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ONE HUNDRED FOURTEENTH CONGRESS

Congress of the United States

House of Representatives

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MEMORANDUM

March 16, 2014

To: Subcommittee on Energy and Power Democratic Members and Staff

Fr: Committee on Energy and Commerce Democratic Staff

Re: Hearing on "EPA's Proposed 111(d) Rule for Existing Power Plants: Legal and Cost Issues"

On Tuesday, March 17, 2015, at 10:00 a.m. in room 2123 of the Rayburn House Office Building, the Subcommittee on Energy and Power will hold a hearing on a proposed Environmental Protection Agency (EPA) rule to regulate carbon pollution from existing power plants. EPA refers to its proposed rule as the "Clean Power Plan."[1] Issued on June 2, 2014, the proposed rule establishes emission guidelines for states to follow in developing plans to control carbon pollution from existing coal-fired and natural gas-fired power plants under section 111(d) of the Clean Air Act.[2]

I. EPA ACTIONS ON POWER PLANT EMISSIONS OF CARBON POLLUTION

Fossil fuel-fired power plants are by far the largest emitters of greenhouse gases from stationary sources in the United States; they are responsible for about one-third of total U.S. greenhouse gas emissions.[3] There are currently no federal limits on their emissions of carbon pollution.

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[1] U.S. Environmental Protection Agency, *Carbon Pollution; Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830 (June 18, 2014) (Proposed Rule) (online at www.gpo.gov/fdsys/pkg/FR-2014-06-18/pdf/2014-13726.pdf) (hereinafter *GHG Existing Source Performance Standards NPRM*).

[2] *Id.*

[3] U.S. Environmental Protection Agency, *GHG Existing Source Performance Standards NPRM* at 34833; U.S. Environmental Protection Agency, *Clean Power Plan, Proposal to Reduce Carbon Pollution from Existing Power Plants*, at 2 (June 2, 2014) (presentation to Congressional Staff) (online at www2.epa.gov/sites/production/files/2014-05/ghg-chart.png).

In June 2013, President Obama announced a Climate Action Plan to cut carbon pollution and to prepare for the effects of climate change.[4] As part of that Plan, the President directed EPA to use its existing authority under the Clean Air Act to control carbon pollution from new and existing fossil fuel-fired power plants.[5] President Obama simultaneously issued a Presidential Memorandum on Power Sector Carbon Pollution Standards providing more detailed direction to EPA.[6] It set deadlines of September 20, 2013, for a new proposed rule for new plants; June 1, 2014, and June 1, 2015, for proposed and final rules, respectively, for existing plants; and June 30, 2016, for state submission of plans regulating existing plants.[7] Assistant Administrator Janet McCabe recently indicated that EPA intends to issue its final standards for new, modified and existing sources under Clean Air Act section 111 by mid-summer, 2015.[8]

A. Clean Air Act Authority

Section 111 of the Clean Air Act directs EPA to set performance standards to control air pollution from new stationary sources. These "new source performance standards" under section 111(b) establish limits on air pollution for sources in a given category (e.g., fossil fuel-fired power plants, oil refineries, pulp and paper plants, etc.) based on what can be achieved through "the best system of emission reduction. . .adequately demonstrated."[9] In determining the "best system of emission reduction" (BSER), EPA must take into account cost and "any nonair quality health and environmental impact and energy requirements."[10] Under section 111(b), EPA proposed performance standards for new coal- and natural gas-fired power plants in September 2013. [11]

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[4] Executive Office of the President, *The President's Climate Action Plan* (June 2013) (online at www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf).

[5] *Id.* at 6.

[6] President Barack Obama, *Presidential Memorandum – Power Sector Carbon Pollution Standards* (June 25, 2013) (online at www.whitehouse.gov/the-press-office/2013/06/25/presidential-memorandum-power-sector-carbon-pollution-standards).

[7] *Id*.

[8] Senate Committee on Environment and Public Works, Testimony of the Honorable Janet McCabe, Assistant Administrator for Air and Radiation, U.S. Environmental Protection Agency, *Hearing on "Examining EPA's Proposed Carbon Dioxide Emissions Rules from New, Modified, and Existing Power Plants,"* 114th Cong. (Feb. 11, 2015); U.S. Environmental Protection Agency, *Key Dates: Cutting Carbon Pollution from Power Plants* (Jan. 7, 2015) (online at www2.epa.gov/sites/production/files/2015-01/documents/20150107fs-key-dates.pdf)

[9] Clean Air Act §§ 111(a)(1); 111(b).

