



U.S. Nuclear Waste Technical Review Board

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

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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](http://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