

# **Air Quality Regulations Affecting Biomass-Fueled and Biogenic Sources**

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**April 5, 2011**



# Agenda

- Overview of EPA rules
- Boiler and incinerator rules
- Reconsideration of boiler rules and the Commercial, Industrial Solid Waste Incinerator (CISWI) rule
- Biogenic CO<sub>2</sub> deferral rule
- Questions

# Overview of EPA Rules

- **EPA issued four rules that will reduce emissions of air pollutants from:**
  - Boilers at large sources of air toxics (“major sources”)
  - Boilers at small sources of air toxics (“area sources”)
  - Incinerators that burn solid waste at industrial and commercial facilities (CISWI)
  - Incinerators that burn sewage sludge at wastewater treatment facilities (SSI)
- **EPA also issued a final rule that defines “solid waste”**
  - Necessary to determine whether a facility has to meet a boiler standard or an incinerator standard

## Overview of EPA actions (cont'd)

- **EPA initiated a reconsideration process for the two boiler rules and the Commercial, Industrial Solid Waste Incinerator (CISWI) rule.**
- **EPA also proposed to defer accounting biogenic CO<sub>2</sub> emissions for the Prevention of Significant Deterioration (PSD) and Title V air permit programs for a period of 3 years.**

# Background on Boiler and Incinerator Rules

# These rules satisfy Clean Air Act requirements for air toxics

- **Developed under Clean Air Act sections 112 and 129**
  - Require EPA to set technology-based standards for toxics
  - Reflect levels achieved by best-performing existing sources
    - Generally may set less stringent standards for boilers at area sources.
- **Court-driven deadlines to fix rules**
  - Previous final rules for major source boilers and CISWI were overturned by the D.C. Circuit Court of Appeals in 2007
- **EPA under court order to sign final rules no later than February 21, 2011**

# These rules satisfy Clean Air Act requirements for air toxics

- **EPA's process**
  - Conducted a Small Business Advocacy Review (SBAR) panel for the boiler rules prior to proposal.
  - Proposed standards for boilers and CISWI in April 2010
  - Three public hearings; extended public comment period
    - Received more than 4,800 public comments, including significant new data from industry
- **EPA significantly modified the rules in response to comments and new data**
  - Final standards reflect the latest and best information provided during the public comment period
  - Final rules become effective on May 20, 2011
- **On March 21, 2011, EPA initiated a reconsideration process of certain aspects of the two boiler rules and Commercial Solid Waste Incinerator (CISWI) rule**
  - Some of the comments raise difficult technical issues that would benefit from additional public involvement.
  - Stakeholders may petition for reconsideration of other issues.

# These rules reduce toxic emissions & protect human health

- Burning biomass, coal, and oil results in emissions of mercury, dioxin, furans, formaldehyde, lead, and hydrochloric acid.
- The technologies to reduce toxic air pollution have largely been available and in use for decades.
- Health effects are significant:
  - Mercury can cause adverse effects on children's developing brains, including effects on IQ, learning and memory.
  - Air toxics can cause cancer and other serious health effects in adults and children.
  - Controlling air toxics will also reduce fine particle pollution and carbon monoxide.
    - Fine particles are linked to serious cardiovascular and respiratory effects, even premature death.
    - Carbon monoxide reduces oxygen delivery to heart and brain, can cause angina and other problems for people with heart disease.



# Major Source Boiler Rule

# Boilers & Process Heaters at Major Sources

- A major source is a facility that emits or has the potential to emit 10 or more tons per year (tpy) of any single air toxic or 25 tpy or more of any combination of air toxics.
- Rule is expected to apply to about 13,800 boilers located at 1,600 facilities, primarily larger industrial sources such as refineries, chemical and manufacturing plants, pulp and paper mills
  - Also includes boilers at some larger commercial and institutional facilities, such as shopping malls and universities
- More than 80% of large boilers are gas-fired and will only have to conduct an annual tune-up rather than meet an emission standard.
- 15 subcategories identified based on design; specific requirements for each subcategory
- Standards vary slightly for existing units vs. new units

# Major Source - Final Subcategories

- **Fifteen subcategories based on design type:**
  - Solid fuel
  - Pulverized coal units
  - Coal-fired stokers
  - Coal-fired fluidized bed combustion units
  - Biomass-fired stokers
  - Biomass-fired fluidized bed combustion units
  - Biomass-fired Dutch Ovens/Suspension burners
  - Biomass-fired fuel cells
  - Biomass-fired hybrid suspension/grate units
  - Liquid fuel-fired units
  - Liquid fuel-fired units located in non-continental States and territories
  - Gas 1 (Natural gas/refinery gas)
  - Gas 2 (other gases)
  - Metal processing furnaces (natural gas-fired)
  - Limited Use

