

EPA Proposes New Standards to Regulate Carbon Dioxide Emissions from New Power Plants

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OVERVIEW

On September 20, 2013, the Environmental Protection Agency (EPA) issued a proposed new rule pursuant to section 111 of the Clean Air Act (CAA), which would establish new source performance standards (NSPS) for carbon dioxide (CO₂) emissions from new fossil fuel-fired electric utility steam generating units (EGUs) and natural gas-fired stationary combustion turbines. This proposed rule is the highly anticipated replacement of EPA's April 2012 attempt to promulgate regulations to limit CO₂ emissions from new power plants. EPA is rescinding the previous proposed rule.

Under the new proposed rule, coal- and natural gas-fired EGUs will no longer be subject to the same standard of performance. The proposed rule would establish separate standards for certain types of natural gas-fired combustion turbines and for coal-fired electric utility boilers, including integrated gasification combined cycle (IGCC) units. By statute, each NSPS is required to reflect the application of the "best system of emission reduction" (BSER) that EPA has determined to be "adequately demonstrated" taking into account costs, environmental impacts, and energy requirements. The proposed rule would set a standard of performance for coal-fired electric utility boilers and IGCC units based on the partial application of carbon capture and storage (CCS) technology as the BSER. For natural gas-fired stationary combustion turbines, EPA proposes to establish standards based on the application of natural gas combined cycle (NGCC) technology as the BSER. Citing lack of data, EPA has not proposed standards of performance for modified or reconstructed EGUs.

BACKGROUND

Section 111(b) of the CAA requires EPA to establish NSPS for any category of stationary sources that "contributes significantly" to air pollution that endangers public health or welfare. NSPS established under this section apply only to sources that are new, modified or reconstructed. A separate provision of the CAA, section 111(d), provides a federal-state process for the establishment and implementation of performance standards for existing sources in NSPS-regulated categories.

With limited exceptions, the statute forbids EPA from expressly requiring any new or modified sources to adopt a particular emissions control technology. Instead, EPA must establish a performance standard (typically in the form of a maximum emissions rate) and allow sources to determine how best to meet that standard. Furthermore, the statute requires EPA to review and, if appropriate, revise the NSPS for each source category at least once every eight years.

EPA promulgated the most recent revisions to its NSPS for electric utility steam generating units in 2006. These revisions did not include limits for CO₂. In response to litigation, EPA entered into a 2010 settlement agreement



in which it committed to propose CO₂ NSPS for EGUs. In April 2012, EPA issued a proposed rule, which set a single maximum CO₂ emissions rate of 1,000 pounds per megawatt-hour (lb/MWh) based on the application of NGCC technology – a rate that a new coal-fired EGU could not meet without installing CCS technology.

In a memorandum dated June 25, 2013, President Obama directed the EPA to issue a new proposed rule for new EGUs in light of the comments received on the 2012 proposal. He also directed EPA to issue proposed standards of performance for existing EGUs by June 2014. The President described the EGU regulations as one plank in an overall plan to meet a commitment made by his administration in international climate negotiations: a reduction in U.S. greenhouse gas emissions of 17 percent from 2005 levels by 2020. For more information about the President’s directive to EPA on power plant CO₂ regulation, see our Alert at: <http://www.vnf.com/news-alerts-854.html>.

OVERVIEW OF THE PROPOSED NSPS

Determination to Set Separate Standards. Based, in part, on projections from Energy Information Administration and Integrated Resource Plans of electric utilities, EPA concluded that few, if any, new coal-fired power plants were likely to be built by 2025 and if built, they would likely be equipped with CCS technology. However, after considering the continuing changes in the electricity sector and the comments it received on the 2012 proposed CO₂ NSPS rule, EPA asserts that it is appropriate to set a separate standard for coal- and gas-fired EGUs.

Emission Standards. The proposed rule would set an emissions limit for new coal-fired EGUs of 1,100 lb CO₂/MWh over a rolling 12-month operating period. This level will require the units to install at least “partial” application of CCS as discussed below. Alternatively, coal plants could accept a more stringent limit of 1,000-1,050 lb CO₂/MWh averaged over an 84-month operating period. EPA asserts that these limits correspond to a reduction in CO₂ emissions of approximately 40 percent as compared to CO₂ emissions from a new, highly efficient coal-fired power plant without CCS technology.

The proposed rule sets two emissions limit standards for new natural gas-fired stationary combustion units depending on size. Units with a heat rate in excess of 850 mmBtu/hr will be subject to a 1,000 lb CO₂/MWh, while smaller units (less than or equal to 850 mmBtu/hr) must meet a standard of 1,100 lb CO₂/MWh. Both standards are based on the performance of modern NGCC units without CCS.

Best System of Emissions Reduction for Coal-Fired Units. EPA considered three alternatives to proposing the BSER for coal-fired EGUs after reviewing the following key factors: feasibility of the technology, costs, and size of emission reductions. The three BSER alternatives included: (1) highly efficient new generation that does not include CCS technology; (2) highly efficient new generation with “full capture” of CO₂ through CCS; and (3) highly efficient new generation with “partial capture” of CO₂ through CCS.

EPA asserts that it rejected the first alternative because high efficiency coal-fired EGUs without CCS would not provide meaningful reductions in CO₂ emissions. Rather, EPA concluded that partial capture is “feasible and available” and therefore “adequately demonstrated” based on a review of literature and the fact that two coal-fired



power plants with partial CCS are currently under construction and another two CCS-equipped power plants are under development.

Best System of Emissions Reduction for Natural Gas-Fired Units. In determining the BSER for gas-fired units, EPA evaluated: (1) modern, efficient NGCC units; and (2) modern, efficient NGCC units with CCS. EPA found that NGCC units are widely used throughout the industry, significantly reduce CO₂ emissions, and are cost effective. Conversely, the EPA found that NGCC with CCS is “not a configuration that is being built today,” and thus the agency concluded that it lacks sufficient information to determine whether NGCC with CCS is technically feasible. In addition, EPA found that a CCS-based standard would impose high costs on the economy given the high number of new gas-fired EGUs expected in the coming years. Therefore, the NSPS rule proposes to find that modern, efficient NGCC technology is the appropriate BSER for EGUs utilizing stationary combustion turbines.

Economic and Environmental Impacts. EPA estimates that the proposed rule will have “no notable compliance costs associated with it,” because electric power companies planning to build new EGUs are expected to meet the proposal’s requirements because of existing and expected market conditions in any event. For the same reasons, the agency says it does not anticipate the proposed rule will result in notable “CO₂ emission changes, energy impacts, monetized benefits, costs, or economic impacts by 2022.”

Next Steps. Once the EPA publishes the proposed rule in the *Federal Register*, the public will have sixty (60) days to provide comments.

FOR MORE INFORMATION

Van Ness Feldman closely monitors and counsels clients on air, water, and other environmental regulatory developments. If you would like more information about the proposed CO₂ NSPS rule or assistance with participation in the public comment process, please contact [Kyle Danish](#), [Stephen Fotis](#), [Britt Fleming](#), or any member of the firm’s [Environmental](#) Practice in Washington, D.C. at (202) 298-1800 or in Seattle, WA at (206) 623-9372.

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