

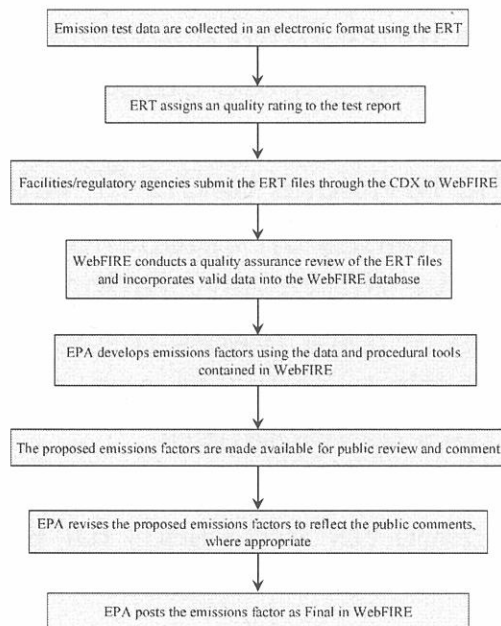
Emissions Factors Procedures Document

- Will explain the move from a subject, resource-intensive process to a more objective, less resource-intensive process
- Will explain the revisions to the EF rating system
- Will provide guidelines on independent third party review to improve the quality rating of the data
- Will explain use of data points measured below "minimum detection limits" or non-detects in emissions factors development
- Will establish guidelines for identifying outliers and how they are used (or not used) for emissions factors development

WebFIRE

- Will combine AP-42 and FIRE (repository for some of the emission factors info), but is much more!
- Will become the online repository for most OAPQS emissions factors and data
- Will be an emission factor development tool for EPA and other stakeholders
- Will allow users to examine the background information supporting each EPA emissions factor
- Will provide a convenient forum for public participation and data review by making all data available online
- Will provide performance test data for other uses such as rulemakings or risk analyses
- Will provide other useful info such as standard deviation and data ranges

Emissions Factors Development Data Flow



Emissions Factors Procedures Document (continued)

- Will explain how we use performance test data to update emissions factors using a pooled variance approach
- Will describe how EFs are developed from disparate data sets; i.e., 4 tests from 1986 and 3 tests from 2009
- Will describe the frequency for EPA evaluation of available test data contained in WebFIRE for a source category to determine whether:
 - Existing EPA emissions factors should be revised
 - New EPA emissions factors should be developed (processes or emissions points have significantly changed)

Electronic Reporting Tool

(continued)

- Calculates a test report quality rating that provides an appraisal of the reliability of the emissions data relative to its use in EF development
- Contains a spreadsheet application for submitting data electronically for previously conducted source tests
- Produces electronic output for submitting test data through EPA's Central Data Exchange (CDX) – then onto WebFIRE; will be CROMERR compliant
- Required for use in several recent ICRs and is proposed in several rules

Electronic Reporting Tool

- Provides mechanisms for:
 - preparing a test plan
 - collecting and compiling emissions measurement data
 - calculating mass emission rates
 - documenting quality assurance of testing and of the appropriate use of test methods
 - documenting fully all test conditions and results

Source Classification Codes

- Is the Source Classification Code system working?
 - State APCAs have pointed out many duplicates
 - We have found many more duplicates and triplicates, as well
 - Do we need additional SCCs?
 - Should we phase out "other" or "miscellaneous" emissions factors categories?
 - If we eliminate SCCs, then would having a crosswalk pointing to old SCCs be needed?
- As a result of these and other comments, we are revamping the SCC system to clarify their development and use.
- How would revamping the system affect your work?

Electronic Reporting Tool (continued)

- Some recent issues with the ERT:
 - No "template" for basic source info
 - No printable test report
 - Omission of HF and HB for Method 26A
 - Some test reports showed the wrong SCC
 - Could not add more than 10 test runs
 - Could not change run dates
- We have fixed all these issues and many more
- We are adding more methods and other amenities, such as templates for importing field and lab data in electronic (Excel) format directly to the ERT

Compliance Data Submittal Rule (continued)

- Require electronic submission of certain compliance data, including performance tests, by revising reporting provisions in the parts 60, 61, and 63 general provisions
 - Some regs will need specific revisions because they do not defer to the general provisions
- We are not changing any requirements for submittals to State and Local APCAs
- **We are not adding any new performance testing requirements**

Compliance Data Submittal Rule

- Many of the quality issues with the emissions factors program are caused by lack of data
- Many performance tests are conducted annually, but the reports and data are in State and Local APCAs' filing cabinets
 - It's too resource-intensive to copy, compile, and ship them to EPA
- We develop regs without all the data we need

Our Next Steps

- Draft Emissions Factors Development Guidance Manual should be out this month for public review on CHIEF – see website to subscribe
- Improved WebFIRE should be ready by early 2012
- ERT is out there and being used now:
 - more updates and are adding more methods periodically
 - new compliance data screens in late 2011
- Summer 2011 for a draft Source Classification Code program guidance document
- Compliance Data Submittal Rule Proposal 07/2011

