

EPA's "Rational First Step" to Control GHG Emissions

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On April 2, 2007, the U.S. Supreme Court, in deciding *Massachusetts v. EPA*, put climate change on the U.S. Environmental Protection Agency's (EPA) agenda. Some five years later, we have our first look at how EPA intends to apply the Clean Air Act ("CAA") to set technology-based caps or limitations for greenhouse gas ("GHG") emissions from stationary sources within specific industries. Indeed, on April 13, 2012, EPA issued its highly-anticipated proposed rule that, if adopted, would establish New Source Performance Standards ("NSPS") for GHG emissions for fossil fuel-fired electric generating units ("EGU").

The proposed rule, according to EPA, is the agency's "rational first step" to controlling GHG emissions from the country's largest stationary sources. 72 Fed. Reg. 22392, 22395/3 (proposed April 13, 2012). EPA's first step to setting technology-based standards, of course, comes on the heels of EPA's Endangerment Finding (74 Fed. Reg. 66496 (Dec. 15, 2009)), Tailpipe Rule (75 Fed. Reg. 25324 (May 7, 2010)), and Tailoring Rule (75 Fed. Reg. 31514 (June 3, 2010)). The D.C. Circuit Court of Appeals recently upheld each of these rules in *Coalition for Responsible Regulation, Inc. v. EPA*, ___ F.3d ___, Appeal No. 09-1322, 2012 WL 2381955 (D.C. Cir. June 26, 2012). While EPA's rule proposes to set emission limitations for carbon dioxide ("CO₂") only, the agency's first step may be the end of the construction of new coal-fired power plants in this country.

EPA's proposed emission standard is fairly straightforward as the agency opted to limit emissions of CO₂ to 1,000 pounds of CO₂ per Megawatt hour (lbs CO₂/MWh) for all EGUs subject to the rule. The agency is considering moving the figure to make the standard more stringent (lowering the limit to 950 lbs CO₂/MWh) or less rigid (potentially raising the limit to

1,100 lbs CO₂/MWh). Under EPA's proposed rule, compliance with the emissions standard would be calculated on a 12-month annual average basis. 77 Fed. Reg. 22406/2.

EPA proposed the emission standards under the NSPS program, which allows EPA to establish technology-based standards under section 111 (42 U.S.C. § 7411). EPA's proposed NSPS for GHG emissions would regulate EGUs powered by fossil fuels, including those that combust natural gas, coal (both new and refuse), oil, and petroleum coke. 77 Fed. Reg. 22398/1; *see also id.* at 22439/3 (to be codified as 40 CFR section 60.5580) (defining fossil fuel to mean “natural gas, coal, and any form of solid, liquid, or gaseous fuel derived from such material”). Importantly, EPA specifically decided against creating sub-categories within the NSPS for fossil fuel-fired EGUs. 77 Fed. Reg. 22406/1. Very simply put, regardless of the specific fossil fuel feedstock used, all facilities subject to the standards must meet the 1,000 lbs CO₂/MWh standard under the rule. This is, as discussed below, a significant decision that means coal-fired EGU are only feasible if they employ carbon capture and sequestration.

In proposing to set standards for fossil fuel-fired EGUs, EPA limited the reach of the would-be rule in several important and novel ways. First, the GHG limitation will only apply to EGUs that generate greater than 25 megawatts of electric power and also offer at least one-third of the potential output of the facility for sale.

Second, the rule only applies to newly-constructed—but not modified—fossil fuel-fired EGUs. Section 111 defines the term “new source” as “any stationary source, the **construction or modification** of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.” 42 U.S.C. § 7411(a)(2) (emphasis added). Accordingly, by definition a new stationary source is either a newly-constructed facility or an existing source that undergoes

modifications that result in an emission increase. But in proposing a GHG standard for fossil fuel-fired EGUs, EPA's proposed rule stated that modified fossil fuel-fired EGUs will be treated as existing sources, meaning the new emission standards will not apply to any existing EGU, regardless of the scope of modification. 77 Fed. Reg. 22420/2.

EPA justified its decision to exclude modified EGUs from NSPS regulation on two bases: (1) that EPA lacks a basis to develop GHG performance standards for modified fossil fuel-fired EGUs; and (2) that the modifications that will increase an EGUs GHG emissions will most likely be projects aimed at installing pollution control equipment, which EPA does not treat as modifications under 40 CFR 60.14(e)(5). *Id.* Regardless of the explanation, by distinguishing between new and modified sources, EPA may be setting itself up for litigation where an environmental or community-interest non-governmental organization (NGO) argues that EPA does not have the authority to exclude modified sources from the standards because Congress has spoken directly to the applicability of section 111 when it defined the term "new source" in section 111.

Third, the proposed rule states the new standards will not apply to sources that EPA identified as "transitional units." Transitional units are proposed fossil fuel-fired EGUs that have obtained a Prevention of Significant Deterioration (PSD) preconstruction permit by April 13, 2012 (the day EPA published its proposed GHG rule). 77 Fed. Reg. 22421/3. But to remain categorized as a transitional unit, the proposed facility must commence construction by April 13, 2013. EPA identified fifteen proposed sources that may qualify as transitional units.

