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## Industrial Boiler MACT

- Source categories include:
  - Industrial Boilers
  - Institutional/Commercial Boilers
  - Process Heaters
    - Indirect fired – combustion gases do not come in contact with process materials

NOTE: Major source MACT only

## Industrial Boiler MACT

- What Units are covered?
  - All boilers located at major sources
  - All institutional/commercial boilers at major sources
  - All process heaters located at major sources

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## Industrial Boiler MACT

- Potential Affected Existing Sources
  - Total: 57,000 units (42,000 boilers, 15,000 process heaters)
    - 2,500 coal-fired units
    - 46,800 gas-fired units
    - 700 wood-fired units
    - 6,000 oil-fired units
      - 3300 distillate oil
      - 2700 residual oil
    - 1,200 mixed fuel-fired units

## Industrial Boiler MACT

- Projected Affected New Sources
  - Based on DOE fuel consumption forecasts and existing population data
  - Total: 4,500 boilers (by 2010)
    - 250 coal-fired boilers
    - 100 wood-fired boilers
    - 260 oil-fired boilers
    - 3,900 gas-fired boilers

# **Draft Monitoring Guidance**

**National Association for Clean Air Agencies  
(NACAA)**

## Draft Monitoring Guidance

- Industrial/Commercial Boiler Monitoring Parameters:  
Outline of Potential Tiered Approach
  - Criteria for setting monitoring limits:
  - Base the monitoring methods on the cost to operate, not the cost of equipment. Set a standard cost protocol.
  - Establish regulatory criteria for reporting, i.e. CAMR, Parametric, 40CFR60, etc.
  - Options with practical payback of (1) one year

## Draft Monitoring Guidance

- Yearly operating costs of  $\leq$  \$250,000  
(or less than 10 MMBTU)
  - Practical fuel cost savings of 5-10% criteria hardware cost to be at \$25,000 maximum (Portables)
    - use CAM as guidance for monitoring
  - Practical payback target is one (1) year

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## Draft Monitoring Guidance

- Yearly operating costs of  $\leq$  \$500,000 (or less than 20 MMBTU)
  - Practical fuel cost savings of 5-10% criteria
    - hardware cost with installation to be at \$50,000 maximum
    - (process CO/O<sub>2</sub> continuous monitoring with recorder/data-logger)
  - Predictive Emissions Monitoring Systems (PEMS); continuous real-time
    - software monitoring system
    - use continuous parametric process monitoring as guidance
  - Practical payback target is one (1) year

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## Draft Monitoring Guidance

- Yearly operating costs of  $\leq$  \$750,000 (or less than 30 MMBTU)
  - practical fuel cost savings of 5-10% criteria
    - hardware cost with installation to be at \$75,000 maximum (continuous NO<sub>x</sub>/ CO/O<sub>2</sub> monitoring for 40CFR60 Appendix B, PS-3 & PS-4 with recorder/data-logger)
  - Predictive Emissions Monitoring Systems (PEMS); continuous real-time
    - software monitoring system
    - use USEPA 40CFR60 Continuous Emissions Monitoring as guidance
  - Practical payback target is one (1) year

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## Draft Monitoring Guidance

- Yearly operating costs of > \$750,000  
(or greater than 30 MMBTU)
  - Practical fuel cost savings of 5-10% criteria
    - hardware cost with installation to be greater than \$75,000  
(continuous NO<sub>x</sub>/ CO/O<sub>2</sub> monitoring for 40CFR60  
Appendix B, PS-3 & PS-4 with compliance DAS reporting)
  - Predictive Emissions Monitoring Systems (PEMS); continuous  
real-time software monitoring system
    - use USEPA 40CFR60 Continuous Emissions Monitoring  
as guidance
  - Practical payback target is one (1) year