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United States Nuclear Regulatory Commission
Protecting People and the Environment

U.S. Nuclear Regulatory Commission Perspectives: Remediation Challenges Over the Next Decade

Session 2: Advancing New Remediation Technologies

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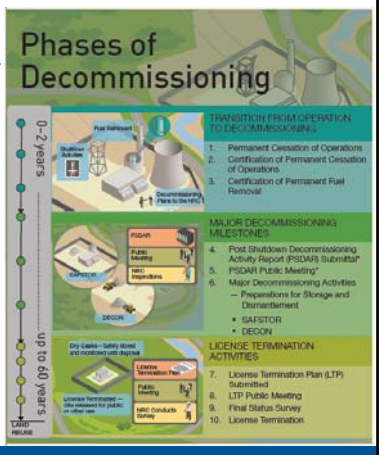
NRC's Advanced Remediation Technologies: Scope, Application & Needs

- Dismantling & Decontamination of facility components and structures at nuclear power plants and spent fuel facilities to protect the public and environment.
- Remediation/Cleanup of soils, subsurface media & groundwater for decommissioning of complex and uranium recovery sites.
- Enhanced and efficient characterization methods and surveys before, during, and after remediation for demonstration of compliance with regulatory safety and environmental criteria.



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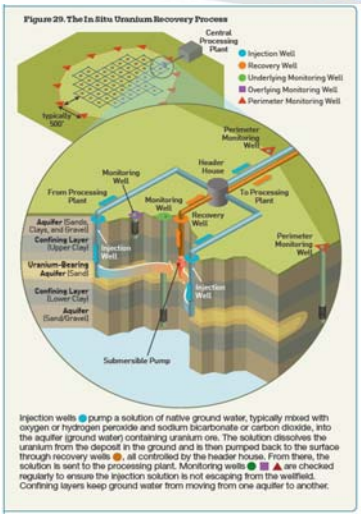
NRC's Advanced Remediation Technologies: Scope, Application & Needs (continued)

- Advanced technologies for characterization and survey of radiological contamination, particularly in the subsurface.
- Use of risk-informed approaches and guidance to demonstrate compliance with NRC safety and environmental criteria.
- Obtain real-world knowledge of accomplished site remediation to support risk-informed decision-making and training.



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Challenges

- Knowledge transfer of innovative technologies via FRTR & CLU-IN websites to the remediation community and regulators.
- Accessibility to new technologies and their cost efficiencies.
- Coordination of regulatory updates, guidance, and good practices for robotic surveillance and application of new technologies.
- Awareness of Federally-funded academic and research institutions of new and innovative remediation technologies and their application.
- Transitioning of advanced technologies from laboratory/pilot scale to field implementation.

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Suggestions

- Enhanced communication and technical exchanges at FRTR meetings.
- Program to test and evaluate innovative technologies for transitioning from experimental/pilot scale to field-scale applications.
- Initiate discussions on regulatory updates, guidance, and good practices to incorporate new and innovative technologies.
- Virtual workshops to explain and demonstrate advanced technologies and their transitioning to field implementation.
- Coordination with academic and research institutions to showcase new and innovative remediation technologies funded by Federal agencies.

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Concluding Remarks

- Appreciate the good collaborative work of the FRTR to date.
- Endorse focusing on innovative technologies for remediation of radiological contamination.
- Anticipate further collaboration on innovation, technology transfer and risks assessment for decommissioning and environmental assessments.

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NT1 Nicholson, Thomas, 4/26/2021