



# **Deep Well Bore Disposal of Radioactive Wastes**

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# DISCLAIMER



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To the extent any information in these slides is inconsistent with federal statutes and regulations identified; the statutes and regulations themselves control.

# 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!**

# 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

# NWTRB 2016 Report



- 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

# EPA Message



- 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](http://www.nwtrb.gov)
- DOE Nuclear Program: <http://energy.gov>
- Sandia National Lab: [www.sandia.gov](http://www.sandia.gov)
- Battelle National Lab: [www.battelle.org](http://www.battelle.org)
- North Dakota Energy and Environmental Research Center: [www.undeerc.org](http://www.undeerc.org)