[10] *Id.* at § 111(a)(1).

[11] U.S. Environmental Protection Agency, *Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units; Proposed Rule*, 79 Fed. Reg. 1430 (Jan. 8, 2014) (online at www.gpo.gov/fdsys/pkg/FR-2014-01-08/pdf/2013-28668.pdf).

For existing sources in a category covered by a new stationery source performance standard, section 111 would defer to other Clean Air Act provisions for pollutants that are: (1) covered by a National Ambient Air Quality Standard (NAAQS); or (2) listed as a hazardous air pollutant under section 112.[12] Pollutants from existing sources that are not otherwise regulated under those provisions are addressed under section 111(d). With respect to such pollutants, section 111(d) requires EPA to issue rules directing the states to reduce pollution from existing sources that would have been covered by a section 111(b) standard if they were new sources.[13] Under section 111(d)(1), EPA must establish procedures for states to submit state plans to regulate existing sources that are similar to the procedures and requirements for State Implementation Plans (SIPs) under section 110.[14]

Specifically, the state plans for existing sources must apply a "standard of performance" for emissions of air pollutants that reflects the degree of emission limitation achievable through BSER, as applied to existing sources. Under this provision, EPA determines the BSER and the emission limitation it can achieve. States have considerable flexibility, however, in deciding how to achieve the overall pollution reduction goals for these sources. The state may take into consideration, for example the remaining useful life of the existing source, as well as other factors.[15]

B. Proposed Rule for State Plans for Existing Sources

1. *Outreach Process*

In developing this proposal, EPA has engaged in an unprecedented level of outreach for the pre-proposal stage of a rulemaking, and the proposal reflects extensive stakeholder input.[16] Between August 2013 and June 2014, EPA held an overview webinar and four national teleconferences with states and a wide variety of stakeholders; established a mechanism to accept input by e-mail and web (receiving more than 2,000 emails); held 11 public listening sessions across the country that were attended by over 3,300 people; sent consultation letters to 584 tribal leaders; and organized and participated in hundreds of meetings.[17]

Among others, EPA met with state leaders, including governors, environmental commissioners, energy officers, public utility commissioners and air directors; industry leaders and trade association representatives; private, investor-owned, public and cooperative utilities and their associations; Independent System Operators and Regional Transmission Organizations; environmental and environmental justice organizations; religious groups; public health groups,

[12] Clean Air Act § 111(d)(1).

[13] *Id.*

[14] *Id.*

[15] *Id.*

[16] U.S. Environmental Protection Agency, *GHG Existing Source Performance Standards NPRM* at 34845.

[17] *Id.* at 34845-34847.

doctors and health care providers; consumer groups; and individual unions, including the United Mine Workers of America, the International Brotherhood of Boilermakers, the International Brotherhood of Electrical Workers, and the AFL-CIO.[18]

EPA indicated that the public submitted over 3.5 million public comments were submitted on the proposed Clean Power Plan before the December 1, 2014 deadline. The Agency will review and address all of the filed comments before finalizing the rule.[19]

2. *Proposed Emission Guidelines for State Plans*

The proposed emissions guidelines establish an individual goal for each state, expressed as a carbon intensity target. The carbon intensity target is a rate-based limit, which is expressed as a limit on the total pounds of carbon dioxide emitted from fossil fuel-fired power plants in the state per megawatt hour (MWh) of electricity generated in the state, adjusted to account for the MWh reduced through energy efficiency savings.[20] The individual state carbon intensity goals are produced by applying a consistent national formula to each state's fossil fuel-fired power plants on a statewide basis, inputting state and regional-specific information to produce state goals that are tailored to each state's circumstances.[21] For each state, EPA proposed a final state goal, to be achieved by 2030, and a less stringent interim goal that would apply for the 2020-2029 phase-in period.[22]

EPA developed the standards through several steps. First, EPA identified the "best system of emission reduction . . . adequately demonstrated" for greenhouse gas emissions from fossil fuel-fired power plants.[23] In identifying the BSER, EPA relied heavily on the fact that the power system is an interconnected and integrated system in which the demand for electricity is met through different sources of electricity supply (including energy savings through efficiency).[24] These different sources are constantly substituted for each other, both in the short term, through the dispatch order of various power sources (including demand-side savings), and over time, through investments in various new sources of supply (including efficiency). EPA proposed that the BSER is comprised of four building blocks: (1) making fossil fuel power plants more efficient; (2) using low-emitting power sources more by generating more electricity

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[18] *Id.*

[19] Senate Committee on Environment and Public Works, Testimony of the Honorable Janet McCabe, Assistant Administrator for Air and Radiation, U.S. Environmental Protection Agency, *Hearing on "Examining EPA's Proposed Carbon Dioxide Emissions Rules from New, Modified, and Existing Power Plants*," 114th Cong. (Feb. 11, 2015).

