



## Current Issues in Siting Safety Reviews

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## Siting Safety Review Challenges

- Completed 3 ESPs, 1 ESP in progress and 17 COL applications in various stages of review
- Some common challenges emerging in site safety reviews
  - Level of Detail
  - Technical Sufficiency
  - RAI response timeliness

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## Groundwater Hydrology

- The groundwater flow and transport analyses presented in some COL applications are missing important details. The RAI process has schedule implications.
- Key assumptions of groundwater flow, especially post-construction, may require detailed analysis. Applicants should consider use of a groundwater model.
- Interim Staff Guidance on SRP 2.4.12 and 2.4.13 is under development to clarify other SRP guidance.

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### Surface Water Hydrology

- Trends show that flood levels from local intense precipitation may have very low margin. Modeling of local site drainage may require more robust methods.
- DCD limits on tolerable water surface elevations are unclear – some progress has been made, but not complete
- Tsunami Hazard Assessment at Nuclear Power Plant Sites in the United States of America (NUREG/CR 6966) near completion.

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### Source Zone Characterization for Probabilistic Seismic Hazard Analyses

- Last year noted challenges with some applications that limited consideration of new seismic information
- Held public meetings this past year
- Most applicants have now provided information to characterize source zones
- Early interactions essential for sites in regions not recently evaluated

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### Geotechnical Engineering

- Challenges noted last year with completeness of geotechnical information
- Completeness generally improving
- Challenges continue with complex or unique sites
- Challenges emerging with changing Design Certification criteria

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### Geology, Seismology & Geotechnical Engineering

- Other important accomplishments this year
  - Reached common understanding on consistent site response & soil-structure interaction calculations

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### On-site and Near Site Hazards

- Transported and Stored Chemicals
  - Insufficient information on chemicals
  - Chemicals screened out with no details other than followed RG 1.78 and 1.91
  - Dispersion model assumptions and inputs not given

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### Actions to Address Issues

- Industry and NRC continue work to address common issues generically:
  - Closure has been achieved:
    - Source zone characterization
    - Consistent site response & soil-structure interaction calculations
  - Issues under discussion:
    - ISG on groundwater radionuclide transport analysis
    - Updates to RG 1.59, 1.135 and RG 1.145
- Interactions between the applicant and NRC staff are useful in keeping review on track:
  - To promote an early exchange of technical information and submittal completeness
  - Timely RAI response and submittal of technical changes or supplements
  - Facilitate scheduling of NRC resources to complete the COL/ESP review.

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