

# Sustainability and Business Support

- \* Wood Products Sector Team
- \* Small Business Environmental Assistance Program
  - \* Free
  - \* Confidential
  - \* Multi-media
- \* Sector Development Specialists
- \* Green Tier

# Biomass and Wood-fired Boilers

## Current Applicable Air Requirements

- \* National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial and Institutional Boilers and Process Heaters (Boiler MACT) (40 CFR Part 63)
  - \* Area Source Boiler MACT – Part 63 – Subpart JJJJJJ
  - \* Major Source Boiler MACT – Part 63 – Subpart DDDDD
- \* Wisconsin Administrative Code
  - \* NR 415 – Particulate Matter (PM) Emissions
  - \* NR 431 – Visible Emissions (opacity)
  - \* NR 440.207 – PM limits for wood-fired units > 30 MMBtu/hr constructed after June 9, 1989
  - \* NR 445 – Good Wood Combustion Technology for control of hazardous air pollutants (carbon monoxide limit and other operating conditions as a surrogate for formaldehyde)

# Definitions

- \* Area Source – a facility whose emissions of federal hazardous air pollutants (HAPs) is less than 10 tons per year of any single HAP and less than 25 tons per year total HAPs.
- \* Major Source- greater than the area source thresholds.
- \* Existing source (under the MACT) – a boiler or process heater that was constructed or or before June 4, 2010.
- \* New source (under the MACT) – a boiler or process heater that was constructed after June 4, 2010.
- \* Biomass – means any biomass-based solid fuel that includes but is not limited to, wood residue and wood products, animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues, nut and grain hulls and chaff, bagasse, orchard prunings, corn stalks, coffee bean hull and grounds.

# Area Source Requirements

	Size	MACT Limits/Requirements	Wisconsin Code Limits/ Requirements (wood-fired units only)
Existing	< 10 MMBtu/hr	<ul style="list-style-type: none"> <li>Initial and biennial tune-up</li> </ul>	<ul style="list-style-type: none"> <li>PM</li> <li>opacity</li> <li>Good wood combustion technology</li> </ul>
	$\geq 10$ MMBtu/hr	<ul style="list-style-type: none"> <li>Initial and biennial tune-up</li> <li>One time energy assessment</li> </ul>	<ul style="list-style-type: none"> <li>PM</li> <li>opacity</li> <li>Good wood combustion technology</li> </ul>
New	$\geq 10$ MMBtu/hr	<ul style="list-style-type: none"> <li>Initial and biennial tune-up</li> <li>Emission limit for PM</li> </ul>	<ul style="list-style-type: none"> <li>opacity</li> <li>Good wood combustion technology</li> </ul>

# Major Source Requirements

	Size	MACT Limits/Requirements	Wisconsin Code Limits/ Requirements (wood-fired units only)
Existing	< 10 MMBtu/hr	<ul style="list-style-type: none"> <li>Initial and biennial tune-up (*)</li> <li>One-time energy assessment</li> </ul>	<ul style="list-style-type: none"> <li>PM</li> <li>opacity</li> <li>Good wood combustion technology</li> </ul>
	≥ 10 MMBtu/hr	<ul style="list-style-type: none"> <li>Initial and biennial tune-up (*)</li> <li>One-time energy assessment</li> <li>Limits for Hg, CO, HCl, and either PM or total selected metals (TSM)</li> </ul>	<ul style="list-style-type: none"> <li>opacity</li> </ul>
New	< 10 MMBtu/hr	<ul style="list-style-type: none"> <li>Initial and biennial tune-up (*)</li> </ul>	<ul style="list-style-type: none"> <li>PM</li> <li>opacity</li> <li>Good wood combustion technology</li> </ul>
	≥ 10 MMBtu/hr	<ul style="list-style-type: none"> <li>Initial and biennial tune-up (*)</li> <li>Limits for Hg, CO, HCl, and either PM or total selected metals (TSM)</li> </ul>	<ul style="list-style-type: none"> <li>opacity</li> </ul>

\*limited-use boilers may conduct biennial tune-ups every 5 years. Limited-use boilers are any boiler that burns any amount of solid, liquid or gaseous fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.

# Compliance Dates for Boiler MACT

- \* Area Sources

- \* Existing units – By March 21, 2014

- \* New units – By May 20, 2011 or upon startup of unit

- \* Major Sources

- \* Existing units – By January 31, 2016

- \* New units – By January 31, 2013 or upon startup of unit

# Other Information

- \* Permitting Requirements
  - \* Construction Permits under Wis. Adm. Code NR 406
    - \* Exemption for wood-fired boilers  $\leq 5.0$  MMBtu/hr
    - \* Exemption for “other solid fuel” boilers  $\leq 1.0$  MMBtu/hr
  - \* Operation Permit (NR 407) more than likely required
  
- \* QUESTIONS?
  - \* Permitting questions, call Kristin Hart, Permit Section Chief, at 608-266-6876, or [kristen.hart@wisconsin.gov](mailto:kristen.hart@wisconsin.gov)
  - \* Compliance Questions
    - \* Area sources
      - \* Mike Wagner, 715-634-9658 [michael.wagner@wisconsin.gov](mailto:michael.wagner@wisconsin.gov)
      - \* Michelle Farley, 920-662-5495 [michelle.farley@wisconsin.gov](mailto:michelle.farley@wisconsin.gov)
    - \* Major sources
      - \* Tom Zelinski, 414-263-8577 [tom.zelinski@wisconsin.gov](mailto:tom.zelinski@wisconsin.gov)