

## Boiler/Process Heater MACT 112(j)/(g) Implementation Draft Potential Interim Concepts

March 16, 2009

The following are draft concepts for consideration as guidance for affected sources' and state/local regulatory authorities' use in establishing case-by-case MACT requirements under 40 CFR Part 63, Subpart B in accordance with CAA Sections 112(j) and 112(g), if and when that process is followed. **The basic starting point is to follow the prior final 40 CFR Part 63, Subpart DDDDD in its entirety.** The following could then be used as initial backup positions to accommodate additional potential state concerns regarding units that might eventually shift from Boiler MACT to CISWI regulation when a revised CISWI rule is promulgated and to accommodate concerns with Subpart DDDDD "no control" subcategories. Differences from the prior final Subpart DDDDD provisions are indicated in [brackets].

### 112(j) Existing Sources

#### A. Applicability

- a. Existing sources per Subpart DDDDD, §63.7490 with "new" boiler/process heater defined as commencing construction or reconstruction after January 13, 2003.
- b. Units not subject to 112(j) requirements are as listed in Subpart DDDDD, §63.4791.
- c. Units located at major HAP sources firing the following fuels continue to be subject to Boiler/Process Heater MACT and 112(j) requirements:
  - i. Gaseous fuels per Subpart DDDDD, §63.7575.
  - ii. Liquid fuels per Subpart DDDDD, §63.7575.
  - iii. Solid fuels per Subpart DDDDD, §63.7575. [Any units previously considered subject to Subpart DDDDD would remain as such. Only upon promulgation of a revised CISWI rule might some units be drawn into CISWI requirements].

#### B. Emission Limits and Work Practice Standards

- a. Solid fired units (boilers and process heaters are as defined in Subpart DDDDD, §63.7575).
  - i. All emission limits, work practice standards, operating limits, performance testing requirements, fuel analysis requirements, and compliance demonstration for existing solid fuel fired units are per Subpart DDDDD [with the exception of iv below].
  - ii. The Health Based Compliance Alternative (HBCA) for HCl and Mn as provided in Appendix A of Subpart DDDDD is available as allowed in Subpart DDDDD.
  - iii. The fuel analysis compliance demonstration option for Hg, TSM, and HCl is available as allowed in Subpart DDDDD.
  - iv. [If needed to address organic HAP, non-fossil solid fuel fired units to be addressed on an individual basis depending on fuel, combustion unit and emission control design, and operating parameters. Coal fired boilers use the Subpart DDDDD new unit CO limit as follows:
    1. Large coal fired boilers
      - a. Carbon monoxide work practice standard of 400 ppm by volume on a dry basis corrected to 7% oxygen (3-run average) for boilers greater than 100MM Btu/hr.
      - b. Annual tune-up for boilers 10MM-100MM Btu/hr.
    2. Small coal fired boilers (<10MMBtu/hr and all firetube coal fired boilers)
      - a. Annual tune-up.

