WAID AND ASSOCIATES
www.waid.com

MACT SUBPART DDDDD FOR BOILERS AND PROCESS HEATERS
(Published September 13, 2004; Effective November 12, 2004)

MACT Subpart DDDDD regulates Hazardous Air Pollutant (HAP) emissions from industrial, commercial, and institutional boilers and process heaters located at sites that are major sources of HAP. Existing gas or liquid-fired units have no emission limits or monitoring/testing requirements under this standard. However, units that are permitted to burn solid fuel as a backup fuel or any combination of solid fuel with liquid or gaseous fuel are considered solid fuel-fired units, not gas or liquid-fired. The rule sets standards based on unit type and fuel. Some compliance alternatives are allowed.

Regulated Pollutants

- PM (as a surrogate to non-mercury metallic HAP), or selected total metallic HAP (arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, selenium)
- Mercury
- HCl (as a surrogate for inorganic HAP)
- CO (as a surrogate to organic HAP)

Exclusions

The following sources are excluded from regulation under Subpart DDDDD:

- Municipal waste combustors covered by 40 CFR 60 Subparts AAAA, BBBB, Cb, or Eb
- Hospital/medical/infectious waste incinerators covered by 40 CFR 60 Subparts Ce or Ec
- Fossil-fuel fired electric utility steam generating units >25 MW
- Boilers or process heaters required to have a permit under §3005 of the Solid Waste Disposal Act or covered by MACT EEE (Boilers that burn small quantities of hazardous waste covered by the exemptions in 40 CFR 266.108 are not excluded.)
- Commercial and industrial hazardous waste incinerators covered by 40 CFR 60 Subparts CCCC or DDDD
- Recovery boilers or furnaces covered by MACT MM
- Boilers or process heaters used specifically for research and development, but not units that only provide heat or steam to a process at a R&D facility
- Hot water heaters: gas or liquid fuel, ≤120 U.S. gallons, ≤160 psig, and ≤210°F.
- Refining kettles covered by MACT X
- Ethylene cracking furnaces covered by MACT YY
- Blast furnace stoves (as described in NESHAP for Integrated Iron and Steel Plants)
- Boilers and process heaters specifically listed as affected sources in another MACT
- Boilers and process heaters specifically covered by Section 129 of the CAA
- Temporary boilers (portable, gas or liquid fuel, not in one location for >180 days)
- Units that receive 90% or more of their total heat input from blast furnace gas
- Waste heat boilers except those with supplemental burners designed to supply ≥50% of the total rated heat input capacity of the waste heat boiler
- Comfort heaters, but not boilers used to make steam or hot water for comfort heat.

Corporate Office
14205 Burnet Road, Suite 600
Austin, Texas 78728
512.255.9999 • 512.255.8780 FAX

Houston Office
1120 NASA Rd. 1, Suite 630
Houston, Texas 77058
281.333.9990 • 281.333.9992 FAX

Permian Basin Office
3000 N. Garfield Street, Suite 212
Midland, Texas 79705
432.682.9999 • 432.682.7774 FAX

Monitoring and Testing

Monitoring to ensure continuous compliance with the emission limits is required for some units. New units with heat input capacity ≥100 MMBtu/hr must use a CO continuous monitoring system (CMS). Other monitoring requirements depend on the type of unit and emission control device used. If performance testing is used to demonstrate compliance, a site-specific monitoring plan must be developed and submitted to the EPA for approval at least 60 days before the initial compliance demonstration. Fuel analysis can be used instead of performance testing if the emission rate calculated according to §63.7530(d) is less than the applicable emission limit. Some units require initial and annual stack tests.

Notification, Recordkeeping and Reporting

No records or reports are required for existing small units (≤10 MMBtu/hr) or new or reconstructed small gaseous fuel units. For boilers or process heaters in the following subcategories, only the initial notification report must be submitted:

- Existing large and limited use gaseous fuel units
- Existing large and limited use liquid fuel units
- New or reconstructed small liquid fuel units that burn only gas or distillate oil.

For units that must submit an initial notification, the notification for units started up before November 12, 2004, is due by March 12, 2005. For units started up on or after November 12, 2004, the initial notification is due within 15 days after startup.

For all other units, recordkeeping requirements include: all reports, notifications, CMS data, start-up, shutdown and malfunction records, other deviation records, hours of operation, fuel use, fuel analyses, calculations, compliance demonstrations, performance tests, opacity observations, performance evaluations, permits, Start-up, Shutdown and Malfunction Plans (SSMP), fuel analysis plans, emissions averaging plans, if applicable, and supporting documentation. The following reports and notifications must be submitted:

- General Provision Notifications
- Initial Notification
- Notification of intent to conduct performance tests or compliance demonstrations
- Notification of Compliance Status
- Notification of intent to use emissions averaging
- Notification of intent to use health-based compliance alternatives
- Semi-annual compliance reports.

Additional reports are required under some circumstances.

Compliance Dates

New or reconstructed boilers or process heaters must comply with MACT DDDDD by November 12, 2004 or upon start-up of the boiler or process heater, whichever is later. Existing boilers or process heaters must comply no later than September 13, 2007. An existing boiler or process heater is a unit for which all construction and reconstruction commenced on or before January 13, 2003.

MACT SUBPART DDDDD EMISSION LIMITS[1] FOR BOILERS AND PROCESS HEATERS

Existing[2] solid fuel >10 MMBtu/hr	PM: 0.07 lb/MMBtu ***or*** Metals[3]: 0.001 lb/MMBtu HCl: 0.09 lb/MMBtu Hg: 0.000009 lb/MMBtu
Existing[2] solid fuel limited use (<10% capacity utilization)	PM: 0.21 lb/MMBtu ***or*** Metals[3]: 0.004 lb/MMBtu
New or reconstructed gas-fuel ≤10 MMBtu/hr, Existing[2] gas or liquid fuel, or Existing[2] solid fuel ≤10 MMBtu/hr	No emission limits
New or reconstructed solid fuel >10 MMBtu/hr or limited use (i.e., <10% capacity utilization)	PM: 0.025 lb/MMBtu ***or*** Metals[3]: 0.0003 lb/MMBtu HCl: 0.02 lb/MMBtu Hg: 0.000003 lb/MMBtu CO: 400 ppm_v[4] dry at 7% O_2
New or reconstructed solid fuel ≤10 MMBtu/hr	PM: 0.025 lb/MMBtu ***or*** Metals[3]: 0.0003 lb/MMBtu HCl: 0.02 lb/MMBtu Hg: 0.000003 lb/MMBtu
New or reconstructed liquid fuel >10 MMBtu/hr	PM: 0.03 lb/MMBtu HCl: 0.0005 lb/MMBtu CO: 400 ppm_v[4] dry at 3% O_2
New or reconstructed liquid fuel limited use (<10% capacity utilization)	PM: 0.03 lb/MMBtu HCl: 0.0009 lb/MMBtu CO: 400 ppm_v[4] dry at 3% O_2
New or reconstructed liquid fuel ≤10 MMBtu/hr	PM: 0.03 lb/MMBtu HCl: 0.0009 lb/MMBtu
New or reconstructed gas fuel >10 MMBtu/hr or limited use (<10% capacity utilization)	CO: 400 ppm_v[4] dry at 3% O_2

[1] Alternative limits may apply. For some units opacity limits also apply.
[2] Existing means construction or reconstruction began on or before January 13, 2003.
[3] Total selected metals (arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium).
[4] The CO limit is a 30-day rolling average for units other than limited use that are ≥100 MMBtu/hr and a 3-run average for units <100 MMBtu/hr and limited use units.