

Session Title: Subsurface Environmental Characterization, Modeling, Monitoring, and Remediation

Description: Subsurface contamination and its characterization, monitoring, and long-term behavior, is an issue at nuclear facilities. Determination of regulatory compliance is based on two factors: (1) estimation of long-term risk as defined by the NRC and (2) monitoring and modeling analyses using site-specific data. The decision to remediate and the selection of the appropriate remediation methods rely on the risk assessment model. Once a remediation strategy is implemented, performance confirmation monitoring is needed to determine its effectiveness. In this session, speakers and panelists will discuss recent experiences in characterizing, monitoring, modeling, and remediating subsurface contaminants. Lessons learned from these activities relevant to nuclear facilities will be discussed. Speakers will also describe related research by the NRC and other Federal agencies on modeling, monitoring, and remediation (e.g., monitored natural attenuation and in situ bioremediation) of radionuclide transport in the subsurface. Within this context, participants will discuss the technical challenge of demonstrating effective remediation over the long term.

Session Chair: Thomas Nicholson, NRC/RES

Panelists:

Introduction: Subsurface Environmental Characterization, Modeling, Monitoring, and Remediation
Presentation View Handout View

Thomas Nicholson, NRC/RES

Subsurface Characterization to Support Evaluation of Radionuclide Transport and Attenuation
Presentation View Handout View

*Robert Ford, Environmental Scientist, Office of Research and Development,
Environmental Protection Agency*

From Flask to Field: Lessons for Transferring Remediation Technology to Nuclear Waste Sites
Presentation View Handout View

Vincent Adams, Director, Office of Groundwater and Soil Remediation, Department of Energy

EPRI Technical Guidance on Utilizing Monitored Natural Attenuation as a Remediation Strategy for Nuclear Power Plant Applications
Presentation View Handout View

*Sean Bushart, Senior Program Manager, LLW Chemistry and Radiation Management,
Electric Power Research Institute*

Stephen Cohen, NRC/FSME
Richard Raione, NRC/NRO
Mark Roberts, NRC/RI

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