Innovative Strategies in the Residual Risk Program

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Overview of the Total Facility Low Risk Demonstration (TFLRD) Rule

Background

- Section 112(f) requires that EPA set standards for HAP emissions if significant risks to human health or the environment remain after MACT
  - In general, these standards apply to all sources in a source category
- Goal of TFLRD: Allow individual facilities (on a voluntary basis) to 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 automatically meet their 112(f) requirements

Steps in the TFLRD Process

- Step 1 -- Facility conducts a total facility risk assessment that includes all relevant hazardous air pollutants
- Step 2 -- If they meet the low risk criteria defined in TFLRD, facility submits risk assessment to EPA and permitting authority
  - Low risk criteria: maximum cancer risk $\leq$ 1E-06, all non-cancer hazard index values $\leq$ 1, all ecological hazard quotient values $\leq$ 1

Steps (Cont.)

- Step 3 -- Review and approval: We are evaluating several options
  - Could involve 3rd party peer review, review by permitting authority, audit by EPA, or some combination
- Step 4 – Facility-specific operating parameters that impact risk must then be incorporated into Title V permit
  - Parameters become enforceable permit limits
- Subsequent changes at facility would trigger re-evaluation
- Facilities that successfully complete this process deemed to be in compliance with any current or future relevant 112(f) requirements

Potential Benefits of TFLRD

- Could achieve voluntary risk reductions from facilities that would not be required to reduce risks under the current residual risk program
- Will target emission reductions under the residual risk program, making them more cost-effective and justifiable
- Will provide high quality site-specific emissions data for use in future assessments and emission reduction strategies

Status of TFLRD

- Workgroup has developed a draft rule
- OAR management briefings on the rule are ongoing
- Proposed rule anticipated in early 2006

Overview of a Generic Process for Accomplishing the Goals of the Residual Risk Program

Background

- There are approximately 100 source categories that will be subject to the residual risk program
- Under the current program, EPA assesses each of these source categories individually
- This approach makes inefficient use of limited resources
  - Assessments for low risk source categories require a disproportionately large resource investment compared to the potential for health and ecological benefits from further control
- Goals of a generic approach to residual risk
  - Make efficient use of limited resources by focusing most of our risk reduction efforts on highest risk sources
  - Distribute resource burden across EPA, states, and industry

Preliminary Outline of a Generic Residual Risk Rule (GRRR)

- Sources subject to MACT would be required to conduct a site-specific risk assessment
- Assessments are then submitted to EPA and permitting authorities for review and approval
  - Details of review/approval process have not yet been developed, but it could involve review of some or all assessments by EPA and/or states
  - Timing requirements for submittals are also being developed
- Based on the results of their assessments, sources would be binned into low, medium, and high risk categories
  - Low risk: Maximum cancer risk less than 1 in 1 million and non-cancer target organ specific hazard index ≤ 1
  - Medium and high risk criteria have not yet been defined

Risk Reduction Requirements Would Depend Upon Risk Level

- Low risk sources: no further control requirements under the residual risk program
  - Sources must incorporate risk parameters as limits in their Title V permits
- Medium risk sources: would decrease risks if feasible and cost-effective
  - Process is currently being developed for determining which sources would decrease risks further
- High risk sources: would develop a risk reduction plan and decrease risks at least to "medium risk" range
  - EPA would review and approve all risk assessments and risk reduction plans for high risk sources

Potential Advantages of GRRR

- Efficient use of EPA resources
  - GRRR will allow us to focus most of our resources on risk reduction at the highest risk sources while expending little effort on the low risk sources
- Spreads the resource burden across EPA, states, and industry
  - GRRR will allow EPA to accomplish residual risk goals even with current budget limitations
- Accurate characterization of risks
  - GRRR will focus on source-specific assessments using information from the source itself
  - GRRR will provide high quality site-specific emissions data for use in future assessments and emission reduction strategies

Status of GRRR

- Informal "work-in-progress"
- Staff discussing potential options, pros and cons, weighing costs and benefits
- Goal: present strategies to OAR management and obtain buy-in before proceeding toward formal Agency rulemaking process