Compliance Data Submittal Rule (continued)

- Recently, we decided to expand the rulemaking to include submission of additional data/information:
 - Excess emissions reports
 - Summary reports
 - Compliance Status Notification
- These data and performance tests will be available to EPA and all stakeholders
- At a later date, we may require additional data/information, such as CEMS data

STATUS

- Rulemakings
 - NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT)
 - NESHAP for Area Sources: Industrial, Commercial, and Institutional Boilers
- Schedule
 - Proposal signed on April 29, 2010
 - Published in the **Federal Register** on June 4, 2010
 - Public Hearings
 - June 15, 2010 – Arlington, VA (Crystal City Marriott)
 - June 22, 2010 – Houston, TX (Hilton Houston Hobby Airport)
 - June 22, 2010 – Los Angeles, CA (Sheraton Los Angeles Downtown)
 - Public Comment period extended until August 23, 2010
 - Promulgation – January 14, 2011 (Court-ordered)

Status of EPA's Rulemakings for Industrial Boilers

EPA-A&WMA Information Exchange
Research Triangle Park, North Carolina
December 7, 2010

Boiler MACT – Proposed Subcategories

- **Eleven subcategories based on design type:**
 - 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
 - Liquid fuel-fired units
 - Gas 1 (Natural gas/refinery gas)
 - Gas 2 (other gases)
 - Metal processing furnaces (natural gas-fired)

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Overview Of The Boiler Rules

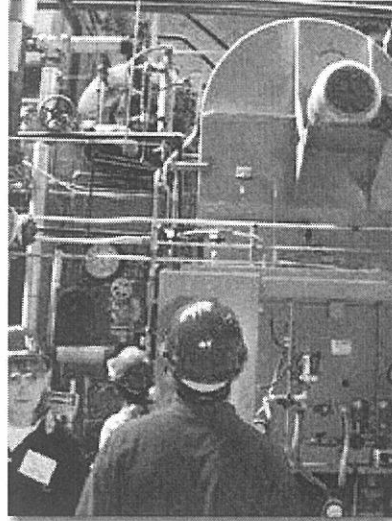
- **Boiler MACT**
 - Covers about 13,555 boilers and process heaters at about 1,600 major source facilities
 - 11,500 of the major source units are gas-fired and subject only to an annual tune-up
 - Mostly industrial but include universities, municipalities, and military installations
 - Proposed limits would require many sources to apply extensive emission controls
 - Existing small units subject to an annual tune-up rather than emission limits
 - All new units (except for clean gas-fired) subject to emission limits
 - Proposal provides incentive to burn natural gas
- **Boiler Area Source Rule**
 - Covers about 183,000 boilers at an estimated 92,000 area source facilities
 - 1.3 million gas-fired boilers located at area sources are not included in source category
 - Mostly commercial and institutional; some industrial sources
 - Proposed limits would require many units to apply PM controls and good combustion
 - Existing small units subject to a bi-annual tune-up rather than emission limits
 - All new units (except for gas-fired, which are not regulated) subject to emission limits

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Boiler Area Source Rule – Proposed Subcategories

- **Three subcategories based on design type:**

- Coal-fired units
 - 3,700 units
- Biomass-fired units
 - 11,000 units
- Liquid fuel-fired units
 - 168,000 units



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Boiler MACT – Proposed Standards

- Proposed limits for nine of the eleven subcategories for:
 - PM (as surrogate for non-mercury metals)
 - Mercury
 - HCl (as surrogate for acid gases)
 - CO (as surrogate for non-dioxin organic HAP)
 - Dioxin/Furan
- Technology basis - baghouse (metals/Hg)/carbon injection (Hg/dioxins)/ scrubber (HCl)/good combustion practices (organic HAP)
- Emissions limits only applicable to units with heat input capacities 10 million Btu/hour or greater
- Work practice standard for:
 - Existing units with heat input capacities less than 10 million Btu/hour (biennial tune-up)
 - Units in Gas 1 and Metal Process Furnaces subcategories (annual)
- Proposed for All major source facilities – to conduct an energy assessment

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Public Comments

- Over 2,000 comments received on each boiler rule
- Main comments:
 - Limits for biomass are unachievable
 - Retain the health-based compliance alternatives
 - MACT floors should be determined on a source basis, not pollutant-by-pollutant
 - Extend the compliance period
 - Finalize SW definition first and then re-propose the boiler rules
 - Need for additional subcategories
 - Not adequately address variability
 - Energy assessment should be limited to significant boilers (>25MMBtu/h), and solely to boiler system and significant operations powered by the boiler system

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Boiler Area Source Rule – Proposed Standards

