Superfund Evolution: New Issues, Challenges, and Approaches

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Superfund: Looking ahead
‘Top 10’ issues that will influence Superfund in the future!

10. Balancing public health and ecological risks
9. Increased community engagement
8. Renewed emphasis on ground water and drinking water protection
7. Growing importance of voluntary responsible parties

MERLA (and CERCLA) allow for:

- Responsible Parties – Formal enforcement process
- Voluntary Responsible Parties – Specific agreements
- Voluntary Parties – Primarily redevelopment
6. Coordinating remediation with redevelopment
5. Emerging and ‘re-emerging’ contaminants

Contaminants of emerging concern are substances that have been released to, found in, or have the potential to enter Minnesota waters (groundwater or surface water) and:

- did not have Minnesota human health-based guidance
- pose a real or perceived health threat; or
- have new or changing health or exposure information.

Include: Pharmaceuticals, pesticides, industrial effluents, personal care products.
Emerging and ‘re-emerging’ contaminants (contd.)

- Information on a chemical's toxicity is periodically reviewed to determine if a health-based guidance value for groundwater, air or other environmental media can be developed or updated.

- Recent updates and chemicals under review include:
  - Perfluorohexane sulfonate (PFHxS)
  - Cadmium
  - 1,2-Dichloroethane (1,2-DCA)
  - trans 1,2-Dichloroethylene (trans 1,2-DCE)
  - cis-1,2-Dichloroethylene (cis 1,2-DCE)
  - 1,4-Dioxane
  - Isobutanol
  - Pentachlorophenol
  - Tetrachloroethylene (PERC)
  - Trichloroethylene (TCE)
4. Reassessment of closed sites

- Systematic reassessments and event driven
- Several factors
  - Redevelopment
  - Emerging contaminants
  - Revised standards
  - Drinking water protection
  - Vapor Intrusion
3. Increasing number of sites without responsible parties
2. Increasing role for the Site Assessment arm of Superfund

- Current caseload ~ 100 sites
- Preliminary assessments
- Interim actions
- RP searches
- Prepare for listing
- Coordinate with EPA
1. Vapor Intrusion

How vapor intrusion happens:

- Contamination leaches down from polluted site to groundwater
- Dissolved contaminants flow with the groundwater
- Contaminated vapor travels up through soil and in through floor and wall cracks

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Vapor Intrusion (contd.)

- Continuing VI concerns
- Low safe indoor air concentrations
- Soil gas persistence
- Soil gas – Source contaminants
- Soil gas – Indoor air
- Temporal variability
- Building mitigation versus source remediation
- Building mitigation effectiveness
- Long term maintenance
- Point of sale notification
- Access and communication
Top 10’ issues that will influence Superfund in the future!

1. Vapor intrusion
2. Increasing role for the Site Assessment arm of Superfund
3. Increasing number of sites without responsible parties
4. Re-assessment of closed sites
5. Emerging and ‘re-emerging’ contaminants
6. Coordinating remediation with redevelopment
7. Growing importance of voluntary responsible parties
8. Renewed emphasis on ground water and drinking water protection
9. Increased community engagement
10. Balancing public health and ecological risks
Questions?

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