3. Limited use coal fired boilers (<10% annual capacity factor)
  - a. Annual tune-up.]
- b. [Liquid fired units (boilers and process heaters are as defined in Subpart DDDDD, §63.7575)
  - i. Large liquid fired boilers
    1. Carbon monoxide work practice standard of 400 ppm by volume on a dry basis corrected to 3% oxygen (3-run average) for boilers greater than 100MM Btu/hr firing residual oil and greater than 250MMBtu/hr for boilers firing other liquid fuels.
    2. Annual tune-up for boilers 10MM-100MM Btu/hr firing residual oil and 10MM-250MM Btu/hr firing other liquid fuels.
  - ii. Small liquid fired boilers (<10MMBtu/hr and all firetube liquid fired boilers)
    1. Annual tune-up.
  - iii. Limited use liquid fired boilers (<10% annual capacity factor)
    1. Annual tune-up.
  - iv. Large liquid fired process heaters; small liquid fired process heaters (<10MMBtu/hr); limited use liquid fired process heaters (<10% annual capacity factor)
    1. Periodic tune-up coinciding with overhaul/turnaround.]
- c. [Gaseous fired units (boilers and process heaters are as defined in Subpart DDDDD, §63.7575)
  - i. Large gaseous fired boilers
    1. Carbon monoxide work practice standard of 400 ppm by volume on a dry basis corrected to 3% oxygen (3-run average) for boilers greater than 250MM Btu/hr.
    2. Annual tune-up for boilers 10MM-250MM Btu/hr.
  - ii. Small gaseous fired boilers (<10MMBtu/hr including firetube gaseous fired boilers <10MMBtu/hr) are considered de minimis sources
  - iii. Firetube gaseous fired boilers ≥10MMBtu/hr
    1. Annual tune-up.
  - iv. Limited use gaseous fired boilers (<10% annual capacity factor)
    1. Annual tune-up.
  - v. Large gaseous fired process heaters; limited use gaseous fired process heaters (<10% annual capacity factor)
    1. Periodic tune-up coinciding with overhaul/turnaround.
  - vi. Small gaseous fired process heaters (<10MMBtu/hr) are considered de minimis sources]

## **112(g) New Sources**

### **C. Applicability**

- a. Existing sources per Subpart DDDDD, §63.7490 with “new” boiler/process heater defined as commencing construction or reconstruction after January 13, 2003.
- b. Units not subject to 112(g) requirements are as listed in Subpart DDDDD, §63.4791.
- c. Units located at major HAP sources firing the following fuels continue to be subject to Boiler/Process Heater MACT and 112(g) requirements:
  - i. Gaseous fuels per Subpart DDDDD, §63.7575.
  - ii. Liquid fuels per Subpart DDDDD, 63.7575.
  - iii. Solid fuels per Subpart DDDDD, 63.7575. [Any units previously considered subject to Subpart DDDDD would remain as such. Only

upon promulgation of a revised CISWI rule might some units be drawn into CISWI requirements].

## D. Emission Limits and Work Practice Standards

- a. Solid fired units
  - i. All emission limits, work practice standards, operating limits, performance testing requirements, fuel analysis requirements, and compliance demonstration for new and reconstructed solid fuel fired units are per Subpart DDDDD.
  - ii. The Health Based Compliance Alternative (HBCA) for HCl and Mn as provided in Appendix A of Subpart DDDDD is available as allowed in Subpart DDDDD.
- b. Liquid fired units
  - i. All emission limits, work practice standards, operating limits, performance testing requirements, and compliance demonstration for new and reconstructed liquid fuel fired units are per Subpart DDDDD.
- c. Gaseous fired units
  - i. All emission limits, work practice standards, operating limits, performance testing requirements, and compliance demonstration for new and reconstructed gaseous fuel fired units are per Subpart DDDDD.

### **[SSM Issues**

The recent DC Circuit decision raises many questions regarding potential handling of SSM within Part 2 submissions. For combustion units such as those subject to the Boiler and Process Heater MACT, in many cases measurement of emissions during periods of startup, shutdown, or malfunction is wholly impractical and unsafe. Therefore, use of the §112(h) work practice standards provision is appropriate. This allows for use of a design, equipment, work practice, or operational standard, or combination thereof, if it is not feasible to prescribe or enforce an emission standard. As such, including compliance with the SSM requirements spelled out in Subpart DDDDD, including SSM Plan development and all reporting and recordkeeping requirements, is a viable approach for inclusion in Part 2 applications.

Units with CO limits could possibly use averaging time to accommodate SSM periods. Note that Subpart DDDDD, §63.7540(a)(10) states that for units required to use CEMs for monitoring of CO, that the work practice standard is to be met at all times except during periods of startup, shutdown, malfunction, and when the boiler or process heater is operating at less than 50 percent of rated capacity. The CO work practice standard with use of a CEM is also based on a 30-day rolling average.]