


**NESHAP for Area Sources:  
Industrial, Commercial, and Institutional Boilers,  
40 CFR Part 63, Subpart JJJJJJ  
and**

**NESHAP for Major Sources:  
Industrial, Commercial, and Institutional Boilers  
and Process Heaters,  
40 CFR Part 63, Subpart DDDDD**

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# Outline

- I. Subpart JJJJJJ
    - I. Who it Affects
    - II. Exemptions
    - III. New Boiler Requirements
    - IV. Existing Boiler Requirements
    - V. Boiler Tune-up Requirements
    - VI. Compliance Dates
  
  - II. Subpart DDDDD
    - I. Who it Affects – Subcategories
    - II. Exemptions
    - III. New Boiler Requirements
    - IV. Existing Boiler Requirements
    - V. Compliance Dates
  
  - III. Initial Notification of Applicability
  - IV. Questions
- 

# Subpart JJJJJJ

- Promulgated March 21, 2011
- Affects Coal-fired, Biomass and Oil-fired boilers at area sources
- Boiler sizes
  - Large Boiler
    - Heat input equal to or greater than 10 million Btu/hr
  - Small Boiler
    - Heat input is less than 10 million Btu/hr



# Subpart JJJJJJ

## Exemptions

- **Boilers subject to other NESHAP standards.**
- **Boilers subject to section 129 of the Clean Air Act.**
- **Hazardous Waste Boilers** that hold a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR Part 63, Subpart EEE.
- **Research and Development Boilers**
- **Gas-Fired Boilers** as defined in §63.11237.
- **Hot water heater** as defined in §63.11237.
- **Boilers used as control devices for other NESHAP.**



# Subpart JJJJJJ

## *New Boiler Requirements*

- Large coal-fired boilers are required to meet emission limits for mercury, PM, and CO.
- Large biomass and oil-fired boilers are required to meet emission limits for PM.
- Small boilers must perform a boiler tune-up every two years.



# Subpart JJJJJJ

## Existing Boiler Requirements

- Large coal-fired boilers are required to meet emission limits for mercury and CO.
- Biomass, oil-fired and small coal-fired boilers are required to perform a boiler tune-up every two years.
- Facilities with large boilers are required to conduct an energy assessment.



# Subpart JJJJJJ

## Boiler Tune-up

- Inspect the burner and clean or replace any components of the burner as necessary
- Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern
- Inspect the system controlling the air to fuel ratio and ensure it is correctly calibrated and functioning properly
- Optimize total emissions of carbon monoxide using the manufacturer's specifications, if applicable



# Subpart JJJJJJ

## Boiler Tune-up (continued)

- Measure the concentrations in the effluent stream of CO in parts per million by volume and oxygen in volume percent, before and after the adjustments are made.
- Maintain onsite
  - The before and after concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent
  - A description of any corrective actions taken as a part of the tune-up of the boiler
  - The type and amount of fuel used over the twelve months prior to the biennial tune-up of the boiler



# Subpart JJJJJ

## Compliance Dates

- March 21, 2012 - Area sources only subject to tune-up work or management practices
- March 21, 2014 – Existing sources
- May 20, 2011- New sources that started up before May 20, 2011
- Upon startup – New sources that started up after May 20, 2011



# Subpart JJJJJJ

## Initial Notification of Applicability

- Existing Sources
  - September 17, 2011
- New Sources
  - Either 120 days after May 20, 2011 or within 120 days after the source becomes subject to the standard



# Subpart DDDDD

- Promulgated March 21, 2011
- Affects boilers and process heaters at major sources of HAP emissions
  - 15 subcategories



# Subpart DDDDD

## Fifteen Subcategories

1. Pulverized coal/solid fossil fuel units
2. Stokers designed to burn coal/solid fossil fuel
3. Fluidized bed units designed to burn coal/solid fossil fuel
4. Stokers designed to burn biomass/bio-based solid
5. Fluidized bed units designed to burn biomass/bio-based solid



# Subpart DDDDD

## Fifteen Subcategories (continued)

6. Suspended burners/Dutch Ovens designed to burn biomass/bio-based solid.
7. Fuel Cells designed to burn biomass/bio based solid
8. Hybrid suspension/grate burners designed to burn biomass/bio-based solid
9. Units designed to burn solid fuel
10. Units designed to burn liquid fuel



# Subpart DDDDD

## Fifteen Subcategories (continued)

11. Units designed to burn liquid fuel in non-continental States or territories
12. Units designed to burn natural gas, refinery gas or other gas 1 fuels\*
13. Units designed to burn gas 2 (other) gases
14. Metal Process furnaces\*
15. Limited-use boilers and process heaters\*

\*Category does not have specific emission limits.



