Recent/Possible EPA Air Toxics Rulemakings which Address Risk or Contain Key Risk Related Provisions

EPA Region III
2005 Air Toxics Summit
EPA’s NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters – Health Based Compliance Alternatives

US EPA Region III
Boiler/Process Heater NESHAP Rulemaking Overview

Proposed – January 13, 2003 (218 comments)

Promulgation date – September 13, 2004

Effective date – November 12, 2004

Limited Reconsideration Initiated – June 27, 2005

Compliance Date for Existing Sources – September 13, 2007

Expected Benefit - Will reduce HAP emissions by 50,600 to 58,000 tons per year.
Pollutants for which emission limits have been established, and the HAP categories they represent:

- **PM (or Total Selected Metals, an option for solid fueled units):** Represents control of non-mercury metallic HAP emissions. (arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium)

- **HCL:** Represents control of inorganic HAP emissions. (chlorine, hydrogen flouride)

- **CO:** Represents control of organic HAP emissions. (formaldehyde, benzene, and acetaldehyde)

- **Mercury:** Serves to control only mercury itself.
New Units - Emission Limits

- **New solid fuel units**
  
  PM -- 0.025 lb/million Btu, OR TSM 0.0003 lb/million Btu
  HCl -- 0.02 lb/million Btu (20 ppm)
  Hg -- 3 lb/trillion Btu
  CO -- 400 ppm @ 7% oxygen (only for large or limited use units)

- **New liquid fuel units**
  
  PM -- 0.03 lb/million Btu
  HCl -- 0.0005 lb/million Btu (large units)
  0.0009 lb/million Btu (small and limited use units)
  CO -- 400 ppm @ 3% oxygen (only for large or limited use units)

- **New gaseous fuel-fired units**
  
  CO -- 400 ppm @ 3% oxygen (only for large or limited use units)
Existing Units - Emission Limits

- **Existing large* solid fuel units**
  - PM -- 0.07 lb/million Btu, OR TSM – 0.001 lb/million Btu
  - HCl -- 0.09 lb/million Btu (~ 90 ppm)
  - Hg – 9 lb/trillion Btu
  
  Note: Emission averaging allowed

- **Existing limited use** solid fuel units
  - PM -- 0.21 lb/million Btu, OR TSM – 0.004 lb/million Btu

- **No emissions standards for any existing liquid and gaseous fuel units or for existing small solid fuel units.**

* Large: > 10 MMBtu per hour heat input

** Limited Use: large & annual capacity factor of 10% or less
Health Based Compliance Alternatives for Certain Solid-fueled Units

- **Units with HCL Limits** –
  Sources may seek to comply with an alternative health-based HCL emissions limit. To qualify sources must demonstrate that their emissions are below the risk cutoffs defined in the rule.

- **Units with TSM limits** -
  Sources may seek to comply with an alternative TSM limit which excludes manganese. To qualify sources must demonstrate that their emissions of Mn are below the risk cutoffs defined in the rule.
Overview of Health-Based Alternative Compliance Options

- Risk cutoffs: hazard index or hazard quotient of 1.0
- For either HCL or TSM, a look-up table or source specific risk analysis may be used to establish alternative requirements.
- Sources must modify their Title V permits so that risk parameters become allowable limits.
- Those wishing to use these alternatives must submit documentation 1 yr before compliance date. For existing sources – 9/13/06.
Update on Submission of Risk Assessments

- **May, 2005:** We received a Mn assessment from American Woodmark in WV
  - They conducted a fuel analysis to demonstrate compliance with the allowable emission rate in the lookup table
  - The facility has been determined to meet the eligibility criteria for the alternative compliance option
  - Next step is modification of their Title V permit

- **September, 2005:** We received a Mn assessment from New South Lumber Company for a facility in SC
  - They conducted stack testing to demonstrate compliance with the allowable emission rate in the lookup table
  - We are currently evaluating this assessment
Summary of Litigation and Petitions for Reconsideration

- **We received two petitions for judicial review**
  - Joint petition filed by NRDC, Sierra Club, and EIP
    - Issues focus primarily on health-based compliance alternatives
  - American Public Power-Ohio (and 6 municipalities)
    - Claims that EPA exceeded its authority in imposing standards on small municipal utility boilers

- **Three petitions for reconsideration were received**
  - General Electric Company
    - Issues relate to stack testing for compliance with technology requirements (not health-based alternatives)
  - Joint petition from NRDC and EIP and a separate petition from EIP
    - Focuses largely on health-based compliance alternatives
    - Also claims EPA failed to set standards for all HAP
EPA granted reconsideration on methodology for health-based compliance alternatives
  – Comment period closed 08/2005
  – EPA currently in the process of responding to comments

EPA requested that litigation be stayed until after the reconsideration

Next step is for the court to set timeline for filing briefs
EPA Contact Information