- **Existing units**
 - Coal-fired boilers
 - Proposed emission limits for:
 - Mercury – based on MACT
 - CO (as surrogate for POM and other urban organic HAP) – based on MACT
 - Biomass-fired boilers and oil-fired boilers
 - Proposed emission limits only for CO (as surrogate for POM) – based on MACT
 - Emissions limits only applicable to units with heat input capacities 10 million Btu/hour or greater
 - Work practice standard (biennial tune-up) proposed for units with heat input capacities less than 10 million Btu/hour
 - Energy assessment proposed for area source facilities having boilers with heat input 10 million Btu/hour or greater.
- **New units**
 - Proposed emission limits for each of the three subcategories for:
 - PM (as surrogate for urban metals)
 - Mercury (only for coal-fired boilers)
 - CO (as surrogate for POM and other urban organic HAP)
 - Emissions limits applicable to all units, regardless of size

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Current Energy Effort

- Since proposal, DOE has indicated interest in working with EPA in regards to the energy-related (tune-ups and energy assessment) provisions in the proposed rules
- Opportunities
 - How to give incentives (credits) for implementing efficiency improvements identified by the energy assessment
 - Alternate output-based emission limits
 - Defining relevant energy terms
 - Energy assessment
 - Qualified energy assessor
 - Boiler tune-up
- EPA's Combined Heat and Power (CHP) Partnership office is interested in finding ways in the final rule to promote (give incentive for) CHP conversions or installations
 - Alternate output-based emission limits

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Major Issues

Critical Issue (major, area, both)

CO Limits Unachievable (both)

Natural Gas Work Practices (major)

Work Practices for Other Gases (major)

Health-Based Emission Limits (major)

New source limits for small units (both)

Ensure coverage of units combusting non-hazardous secondary materials (both)

CO for Area Sources (area)

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Questions?

Boiler MACT Contact: Brian Shrager
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shrager.brian@epa.gov

Boiler Area Source Contact: Jim Eddinger
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eddingejim@epa.gov

New Source Performance Standards

- ▶ EPA is required to review New Source Performance Standards (NSPS) at least every 8 years
- ▶ Coverage can include criteria (NO_x, SO₂, PM, CO, THC, and Pb) and designated pollutants
- ▶ “Standard of performance” is based on the best performing facility
 - ▶ Considers costs, non-air quality health and environmental impacts, and energy impacts

OAQPS

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OAQPS

Office of Air Quality Planning and Standards

Update on NSPS (subpart Da) Revisions for NO_x, SO₂, and PM

35th Annual EPA-A&WMA Information Exchange

Christian Fellner
Office of Air and Radiation
U.S. Environmental Protection Agency
6 December 2010



2006 NSPS Amendments for EGUs

Pollutant	Legal Issues
Filterable PM	Did not include condensable & fine PM (PM _{2.5})
SO ₂	Not representative of the best performing facilities
NO _x	

OAQPS

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Relationship to Other EGU Air Regulations

- ▶ NSPS covers all new, reconstructed, and modified fossil-fired boiler/steam turbine & integrated gasification combined cycle EGUs

- ▶ New Source Review is applicable to:
 - ▶ New EGUs that are major sources of emissions
 - ▶ Modifications to existing major source EGUs that result in a significant **net** emissions increase

- ▶ MACT cover new and **existing** fossil-fired boiler/steam turbine & integrated gasification combined cycle EGUs
 - ▶ Potential coordination with PM, CO, & SO₂ standards

- ▶ Transport Rule covers both new and existing boiler/steam turbine and combustion turbine EGUs
 - ▶ Caps NO_x and SO₂ emissions in 31 Eastern states plus the District of Columbia

OAQPS

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PM Standard

- ▶ Existing: 0.015 lb/MMBtu or 99.9% reduction (filterable PM)
- ▶ Condensable PM emissions roughly equivalent to filterable PM emissions
- ▶ No method to measure filterable PM_{2.5} from wet stacks
- ▶ No method for continuous measurement of total PM

EGU NSPS – Background

- ▶ Sued by state attorney general offices and environmental organizations
- ▶ On September 2, 2009, EPA was granted a voluntary remand without vacatur of the 2006 amendments
- ▶ No official court schedule, but we committed to coordinate the NSPS review with the EGU MACT

NO_x Standard

- ▶ Existing: 1.0 lb/MWh

- ▶ Multiple pulverized coal boilers with selective catalytic reduction are able to continuously achieve emission rates less than 0.80 lb/MWh
 - ▶ Fluidized bed boilers with selective non-catalytic reduction do not perform as well

OAQPS

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SO₂ Standard

- ▶ Existing:
 - ▶ 1.4 lb/MWh or 95% reduction
 - ▶ 1.4 lb/MWh or 94% reduction (coal refuse)

- ▶ Multiple facilities achieving over 96% reduction on a continuous basis

OAQPS

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Questions?