# Major Source - Units not subject

- Does not apply to the following types of emission units (see final rule for complete list):
  - Electric utility steam generating units
  - Boilers or process heaters that are used specifically for research and development. This does not include units that provide heat or steam to a process at a research and development facility
  - Hot water heaters (as defined in the final rule )
  - Any boiler or process heater that is part of the affected source subject to another standard under 40 CFR Part 63
  - Any boiler or process heater that is used as a control device to comply with another subpart under 40 CFR Part 63, provided that at least 50 percent of the heat input to the boiler is provided by the gas stream that is regulated under another subpart
  - Any boiler specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act
  - A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers)

# Compliance Requirements for New & Existing Large Boilers ( $\geq 10$ MMBtu/hr)

- **Clean gas** (*natural gas, refinery gas, or process gas as clean as natural gas*)
  - Annual tune-up
  - No numeric emission limits
  - 1-time energy assessment (does not apply to new units)
- • **Solid fuel (coal or biomass), oil, Process gas that is not “clean” gas**
  - Numeric emission limits for 5 pollutants *mercury, dioxin, particulate matter (PM), hydrogen chloride (HCl), carbon monoxide (CO)*
  - 1-time energy assessment (does not apply to new units)
- **Limited Use**
  - Tune-up every other year
  - No numeric emission limits
  - 1-time energy assessment (does not apply to new units)

# Compliance Requirements for New and Existing Small Boilers ( $\leq 10$ MMBtu/hr)

- • **Gas, solid fuel (coal or biomass), oil, or limited use**
  - Tune-up every other year
  - No numeric emission limits
  - 1-time energy assessment (does not apply to new units)

# Major source boiler rule: Key changes between proposal and final

- **Based on public comment and additional data provided during the comment period, EPA made significant changes, including changes to the requirements for:**
- **Large Boilers:**
  - EPA established solid fuel subcategory
    - This ensures all solid fuel-burning units are appropriately regulated, and recognizes there is no clear technical distinction between units that burn coal and biomass
  - Biomass-fired units
    - EPA provided additional flexibility in how units comply, through increased CO emission limits for several subcategories, solid fuel subcategory, establishment of work practice standards for startup and shutdown.
      - Lowers costs, encourages coal-fired units to co-fire or switch to biomass.

# Major source boiler rule changes (cont'd)

- **Small Boilers** (heat input capacity less than 10 million Btus/hr)
  - New data identified difficulties with small units design that preclude the use of emissions testing for new and existing small boilers.
  - EPA did not set specific numerical emission limits; instead, rules require tune-up every other year for efficiency
- **Limited Use Boilers** (operated less than 10% of year as emergency and backup boilers to supplement process power needs)
  - EPA established a tune-up requirement instead of numeric emission limits for all new and existing limited use boilers; operator will be required to perform tune-up every two years.
- **Clean Gas Units** (natural gas or other gaseous fuels from refineries, landfills, etc. that meet specifications for mercury and hydrogen sulfide similar to natural gas)
  - Subject to tune-up requirements in lieu of numeric emissions limits
- **Energy audits** continue to be required; Agency clarified audit provisions to minimize costs.



# Major source boiler rule changes (cont'd)

- **Adjusted compliance testing requirements for carbon monoxide (CO) based on comments**
  - Rather than continuous monitoring, units are required to measure CO once a year at full load, while conducting routine parametric testing to track oxygen levels that indicate combustion efficiency
  - Will lower compliance costs
- **Adjusted compliance testing requirements for dioxin/furan (D/F) based on comments**
  - Rather than annual testing, units are required to measure D/F one time and to monitor oxygen levels to ensure good combustion
  - Will lower compliance costs
- **Did not develop a health-based emissions limit for acid gases**
  - Did not receive information sufficient to form a basis for this type of limit

