EPA finalizes reconsideration rules for boilers and solid waste incinerators but issues remain

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In just over a week’s time earlier this year, the U.S. Environmental Protection Agency (EPA) published three important rules resolving petitions for reconsideration of its heavily litigated, long-awaited combustion regulations for hazardous air pollutants under Clean Air Act (CAA) sections 112 and 129 (42 U.S.C. §§ 7412 and 7429). The three revised rules are:

• Maximum Achievable Control Technology (MACT) for Industrial, Commercial, and Institutional Boilers at Major Sources (Major Source Boiler Reconsideration Rule) (Jan. 31, 2013);
• Generally Available Control Technology (GACT) for Industrial, Commercial, and Institutional Boilers at Area Sources (Area Source Boiler Reconsideration Rule) (Feb. 1, 2013);
• Commercial and Industrial Solid Waste Incineration Units (CISWI Reconsideration Rule) and Non-Hazardous Secondary Materials that are Solid Waste (NHSM Reconsideration Rule) (Feb. 7, 2013).

These rules produced mixed reactions from stakeholders and some have filed new petitions for reconsideration with EPA. While courts will ultimately resolve the legality of the new rules, companies must proceed to comply. An article in the March/April 2013 Trends addressed the NHSM Reconsideration Rule. This article focuses on issues companies should think about for compliance with the Boiler and CISWI Reconsideration Rules.

EPA’s Boiler Reconsideration Rules

Under CAA section 112, EPA must issue MACT standards for major sources of hazardous air pollutants (i.e., those sources with potential emissions of any single hazardous air pollutant of at least 10 tons per year or emissions of combined hazardous air pollutants of at least 25 tons per year). Section 112 also requires GACT for “area sources”—those with emissions below “major source” levels. Industrial boilers are subject to both major and area source standards.

EPA initially issued its Major Source Boiler MACT in 2004. That initial rule was challenged by environmental groups, and then vacated by the D.C. Circuit in 2007 in Natural Resources Defense Council v. EPA, 489 F.3d 1250 (D.C. Cir. 2007). EPA proposed new rules in 2010, but due to their complexity, delayed the final rules. Frustrated with the lack of progress, environmental groups obtained a court order, which led to final rules in March 2011. Upon issuing the new rules, EPA took quite a unique step.
It announced its immediate reconsideration of the rules and stayed their effectiveness. The reconsideration process resulted in a December 2011 EPA proposal to revise several aspects of the regulations, and EPA issued the “reconsidered” rules in early 2013.

**Emissions limits and limited use definitions in the Boiler Reconsideration Rules**

Emission limits for coal-, liquid fuel-, and biomass-fired boilers at major and area sources remain contentious issues for all stakeholders. There are now 21 subcategories for major source boilers that, among other things, split the liquid fuel subcategory into “heavy” and “light” liquid and add a separate subcategory for coal fluidized-bed units with fluidized-bed heat exchangers (so-called “refuse units”). The Major Source Boiler Reconsideration Rule adjusted some emission limits, including raising the carbon monoxide limit for major source existing biomass wet stoker boilers from 490 to 1,500 parts per million (ppm) and lowering the existing coal stoker boiler limit from 270 to 160 ppm. But, industry groups remain concerned that these boilers require costly controls to meet limits.

Environmental groups, on the other hand, claim the limits fail to satisfy statutory requirements, arguing that EPA improperly based subcategories on fuel choice. They claim limits must be set based on the lowest emitting fuel, such as natural gas and implicitly argue that EPA should borrow from the recent proposed greenhouse gas CAA section 111 New Source Performance Standards for electric utilities, which included a “fuel neutral” standard. Environmental groups also object to EPA’s exclusion of gas-fired boilers at area sources from regulation.

EPA expanded the limited-use subcategory of boilers by changing the prior strict definition of not more than 876 annual hours’ limitation to a flexible definition using a 10 percent capacity factor. This revised definition gives owners greater operational flexibility for boilers that are generally back-up energy sources, while maintaining equivalent emissions. Again, environmental groups object, arguing that the hours-based limited-use exemption was tied to infeasibility of stack testing, which they claim is inapplicable with the 10 percent capacity factor approach.

In the March 2011 rules, EPA determined that so-called “work practice” standards (instead of numerical limits) were appropriate for certain categories of boilers, including natural gas fired units at major sources and small and limited-use boilers. These work practice standards consisted of tune-ups and an energy assessment. Additionally, for emissions of dioxin/furan from major sources and during startup and shutdown periods, EPA explained that it was setting only work practice standards. In the 2013 reconsidered rules, EPA rejected environmental group requests to set more stringent numeric emissions limits for these two hazardous air pollutants and operation periods.

**Energy assessments and sources in the Boiler Reconsideration Rules**

Regulated entities continue to question the legality of the energy assessment requirement, which is a one-time obligation to assess a boiler and the equipment that utilizes its energy or steam and determine ways to reduce energy or steam demand. In the reconsideration process, some entities requested elimination of the requirement while others sought a narrower scope. EPA responded by limiting the energy assessment to those energy use systems located on-site and associated with the affected boil-
ers. EPA also created a series of caps for on-site technical hours for the assessment, depending on boiler size, from 8 to 160 hours. The scope of the assessment is also bounded, such that facilities with very large boilers need only evaluate those operations using at least 20 percent of the boiler’s output.