[20] U.S. Environmental Protection Agency, *GHG Existing Source Performance Standards NPRM* at 34892.

[21] *Id.* at 34890-34892.

[22] *Id.* at 34895.

[23] *Id.* at 34835-34837, 34854-34890.

[24] *Id.*

from existing natural gas combined cycle units; (3) building more zero and low-emitting power sources including renewables and some nuclear units; and (4) using electricity more efficiently through demand-side measures.[25]

For each building block, EPA analyzed the level of application that would be reasonable for the purpose of establishing state goals, taking into account technical feasibility, the quantity of emissions reductions achieved, the costs per metric ton of carbon dioxide, reliability, and other factors.[26] EPA emphasized that it was not identifying the maximum quantity of pollution reduction that could be achieved through each building block, but only identifying a level of application that would be reasonable.[27] For building block 1, EPA estimates that on average, existing coal-fired units can improve their heat rate (efficiency of power production) by 6%.[28] For building block 2, EPA estimates that existing natural gas combined cycle units could be used at up to 70% of their capacity.[29] For building block 3, EPA developed a methodology to estimate the technical and economic renewable energy potential for each state, based on existing levels of renewable generation in each state and region-specific growth factors, as well as estimating the amount of nuclear generating capacity that could be preserved from retirement.[30] For building block 4, EPA estimates, based on the performance achieved by the top 12 states, that it would be reasonable for each state to increase the level of demand-side energy efficiency to achieve an efficiency improvement rate of 1.5% per year.[31]

Next, EPA proposed to determine that the BSER is the combination of all four building blocks, each applied at the identified reasonable level of effort.[32] Applying this BSER to the specific circumstances of each state produces the state goals, expressed as a carbon intensity target for the fossil fuel-fired generation in each state. The state goals vary widely, from a low (most stringent) goal of 228 pounds of carbon dioxide per MWh in Washington, to a high (least stringent) goal of 1,783 pounds of carbon dioxide per MWh in North Dakota.[33]

3. *State Flexibilities*

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[25] *Id.*; U.S. Environmental Protection Agency, *Fact Sheet: Clean Power Plan; National Framework for States* (June 2, 2014) (online at www2.epa.gov/sites/production/files/2014-05/documents/20140602fs-setting-goals.pdf).

[26] U.S. Environmental Protection Agency, *GHG Existing Source Performance Standards NPRM* at 34836, 34858-34875.

[27] *Id.* at 34858-34875, 34893 (emphasis added).

[28] *Id.* at 34859-34862.

[29] *Id.* at 34862-34866.

[30] *Id.* at 34866-34871.

[31] *Id.* at 34871-34875.

[32] *Id.* at 34878-34890.

[33] *Id.* at 34895.

Under EPA's proposal, the basic elements for a state plan to be approvable are: the plan includes enforceable carbon dioxide limits on fossil fuel-fired power plants; any additional measures that would reduce carbon from these sources are also enforceable; and the plan demonstrates that the state will achieve its state goal over the specified time frame.[34] EPA proposed multiple ways to maximize state flexibility in controlling carbon pollution from power plants and achieving the state goals.[35] States and other stakeholders requested these flexibilities in the pre-proposal process.

