce emissions. For example, oxy-combustion technology shows promise to achieve significant CO<sub>2</sub> emission reductions when fully developed and commercialized. Oxy-combustion power production provides oxygen to the combustion process by separating oxygen from air and produces a concentrated CO<sub>2</sub> stream.<sup>8</sup> EGUs and States that invest in oxy-combustion or other emerging technologies should be able to aggregate and take credit for the CO<sub>2</sub> captured over time or across multiple facilities to achieve CPP reduction goals.

## Policy Considerations

ACC supports efforts to improve our environment while growing our economy. Any policy to reduce GHG emissions must be coupled with a [comprehensive energy strategy](#) that promotes diversity, efficiency, affordability and reliability so that American manufacturers can expand, innovate and create jobs. A broad approach is especially important given the far-reaching impacts the Administration's CPP is likely to have on the nation's energy system.

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<sup>5</sup> See ACC comments, Docket ID [EPA-HQ-OAR-2013-0603-0180](#).

<sup>6</sup> See proposed §60.46Da(c), 79 Federal Register 1502, and proposed §60.5520, 79 Federal Register 1511, January 8, 2014.

<sup>7</sup> See Table 1, 79 Federal Register 34957-8, June 18, 2014.

<sup>8</sup> See [NETL Oxy-Combustion](#) website.



ACC strongly recommends that exclude industrial combined heat and power (CHP) units be excluded from the category of affected EGUs that are regulated under Section 111(d) and included in EPA's computation of State emissions reduction goals. In addition, EPA should fully credit industrial CHP as a voluntary compliance tool under the CPP, and should fully count the thermal heat produced by any regulated CHP system. Given the environmental benefits of CHP units<sup>9</sup> and the U.S. government's affirmative steps to promote increased industrial distributed generation, excluding CHP units makes good policy sense. First, such exclusion would further incentivize the adoption and maintenance of efficient, reliable, and low-emission distributed generation. Second, industrial CHP units are typically customized to suit the process and power needs of each host facility. As EPA notes, the use of third party-owned CHPs for adjacent industrial facilities only creates further complications. (79 Fed. Reg. at 34,979.) Therefore, ACC requests that EPA exclude industrial CHP units in the final rule and from State emission reduction targets.

ACC believes energy efficiency building codes should be considered as a compliance option for States. Most States have long recognized the importance of updated energy codes, and the tremendous economic savings for businesses and homeowners in States that have automatic code updates to keep pace with new technologies. The energy savings achieved by homeowners and businesses far outweigh the cost of moving to updated requirements, which is generally assumed by the buyer. The U.S. Department of Energy estimates that "building energy codes will produce a financial benefit to owners of nearly \$2 billion annually by 2015, rising to over \$15 billion annually by 2030."<sup>10</sup> These savings reduce the energy demand of public buildings, which is the largest energy consumption sector in the United States. Modern homes and public buildings are more energy efficient than ever before largely due to the effectiveness of and consistent upgrades to energy codes.

ACC recommends that EPA explore how to more fully utilize the nation's waste stream as an alternative source of fuel and lower carbon energy. Recent research by engineers at the Earth Engineering Center of Columbia University found that diverting one ton of MSW from landfilling to waste-to-energy (WE) reduces GHG emissions by 0.5 to 1 ton of carbon dioxide equivalent. This study estimates that if all of the non-recycled Municipal Solid Waste (MSW) that is currently landfilled each year was converted to electricity, it could power 13.8 million homes per year or about 12% of homes in the U.S.<sup>11</sup>

In addition to mass burn waste-to-energy, there are several additional technologies that can process non-recycled waste and non-recycled plastics into energy, fuels, and chemical feedstocks. EPA released a report in 2012 on several conversion technologies<sup>12</sup> that relied heavily on previous research conducted for ACC by the Research Triangle Institute (RTI).<sup>13</sup> The

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<sup>9</sup> See <http://www.epa.gov/chp/basic/environmental.html>.

<sup>10</sup> See [EIA Energy Codes](#) website.

<sup>11</sup> See [Energy Recovery Report](#).

<sup>12</sup> See [EPA Emerging Waste Conversion Technologies Report](#).

<sup>13</sup> See [RTI Analysis of Emerging Plastic Conversion Technologies](#).



RTI study showed considerable life cycle GHG benefits by using pyrolysis or gasification to convert non-recycled waste and non-recycled plastics to energy and fuels, instead of landfilling these materials. Engineers at the Cockrell School of Engineering at the University of Texas also demonstrated that using residue from recycling operations as an alternative fuel at cement kilns would lower GHGs compared to landfilling this residue.<sup>14</sup> To recognize these significant GHG benefits, ACC believes that many “non-hazardous secondary materials” and other valuable non-recycled materials should be recognized as “fuels” and not as wastes in future regulations.

### **Chemistry is Part of the Solution**

The business of chemistry creates technologies that empower Americans to increase energy efficiency, making energy supplies go further than ever before while reducing greenhouse gas emissions and energy costs. Nearly every innovative technology delivering energy today depends on innovations in chemistry – from lithium-ion batteries that power our laptops and mobile phones and will drive the next generation of electric cars, to building insulation that saves up to 40 times the energy used to create it, to strong yet lightweight plastic packaging that allows more products to be shipped with less weight, lightening the load and saving fuel as goods are shipped from factories to homes and businesses.

The chemistry industry walks the talk when it comes to saving energy by cutting its own energy consumption in half during the last 40 years.<sup>15</sup> An ACC study found that chemistry in energy-saving products and technologies helps save up to 10.9 quadrillion Btus of energy annually, enough to power, heat and cool up to 56 million households or run up to 135 million vehicles each year.<sup>16</sup> In addition, a McKinsey & Company study found that for every unit of CO<sub>2</sub> emitted in the manufacturing of the products of chemistry, two units of CO<sub>2</sub> are saved through the energy savings enabled by those products.<sup>17</sup>

ACC recognizes the enormous task EPA is facing as it moves to finalize carbon emissions standards for the EGU sector, and appreciates EPA’s continued engagement with stakeholders on this complex issue. Thank you in advance for your consideration of ACC’s comments. If you have any questions, or need clarification on any of our comments, please contact me at [lorraine\\_gershman@americanchemistry.com](mailto:lorraine_gershman@americanchemistry.com) or 202-249-6411.

Sincerely yours,



Lorraine Krupa Gershman, P.E.  
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<sup>14</sup> See [Recycling Residue Report](#).

<sup>15</sup> See [Responsible Care Results](#).

<sup>16</sup> See [Use of Chemistry Products](#).

<sup>17</sup> See [McKinsey Study](#).