# Emission Limits for Major Source Boilers

Subcategory	Proposed limits, lb/MMBtu unless noted					Final limits, lb/MMBtu unless noted							
	Hg, lb/TBtu	HCl	PM	CO, ppm	D/F, ng/dscm	Hg, lb/TBtu	HCl	PM	CO, ppm	D/F, ng/dscm			
New coal stoker	2.0	0.00006	0.001	7	0.003	3.5	0.0022	0.0011	6	0.003			
New coal fluid. bed				30	0.00003				Solid fuel subcat.	Solid fuel subcat.	Solid fuel subcat.	18	0.002
New coal PC				90	0.002							12	0.003
New biomass stoker	0.2	0.004	0.008	560	0.00005	0.21	0.00032	0.0013	160	0.005			
New biomass fuel cell				270	0.0005				470	0.003			
New biomass fluid. bed				40	0.007				260	0.02			
New biomass dutch oven				1,010	0.03				470	0.2			
New biomass susp./grate	--	--	--	--	--	7.9	0.0017	0.0067	1,500	0.2			
New liquid	0.3	0.0004	0.002	1	0.002				3	0.002			
New gas 2	0.2	0.000003	0.003	1	0.009				3	0.08			
New non-cont. liquid	--	--	--	--	--				0.78	0.00032	0.0013	51	0.002
Exist. coal stoker	3.0	0.02	0.02	50	0.003	4.6	0.035	0.039	270	0.003			
Exist. coal fluid. Bed				30	0.002				Solid fuel subcat.	Solid fuel subcat.	Solid fuel subcat.	82	0.002
Exist. coal PC				90	0.004							160	0.004
Exist. biomass stoker	0.9	0.006	0.02	560	0.004	0.9	0.00032	0.0075	490	0.005			
Exist. biomass fuel cell				270	0.02				690	4			
Exist. biomass fluid. bed				250	0.02				430	0.02			
Exist. biomass dutch oven				1,010	0.03				470	0.2			
Exist. biomass sus./grate	--	--	--	--	--	13	0.0017	0.043	3,500	0.2			
Exist. liquid	4.0	0.0009	0.004	1	0.002				3.4	0.00032	0.0075	10	4
Exist. gas 2	0.2	0.000003	0.05	1	0.009				9.0	0.08			
Exist. non-cont. liquid	--	--	--	--	--	0.78	0.00032	0.0075	160	4			

New and existing small (<10 MMBtu/hr) units, natural gas-fired units, metal process furnaces, units combusting other clean gases, and limited use units will be subject to work practice standards.



# Area Source Boiler Rule



# Boilers & Process Heaters at Area Sources

- An area source facility emits or has the potential to emit less than 10 tons per year (tpy) of any single air toxic and less than 25 tpy of any combination of air toxics.
- Expected to apply to about 187,000 boilers located primarily at commercial facilities (e.g., hotels, office buildings, restaurants) and institutional facilities (e.g., schools, hospitals, prisons)
- Rule does NOT apply to boilers that are gas-fired (approximately 1.3 million units, or 87% of all area source boilers).
- Most units that are covered by this rule will be required to conduct a tune-up every other year and will not have to install pollution control equipment.
- Subcategories based on boiler type
- Standards vary slightly for existing units vs. new units

# Compliance Requirements for New & Existing Large Boilers ( $\geq 10$ mm/BTU)

- **Gas** (all types)
  - No requirements
  - Not covered by rule
- **Coal**
  - New boilers - Numeric emission limits for 3 pollutants (*mercury, carbon monoxide (CO), particulate matter (PM)*)
  - Existing boilers - Numeric emission limits for 2 pollutants (*mercury, carbon monoxide (CO)*); 1-time energy assessment

## → • **Biomass, Oil**

- New boilers – Numeric emission limit for 1 pollutant; *particulate matter (PM)*; Tune-up every other year
- Existing boilers - No numeric emission limits; Tune-up every other year; 1-time energy assessment

# Compliance Requirements for New & Existing Small Boilers ( $\leq 10$ mm/BTU)

- **Gas** (all types)
  - No requirements
  - Not covered by rule

- • **Coal, Biomass, Oil**
  - No numeric emission limits
  - Tune-up every other year

# Area source boiler rule: Key changes between proposal and final

- Based on public comment and additional data provided during the comment period, EPA made significant changes, such as:
  - Changed requirements for new small boilers (less than 10 MMBtu/hr) to tune-ups instead of numeric emission limits
  - Changed from MACT-based CO limits for new and existing biomass and oil-fired area source boilers to GACT-based management practices of tune-ups
  - **Energy audits** continue to be required for large boilers; Agency clarified audit provisions to minimize costs.

