



U.S. Nuclear Waste Technical Review Board

NWTRB
www.nwtrb.gov

U.S. Nuclear Waste Technical Review Board Activities Reviewing Management and Disposal of Spent Nuclear Fuel

September 18, 2014

Nigel Mote, Executive Director

U.S. Nuclear Waste Technical Review Board

The Board

- Established as an independent federal agency in the 1987 amendments to the Nuclear Waste Policy Act
- Eleven members serve part-time, appointed by President, nominated by the National Academy of Sciences
- Reports findings and recommendations to Congress and the Secretary of Energy

The Board's Mission

- "...evaluate the technical and scientific validity of activities [related to managing and disposing of spent nuclear fuel and high-level radioactive waste] undertaken by the Secretary [of Energy], including
 - (1) site characterization activities; and
 - (2) activities relating to the packaging or transportation of high-level radioactive waste or spent nuclear fuel."

Preservation of Yucca Mountain Project Records

- Board report August 2013 ([hyperlink](#))
 - Found that project documents have been preserved, can be accessed and retrieved
 - Recommended repeat of retrieval exercise
 - Recommended external review of value of other project materials, such as rock cores, and whether to preserve

Deep Borehole Disposal

- Board identified the following challenges:
 - Drilling, casing, and sealing
 - Characterizing the host rock at great depth
 - Size limitations and implications for disposal of fuel assemblies
- Factsheet and July 2013 letter on [website](#)
- Board's view: Deep borehole disposal research should not delay higher priority research on a mined geologic repository

High Burnup Spent Nuclear Fuel

- Board reviewed the U.S. Department of Energy's research and development program related to long-term dry storage of high burnup spent nuclear fuel and provided comments ([hyperlink](#))
- Board comments addressed:
 - Need for more instrumentation, gas sampling
 - Separate effects and small-scale testing
 - Additional parameters and measurements
 - Need for additional infrastructure

Dry Storage of Spent Nuclear Fuel

- The Board is evaluating the impacts of the use of large dry-storage canisters at utility sites on future handling, storage, transportation, and geologic disposal of spent nuclear fuel
- November 2013 workshop: transcript and summary available at www.nwtrb.gov
- Board report in preparation

DOE Spent Nuclear Fuel

- The Board is reviewing the U.S. Department of Energy's management and disposal of its spent nuclear fuel
 - Diversity of types and ages of spent nuclear fuel and storage facilities
 - Use of standard canisters
 - Management of aging spent nuclear fuel and facilities
- Board report in preparation