



# Suggestions from Presentations

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- Probabilistic analysis using more detailed models, quick turnaround
- Redox evolution for cementitious materials (Tc)
- Fractured media
- Open source
- Mechanistic representation of degradation



## Suggestions (continued)

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- Recognize differences in objectives and assessment questions for CERCLA and PA
- Optimize data needs and model complexity (simple models often provide insights)
- Recognize importance of source term
- Decisions are based on integrated info, not just models

## Suggestions (cont.)

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- Interface for generating functional relationships (generalized approach for screening)
- Capability to address multiple release processes (e.g., U chemistry and physical processes)

# Suggestions (cont.)

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- Management tool – decision making
- Dose tied back to source, nuclide and pathway
- Site wide: many sources, differing levels of detail, existing regulatory agreements
- Graded approach – detail related to relative risk (also need for uncertainty analysis)
- HDPE failure mechanisms and root penetration
- Bioaccumulation – addition of risks of screened facilities
- Consideration of decay products in screening

# Questions

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- Concern about computational overhead in large platform
- Consider risk tools (exposure) and recognize differences between “PA” models and fate and transport models
- Try for some short term benefits
- Caution about “factorial” number of potential processes (need to prioritize)
- Confidence bounds on uncertainty
- Rolling submodel calcs into larger uncertainty analysis (e.g., CBP)
- Tools contribute to design of waste facilities, waste forms, etc.
- Changes from diffusion to advection dominated migration in cement materials

# Questions (cont.)

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- Conceptual and other epistemic uncertainties, need some guidelines
- Different exposure pathways considered for CERCLA and PA
- Existing sources provide useful data for conceptual model development
- Importance of understanding nature and extent of contamination to apply general RAGs tools (integration modeling and field work for decision making)
- Appropriate use of Kds
- Point of compliance
- Consideration of uncertainties for multiple models and also B.C.s and recharge at different model scales
- Ability to confirm complex model results



## Summary (higher level considerations)

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- ASCEM and CBP intended to provide advances to existing approaches
- Recognize importance of integrated decision making approach (models, sampling, characterization, monitoring, etc.)
- Improved efficiency and capabilities could help to optimize waste management decision making
- Existing approaches have been adequate for problems considered to date, but more challenging problems are expected benefit from improved capabilities



## Summary (cont.)

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- Transparency and documentation, access to and ability to use models
- Multiple conceptual models (uncertainty and multiple lines of reasoning)
- Improved efficiency for uncertainty analysis
- Quick turnaround for more complex models helpful (debugging, short turnaround assessment times)



## Summary (cont.)

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- Improved degradation, geochemistry and process models helpful for future applications
- Generally applicable screening approaches important for CERCLA (low hanging fruit), and PA to limit the number of radionuclides, pathways, etc. considered in detail
- Need to invest appropriate effort for exposure scenarios and surface processes
- DOE Sites and International experience provide a number of validation cases, demonstration sites, etc. (user opportunities)