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2015 to Be the Year of Final Air-Quality Regulations

Carroll W. "Mack" McGuffey

For those tracking air-quality regulations, 2014 could take the title "Year of Proposals." The US Environmental Protection Agency (EPA) proposed several unprecedented regulatory actions over the course of the year, and even planned to issue a few more as the clock ticked down in December. All of those proposals means that the EPA will likely spend most of next year reviewing all of the millions of comments submitted by the public, making what tweaks to the proposed regulations that it finds appropriate, and releasing those regulations in final form. As a result, 2015 will likely become the "Year of Final Regulations."

The EPA will likely spend most of next year reviewing all of the millions of comments submitted by the public.

Of course, with all of 2015's final rules, 2016 will likely be the "Year of Litigation." But that discussion will have to await next year's article. For now, here is a summary of the important air-quality regulations that the EPA plans to finalize in 2015, along with a few other newsworthy items expected to make headlines over the next 12 months.

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"STANDARDS OF PERFORMANCE" FOR CO_2 EXPECTED TO REQUIRE TRANSFORMATION OF POWER SYSTEM

One of the first major headlines on air-quality regulations in 2015 is likely to be the EPA's release of at least one final regulation to impose "standards of performance" for greenhouse gas emissions—specifically, carbon dioxide (CO_2)—on electric utility generating units.

The EPA actually published three such proposals in 2014, one for newly constructed units, one for modified or reconstructed units, and one for all other existing units. The EPA may finalize at least the first of those proposals in January because the Clean Air Act requires the EPA to finalize proposed standards within one year of publication,[1] and the EPA's proposal for newly constructed units (actually reproposal, after withdrawing its 2012 attempt) was published in January 2014.[2]

Regulations for "Newly Constructed" Units—A Necessary Prerequisite

While likely to be the first, the EPA's final regulation for newly constructed generating units will not be the most critical. By the EPA's own admission, the standards it has proposed for newly constructed units are not expected to require anyone to do anything.[3]

For new natural gas–fired generators, the EPA proposed a "standard of performance" based on state-of-the-art combined-cycle technology at 1,000 pounds of CO_2 per megawatt-hour for larger units and slightly higher at 1,100 pounds per megawatt-hour for smaller units—limits that the EPA claims all new combined-cycle units should be able to meet "as is." For coal-fired units, the numeric value is largely irrelevant because no coal-fired unit will be able to meet it without carbon capture and sequestration (CCS)—a technology that most in the industry still consider to be in its infancy and unavailable for broad application, despite a few construction projects under way (and over budget, even with government subsidies) that seek to apply it for the first time to a power generator. Despite the lack of utility-scale demonstrations of CCS, the EPA claims its CCS requirement will have no impact on the industry because no one is planning to build new coal-fired power plants without CCS anyway.

So why propose (or finalize) a rule that will not require natural gas units to do anything different, and that will prohibit something that no one is doing anyway (building coal plants without CCS)? Because the Clean Air Act requires the EPA to regulate new sources first, or at least simultaneously, before regulating existing electric generators, which are the nation's largest source of CO_2 emissions.[4] As such, the EPA's final regulations for newly constructed units satisfy a legal prerequisite to the main event—the EPA's "Clean Power Plan" for existing power generators.

Regulations for "Modified" and "Reconstructed" Units—Covering "Existing" Sources That Become "New" Sources

But before getting to existing plants, the EPA will likely also address those units that may be existing now but must be regulated as if they were a "new source" if they conduct a "modification" or "reconstruction." The Clean Air Act requires those sources to be treated as "new sources" to avoid unfairly discouraging the construction of new plants in favor of fixing up old ones. The EPA expects very few sources will fall into this category but issued proposed regulations to explain what requirements would apply if they do. Oddly, the EPA's proposal claims that such units may be regulated as both a "new source" and an "existing source," which appears inconsistent with the act, although that could still change in the final version of the regulation.[5]

Regulations for "Existing" Units—The Main Event

Finally, the EPA will likely issue a third final regulation for CO_2 emissions from power generators—its "Clean Power Plan" for existing units—in June 2015, since that is the date set in President Obama's Climate Action Plan, despite the millions of comments that the EPA will have to review before finalizing it.

Unlike the EPA's other climate-change proposals, the practical impact of the EPA's proposal for existing units will be extraordinary. As proposed, the plan would essentially require a fundamental transformation of the bulk power system from its current form, which dispatches least-cost generating resources first, to a system

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that focuses primarily on reducing the use of fossil fuels. That is, under the EPA's proposal, the electric power sector must replace "economic dispatch" with "environmental dispatch."