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- To access notices and get timeline information go to:  
  http://www.epa.gov/ttn/atw/boiler/boilerpg.html
EPA’s NESHAP for Plywood and Composite Wood Products – Delisted Low Risk Subcategory

US EPA Region III
Plywood and Composite Wood Products
NESHAP - Rulemaking Overview

Proposed – January 9, 2003 (57 comments)

Promulgation date – July 30, 2004

Effective date – September 28, 2004

Amendments Proposed – July 29, 2005

Limited Reconsideration Initiated – July 29, 2005

Compliance Date for Existing Sources – October 1, 2007

Expected Benefit – HAP emissions reduced by 6,600 to 11,000 tons per year.
Compliance Requirements

- Production Based Compliance Options
  - For listed process units which have no emissions control equipment, either:
    - meet specified total HAP emission limits by maintaining the process unit controlling operating parameters within ranges established during performance test, or
    - keep 3 hour average THC concentrations below the level established during the test. Must meet emission limits without using control system.
Compliance Requirements

- Add-on Control System Compliance Options
  - For listed process units which require control equipment, either:
    - Reduce total HAP, measured as THC, by 90%
    - Limit emissions of total HAP, measured as THC, to 20 ppmvd
    - Reduce methanol emissions by 90%
    - Limit methanol emissions to less than or equal to 1 ppmvd
    - Reduce formaldehyde emissions by 90%
    - Limit formaldehyde emissions to less than or equal to 1 ppmvd
Overview of Requirements for Low-Risk Subcategory

- To be in the low-risk subcategory, sources must demonstrate that risks from 13 HAP (identified in the rule) are below the risk cutoffs defined in the rule:
  - Applicable HAP: acetaldehyde, benzene, arsenic, beryllium, cadmium, chromium, lead, nickel, formaldehyde, acrolein, MDI, manganese, phenol

- Risk cutoffs:
  - Cancer risk 1 in 1 million
  - Non-cancer target organ-specific hazard index 1.0
  - Acute hazard quotient 1.0 (acrolein and formaldehyde)
Overview of Requirements for Low-Risk Subcategory (continued)

- Sources with approved risk assessments must modify their Title V permits so that risk parameters become allowable limits
- Sources that successfully complete this process are in the low-risk subcategory and are not subject to the technology requirements of the MACT rule
Update on Submission of Risk Assessments

- July 22, 2005: We received an assessment from Masonite Corporation in Laurel, MS
  - They conducted a site-specific assessment of their risks
  - We are currently reviewing this assessment
Summary of Litigation and Petition for Reconsideration

- Received four petitions for judicial review
  - NRDC and Sierra Club
    - Issues focus on low risk subcategory, SSM, and failure to set standards for all HAP and for all emission points
  - EIP
    - Issues the same as NRDC and Sierra Club
  - Louisiana-Pacific
    - Compliance options for wet hardboard presses and bake ovens
  - Norbord
    - conveyor dryer compliance options
- Received one petition for reconsideration filed by NRDC and EIP
  - Issues focus on the low risk subcategory and SSM
Status of PCWP Litigation and Reconsideration

- Stay of litigation in effect at least through 02/01/2006
- EPA granted reconsideration on all issues
  - Comment period closed 09/12/2005
- Expect to have final reconsideration signed by the end of January 2006
Summary of Proposed Amendments

- After signature of final rule, some industry stakeholders requested clarification and additional flexibility
  - Proposed amendments include:
    - allowing facilities to use emission factors for some emission points in their low-risk demonstrations
    - clarifying “affected source”
    - requesting comment on extending the deadline for submitting low-risk demonstrations and on extending the MACT compliance date

- Comment period closed 09/12/2005
- Expect to have final rule signed by the end of January 2006
Contact Information

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- To access notices and get timeline information go to:
  http://www.epa.gov/ttn/awt/plypart/plywoodpg.html
Residual Risk Program – Overview and Current Status

Region III Air Toxics Summit
October 20, 2005
EPA is required by the CAA to promulgate residual risk standards for major source categories or subcategories subject to MACT standards if:

- EPA finds that a residual risk standard is required to protect public health with an ample margin of safety, or
- EPA finds that the MACT for a major source category does not reduce the lifetime cancer risk for the most exposed individual to less than one in one million, or
- EPA finds that a residual risk standard is required to prevent an adverse environmental effect.
EPA’s Regulatory Plans

- Promulgate residual risk rules for individual source categories when appropriate.
- Develop a Generic Residual Risk Rule to cover remaining source categories.
- Develop a Total Facility Low Risk Demonstration Rule (TFLRD) giving sources the option to avoid control requirements under the residual risk program by showing that their total HAP emissions pose insignificant risks to public health and the environment.
Regulatory Objectives

- Protect the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1 in 1 million.
- Limit to no higher than approximately 1 in 10,000 the estimated risk that a person living near a facility would have if he or she was exposed to the maximum concentrations for 70 years.
Regulations for Individual Source Categories
Source Categories for Which EPA has Promulgated or Currently Plans to Promulgate Individual Residual Risk Rules or Determinations

