



STATUS OF EPA's MACT RULEMAKINGS FOR BOILERS

Carolinas Air Pollution Control Association
Fall Meeting
Myrtle Beach, South Carolina
October 22, 2009



Rulemakings

- Boiler MACT

- Industrial, Commercial, and Institutional Boiler and Process Heater NESHAP
- Subpart DDDDD of part 63
 - Promulgated – September 13, 2004
 - Vacated by Court – July 30, 2007
- Applies to boilers at major sources of HAP

- Area Source Rulemaking for Boilers



Overview of Section 112

- Mandates that EPA develop standards for hazardous air pollutants (HAP) for both major and area sources
- Definitions
 - Major source is a facility that emits or has PTE 10 tons per year of single HAP or 25 tpy of total HAP
 - Area source is a facility that is not a major source
- Standards are based on maximum achievable control technology (MACT)
- Sets minimum stringency criteria (MACT Floor)
- MACT may differ for new and existing sources
- Allows EPA to establish work practice requirements
- Allows subcategories based on class, type, or size



MACT Floor

- **For existing sources:**
 - “The average emission limitation achieved by the best performing 12 percent of existing sources..”
- **For new sources, the MACT floor is:**
 - “The emission control achieved in practice by the best controlled similar source...”



Vacated Boiler MACT Litigation

- Litigation

- Jointly filed by NRDC and Sierra Club
- Combined with litigation on the CISWI Definition Rule

- Issues

- Failed to establish limits for all subcategories and HAP
 - “No emission reductions” MACT floor
- Adopted individualized risk-based exemptions
 - Health-based compliance alternatives
- Regulated solid waste incineration units under the Boiler MACT, instead of the CISWI rule



LITIGATION

- March 13, 2007 - Brick Decision
 - “no emission reduction” MACT floors unlawful
 - Cannot use work practice without making finding required by 112(h)
 - Not practicable to enforce due to technical or economic limitations
- June 19, 2007 – Boiler MACT Decision
 - Vacated CISWI Definition Rule
 - Could not define “solid waste” based on type of combustion unit
 - Vacated Boiler MACT
 - Court concluded that the Boiler MACT would be substantially revised due to vacatur of CISWI Definition Rule
 - Did not rule on Boiler MACT issues



Boiler MACT - Revision

- Schedule

- Parallel court-ordered schedules for Boiler MACT and area source boiler rule
 - Proposal – April 15, 2010
 - Promulgation – December 16, 2010

- Revisions

- Define solid waste
 - EPA's Office of Solid Waste is leading the development of a definition of non-hazardous solid waste
 - OSW issued ANPR on waste definition January 2, 2009
 - Proposal scheduled by April 15, 2010
 - Remove waste-burning units from Boiler MACT database
- Reassess emission limits
 - In accordance with recent court decisions
- Develop MACT floor "emission limits" for subcategories and HAP currently having no emission standards
 - Replace "no control floors"




ICR

- ICR purpose is to address the court decisions
 - Revise population of affected units under section 112 and 129
 - Update existing emissions database
- ICR is for major source facilities with boilers and facilities with CISWI units
- ICR has two phases
 - First phase: survey
 - Questionnaire to collect info on materials combusted, controls, and emissions
 - Timing
 - Mailout August 15, 2008
 - Sent to all facilities (~3,000) that were subject to Boiler MACT
 - Sent to about 500 CISWI facilities
 - Second phase: testing
 - About 300 facilities (200 Boiler MACT, 100 CISWI)
 - Results due October 15 – November 15, 2009
 - Testing needed:
 - Fill data gaps
 - Determine appropriate surrogates
 - Determine variability



Summary of Survey Database (Boiler MACT)

