Deep Well Bore Disposal of Radioactive Wastes

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Bruce J. Kobelski
Office of Ground Water and Drinking Water
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Acknowledgements

- Department of Energy: Office of Used Nuclear Fuel Disposition
- DOE/Sandia National Lab
- U.S. Nuclear Waste Technical Review Board
- EPA OAR/Office of Radiation and Indoor Air
- University of North Dakota Energy and Environmental Research Center

THANK YOU!

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Outline

• Background on Repositories and Deep Drilling
• NWTRB October 2015 Conference
• DOE Test Pilot Well Project 2016
• NWTRB January 2016 Special Report
• EPA Thoughts
• Links
Background

- International Experience in Geologic Repositories
- Deep Well Drilling
- Conceptual Development by DOE/Sandia NL
- 2012 Blue Ribbon Commission
- The U.S. Nuclear Waste Technical Review Board
• Conduct independent expert review
• Comprehensive risk analysis
• Investigate heterogeneity of subsurface basement
• Geophysical subsurface analysis
• Safety strategy
• Engage regulators to define “retrieval”
• Transparency and access for stakeholders
• Appoint a Chief Scientist
NWTRB Caveats

1. Even if Deep Bore Hole disposal proves feasible, it should not be assumed it will replace a mined repository for bulk wastes.

2. NWTRB believes that time to complete deep well bore disposal will rival a mined repository and be just as complex.

3. Waste handling issues are going to limit use as will the design of a deep well bore facility.
• Deep Bore Holes used for nuclear waste disposal are repositories (NWPA)
• EPA (OAR) regulates repositories under 40 CFR 191 as it is currently written
• There are alternative 40 CFR191 provisions that may better address these deep bore holes
• There may be several other regulatory questions which need to be addressed
Useful Links

• NWTRB:  www.nwtrb.gov
• DOE Nuclear Program:  http://energy.gov
• Sandia National Lab:  www.sandia.gov
• Battelle National Lab:  www.battelle.org
• North Dakota Energy and Environmental Research Center:  www.undeerc.org