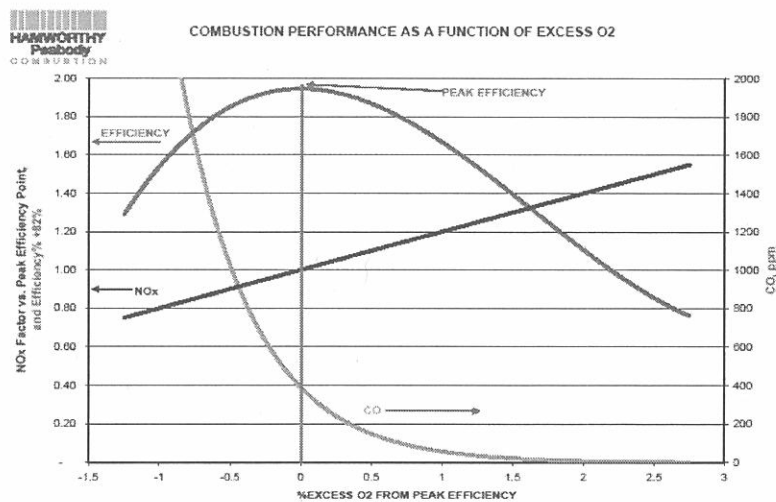
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OAQPS

Impact of NO_x standard on CO & Efficiency



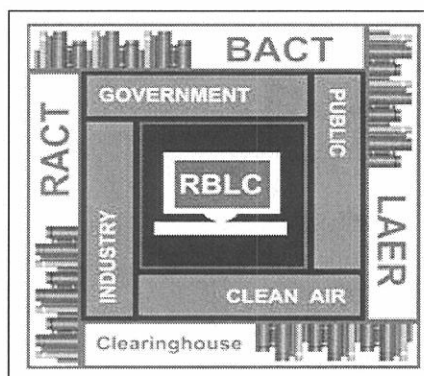
OAQPS

RBLC BACKGROUND

GENERAL RBLC INFORMATION

- OAQPS initiative in early 1980's to promote the NSR Program.
- "Required" in 1990 CAA Amendments (Sec. 108(h)).
- CAAA Requires that States submits LAER determinations to the Clearinghouse (Sec. 173(d)).
- Contains over 6000 records – primarily BACT decisions.

RACT/BACT/LAER CLEARINGHOUSE



Iliam Rosario
Office of Air Quality Planning and Standards
Sector Policies and Program Division
RTP, NC
December 7, 2010

WHO ARE OUR EXTERNAL CLIENTS?

(BASED ON HISTORICAL INFORMATION)

- Industry & their contractors (NSR permit preparation).
- State and local Permitting Agencies (reviewing NSR applications).
- EPA & Other Federal Agencies.
- Others (Environmental Groups, General Public, etc).

RBLC BACKGROUND GENERAL RBLC INFORMATION (CONT'D)

- Contains historical records (as early as the mid-1970's).
- Currently receives 200 – 300 new permit records per year.
- Spanish version of the RBLC is available on-line.

EFFICIENCY UPGRADES AND ENHANCEMENTS (CONT'D)

- Users are able to search on a pollutant group.
- Code is tighter, more secure
- Code is more efficient
- Add/update comments/documentation within the code.

EFFICIENCY UPGRADES AND ENHANCEMENTS

- Is open to receive permits via the SAE data from Canada and Mexico.
- Permitting agencies are able to submit emission testing information at the pollutant level.
- If the States/locals have online systems, they are able to submit links to the actual permit.
- States/locals are able to make minor updates to their entries without EPA oversight

GHG's PERMITTING DISCUSSION FORUM PURPOSE

- Exchange information on the status of applied and developing technologies for GHG control & mitigation in addition to technologies already determined to be GHG BACT.
- Exchange information on the process of developing and issuing the permits associated with a BACT information.
- Disseminate, evaluate and revise technical guidelines.

GHG's PERMITTING DISCUSSION FORUM NEEDS

- Quick communication on GHG control measures
- Quick distribution of permit decisions
- Information on pollution prevention measures, efficiency standards, stack test methods, emission factors, treatment of fugitive emissions, etc.
- Others

Overview of Presentation

- Background on the need for Tailoring Rule
- The final Tailoring Rule
 - Covered gases and definition of GHG pollutant
 - Phased steps to include GHG PSD coverage for large sources
 - Follow-on actions and study to assess GHG permitting in the future
 - State implementation considerations
 - Legal underpinning of rulemaking
- GHG permitting guidance development

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Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule



Joe Mangino
Office of Air and Radiation
Office of Air Quality Planning and Standards
December 2010

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Why the Tailoring Rule is Needed (cont.)

- For title V, millions of smaller sources would be newly classified as major for GHG.
 - About 15,000 major sources now
- For PSD, tens of thousands of smaller new sources and modifications each year would be newly classified as major for GHG
 - About 800 new major sources/modifications per year now
- The administrative burdens of permitting large numbers of newly-subject sources would cause severe disruption to the existing programs.
 - Many of these sources are in commercial/residential categories that have no experience with CAA permitting
- Tailoring these programs to address large numbers of small sources is necessary to provide a common sense approach to GHG regulation.