Finally, EPA's proposed GHG rule only calls for emission limitations for CO₂ and no other GHG. 77 Fed. Reg. 22406/1. In contrast, EPA's prior regulations targeting GHGs treated the six long-lived GHGs that mix together in the atmosphere—i.e. CO₂, methane, nitrous oxide,

hydroflouorocarbons, perflouorocarbons, and sulfur hexafluoride—as a single “air pollutant.” 74 Fed. Reg. 66536-37 (Endangerment Finding).

Given that the limitations set in NSPS regulations are technology-based standards, EPA sets emissions standards based upon the best demonstrated technology, which is the best system of continuous emissions reduction that has been demonstrated to work in a particular industry, considering economic conditions and other factors. 42 U.S.C. § 7411(a)(1). EPA selected the proposed 1,000 lbs CO₂/MWh standard based on the performance of natural gas combined cycle (“NGCC”) units, which, according to EPA, 95 percent of the NGCC units installed between 2006 and 2010 meet the proposed standards. 77 Fed. Reg. 22414/1. In contrast, the best coal-fired EGUs—which EPA identified as modern supercritical and ultra-supercritical coal-fired boilers and coal gasification facilities—have CO₂ emissions of approximately 1,800 lbs CO₂/MWh. 77 Fed. Reg. 22417/3.

Despite the divergent emissions from NGCC units and the best functioning coal-fired units, EPA opted against sub-categorizing the GHG standard between natural gas-fired units and coal-fired units. EPA did so because natural gas-fired units are “cleaner and cheaper than coal” and therefore qualify as the best demonstrated technology while taking into account the cost of meeting the standards. *Id.* at 22418/1. The decision against sub-categorizing units based on a fuel-specific basis may be seen as a significant shift in EPA’s treatment of fossil fuel-fired EGUs. EPA has historically developed NSPS standards for fossil fuel-fired EGUs by distinguishing between fuel sources. An example of this is found in subpart Da (40 CFR 60.40Da, et seq.), where EPA set NSPS for fossil fuel-fired electric utility steam generating units based upon the type of fuel burned by the unit. Specifically, in setting SO₂ emission standards,

subpart Da sets different standards for facilities that combust solid fuel or solid-derived fuel, and those that combust liquid or gaseous fuels. 40 CFR 60.43Da.

EPA did make a concession for coal-fired units though. In proposing the 1,000 lbs CO₂/MWh standard, EPA also proposed a 30-year averaging compliance option. This option allows new coal-fired facilities (or petroleum [pet] coke-fired units) to comply with the standard by allowing for higher emissions during the first ten years of operations followed by lower emissions during the subsequent 20 years. Specifically, a coal-fired unit would comply with the 30-year averaging option by emitting no more than 1,800 lbs CO₂/MWh during the first decade of operations. 77 Fed. Reg. 22406/2. This is a standard, according to EPA, the coal-fired EGUs can meet without requiring carbon capture. Beginning in the eleventh year, however, the facility could produce no more than 600 lbs of CO₂ per MWh on a 12-month average. *Id.* 22406/2-3.

EPA's 30-year average compliance option relies on an assumption that coal-fired EGUs could meet the 600 lbs-standard through carbon capture. And by allowing that technology to develop over time, the cost of doing so will be less prohibitive than it is today.

But at least one report has already concluded that the GHG emission standards for fossil fuel-fired EGUs will be the end of new construction of coal-fired facilities. The May 9, 2012 edition of E & E Publishing's *Greenwire* reported that an analysis by Bloomberg Government's Rob Barnett concluded that, if EPA's proposed rule becomes final, the economic impact of the rule will "effectively ban construction of new coal-fired power plants." Indeed, E & E's report goes on to state that electricity from coal-fired plants that have technology to capture and sequester carbon emissions costs 50 percent more to produce than conventional coal-fired units and is about 100 percent more expensive than natural gas-fired facilities.

EPA seems to agree that the construction of coal-fired power plants may already be a thing of the past. In its proposed rule, EPA predicted that economic factors will make NGCC units the predominate type of fossil fuel-fired EGU constructed in the future (although EPA states that this fact would remain true regardless of adoption of the final GHG rule). In fact, EPA predicts that no coal-fired EGU without carbon capture equipment will be constructed in the United States between now and 2030.

The proposed standards and their potential impact on industry and emissions of GHG have been the subject to significant public comment. In all, EPA received 11,149 public submissions on the proposed rule. While only time will tell if EPA's final standards will be the end of construction of new coal-fired EGUs, what is certain is that the fossil fuel fired EGUs will not be EPA's last attempt to set NSPS standards controlling GHG emissions from stationary sources. Petroleum refineries, according to a consent decree entered by EPA in late 2010, are next up on EPA's agenda for GHG regulation.

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