



Boiler MACT Update

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On February 21, 2011, the EPA finalized rules that will affect facilities that burn biomass for heat or power, or plan to in the future. The rules, more commonly known as the **Boiler MACT**, address hazardous air pollutant ("HAP") emission standards for industrial, commercial and institutional boilers and process heaters.

The Boiler MACT has been the subject of litigation for the past 10 years. Even with its recent dissemination, EPA announced that it intends to begin the formal process of reconsideration - with additional details to be released in the near future.

Boilers burn fuels to produce steam, which in turn is used to produce electricity or provide heat. Process heaters heat raw or intermediate materials during an industrial process. Boilers and process heaters are used at industrial facilities and may stand alone to provide heat for commercial facilities.

The EPA has promulgated standards for both major source facilities and area sources. It is important to know how your boiler or process heater is classified. Additionally, these rules may affect your current operations and any changes you make in the future. New sources must be in compliance upon startup - existing sources (existing as of February 21, 2011) must be in compliance within 3 years from the date the rule is published in the Federal Register.

A **major source facility** is defined as one that emits (or has the potential to emit) 10 or more tons per year (tpy) of any single HAP or 25 tpy or more of any combination of HAPs. EPA has identified 15 different subcategories of boilers and process heaters based on the design of the various types of units. The final rule for major sources includes specific requirements for each subcategory:

New and existing natural gas -and refinery gas-fired units

- Work practice standard, instead of numeric emission limits.
- The operator will be required to perform an annual tune-up for each unit.

New and existing units with a heat input capacity less than 10 MMBtu/hr

- Work practice standard, instead of numeric emission limits.
- The operator will be required to perform an annual tune-up for each unit.

New and existing "limited use" boilers (operated less than 10 % of the year as emergency and backup boilers to supplement process power needs)

- Work practice standard, instead of numeric emission limits.
- The operator will be required to perform an annual tune-up for each unit.

Numeric emission limits for all other existing and new boilers and process heaters located at major sources (including those that burn coal and biomass).

- Mercury
- Dioxin
- Particulate matter (PM) (as a surrogate for non-mercury metals)

- Hydrogen chloride (HCl) (as a surrogate for acid gases)
- Carbon monoxide (CO) (as a surrogate for non-dioxin organic air toxics)

Control technologies will likely be required depending on the type of combustion unit and feedstock.

Additionally, all existing major source facilities are required to conduct a one-time energy assessment to identify cost-effective energy conservation measures.

An **area source facility** is defined as one that emits or has the potential to emit less than 10 tons per year (tpy) of any single HAP or less than 25 tpy of any combination of HAPs. The majority of area source boilers covered by this rule are located at commercial and industrial facilities.

For new boilers, the final rule requires the following:

- Coal-fired boilers, with heat input equal or greater than 10 million Btu per hour are required to meet emission limits for mercury, PM, and CO.
- Biomass and oil-fired boilers, with heat input equal or greater than 10 million Btu per hour, must meet emission limits for PM.
- Boilers with heat input less than 10 million Btu per hour must perform a boiler tune-up every two years.

For existing area source boilers the final rule requires the following:

- Coal-fired boilers, with heat input equal or greater than 10 million Btu per hour, are required to meet emission limits for mercury and CO.
- Biomass boilers, oil-fired boilers, and small coal-fired boilers are **not** required to meet emission limits. They are required to meet a work practice standard or a management practice by performing a boiler tune-up every 2 years.
- All area source facilities with large boilers are required to conduct an energy assessment to identify cost-effective energy conservation measures.

Along with rules for boilers and process heaters, the EPA has published standards for commercial and industrial solid waste incineration units (the “**CISWI**” rule). While industrial boilers and process heaters burn fuels such as natural gas, biomass, coal and oil to produce heat or electricity, CISWIs burn solid waste. In a related matter, the EPA has finalized a definition of non-hazardous solid waste which could affect some units currently considered boilers by moving them into the category of incinerators if they burn solid waste. This rule becomes effective 60 days from the date it is published in the Federal Register.

In general, the final rule identifies non-hazardous secondary materials burned in combustion units as a solid waste unless it meets the legitimacy criteria and:

- The material is used as a fuel that remains within the control of the generator (whether at the site of generation or another site the over which the generator has control)
- The following materials have not been discarded in the first instance:
 - the material used as an ingredient in a manufacturing process (whether by the generator or outside the control of the generator)
 - the material that has been sufficiently processed to produce a fuel or ingredient product

- the material that has been determined through a case-by-case petition process to not have been discarded and is indistinguishable in all relevant aspects from a fuel product

Specifically, for non-hazardous secondary materials used as a fuel, the legitimacy criteria are that the secondary material must:

- Be managed as a valuable commodity
- Have meaningful heating value and be burned in units that recover energy
- Contain contaminants that are comparable to or lower than in traditional fuel products

For non-hazardous secondary materials used as an ingredient, the legitimacy criteria are that the secondary material must:

- Be managed as a valuable commodity
- Provide a useful contribution
- Be used to make a valuable product
- Contain contaminants that are comparable to or lower than in traditional products

Secondary materials burned in combustion units that do not satisfy these legitimacy criteria would be considered a solid waste regardless of how they are used. Boilers or process heaters combusting solid waste would be regulated under the CISWI rule, which sets New Source Performance Standards and emission guidelines for 88 specific commercial and industrial solid waste incineration units.

If you have any questions on these new rules and how your current or future operations may be affected, please contact:

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