# Emission Limits for Area Source Boilers

Subcategory	Proposed Emission Limits			Final Emission Limits		
	Hg, lb/TBtu	CO, ppm	PM, lb/MMBtu	Hg, lb/TBtu	CO, ppm	PM, lb/MMBtu
New Coal	3.0	310	0.03	4.8	400	0.03 (> 30 MMBtu/h) 0.42 (10 to 30 MMBtu/h)
New Biomass	-	100	0.03	-	-	0.03 (> 30 MMBtu/h) 0.07 (10 to 30 MMBtu/h)
New Oil	-	1	0.03	-	-	0.03
Existing Coal	3.0	310	-	4.8	400	-
Existing Biomass	-	160	-	-	-	-
Existing Oil	-	2	-	-	-	-

New and existing small (<10 MMBtu/hr) boiler, existing and new biomass-fired boilers, and new and existing oil-fired boilers are subject to a biennial tune-up requirement.





# Incinerator Rules

# Two rules cover incinerators

- **Commercial and Industrial Solid Waste Incinerators (CISWI)**
- **Sewage Sludge Incineration (SSI)**

# Commercial and Industrial Solid Waste Incinerator Rule

# CISWI Rule

- Applies to commercial and industrial facilities that burn solid waste
- Number of units subject to this rule: 88
- Includes all size sources – no major and area source distinction
- 4 subcategories based on type of incinerator

# CISWI Compliance Requirements

- **Covers four subcategories:**
  - Incinerators
  - Energy recovery units
  - Waste burning kilns
  - Small incinerators in very remote locations
- **Establishes emission limits for nine pollutants emitted from covered solid waste incinerator units and provisions for stack testing, monitoring, and annual inspections of emission control devices, among other requirements**
  - Cd, CO, HCl, Hg, Pb, PM, SO<sub>2</sub>, NO<sub>x</sub>, dioxin/furans

## CISWI Compliance Requirements (cont'd)

- Owner/operators must follow certain procedures for test data submittal.
- Existing units will need to comply no later than three years after EPA approves a state plan to implement these standards or five years after the CISWI rule is published in the Federal Register, whichever is earlier.
- Covered solid waste incinerator units must either comply with the emission limits in the final rule (i.e. install add-on controls to capture emissions), or use alternative waste disposal options such as diverting waste to a landfill.
- Does not cover space heaters, burn-off ovens, soil treatment units, cyclonic burn barrels, laboratory analysis units or agricultural units

# Final Emission Limits for New CISWI Sources

Pollutant (units) <sup>1</sup>	CISWI Subcategories										
	Incinerators		Energy Recovery Units	Energy Recovery Units - Liquid/Gas	Energy Recovery Units - Solids	Waste-buring Kilns		Burn-off Ovens		Small, remote Incinerators	
	Proposed	Final	Proposed	Final		Proposed	Final	Proposed	Final <sup>2</sup>	Proposed	Final
HCl (ppmv)	0.074	0.091	0.17	14	0.45	1.5	3.0	18	-	150	200
CO (ppmv)	1.4	12	3.0	36	160 (biomass units)/46 (coal units)	36	90	74	-	4	12
Pb (mg/dscm)	0.0013	0.0019	0.0012	0.096	0.0031	0.00078	0.0026	0.029	-	1.4	0.26
Cd (mg/dscm)	0.00066	0.0023	0.00012	0.023	0.00051	0.00030	0.00048	0.0032	-	0.057	0.61
Hg (mg/dscm)	0.00013	0.00016	0.00013	0.00025	0.00033	0.024	0.0062	0.0033	-	0.0013	0.0035
PM, filterable (mg/dscm)	0.0077	18	4.4	110	250	1.8	2.5	28	-	240	230
Dioxin, Furans, total (ng/dscm)	0.0093	0.052	0.034	(no limit)	0.068	0.00035	0.090	0.011	-	1,200	1,200
Dioxin, Furans, TEQ (ng/dscm)	0.00073	0.13	0.0027	0.002	0.011	0.000028	0.0030	0.00086	-	94	31
NO <sub>x</sub> (ppmv)	19	23	75	76	290 (biomass units)/340 (coal units)	140	200	16	-	210	78
SO <sub>2</sub> (ppmv)	1.5	11	4.1	720	6.2 (biomass units)/650 (coal units)	3.6	38	1.5	-	43	1.2
Opacity (%) <sup>3</sup>	1	-	1	-	-	1	-	2	-	13	-