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Why the Tailoring Rule is needed

- By rule/policy, PSD and Title V permitting programs under the Clean Air Act apply to major sources and modifications of “regulated NSR pollutants.”
 - GHG are currently not “regulated” and thus are not covered by these programs now.
 - The light-duty vehicle GHG rule causes GHG to be ‘regulated’ as of January 2, 2011
 - How do we administer these programs when GHG become “regulated”?
- Specifically the concerns about regulation of GHG stem from the fact that:
 - By statute, for Title V, the major source threshold is 100 tons/year.
 - By statute, for PSD, the threshold is 250 tons/year (100 tons/year for some categories).
 - For PSD modifications, any change at a major source that results in “any increase” of GHG would trigger PSD
- GHG (especially CO₂) are emitted in much greater mass than conventional pollutants, so very small sources exceed the 100/250 ton per year levels.

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Pollutants Covered

- Sets thresholds for GHG emissions, addressing emissions from six well-mixed gases:
 - Carbon dioxide (CO₂)
 - Methane (CH₄)
 - Nitrous oxide (N₂O)
 - Hydrofluorocarbons (HFCs)
 - Perfluorocarbons (PFCs)
 - Sulfur hexafluoride (SF₆)
- The aggregate sum of these six gases is the identified air pollutant in EPA's Light-Duty Vehicle Rule, and the associated Endangerment Finding and Cause or Contribute Finding
- To determine applicability, a source's GHG emissions are calculated as the sum of the six gases on both a CO₂ equivalent (CO₂e) and mass basis

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The Final Tailoring Rule

- Issued on May 13, 2010
- Establishes a common sense approach for greenhouse gases (GHG) from stationary sources under the New Source Review Prevention of Significant Deterioration (PSD) and title V Operating Permit Programs for new and existing industrial facilities
- “Tailors” the requirements to focus PSD and title V permit requirements on the largest emitting facilities
- Subjects facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources to CAA permitting requirements
 - This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities
 - Small farms, restaurants, and commercial facilities are shielded by this rule

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Phase-In Steps: Step 2

- July 1, 2011 to June 30, 2013
- Sources subject to GHG permitting requirements under step 1 will continue to be subject to GHG permitting requirements
- In addition, sources that emit or have the potential to emit GHGs at or above 100,000 tpy CO₂e will also be subject to GHG permitting requirements as follows
- PSD permitting applicability – triggered with construction that increases emissions
 - A newly constructed source (which is not major for another pollutant) will not be subject to PSD unless it emits 100,000 tpy or more on a CO₂e basis and 100/250 tpy on mass basis
 - A modification project at a major stationary source will not be subject to PSD unless it results in a net GHG emissions increase of 75,000 tpy or more on a CO₂e basis and greater than 'O' tpy on mass basis

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Phase-In Steps: Step 1

- January 2, 2011 to June 30, 2011
- No new permitting actions due solely to GHG emissions during this time period; only sources undertaking permitting actions anyway for other pollutants will need to address GHG
 - PSD permitting applicability:
 - Anyway sources will be subject to the PSD requirements only if they increase GHG emissions by 75,000 tpy CO₂e or more and exceed 'O' tpy mass-basis
 - Title V permitting applicability:
 - Only those sources currently with title V permits will address GHGs, and only when applying for, renewing or revising their permits
- No sources will be subject to CAA permitting requirements based solely on GHG emissions
- Covers sources responsible for 65% of total national stationary source GHG emissions

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Newly-Subject Sources

- The newly-subject sources in Step 2 are expected to include:
 - Large industrial sources from energy-intensive source categories that have not triggered permitting programs for their non-GHG emissions
 - The largest landfills
 - The largest coal mines or oil and gas production installations
- The title V costs for these sources will be less than \$10 million nationwide
 - Without the Tailoring Rule, there would have been millions of newly-subject sources and the costs would have been in the tens of billions of dollars
 - Title V does not trigger any new control requirements
- These sources will not trigger PSD unless they construct or modify in a way that significantly increases emissions
 - If they do trigger PSD, BACT decisions made by permitting authorities (usually state/local agencies) must take costs into account

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Phase-In Steps: Step 2 (cont'd.)

