



Residual Risk and Technology Reviews – Common Issues

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Topics

- Background
- Accuracy of Modeling Inputs
- Risk Assessment Methodology
- Limits of Statutory Authorities for Residual Risk and Technology
- Effective Dates for Amendments
- Startup, Shutdown and Malfunction

Background

- Residual Risk Reviews proceed under Section 112(f)(2).
 - One time event.
 - Lots of statutory requirements for this review.
- Technology Reviews proceed under Section 112(d)(6).
 - Every eight years.
 - Little guidance in statute for procedure.

Residual Risk Review Process

- Step 1 – EPA makes a threshold decision about whether excess cancer risk from residual emissions exceeds 1 in 1 million.
 - Statute says “shall promulgate standards” under this section if residual risk exceeds the threshold.
 - DC Circuit has held it’s sufficient for EPA to publish a decision not to revise the existing rules.
 - So – if residual risk exceeds the 1 in 1 million threshold, EPA has to do “something” under 112(f)(2).

Residual Risk Review Process

- Step 2 – Determine whether residual risk to public health under existing rules is acceptable.
 - EPA must tighten emission limits if residual risk to public health is unacceptable.
 - Presumptive Standard – If residual risk to the “most exposed person” is greater than 1 in 10,000, risk is “unacceptable” and existing rules must be revised.
 - » Risk evaluated assuming person exposed to maximum allowed emissions for 70 years.
 - » Revised rules must achieve 1/10,000 standard.

Residual Risk Review Process

- Step 3 – If public health risk is “acceptable” then EPA determines if existing rules provide ample margin of safety to:
 - Protect Public Health
 - Prevent Adverse Environmental Impact.
- EPA can consider costs, energy, safety and other “relevant” factors at this stage when deciding if stricter rules are appropriate.

The Technology Review Process

- Section 112(d)(6).
- Review occurs once every eight years.
- Revisions Based on “developments in”
 - Practices
 - Processes
 - Control Technologies
- EPA considers costs, economic factors, energy and non-air impacts when deciding on technology-based revisions.

Integration of Residual Risk and Technology Reviews

- For the current round, EPA has combined residual risk and technology reviews.
- In the future, only technology reviews will occur (once every eight years).
 - 1/1 million threshold will not be relevant in the future.
- DC Circuit has held that combination of the reviews is permissible.
- Schedule for reviews based on consent decree.

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Accuracy of Modeling Inputs

- Two Issues
 - Emissions Data Accuracy
 - » Errors can skew risk assessments for residual emissions.
 - » Can also affect cost-benefit analyses by misstating achievability and cost of lower limits.
 - Control Technology Information
 - » Incorrect estimates of capital costs and operational effects.

Examples of Emissions Data Issues

- Inaccurate data entry into the modeling program.
- Inclusion of facilities that have shut down in the data set.
- Inclusion of facilities that were never in the source category in the data set.
- Use of older emissions data.
- Estimation of emissions using statistical methods.
- Use of emissions data from shorter time periods that may not be representative of typical operations.

Examples of Control Technology Issues

- Underestimation of the number of facilities that will incur compliance costs due to lower limits.
- Practicability of implementing work practice limits.
- Underestimation of facility-specific compliance costs from lower limits.

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Risk Assessment Methodology

- Multiple Conservative Assumptions
 - Unrealistically high estimates of emissions and exposure times produce an unfair picture of risk but helps provide the “ample margin of safety.”
 - Examples
 - » Most-exposed individual – exposed 24 hours a day, 7 days a week for 70 years to maximum allowable emissions.
 - » Emissions estimates – derived using conservative approach that overstates them.

Risk Assessment Methodology

- Facility-Wide v. Category-Specific Emissions
 - EPA models include HAP emissions from all sources at a facility when modeling health effects.
 - Not all health effects are attributable to the affected sources at issue in the rulemaking.
- Actual v. MACT-Allowable Emissions
 - EPA develops estimates of the highest total emissions allowed from a facility under existing MACT standard.
 - Extent of health effects from residual emissions are therefore overstated versus the real world.

Risk Assessment Methodology

- Location Used to Evaluate Health Effects
 - Current approach evaluates maximum health effect on a person located at the centroid of the census block with the highest emissions impact.
 - Some have argued for modeling at point of highest modeled impact – regardless of whether someone lives there or not.
 - » Theory is that development patterns may change over time.

Risk Assessment Methodology

- Environmental Justice

- Issue is disparate impact of HAP emissions.
- EPA appears to be struggling with how to include these effects in decision-making.

- Two Sides to the Issue

- » There are cases where the models show vastly disparate impacts on disadvantaged communities.
- » But the statute says “public health” – how do you factor EJ into your analysis without opening a huge can of worms?