1 All emission Limits are measured at 7% oxygen.

2 Determined that burn-off ovens are not subject to this final action.

3 EPA is not promulgating opacity limits for CISWI units at this time.



# Final Emission Limits for Existing CISWI Sources

Pollutant (units) <sup>1</sup>	CISWI Subcategories										
	Incinerators		Energy Recovery Units	Energy Recovery Units - Liquid/Gas	Energy Recovery Units - Solids	Waste-burning kilns		Burn-off Ovens		Small, remote Incinerators	
	Proposed	Final	Proposed	Final		Proposed	Final	Proposed	Final <sup>2</sup>	Proposed	Final
HCl (ppmv)	29	29	1.5	14	0.45	1.5	25	130	-	150	220
CO (ppmv)	2.2	36	150	36	490 (biomass units)/59 (coal units)	710	110	80	-	78	20
Pb (mg/dscm)	0.0026	0.0036	0.002	0.096	0.0036	0.0027	0.0026	0.041	-	1.4	2.7
Cd (mg/dscm)	0.0013	0.0026	0.00041	0.023	0.00051	0.0003	0.00048	0.0045	-	0.26	0.61
Hg (mg/dscm)	0.0028	0.0054	0.00096	0.0013	0.00033	0.024	0.0079	0.014	-	0.0029	0.0057
PM, filterable (mg/dscm)	13	34	9.2	110	250	60	6.2	33	-	240	230
Dioxin, Furans, total (ng/dscm)	0.031	4.6	0.75	2.9	0.35	2.1	0.2	310	-	1,600	1,200
Dioxin, Furans, TEQ (ng/dscm)	0.0025	0.13	0.059	0.32	0.059	0.17	0.007	25	-	130	57
NO <sub>x</sub> (ppmv)	34	53	130	76	290 (biomass units)/340 (coal units)	1,100	540	120	-	210	240
SO <sub>2</sub> (ppmv)	2.5	11	4.1	720	6.2 (biomass units)/650 (coal units)	410	38	11	-	44	420
Opacity (%) <sup>3</sup>	1	-	1	-	-	4	-	2	-	13	-

- 1 All emission Limits are measured at 7% oxygen.
- 2 Determined that burn-off ovens are not subject to this final action.
- 3 EPA is not promulgating opacity limits for CISWI units at this time.





# Sewage Sludge Incinerators Rule

# Sewage Sludge Incineration (SSI)

- Applies to incinerators or combustion devices that burn dewatered sewage sludge, typically at wastewater treatment facilities designed to treat domestic sewage sludge
- Number of units subject to this rule: 204
  - 155 of these 204 units already meet the emission limits established in this rule
- Includes all size sources – no major and area source distinction

# Sewage Sludge Incinerator (SSI)

## Compliance requirements

- 2 subcategories based on type of incinerator: multiple hearth (MH) and fluidized bed (FB)
  - Units incinerating sewage sludge at other types of facilities (e.g., commercial, industrial, and institutional) will be covered under different air pollution incineration standards.
- Units incinerating sludge at other types of facilities (e.g., commercial, industrial, and institutional) will be covered under different air pollution standards.
- Establishes emission limits for nine pollutants and provisions for testing, monitoring, recordkeeping, reporting and operator training.

# Incinerator rules: Key changes from proposal to final

## Commercial and Industrial Solid Waste Incinerator Rule (CISWI)

- Burn-off ovens and cyclonic burn barrels are not regulated
- Also clarified that space heaters are not regulated
- Separated energy recovery units into two subcategories – solid and liquid
- Adjusted CO compliance testing consistent with boiler rule changes.
- Changes will result in:
  - More flexibility in achieving standards
  - Lower compliance costs
  - Slightly greater emission reductions than in proposed rule

# Incinerator rule changes (cont'd)

- SSI rule
  - Final solid waste definition rule verifies that these units are incinerators and must be regulated. However, based on technical data, EPA:
    - Added a second subcategory for new multiple hearth units, which are different than fluidized beds.
    - Did not set beyond-the-floor limits for mercury.
      - These were not cost-effective. Current mercury emissions from these facilities were much lower than estimated when we issued the proposed rule.
  - Emission reductions and costs both are lower than at proposal.