- Title V permitting applicability
 - A GHG emission source (which is not already subject to title V) will not be subject to title V unless it emits 100,000 tpy or more on a CO₂e basis and 100 tpy on mass basis
 - These newly subject sources must apply within 1 year after becoming subject to the program, unless the permitting authority sets an earlier deadline
 - This means that newly subject sources must apply for a title V permit on or before July 1, 2012 (which is one year from July 1, 2011)
- Covers sources responsible for nearly 70% of total national stationary source GHG emissions

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Phase-in Steps: Further Action

- EPA will not require permits for smaller sources until April 30, 2016 or later
- The rule establishes an enforceable commitment for EPA to complete a study within 5 years projecting the administrative burdens that remain for small sources after EPA has had time to develop (and states have had time to adopt) streamlining measures to reduce the permitting burden for such sources
- We will use this study to serve as the basis for an additional rulemaking that would take further action to address small sources, as appropriate. We are making an enforceable commitment to complete this rulemaking by April 30, 2016
- We plan to solicit comment on a permanent exclusion of certain sources from PSD, title V or both
- Commitment to develop guidance and tools for assisting in GHG BACT reviews and identifying control technology options

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Phase-In Steps: Step 3

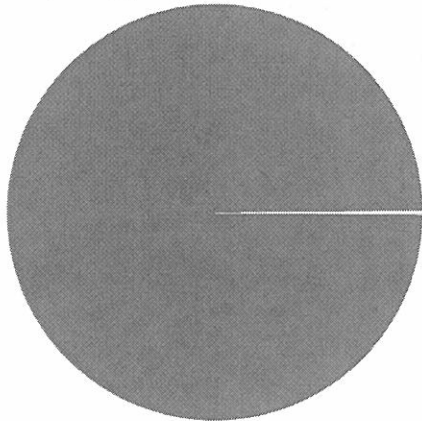
- The rule establishes an enforceable commitment to complete another rulemaking no later than July 1, 2012
- We will propose or solicit comment on a possible step 3 of the phase-in plan
 - EPA will consider, during the implementation of step 2, whether it will be possible to administer GHG permitting programs for additional sources
 - EPA will establish that step 3 would take effect on July 1, 2013 so that permitting authorities and sources can prepare for any additional GHG permitting action
- Step 3, if different from step 2, will not require permitting of sources with GHG emissions below 50,000 tpy CO₂e
- We also commit to explore a wide range of streamlining options on which we plan to take comment in the step 3 proposal

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Operating Permits Burden Reductions

Without the Tailoring Rule

6 million sources would have needed operating permits

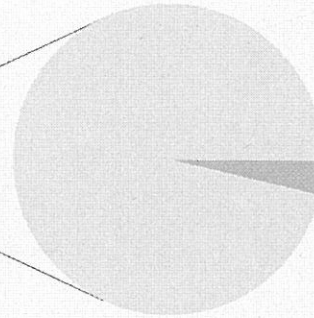


78% of total national stationary source GHG emissions would be covered

\$21 billion annual cost to permitting authorities

With the Tailoring Rule

Only 15,550 sources will need operating permits



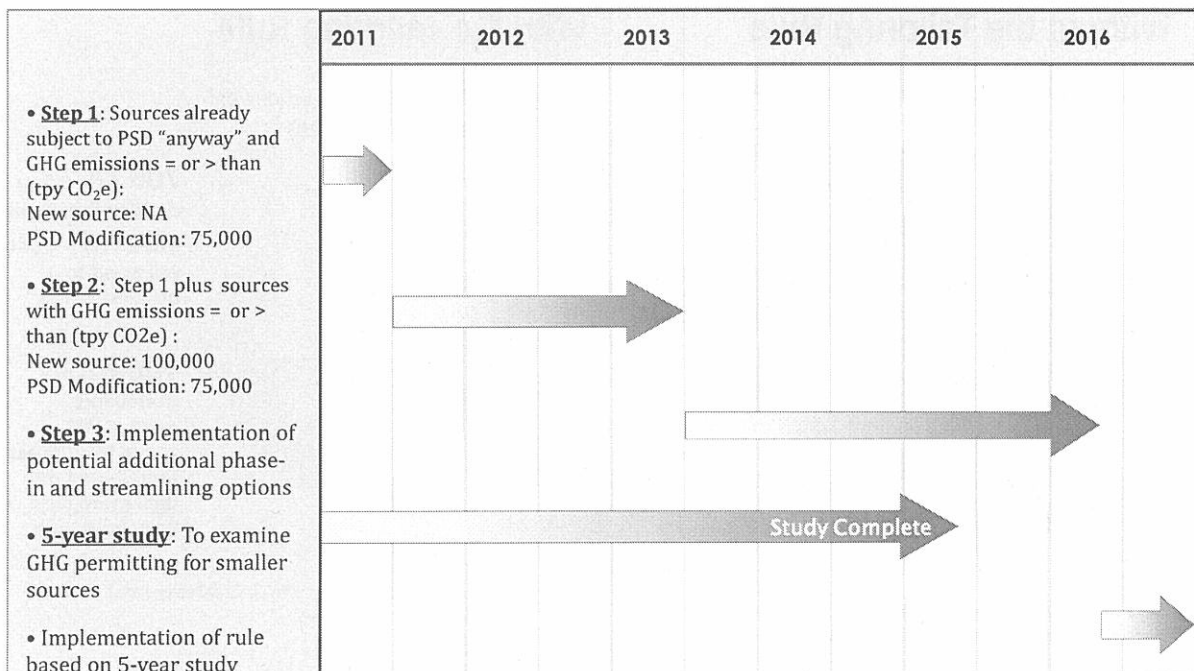
15,000 sources already have operating permits

Only 550 more sources will be subject to operating permitting for GHGs alone – but not until more than a year from now.