The energy assessment is unusual in part because it requires a regulated entity to review and assess equipment outside the regulated source category. Moreover, because EPA arguably cannot require implementation of the steps identified in the energy assessment because there has been no evaluation of those steps under the statutory MACT criteria, many believe it is beyond EPA's authority. EPA asserts this requirement is a cost-effective “beyond-the-floor” MACT requirement, claiming it will result in emission reductions based on the assumption that operators will be likely to implement any cost-effective energy savings measures identified in the assessment. EPA’s authority thus remains in question pending litigation.

The Major Source Boiler Reconsideration Rule imposes work practices for natural gas-fired units and numerical limits for units fired with oil or coal; area source gas-fired boilers are excluded from regulation. Due to potential natural gas curtailments, particularly in colder climates, gas-fired units must be able to burn oil as a "back-up" fuel. Thus, it is important to identify how much or how often a boiler may burn back-up oil and still be considered a "gas-fired" unit subject only to work practices. In the March 2011 rule, EPA considered a unit to be “gas-fired” as long as it only burned liquid fuel during curtailment periods and for 48 hours of periodic testing. While industry petitioners argued for more than 48 hours of testing, EPA did not increase the allowance in the reconsidered rule.

As shown on EPA’s website, the agency has long promoted beneficial use of landfill gas, calling it a “win/win opportunity.” As a result, many companies purchase gas from nearby landfills and use it in plant boilers to generate power and steam. Otherwise, the landfill gas would simply be flared to the atmosphere. Industry reconsideration petitions sought changes that would treat landfill gas just as natural gas is treated under the rule. In response, EPA has removed the requirement to test landfill gas for hydrogen sulfide content and reduced the monthly sampling frequency for mercury to semi-annual testing if initial testing shows the landfill gas is less than 75 percent of the standard. Mercury testing is eliminated if initial sampling shows mercury is less than half the standard.

**EPA’s approach to startup and shutdown periods**

EPA’s changes to the definitions of “startup” and "shutdown" promise to complicate operations for some units. The distinction between periods of startup/shutdown and normal operations is critical for operators of coal-, oil-, and biomass-fired boilers because numerical emission limits apply during normal operation and work practices apply during startup and shutdown. The 2011 rules defined startup as beginning with the start of combustion and ending when 25 percent load is achieved. Shutdown would begin when the unit drops below 25 percent load and continue until combustion ceases. Now, the 25 percent load criterion has been dropped, so startup ends when steam/heat is first supplied for heating, producing electricity, or any other purpose, and shutdown begins when steam or heat is no longer supplied to processes or no fuel is being fired in the boiler.
Another change in the most recent revisions is a new requirement that to avoid stringent limits during startup, boilers fired with coal, biomass, and heavy oil may only operate on a limited number of “clean fuels,” which industry challengers consider too narrow in that they exclude fuels like dry biomass and biodiesel. They also argue that many emission control devices cannot be engaged until the exhaust is up to a certain temperature. Accordingly, they are concerned that this requirement may force expensive retrofits for coal – and biomass-fired boilers.

The Major Source Boiler MACT Reconsideration Rule includes a new requirement for electronic submittal of compliance reports. This change, which has gone relatively unnoticed, would require all major sources to submit compliance reports electronically to EPA and would exist independent of state reporting requirements. Sources in states that have not converted to electronic reporting will need to submit both paper reports to the state and electronic reports to EPA. Even in states accepting electronic reporting, EPA’s system may not be compatible with the states’ such that separate electronic reports may be required.

**Issues and significant changes in the CISWI Reconsideration Rule**

Like the Boiler Rules, EPA’s CISWI Rules have a long history of issuance, litigation, reconsideration, and reissuance. CISWI units are regulated under CAA section 129, imposing similar standards to section 112 MACT requirements. Section 129 has no size thresholds and regulates nine specific pollutants emitted from units burning “solid waste.” The CISWI and Boiler Rules complement one another in that boilers burning fuel are subject to the Boiler Rules and boilers burning solid waste are subject to CISWI Rule.

In response to CISWI Rule reconsideration petitions, EPA adjusted emission limits for coal and biomass energy recovery units, providing separate standards for all nine pollutants. For existing units, CISWI requirements are implemented through state plans, subject to EPA approval. Existing units have three years after state plan approval or five years after CISWI Rule issuance, whichever is earlier, to comply. New units comply upon startup or by August 7, 2013, whichever is later. EPA also adjusted monitoring requirements for carbon monoxide and particulate matter and reinstated a definition of contained gaseous material.

An interesting aspect of the CISWI Reconsideration Rule is its inclusion of “rule-switching” provisions, whereby boilers must comply with CISWI requirements immediately upon burning solid waste and continue to comply for six months after ceasing to burn such waste. At this point, a boiler owner may opt to continue to comply with CISWI or switch to the Boiler Rules.

Petitions for further reconsideration of the new CISWI requirements have already been submitted and like the Boiler Rules, ultimate resolution will await further litigation.
EPA's efforts to address uncertainty

EPA recognizes that numerous “nuts and bolts” implementation questions exist and has already posted a “Q&A” document on its website addressing several questions that have arisen to date. Nonetheless, given both the complexity and intricacy of the new Boiler and CISWI rules and the ongoing legal challenges, the regulated industry must expect a continued period of uncertainty even with the new reconsidered rules.