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The EPA's proposal claims that its proposal will reduce CO_2 emissions from the power sector by 30 percent in 2030 compared to the level of CO_2 emitted in 2005, although only 19 percent below the 2012 baseline the EPA used to craft the rule. The EPA claims that these reductions are achievable through four "building blocks"—(1) significant improvements in the efficiency (heat rate) of the nation's coal-fired fleet, (2) displacing coal generation through the redispatch of natural gas combined-cycle units to a 70 percent capacity factor, (3) significant increases in zero-emitting generation from renewable resources and maintaining existing and under-construction nuclear capacity, and (4) reducing the demand for electricity through demand-side energy-efficiency programs.

The EPA estimates that these activities will cost up to $9 billion per year, a figure many industry leaders claims to be unrealistically low. However, the EPA asserts that the return will be even greater—in billions of dollars of global climate change benefits, and in the cobenefit of reductions in particulate matter emissions beyond those that the EPA has already required and deemed sufficient to protect public health.[6] The EPA also recognizes that this step will be far from enough to avoid substantial climate change[7] but considers it a necessary step nonetheless.

As might be expected, given the unprecedented nature of the "Clean Power Plan," a myriad of legal issues permeate the proposal. Even before the comment period closed on December 1, industry leaders, energy regulators, and state government representatives raised dozens of potential legal flaws in the EPA's plan—everything from potential conflicts with other sections of the Clean Air Act to the lack of jurisdiction over nonemitting facilities like renewable energy and nuclear units to the fact that the Clean Air Act actually authorizes states, not the EPA, to establish the "standards of performance" for existing units.

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The EPA's responses to comments in 2015, as it releases all three final regulations, will likely address these issues and more, setting the stage for the heated, complex litigation that is sure to follow.

AMBIENT AIR-QUALITY STANDARDS—MOVING THE GOALPOSTS OF "CLEAN AIR"

Despite all the attention devoted to addressing climate change, the EPA has also continued its efforts to ratchet down and enforce new ambient air-quality standards for other, so-called traditional pollutants. In doing so, the EPA is essentially defining what constitutes "clean air" and determining which areas of the country are not up to par.

Perhaps most importantly, the EPA is planning to establish new ground-level ozone standards that could be critical for emitters of volatile organic compounds (VOCs) or nitrogen oxides (NO_x), such as natural gas–fired power generators. But the EPA is also planning to take significant steps in 2015 to implement the new standards it has recently set for sulfur dioxide (SO_2) and fine particulate matter ($PM_{2.5}$), both of which are primarily a concern for coal generators only.

Ground-Level Ozone

Just in time for coverage in this article, the EPA finally released a new proposal to strengthen the ground-level ozone standard, which the EPA has promised to finalize in October 2015. The proposal indicates that the EPA plans to follow the recommendations of its scientists—something the Agency has been criticized for failing to do in the past—by proposing a standard between 65 and 70 parts per billion, and taking public comment on the possibility of a standard as low as 60 parts per billion. However, the EPA has also agreed to accept comment on retaining the

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current standard of 75 parts per billion that was established in 2008.

The EPA plans to follow the recommendation of its scientists—something the Agency has been criticized for failing to do in the past—by proposing a standard between 65 and 70 parts per billion.

Even at 70 parts per billion, the new standard would represent a significant increase in stringency compared to the current standard. However, the EPA has claimed in a press release that "the vast majority of U.S. counties would meet the proposed standards by 2025 just with the rules and programs now in place or under way."[8]

Even so, any new lower standard would still place a significant portion of the country into "nonattainment" status for the time being. And even before the EPA issues any official "nonattainment" designations, the lower standard will immediately complicate permitting for the construction of new stationary sources or the modification of existing ones, which requires proof that the projects will not violate the standard—something that will be difficult to do in an area that is already over the mark.

Once the EPA issues the official designations (likely in 2017), any states with new nonattainment areas must develop new implementation plans to find reductions any way they can, likely looking to the highest emitters of the precursors of ozone, namely, VOCs, and NO_x. Any state that finds itself still short of the new goal may turn their attention to any existing natural gas–fired generators that do not already have the latest control equipment, such as selective catalytic reduction systems for NO_x. To the extent requiring the installation of new controls is deemed cost-effective, gas-fired power generators may face additional regulatory requirements in light of the EPA's proposal to strengthen the ozone standard.

Sulfur Dioxide and Fine Particulate Matter

Because the EPA has already revised its SO_2 and $PM_{2.5}$ standards recently, those standards are further along in the typical regulatory process than ozone, but the EPA is still in the process of finalizing new "nonattainment" designations for both pollutants.