# Subpart DDDDD

## Exemptions

- **Electric utility generating unit** as defined in §63.7575.
- **Recovery boiler or furnace** covered in 40 CFR Part 63, Subpart MM.
- **Research and Development Boilers**
- **Hot water heater** as defined in §63.7575.
- **Refining kettle** covered in 40 CFR Part 63, Subpart X.
- **Ethylene cracking furnace** covered in 40 CFR Part 63, Subpart YY.
- **Blast furnace stoves** described in EPA-453/R-01-005.
- **Boilers subject to other NESHAP standards.**



# Subpart DDDDD

## Exemptions (continued)

- **Boilers used as control devices for other NESHAP.**
- **Temporary boilers** as defined in §63.7575.
- **Blast furnace gas fuel-fired boilers and process heaters** as defined in §63.7575.
- **Boilers subject to section 129 of the Clean Air Act.**
- **Hazardous Waste Boilers** that hold a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR Part 63, Subpart EEE.
- **Waste heat boiler** (see definition of boiler in §63.7575).
- **Process heaters used to provide comfort/space heat, used for food preparation for on site consumption, or autoclaves** (see definition of process heater in §63.7575).

# Subpart DDDDD

## *New or Reconstructed Boiler and Process Heater Emission Requirements*

- Emission limits are found in Table 1 of the rule.
- Alternative emission limits are found in Table 12 of the rule.
- Depending on the subcategory, boilers and process heaters could be required to meet emission limits for mercury, dioxins/furans, PM, Cl, HCl, and/or CO.



# Subpart DDDDD

## Existing Boiler and Process Heater Emission Requirements

- Emission limits are found in Table 2 of the rule
- Depending on the subcategory, boilers and process heaters could be required to meet emission limits for mercury, dioxins/furans, PM, Cl, HCl, and/or CO



# Subpart DDDDD

## Required Emission Monitoring Equipment

- Any unit required to comply with CO limits must install a CEMS for O<sub>2</sub>.
- Some PM control devices will have opacity limits and will be required to install a COM.
- All coal, biomass, and oil-fired units with heat input capacity greater than 250 MMBtu/hr must install a CEMS for monitoring PM emissions.



# Subpart DDDDD

## Work Practice Standards

- Work Practice Standards for New, Reconstructed, and Existing boilers and process heaters are found in Table 3 of the rule.
  - All existing units must perform a one-time energy assessment and audit.
  - Boilers or process heaters with a heat input capacity of less than 10 MMBTU and *limited use boilers* are required to conduct a biennial tune-up.
  - Boilers or process heaters in the *Gas 1 or Metal Process Furnaces* subcategories with a heat input capacity of 10 MMBTU or greater must conduct annual tune-ups.

## Operating Limits

- Operating limits are dependent on the control equipment used. Information is found in Table 4 of the rule.

# Subpart DDDDD

## Compliance Dates

- May 20, 2011 or startup – New or reconstructed source
- March 21, 2014 – Existing source

## Initial Notification

- Within 15 days after startup – New source
- September 17, 2011 – Existing source



# Initial Notification of Applicability

- April 22, 2010, MDEQ letter
- The initial notification form can be found at the following link:
  - [http://www.deq.state.ms.us/MDEQ.nsf/page/Air\\_Homepage?OpenDocument](http://www.deq.state.ms.us/MDEQ.nsf/page/Air_Homepage?OpenDocument)
    - Click “Boiler MACT - Initial Notification of Applicability Form”



# Notice of Reconsideration

- On March 21, 2011, EPA also published a Notice of Reconsideration on Subparts JJJJJJ and DDDDD.
- Issues where EPA feels more public comment is appropriate:
  - Revisions to the proposed subcategories in the major source boilers rule.
  - Establishment of a fuel specification in the major source boilers rule through which gas-fired boilers that use a fuel other than natural gas may be considered Gas 1 units.
  - Establishing work practice standards for limited use major source boilers.
  - Establishment of standards for biomass and oil-fired area source boilers based on generally available control technology.



# Notice of Reconsideration

Issues where EPA feels more public comment is appropriate (continued):

- Revision of the proposed subcategory for energy recovery units for CISWI units.
- Establishment of limitations on fuel switching provisions for CISWI units.
- Revision to the proposed definition of CISWI to exclude cyclonic burn barrels.
- Providing an affirmative defense for malfunction events for major and area source boilers and for CISWI units.



# Notice of Reconsideration

## Areas of potential revision after public comment:

- Revisions to the proposed monitoring requirements for carbon monoxide for major source boilers and for CISWI units.
- Revisions to the proposed dioxin emission limit and testing requirement for major source boilers.
- Establishing a full-load stack test requirement for carbon monoxide coupled with continuous oxygen monitoring for major source boilers and CISWI units.



# Notice of Reconsideration

## Areas of potential revision after public comment (continued):

- Establishing a definition of “homogenous waste” in the CISWI rule.
- Setting PM standards under generally available control technology for oil-fired area source boilers.
- Certain findings regarding the applicability of Title V permitting requirements for area source boilers.



# Questions



For any future questions, contact:

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