67% of total national stationary source GHG emissions would be covered

\$69 million annual cost to permitting authorities

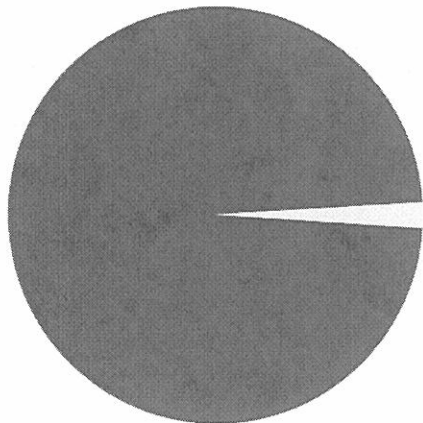
Permitting Steps under the Tailoring Rule



PSD Permitting Burden Reductions

Without the Tailoring Rule

82,000 permitting actions per year would need to address GHGs

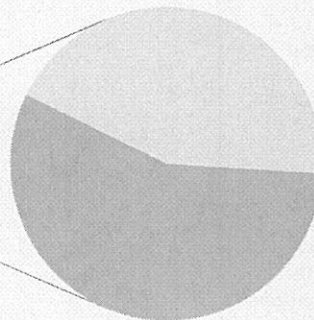


78% of total national stationary source GHG emissions are associated with facilities where actions could have occurred

\$1.5 billion annual cost to permitting authorities

With the Tailoring Rule

Only 1,600 permitting actions per year will need to address GHG



700 permitting actions that would **already** occur will need to address GHGs

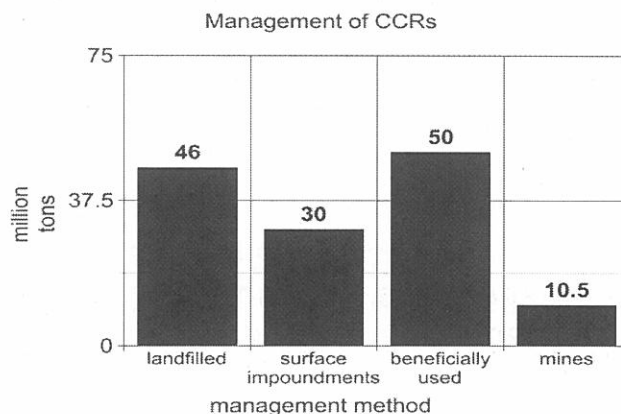
900 more permitting actions will occur to address GHGs – but not until more than a year from now

67% of total national stationary source GHG emissions are associated with facilities where actions could occur

\$36 million annual cost to permitting authorities

The Basics

- Coal Combustion Residuals (CCRs) are byproducts from the combustion of coal – fly ash, bottom ash, boiler slag, and flue gas desulfurization materials.



- In 2008 more than **136 million tons** were generated (second largest waste stream in the U.S.)

2

www.epa.gov/coalashrule

EPA's Proposed Rule for Coal Combustion Residuals

Alexander Livnat, Ph.D.

Office of Resource Conservation and Recovery, USEPA

Presented at the 35th Air and Waste Management Association's Information Exchange Meeting, RTP, NC

December 8, 2010



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www.epa.gov/coalashrule

Background and Current Regulatory Status

- Bevill exemption in RCRA temporarily excludes CCRs from hazardous waste regulation until EPA makes a determination if Subtitle C regulation is warranted.
- May 2000 Regulatory Determination (RD) indicated Subtitle C was not warranted, but national standards under Subtitle D were needed.
- State environmental agencies regulate disposal and beneficial use of coal ash
 - Approaches and level of oversight vary by state
- New information and data since the May 2000 RD, including additional damage cases, risk modeling, and current management practices and state regulations associated with the disposal of CCRs, indicated that EPA needs to revisit its May 2000 RD.

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The Basics

- Approximately 495 utility coal-fired power plants have:
 - 300 CCR landfills
 - Over 600 surface impoundments (SIs)
 - The majority (64%) of the operating CCR SIs are over 30-years old
 - Total surface area exceeds 31,000 acres
 - Total storage capacity exceeds 37.6 billion cubic feet

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Proposed Rule (Continued)

- Engineering requirements of the two options (e.g., liner, groundwater monitoring, dike integrity) are very similar; differences are primarily in enforcement and implementation.
- Bevill exemption remains in place for beneficial uses of CCRs under both options.