While important, the $PM_{2.5}$ designations are likely to be less controversial because—like the proposed standard for ozone—the EPA believes that the vast majority of the country should be able to attain the new $PM_{2.5}$ standard without new control requirements, other than those already "on the books."[9]

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For SO_2, however, the fight may be just beginning. The Clean Air Act required the EPA to issue its designations within three years of finalizing the standard in 2010, a deadline that passed in 2013 without all but a handful of designations for areas for which the EPA had sufficient monitoring data to determine compliance. For all other areas, where monitoring systems are lacking, the EPA has proposed a new means of determining whether areas are clean: computer modeling. In other words, rather than actually sampling the air to determine air quality, the EPA is planning to ask all major emitters of SO_2 (coal plants, the EPA is looking at you) to run complicated computer model simulations to determine whether the standard will be met at the facility's fenceline.

The EPA has proposed a new means of determining whether areas are clean: computer modeling.

By placing the burden of demonstrating compliance on individual facilities instead of states, those facilities may soon be required to take any actions necessary to ensure the computer modeling comes up clean, including the adoption of new permit limits or the installation of new controls. Natural gas–fired generators should be relatively safe—they do not emit enough SO_2 to trigger the new modeling requirements—but any coal-fired facilities without a scrubber could find themselves facing new requirements for one soon, if the computers say so.

The EPA is expected to finalize its proposed approach for determining SO_2 nonattainment

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designations in early 2015. However, watch out for a lawsuit still under way in a California district court, in which the EPA has entered into a settlement with Sierra Club that involves making its proposed SO_2 designation process even more stringent than initially proposed.[10]

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METHANE REGULATIONS FOR OIL AND GAS PRODUCERS

As reported last year, the EPA is eyeing the possibility of new methane regulations for the oil and gas industry, largely due to the climate-change concern that methane may present, as a far more potent greenhouse gas than CO_2.[11]

In fact, in 2014, President Obama issued a specific Climate Action Plan just for methane that encourages the EPA to find new ways to reduce methane emissions from landfills, coal mines, agriculture, and the oil and gas sector.[12] The EPA cites the oil and gas industry as the highest-emitting man-made source of methane, but the EPA has yet to require the industry to directly control its methane emissions. Recently, the agency issued proposed changes to its methane reporting requirements, indicating the EPA may be gearing up to release new emission-reduction requirements soon. A decision on whether to regulate methane is expected in late 2014 or early 2015, and, if the EPA chooses to regulate, a final rule may arrive in 2016.

Like the EPA, the Bureau of Land Management (BLM) may still have more in store in the waning days of 2014 that could lead to new methane regulations in 2015. In particular, the BLM appears ready to issue a proposal for updated standards to reduce flaring and venting of methane from oil and gas production on federal lands. New BLM standards may also be on the way for coal mines as well. In April 2014, the BLM published an "advanced notice of proposed rulemaking," seeking public input on the development of a program for the capture and sale, or disposal, of waste coal mine methane.[13]

That proposal will likely be finalized in 2015 and could impose new methane requirements on all coal mines under BLM jurisdiction, to the extent deemed feasible.

START-UP, SHUTDOWN, AND MALFUNCTION EMISSIONS—WHAT TO DO WHEN THERE IS NOTHING YOU CAN DO

In 2014, the EPA continued to struggle with efforts to regulate emissions during start-up, shutdown, and malfunction (SSM) events that exceed limits designed for normal operations.

As reported last year, the EPA proposed a new SSM policy in 2013, in response to a petition from Sierra Club claiming that the Clean Air Act prohibited SSM provisions that the EPA had previously approved for 36 states. The EPA's 2013 proposal issued an "SIP Call"—a call for states to revise their state implementation plans (SIPs). However, in 2014, the EPA had to reevaluate its plans in a "supplemental proposal,"[14] following the invalidation of its policy for unavoidable malfunctions.[15]

In that case, the US Court of Appeals for the DC Circuit explained that only a federal court can determine an appropriate penalty for Clean Air Act "violations," thus rejecting the "affirmative defense" to penalties that the EPA had recommended to states and included in many of its own regulations. But at the heart of the issue, left unaddressed by the court, is whether facilities qualifying for an "affirmative defense" must be considered in "violation" at all. The EPA assumes that all excess emissions must be a "violation," even if unavoidable. Therefore, in response to the court's decision, the EPA's supplemental proposal recommended the elimination of all affirmative defenses, a policy the EPA plans to finalize along with its SIP Call in May 2015.

Only a federal court can determine an appropriate penalty for Clean Air Act "violations."