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Limits of Statutory Authorities

- Residual Risk

- Major issues involve which emissions and health effects EPA can consider in this review.
 - » Facility-wide versus Source-specific emissions.
 - » Environmental justice – is this consideration of “public health.”
 - » *NRDC v. EPA*, 529 F.3d 1077 (D.C. Cir. 2008) – requirement to promulgate a rule under 112(f)(2) if cancer risk exceeds 1 in 1 million satisfied if EPA promulgates a rule that leaves MACT standard unchanged.

Limits of Statutory Authorities

- Technology Reviews

- Major issue – what constitutes a “development in practices, processes or control technologies” to permit revisions to MACT standards under 112(d)(6)?
- Kraft Pulping Process Condensate Standards
 - » EPA set Minimum Control Level of 92% as MACT.
 - » In RTR proposal, EPA said a number of facilities were achieving 94% control and proposed revisions based on 112(d)(6).
 - » Industry responded there had been no change to trigger 112(d)(6).
 - » EPA left 92% standard in place based on cost-benefit analysis, avoided 112(d)(6) issue.

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Effective Dates for Amendments

- Effective dates vary based on the authority EPA uses to amend the MACT standard.
- New Sources – effective immediately.
- Existing Sources
 - Technology Reviews – EPA can provide up to 3 years under 112(i)(3).
 - Residual Risk Reviews - Effective 90 days after promulgation but EPA can grant up to 2 years under 112(f)(4).

Effective Dates for Amendments

- Most recent amendments deal with SSM after *Sierra Club*.
- There have also been a number of electronic reporting-related revisions.
- EPA has asserted authority under 112(d)(2&3) for these changes and made them effective very quickly or immediately.

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Startup, Shutdown and Malfunction

- Central Issue – implementation of the DC Circuit's decision in *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008).
 - EPA action under review was removal of requirement from general provisions of Part 63 for sources to comply with SSM Plan during SSM events.
 - Court concluded removal of this requirement meant affected sources were not continuously subject to an emission limit.

Three Views on *Sierra Club*

- EPA – The most the agency can do is provide affected sources an affirmative defense to civil penalties for malfunctions.
- Sierra Club – Even an affirmative defense is too much. Malfunctions are avoidable.
- Affected Sources – *Sierra Club* didn't invalidate all SSM provisions, just the one in the general provisions.
 - EPA can't show that affected sources can meet one standard all of the time.

EPA's SSM-Related Actions

- EPA has removed SSM provisions and replaced them with an affirmative defense to civil penalties for malfunctions.
 - Replacement of SSM provisions has been effective immediately.
 - EPA cites authority under 112(d)(2&3) to make changes consistent with *Sierra Club* decision.

Where to begin?

- SSM-related comments show up in every RTR proceeding over the past several years.
 - Both from industry-specific commenters and from groups whose focus is SSM-related issues across source categories.
- Two Basic Issues
 - Why only an affirmative defense to civil penalties and not a true defense to violations?
 - Why is the defense limited to malfunctions?

Defense to Penalties versus to a Violation

- EPA's Argument – a defense to violations will interfere with citizen suits to force compliance.
- But:
 - Why does decision by agency to accept a defense in an administrative context affect third parties in court?
 - » Can still argue ineffective enforcement by agency.
 - How long have upset and bypass defenses (which are absolute) existed in the CWA?

Defense to Penalties versus to a Violation

- EPA's Argument – An absolute defense means the otherwise applicable limit does not apply. This is potentially at odds with *Sierra Club*.
- But:
 - *Sierra Club* dealt with EPA's roll back of requirement to comply with SSM Plan during SSM events.
 - How do you get to idea of affirmative defenses to a violation being prohibited?
 - Shouldn't the answer be to ensure there is an SSM Plan requirement in place?

Why Limit Defense to Malfunctions?

- EPA's Argument – proper design and control of affected sources will allow compliance during startup and shutdown.
- But:
 - That's anachronism – EPA wasn't thinking sources would be subject to the same limit when it promulgated these MACT standards.
 - » EPA is effectively tightening the limits during startup and shutdown, which it can't do except through 112(d)(6) or 112(f)(2).

But: (cont'd)

- EPA set the MACT floor under the assumption that SSM events were not included in the numerical limits (just the SSM Plan).
 - What basis is there to conclude affected sources can meet the limits during startup and shutdown?

Example

- Pulp and Paper Excess Emissions Provision
 - Provision recognized that best performing sources could not meet limits 100% of the time.
 - Allowed sources to exceed limits for less than 1% of total operating time and be in compliance.
 - EPA proposed to remove this provision during RTR process but deferred action in final rule (Sept. 2012).
 - Proposal for the review of NSPS for Kraft Pulp Mills left a similar provision in place but asked for comment.
 - » Startup and shutdown periods included in 1%.

Startup, Shutdown and Malfunction

- Pulp / Paper RTR and Kraft Pulp Mill NSPS are a recognition that some sources can't meet the limits all of the time.
- Wouldn't it be easier to reinstate the SSM Plan idea and include the concepts of corrective action and preventing recurrence in the Plan requirements?
- Pretty far afield of *Sierra Club*.

Questions?

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