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## It's All About the Fuel: New Emissions Standards for Boilers and Process Heaters

On June 4, 2010, EPA published four proposed rules related to its regulation of emissions of hazardous air pollutants (“HAPs”) from new and existing industrial, commercial, and institutional boilers and process heaters and commercial and industrial solid waste incinerators (“CISWIs”) under the Clean Air Act.

Of the four rules, the rule clarifying which fuel types are not “solid waste” under the Resource Conservation and Recovery Act (“RCRA”) may prove to have the greatest regulatory effect because it will dictate whether a particular combustion unit will be regulated as a boiler or under the more-stringent CISWI Rule.

Thus, the type of fuel used in a facility’s combustion units can have a large impact on a facility’s environmental compliance costs and should be considered in project, operation, and budget decision-making. This client alert provides an overview of the proposed rules and focuses specifically on facilities that combust two fuel types—natural gas and biomass.

### Regulatory Background

After a long and complicated history plagued with court remands and vacatur, EPA published four proposed rules in its second attempt to establish a comprehensive regulatory regime to control emissions of HAPs from boilers and CISWIs. The four rules are:

1. **The Boiler MACT:** The primary rule that will regulate boiler and process heater HAP emissions is commonly referred to as the “Boiler MACT” because it will require the use of maximum achievable control technology (“MACT”) to limit HAP emissions at major sources. Major sources are those with the potential to emit ten tons per year of any one HAP or twenty-five tons per year of any combination of HAPs. The Boiler MACT sets emissions limitations for five HAPs, including carbon monoxide, dioxins/furans, hydrogen chloride, mercury, and particulate matter. Many industry groups claim that these emissions limitations are “virtually unattainable.”
2. **The Area Source Boiler Rule:** For sources that do not meet the major source thresholds, EPA has promulgated a rule to regulate boiler and process heater HAP emissions at “area sources.” For boilers that are not coal-fired, the Area Source Boiler Rule will require the use of less-stringent generally available control technology (“GACT”). The rule proposes to require MACT for coal-fired boilers and process heaters at area sources.
3. **The CISWI Rule:** The CISWI Rule first surfaced in 2000, but EPA requested a voluntary remand of the rule to address subsequent court decisions relevant to EPA’s development of MACT standards. Since the rule was not vacated by a court, the 2000 CISWI Rule remained in effect. Among other things, the new rule establishes new source performance standards, emissions guidelines, and

more-arduous monitoring, testing, and data submittal requirements. Unlike the boiler rules, the CISWI Rule does not have less-stringent area source rules for smaller emitters. In addition, the rule targets more air pollutants than the Boiler MACT, including cadmium, carbon monoxide, dioxins/furans, hydrogen chloride, lead, mercury, nitrogen oxides, particulate matter, and sulfur dioxide.

4. The Solid Waste Rule: In conjunction with the amendments to the CISWI Rule, EPA has proposed a new rule under RCRA that clarifies which non-hazardous secondary materials are “solid waste.” The Clean Air Act requires units combusting “any solid waste” to be regulated as CISWIs and not as boilers. In 2005, EPA published its CISWI Definitions Rule, which excluded from the definition of “solid waste” any materials combusted in a unit designed for or which operates with energy recovery. A court in 2007 vacated the CISWI Definitions Rule finding that it contravened the plain language of the Clean Air Act. The Boiler MACT was vacated at the same time because the CISWI Definitions Rule was so interrelated with the development of the Boiler MACT.

### The Boiler MACT

Before discussing how boilers will be regulated under the new Boiler MACT, it is important to note what the new rule will not affect. The Boiler MACT regulates the combustion of non-solid waste materials in boilers and process heaters. The rule will not regulate:

- Boilers or process heaters that are already subject to regulation under an existing National Emissions Standard for Hazardous Air Pollutants (i.e., a different MACT standard);
- Residential-type boilers/hot water heaters;
- Commercial and industrial solid waste incinerators; and
- Fossil fuel-fired steam generating units of more than 25 MW that produce electricity for sale.

The Boiler MACT creates eleven subcategories of boilers and process heaters based on fuel type and unit design. The subcategory into which a boiler or process heater fits will dictate the applicable

emissions limitations and, in some cases, provide for significantly fewer requirements.

For boilers and process heaters that combust natural gas, there are relatively few requirements when compared to those combusting other fuels. Instead of the numeric emissions limitations, the pollution control for natural gas-fired boilers and process heaters will be a “work practice standard,” which requires only annual tune-ups. This work practice standard will also apply to any existing boilers and process heaters with a heat input capacity of less than 10 million Btu per hour.

Thus, smaller and natural gas-fired boilers escape having to install control technologies and conduct performance testing to demonstrate compliance with emissions limitations. The less-stringent requirements for natural gas-fired boilers and process heaters may be a driving factor when considering which type of unit to install or operate at a facility.