First, EPA proposed that a state could either use its rate-based goal, or could convert that goal (using a proposed formula for the translation) into a mass-based goal, which would cap the total quantity of carbon dioxide emissions from fossil fuel-fired power plants in the state.[36]

Second, EPA proposed that states should have extensive flexibility in their plans in deciding how to achieve their state-wide goals.[37] While EPA used the building blocks to determine what would be a reasonable carbon intensity goal for each state, EPA emphasized that there is no obligation for the states to use the particular control measures, or apply them at the same levels, that EPA identified as the BSER.[38] In the proposal, EPA identified the potential for greater emissions reductions for each of the building blocks compared to the levels at which EPA applied each building block to generate the state goals.[39] EPA also identified other measures that states could employ in addition to measures under the building blocks, including co-firing with natural gas, building new natural gas power plants, and building new nuclear capacity beyond what is already planned.[40] In addition, EPA's proposal permits a state to choose either to place the full compliance obligation on fossil fuel-fired power plants in the state or undertake a "portfolio approach." A portfolio approach would include additional measures, such as state or local demand-side efficiency programs, that would reduce emissions from fossil fuel-fired power plants but would be undertaken by the state or other entities.[41] EPA also proposed that states could choose to achieve their state goals through participation in multi-state approaches, which EPA expects could enhance efficiency and lower costs.[42]

Third, EPA proposed to provide flexibility in the timing both of when states must submit their plans and of when emission reductions would have to be achieved. States must submit their plans by June 2016; however, EPA proposed to allow a one-year extension for states that submit

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[34] *Id.* at 34837-34838; *see also id.* at 34909-34914 (detailing criteria for approvable state plan).

[35] *Id.* at 34897-34898.

[36] *Id.* at 34893-34894.

[37] *Id.* at 34837-34838.

[38] *Id.* at 34897.

[39] *Id.* at 34858-34876.

[40] *Id*.

[41] *Id.* at 34897, 34900-34902.

[42] *Id.* at 34833, 34900, 34910.

an initial plan but need additional time to complete it and a two-year extension for states participating in multi-state programs.[43] The ten-year phase-in period for achieving the reductions allows for the use of measures, such as energy efficiency, that ramp up over time.[44] States also would not be required to meet their interim goal each year, but rather would be able to meet their goals on average over the 2020-2029 period.[45]

4. *Benefits and Costs of the Proposal*

If the proposed rule is finalized, EPA estimates that in 2030, carbon pollution from the power sector will be reduced by 30% compared to 2005 levels.[46] In addition, this rule will cut pollution that leads to soot and smog by more than 25% in 2030.[47] EPA estimates the climate and public health benefits of these pollution controls will range anywhere between $55 billion and $93 billion in 2030, and will help avoid between 2,700 and 6,600 premature deaths and 140,000 and 150,000 asthma attacks in children in 2030 alone.[48] EPA estimates that the benefits of the proposal will outweigh the costs by at least 6 to 1, and by possibly as much as 12 to 1.[49] In addition, while electricity prices may increase somewhat, EPA estimates that, due to increased use of cost-effective energy efficiency measures, actual electricity bills will fall by roughly 8% in 2030.[50]

II. WITNESSES

The following witnesses are expected to testify:

Panel One:

Laurence Tribe

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[43] *Id.* at 34915; U.S. Environmental Protection Agency, *Key Dates: Cutting Carbon Pollution from Power Plants* (Jan. 7, 2015) (online at www2.epa.gov/sites/production/files/2015-01/documents/20150107fs-key-dates.pdf).

[44] *Id.* at 34838-34839, 34899, 34904-34906.

[45] *Id.* at 34906.

[46] U.S. Environmental Protection Agency, *Fact Sheet: Clean Power Plan, Overview of the Clean Power Plan* (June 2, 2014) (online at www2.epa.gov/sites/production/files/2014-05/documents/20140602fs-overview.pdf).

[47] *Id.*

[48] *Id.*

[49] U.S. Environmental Protection Agency, *Fact Sheet: Clean Power Plan, By the Numbers* (June 2, 2014) (online at www2.epa.gov/sites/production/files/2014-06/documents/20140602fs-important-numbers-clean-power-plan.pdf).

[50] U.S. Environmental Protection Agency, *Fact Sheet: Clean Power Plan, Overview of the Clean Power Plan* (June 2, 2014) (online at www2.epa.gov/sites/production/files/2014-05/documents/20140602fs-overview.pdf) (emphasis added).

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Panel Two:

The Honorable Craig Butler
Director
Ohio Environmental Protection Agency

The Honorable Art Graham
Chairman
Florida Public Service Commission

Donald van de Vaart
Secretary
North Carolina Department of Environment and Natural Resources

Kelly Speakes-Backman
Commissioner
Maryland Public Service Commission
Chair
Regional Greenhouse Gas Initiative Inc. Board of Directors