Despite the policy announced in the EPA's SIP Call and supplemental proposal, the EPA's own actions may provide the best example of a reasonable path forward on SSM emissions. In

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its own regulations, such as its recently adopted Mercury and Air Toxics Standards (MATS), the EPA has made a habit of including SSM "exemptions" paired with SSM "work practice standards."[16] In doing so, the EPA has admitted that no numeric standards are appropriate for unavoidable SSM emissions, because controlling or even measuring emissions during such events is often impossible. States seeking to comply with the EPA's SIP Call, once finalized in May, should review the EPA's own SSM rules and consider acting accordingly.

If states follow the EPA's example, they may be able to address the EPA's proposed SIP Call in a manner that does not leave the regulated community unnecessarily vulnerable for uncontrollable emissions.

MERCURY AND AIR TOXICS STANDARDS TAKE EFFECT, JUST AS THE SUPREME COURT TAKES THE CASE

Speaking of MATS, those new requirements are scheduled to take effect April 16, 2015, thus prompting an initial wave of coal unit retirements that could have implications for gas generators and the bulk power system as a whole. Those coal units remaining online will begin wrestling with many still unanswered questions regarding implementation, including some brand new start-up, shutdown, and malfunction provisions recently adopted by the EPA.

However, on November 25, the Supreme Court decided to review the legality of the regulation in light of one last legal challenge raised by industry and several states. Specifically, next year, the Supreme Court will determine "[w]hether the [EPA] unreasonably refused to consider costs in determining whether it is *appropriate* to regulate hazardous air pollutants emitted by electric utilities." In other words, should the EPA have considered whether the admittedly high price tag for the rule—in the EPA's own estimate, $9.6 billion—is worth the benefits? If five Supreme Court justices agree that the word "appropriate" means the EPA should have considered those costs before deciding to regulate, a complete rejection of the MATS program is possible in 2015.

CONCLUSION

The crystal ball is never perfectly clear, but 2015 certainly appears on track to become one of the most influential years in the development of air-quality regulations ever, given the number of unprecedented rules that the EPA plans to finalize. The fate of those rules will be decided later, in litigation, but the final form and content of the regulations will shape the legal battles to come, and set the stage for next president to either follow in the same footsteps or choose another path.

NOTES

1. 42 U.S.C. § 7410(b)(1)(B) ("the [EPA] Administrator shall publish proposed regulations, . . . [and] he shall promulgate, within one year after such publication, such standards.").
2. *Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units; Proposed Rule*, 79 Fed. Reg. 1430 (Jan. 8, 2014).
3. Ibid. ("The EPA does not anticipate that this proposed rule will result in notable CO[2] emission changes, energy impacts, monetized benefits, costs, or economic impacts.").
4. See chart at http://www2.epa.gov/sites/production/files/2014-05/ghg-chart.png.
5. 42 U.S.C. § 7411(a) (defining "new sources" and "existing sources" to be mutually exclusive).
6. EPA. (2012). *EPA projections show 99 percent of U.S. counties with monitors would meet the Annual Fine Particle Health Standard of 12.0 μg/m3 in 2020.* Retrieved from http://www.epa.gov/airquality/particlepollution/actions.html.
7. Interagency Working Group on Social Cost of Carbon. (2013, November). *Technical support document: Technical update of the social cost of carbon for regulatory impact analysis under Executive Order 12866*, p. 15. ("Even if the U.S. were to reduce its greenhouse gas emissions to zero, that step would be far from enough to avoid substantial climate change.").
8. EPA. (2014). EPA's proposal to update the air quality standards for ground-level ozone. Retrieved from http://www.epa.gov/glo/actions.html#nov2014.
9. See Note 6.
10. *Sierra Club v. McCarthy*, No. 13-03953 (N.D. Cal. filed Aug. 26, 2013).
11. The White House. (2014, March). *Climate Action Plan: Strategy to reduce methane emissions*. Retrieved from http://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf.
12. EPA. (2014, July). *Overview of greenhouse gases: Methane emissions*. Retrieved from *http://epa.gov/climatechange/ghgemissions/gases/ch4.html*.
13. *Waste Mine Methane Capture, Use, Sale or Destruction*, 79 Fed. Reg. 23923 (Apr. 29, 2014).
14. 79 Fed. Reg. 55,920 (Feb. 22, 2013).
15. *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014) ("[U]nder this statute, deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not for EPA.").
16. See, e.g., EPA's Mercury and Air Toxics Standards (MATS), 40 C.F.R. § 63.10000(a) ("These limits apply to you at all times *except during periods of startup and shutdown*; however, *… you are required to meet the work practice requirements in Table 3 to this subpart during periods of startup or shutdown*.")

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