### The Boiler MACT, the Solid Waste Rule, and Biomass

Facilities that combust biomass will want to pay careful attention to EPA’s Solid Waste Rule. If a biomass-fired boiler or process heater’s fuel is considered solid waste, as noted above the unit will be subject to the more-stringent CISWI Rule rather than the Boiler MACT.

EPA believes its proposed rules will result in more boilers and process heaters being regulated as CISWIs. Thus, the type of fuel combusted is critical for determining which regulatory requirements will apply to existing or new facilities and the capital expenditures necessary to meet those requirements.

In the 2005 CISWI Definitions Rule, EPA distinguished solid waste from fuels based on the combusting unit’s function, exempting from the CISWI Rule units designed and used for energy recovery. A court vacated the rule finding that the plain language of the Clean Air Act requires all units combusting “any solid waste material at all” to be regulated as CISWIs and that the CISWI Definitions Rule would result in CISWIs being regulated as boilers in contravention of the statutory requirement.

In response, EPA's proposed Solid Waste Rule spells out the types of materials that are not "solid waste" and thus properly regulated under the Boiler MACT:

1. Non-hazardous secondary materials used as fuels that remain within the control of the generator (i.e., materials that never left the generating site) and meet the "legitimacy" criteria (explained below);
2. Non-hazardous secondary materials that are used as ingredients in the manufacturing process and meet the legitimacy criteria;
3. Materials that have been sufficiently processed into a fuel or ingredient from discarded non-hazardous secondary material and meet the legitimacy criteria;
4. Non-hazardous secondary materials used as a fuel that do not remain within the control of the generator and for which EPA grants a facility's petition for a "non-solid waste" determination; and
5. Traditional fuels (e.g., coal, oil, biomass, etc.).

As noted above, non-hazardous secondary materials must meet EPA's "legitimacy" criteria to avoid being classified as solid waste. Generally speaking, for a secondary material to be a legitimate fuel it "must be handled as a valuable commodity, have meaningful heating value, be used as a fuel in a combustion unit that recovers energy, and contain contaminants at levels comparable to those in traditional fuels."

Of particular relevance to biomass-fired facilities, EPA has defined traditional fuels to include "clean cellulosic biomass" when burned as fuel. To be considered "clean," the biomass must not have been chemically or physically altered such that it has contaminant concentrations different from those normally found with virgin biomass materials.

For further guidance, EPA provided a list of specific materials that it considers clean cellulosic biomass, including "forest-derived biomass (e.g., green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, and tree harvesting residuals from logging and sawmill materials), corn stover and other biomass crops used specifically for energy production (e.g., energy cane, other fast growing

grasses), bagasse and other crop residues (e.g., peanut shells), wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, and clean biomass from land clearing operations."

EPA is also considering an alternative approach for identifying materials that are not solid wastes when combusted as fuels, which EPA says it will adopt if warranted by public comment and other information in the rulemaking record. The alternative approach provides that:

1. Traditional fuels EPA has previously identified (including clean biomass) and that have traditionally been combusted as fuels and managed as valuable products would not be considered solid waste;
2. All non-hazardous secondary materials used as fuels would not be solid wastes if they remain within the generator's control and meet EPA's legitimacy criteria; and
3. All other non-hazardous secondary materials that are burned as fuels or used as ingredients in the combustion process would be solid wastes, and units combusting them would be subject to the CISWI Rule.

The alternative approach is broader with respect to the types of materials that would be considered solid wastes, and, unlike the proposed approach, it does not include a petition process for a non-waste determination.

### **Comment Period Ends August 3, 2010**

EPA is requesting comments on several issues important to biomass-fired and other types of combustion units. EPA is requesting comment on whether other materials, and specifically other types of clean biomass, should be classified as "traditional fuels." Any comments should explain how such materials have traditionally been used as a valuable fuel product as opposed to waste. EPA is also requesting comments on whether it should adopt the alternative approach to the Solid Waste Rule.

This provides an important opportunity for owners and operators of biomass-fired facilities to ensure that their biomass fuel will qualify as clean cellulosic biomass under the new rules. Comments must be received by EPA on or before August 3,

2010, to be considered before the rules are finalized, which by court order should occur this December.

### Conclusion

While the Boiler MACT and related rules have not been finalized and are likely to face legal challenges like their predecessors, businesses would be prudent to consider the effects of the proposed rules in their decision-making early on.

Proposed facilities or facilities planning upgrades should carefully evaluate treatment of their fuel

under the rules and consider providing comments to EPA relating to a facility's specific operations. This can provide more certainty for future operations and may help some facilities align their fuel combustion with the renewable energy portfolio standards in effect in almost half the states.

Other things being equal, selecting certain types of boilers and process heaters and the fuels combusted in them could provide significant cost savings by reducing regulatory requirements.

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