Proposed Rule

- On June 21, 2010, EPA proposed 2 approaches for regulating disposal of CCRs under RCRA:
 - Subtitle C/Special Waste
 - Subtitle D/Industrial Waste

<http://www.epa.gov/epawaste/nonhaz/industrial/special/fossil/ccr-rule/frn-corrections.pdf>
- Proposal covers CCRs generated from the combustion of coal at electric utilities and independent power producers and destined for disposal.
- Does not cover coal-fired electric plants used captively by industries or universities, nor minefilling.

Regulation under Subtitle C

- New or adjusted requirements:
 - Single composite liner and leachate collection system required for new landfills: 2 ft compacted clay and Flexible Membrane Liner (FML)
 - Comments requested on alternative liner systems and/or performance standard
 - Fugitive Dust Control (e.g., use of covers, conditioning)
 - Structural Stability Requirements for Surface Impoundments
 - 5 years provided for compliance with land disposal restrictions treatment standards (essentially phasing out wet handling). No dredging required
 - Treatment standards for non-wastewaters take effect within 6 months after final rule.

Regulation under Subtitle C

- Listed as a “special waste subject to Subtitle C”
- Subject to “cradle to grave” Subtitle C requirements:
 - General facility requirements, including waste unit location restrictions
 - Groundwater monitoring (existing landfills – within 1 year)
 - Corrective action
 - Storage requirements
 - Closure and post-closure care
 - Financial assurance
 - Permitting

Regulation under Subtitle D

- National minimum standards (continued):
 - Operating requirements
 - Groundwater monitoring and corrective action
 - Financial assurance NOT included; considering CERCLA authority
 - Record keeping and third party certifications

Regulation under Subtitle D

- CCRs would remain classified as a “non-hazardous” waste.
- Requirements are self-implementing.
- National minimum criteria governing facilities disposing of CCRs.
 - Location requirements
 - Composite liners required in new landfills and all surface impoundments (retrofit within 5 years for existing SIs)
 - Comments requested on alternative liner design and performance standard
 - Structural Stability Requirements

Other Regulatory Options Discussed in Preamble

- D Prime
 - No retrofit requirements for existing surface impoundments
 - Existing surface impoundments allowed to operate until end of useful life
 - Other requirements same as the D proposal.
- Wet-handled CCRs regulated under Subtitle C; Dry-handled - under Subtitle D.

Key Differences C vs. D

	SUBTITLE C	SUBTITLE D
Effective Date	Timing will vary from state to state, as each state must adopt the rule individually- can take 1 – 2 years or more	Six months after final rule is promulgated for most provisions.
Enforcement	State and Federal enforcement	Enforcement through citizen suits; States can act as citizens.
Corrective Action	Monitored by authorized States and EPA	Self-implementing
Financial Assurance	Yes	Considering subsequent rule using CERCLA 108 (b) Authority
Permit Issuance	Federal requirement for permit issuance by States (or EPA)	No
Requirements for Storage	Yes	No
Surface Impoundments Built Before Rule is Finalized	Remove solids and meet land disposal restrictions (LDRs); retrofit with a single composite liner within five years of effective date. Would effectively phase out use of existing surface impoundments	Must remove solids and retrofit with a single composite liner or cease receiving CCRs within 5 years of effective date and close the unit
Surface Impoundments Built After Rule is Finalized	Must meet Land Disposal Restrictions and liner requirements. Would effectively phase out use of new surface impoundments.	Must install composite liners. No Land Disposal Restrictions
Landfills Built Before Rule is Finalized	No liner requirements, but require groundwater monitoring	No liner requirements, but require groundwater monitoring
Landfills Built After Rule is Finalized	Liner requirements and groundwater monitoring	Liner requirements and groundwater monitoring
Requirements for Closure and Post-Closure Care	Yes; monitored by States and EPA	Yes; self-implementing

Beneficial use

- EPA supports and encourages safe and environmentally appropriate beneficial uses.
 - Significant environmental benefits from certain uses
- Beneficial use is defined as using CCRs as ingredients or substitutes in products and activities.
 - Does not include placement in sand and gravel pits or large scale fill operations, to be regulated as disposal
- Examples of beneficial uses include: cement, asphalt, and concrete (encapsulated uses.)
- Questions raised on un-encapsulated uses (agricultural applications, soil stabilization, etc); comments and data requested.
- Certain practices – massive structural fill and quarry reclamation -- no longer considered beneficial use.

Other Regulatory Options Discussed in Preamble (cont'd)

- Issue Subtitle C regulations, that would be effective only if a State does not:
 - Develop enforceable Subtitle D regulations and submit to EPA for approval in 2 years.
 - Received EPA approval within 1 year after submission
- “Cement Kiln Dust” Approach
 - Establish standards under Subtitle D
 - If standards egregiously violated, the CCRs would be considered “special wastes” under Subtitle C.
- Rely on National Pollution Discharge Elimination System (NPDES) Permits for structural integrity requirements.