- Coke Ovens – Final Published 4/15/05
- Dry Cleaning – Final due by 4/28/06
- Halogenated Solvents – Final due by 12/06
- HON – Final due by 12/06
- Gasoline Distribution – Final due by 3/06
- IP Cooling Towers – Final due by 3/06
- Magnetic Tape – Final due by 3/06
- EO Sterilizers – Final due by 3/06
Generic Residual Risk Regulation
Overview

- The Generic Residual Risk Regulation would be a single process rule that would apply to all sources in those source categories for which EPA does not plan to promulgate individual source category based residual risk rules.
Why Is EPA Planning a Generic Residual Risk Rule?

- EPA targets its limited resources to those program areas considered to have the greatest potential for protecting human health and the environment.
- EPA believes that for many source categories an unreasonably large resource investment would be required to conduct an individual category assessment in relation to the limited potential for additional health and ecological benefits.
Overview of the Proposed Process for GRRR

- **Step 1: Sources submit information to EPA/permitting authority**
  - Sources could be required to conduct and submit a risk assessment
    - For this option we need to develop a review/approval process
  - Sources could be required to submit facility data (e.g. HAP emission rates, stack parameters) in model-ready format
    - EPA could then use this data to conduct risk assessments for all sources
Overview of the Process for GRRR (Cont.)

- Step 2: Based on the results of their assessments, sources are binned into low, medium, and higher risk categories
  - Low risk: Maximum cancer risk less than 1 in 1 million and non-cancer target organ specific hazard index \(< 1\)
  - Medium risk: Above low risk criteria but below cancer risk of 100 in 1 million (non-cancer criteria?)
  - Higher risk: Above medium risk criteria
Overview of the Process for GRRR (Cont.)

- **Step 3:** Take action appropriate for the risk category.
  - **Low risk:**
    - Sources meet their 112(f) requirements.
    - Sources have no risk reduction requirements under the residual risk program.
  - **Medium risk:**
    - Some sources must reduce risks further (considering costs/feasibility).
  - **Higher risk:**
    - All sources must develop and implement a risk reduction plan that is approved by EPA.
    - Risk reduction plan should bring source at least to the medium risk range.
Options for Addressing Sources that Do Not Meet Low Risk Criteria

- **Option 1:** Sources must develop a risk reduction plan that is approved by EPA
  - This option would likely be reserved for highest risk sources

- **Option 2:** Write a limited number of source category rules
  - Under this option we could combine multiple source categories into a single rule and allow site-specific compliance based on risk

- **Option 3:** Sources could be required to add new source MACT (or most stringent MACT requirements for source category)
Options for Addressing Sources that Do Not Meet Low Risk Criteria

- Option 4: Sources could be required to choose control options from a control technology table
- Option 5: EPA could delegate oversight of risk reduction to states (in some cases)
  - States that accept delegation would be responsible for developing a risk reduction plans
Status of GRRR

- EPA staff discussing potential options, pros and cons, weighing costs and benefits
- Goal: Proceed toward formal Agency rulemaking
Total Facility Low Risk Demonstration (TFLRD) Rule
Overview

- Rule would enable individual facilities with at least one MACT source category on site to voluntarily demonstrate that their emissions, after implementation of MACT, pose insignificant risks to public health and the environment.

- Facilities that meet the low risk criteria defined in TFLRD would deemed to be in compliance with any current or future relevant residual risk requirements.
Potential Benefits of TFLRD

- Could achieve early risk reductions on a voluntary basis
  - Facilities might be motivated to comply with TFLRD if they can meet the requirements by making simple changes

- Will “target” emission reductions under the current residual risk program, making them more cost-effective and justifiable

- Should provide high quality site-specific emissions data for use in future assessments and emission reduction strategies
Summary of the TFLRD Rule

- **Step 1** -- Source conducts a total facility risk assessment
  - Sources referred to EPA’s Air Toxics Risk Assessment Reference Library for risk assessment guidance

- **Step 2** -- If they meet low risk criteria defined in rule, source submits risk assessment to permitting authority
  - Low risk criteria: maximum cancer risk $\leq 1E-06$, all non-cancer TOSHI values $\leq 1$, all ecological HQ values $\leq 1$
Step 3 -- Review and approval: We are evaluating several options
  – Could involve EPA review, state review, 3rd party review, or source self-certification and audit review

Step 4 -- Parameters from low risk demonstration must then be incorporated into Title V permit
  – Parameters become enforceable permit limits

Subsequent changes at facility would trigger re-evaluation
Status of TFLRD

- EPA management briefed on TFLRD options in September, 2005
- Workgroup is currently developing a draft of the proposed rule
- Proposed rule anticipated in early 2006
Generic Residual Risk and TFLRD Rule Contact

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