- No. of facilities = 1549
 - Small entities = 144
 - Breakdown by industry sector
 - No. of units = 13,100
 - Units >10MMBtu/hr
 - Boilers = 4265
 - Coal – 537
 - Oil – 669
 - Natural Gas – 1998
 - Biomass 338
 - Process Heaters = 2144
 - Units <10MMBtu/hr
 - 6694 gas-fired
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Industry Sector	Number of Facilities
Utilities	161
Food Manuf.	107
Wood Product Manuf.	188
Paper Manuf.	165
Petroleum Manuf.	71
Chemical Manuf.	216
Plastics & Rubber Products Manuf.	82
Primary Metals & Metals Product Manuf.	96
Transportation Equip. Manuf.	90
Furniture Manuf.	45
Educational Services	27
National Security	22

Summary of Boiler MACT Test Program

- Data requested include CO, THC, dioxins, formaldehyde, HCl, HF, Hg, 11 non-mercury metals, PM (filterable, condensable, PM_{2.5}), NO_x, and SO₂, and fuel analysis
- No. of facilities requested to conduct testing = 158
 - 5 facilities are testing 2 units
 - 6 facilities conducting 30-day CEM test for CO/THC/methane/NO_x
 - 2 coal units, 2 biomass units, 2 gas units
 - Breakdown of fuels being tested
 - 30 natural gas units
 - 48 coal units
 - 37 biomass units
 - 32 liquid fuel units
 - 11 process gas units (refinery, coke oven gas, blast furnace gas, landfill gas)
 - 5 nonfossil liquid/solids units
- No. of facilities withdrawn (but replaced by others) = 64
 - Reasons varied for withdrawal/replacement

Reason for Withdrawal	Number of Facilities
Shutdown	22
Not burning listed fuel	9
Not boiler or process heater	6
Hardship	5
No sampling ports	5
Subject to another MACT	3
Common Stack	2
Area Source	3
CISWI Unit	2
Seasonal – not currently operating	2
Not listed boiler type	2



Boiler Rulemakings Questions

- How will we subcategorize boilers and process heater?
 - By boiler type?
 - By fuel type?
 - By industry?
- Will surrogates be used?
 - CO (or THC) for organic HAP?
 - PM (or PM2.5) for metals?
 - HCl for acid gases (HF)?
- What HAP will be regulated for gas-fired units?
- Will the HBCA be included in the proposal?
- Will emission data from units that installed controls to meet the vacated Boiler MACT be used (i.e. MACT on MACT)?



Area Source Provisions

- **Section 112(d)(5) allows for area source standards based on GACT (Generally Available Control Technology)**
 - Major source standards are based on MACT
 - Under GACT may consider costs and economic impacts
- **Focus of standards is on the 30 Urban HAP**
- **Section 112(c)(6) requires listed categories be subject to MACT**
 - Both industrial boilers and institutional/commercial boilers are on list of 112(c)(6) source categories
 - Mercury
 - POM
- **Section 112(h) allows EPA to promulgate a work practice standard, if it is not feasible to enforce an emission standard**
 - Not feasible means the application of measurement methodology is not practicable due to technical or economic limitations
- **May exempt area sources from Title V if compliance would be impracticable, infeasible, or unnecessarily burdensome**

Boiler Area Source Projected National Distribution

- Total = 137,000 existing boilers
 - Fuel
 - Coal: 3,450 units - 89% less than 10 MMBtu/hr
 - Biomass: 10,500 units - 93% less than 10 MMBtu/hr
 - Fuel Oil: 123,000 units – 95% less than 10 MMBtu/hr

<u>Sector</u>	<u>Projected US Total</u>	
	<u>Coal-fired</u>	<u>Biomass-fired</u>
● Schools	371	353
● Church/Temple	138	181
● Hotel/Motel/Inn	66	171
● Apartments/Office	199	433
● Health Services	50	101
● Food	55	262
● Restaurant	11	40
● Municipal Facilities	89	171
● Lumber	6	685



INFORMATION AND CONTACT

- Information on the MACT and area source rulemakings for industrial, commercial, and institutional boilers is available on EPA's web site at:
 - www.epa.gov/ttn/atw/combust/list.html
- Newest version of the ICR survey database is posted at:
 - <http://survey.erg.com/ss/wsb.dll/s/7g8d/>
- Contact: Jim Eddinger
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