# Final Emission Limits for Existing SSI Sources

Pollutant (units) <sup>1</sup>	SSI Subcategories			
	Fluidized Bed		Multiple Hearth	
	Proposed	Final	Proposed	Final
Cd (mg/dscm)	0.0019	0.0016	0.095	0.095
CO (ppmvd)	56	64	3,900	3,800
HCl (ppmvd)	0.49	0.51	1.0	1.2
Hg (mg/dscm)	0.0033	0.037	0.02	0.28
NO <sub>x</sub> (ppmvd)	63	150	210	220
Pb (mg/dscm)	0.0098	0.0074	0.30	0.30
PCDD/PCDF, TEQ (ng/dscm)	0.056	0.10	0.32	0.32
PCDD/PCDF, TMB (ng/dscm)	0.61	1.2	5.0	5.0
PM (mg/dscm)	12	18	80	80
SO <sub>2</sub> (ppmvd)	22	15	26	26

1 All emission Limits are measured at 7% oxygen.

# Reconsideration of Boiler and CISWI Rules

# Reconsideration Process

- On March 21, 2011, EPA initiated a reconsideration process for certain aspects of both boiler rules and the solid waste incinerator rule.
- While these final rules reflect reasonable approaches consistent with the requirements of the Clean Air Act, some of the issues identified in the public comments raised difficult technical issues that we believe would benefit from additional public involvement.



# Reconsideration Process

- EPA will seek further comments on:
  - Specific elements of the final rules
  - Any provisions we propose to modify or add after more fully evaluating the data and comments already received
- EPA will also fully evaluate any stakeholder petitions for reconsideration.
- Existing sources will not have to comply with the standards for at least three years.
  - As part of the reconsideration of the rules, stakeholders who make a compelling case may request an extension of that deadline.



# Biogenic CO<sub>2</sub> Deferral from PSD and Title V Permit Programs

# Biogenic CO<sub>2</sub> Deferral

- On March 21, 2011, EPA proposed to defer for a period of three (3) years the application of the Prevention of Significant Deterioration (PSD) and Title V permitting requirements to biogenic carbon dioxide (CO<sub>2</sub>) emissions from bioenergy and other biogenic stationary sources
- Deferral would only apply to CO<sub>2</sub> emissions (does not affect non-GHG pollutants or other greenhouse gases (GHGs))

# Biogenic CO<sub>2</sub> Emissions

- Biogenic CO<sub>2</sub> emissions
  - Emissions of CO<sub>2</sub> from a stationary source directly resulting from the combustion or decomposition of biologically-based materials other than fossil fuels.
- Examples of biogenic CO<sub>2</sub> emissions
  - CO<sub>2</sub> generated from the biological decomposition of waste in landfills, wastewater treatment or manure management processes
  - CO<sub>2</sub> from the combustion of biogas collected from biological decomposition of waste in landfills, wastewater treatment or manure management processes
  - CO<sub>2</sub> derived from combustion of biological material, including all types of wood and wood waste, forest residue, and agricultural material



# Biogenic CO<sub>2</sub> Deferral

- EPA will be undertaking a detailed examination of the science associated with biogenic CO<sub>2</sub> emissions from stationary sources, including engaging with federal partners, technical experts, and an independent scientific panel to consider technical issues.
- EPA will be developing a final rule on how biogenic CO<sub>2</sub> emissions should be treated and accounted for in PSD and Title V permitting based on the feedback from the scientific and technical review.

# Biogenic CO<sub>2</sub> Deferral

- EPA is accepting comments until May 5, 2011
  - Reconciling accounting systems for facility-based emissions and land-based sequestration
  - Accepting information on the number and type of biomass sources in each state
- Public hearing for the proposed rule scheduled for April 5, 2011 (TODAY)
- EPA also released guidance on determining Best Available Control Technology (BACT) for bioenergy sources until the deferral rule is finalized



# For More Information

- Boiler and incinerator rules:
  - <http://www.epa.gov/airquality/combustion>
  - <http://www.epa.gov/airquality/combustion/actions.html#feb11>
- Biogenic CO<sub>2</sub> deferral:
  - <http://www.epa.gov/NSR/actions.html>

# EPA Rule Contacts

- Major Source Boiler MACT Rule
  - Brian Shrager, (919) 541-7689
- Area Source Boiler MACT Rule
  - James Eddinger, (919) 541-5426
- CISWI Rule
  - Toni Jones, (919) 541-0316
  - Charlene Spells, (919) 541-5255
- SSI Rule
  - Amy Hambrick, (919) 541-0964
- Biogenic CO<sub>2</sub> Deferral
  - Carole Cook, (202) 343-9334



# Questions?

