



UNITED STATES
NUCLEAR WASTE TECHNICAL REVIEW BOARD
2300 Clarendon Boulevard, Suite 1300
Arlington, VA 22201
703-235-4473

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Karyn D. Severson
External Affairs

Management and Disposal of U.S. Department of Energy Spent Nuclear Fuel Is Subject of U.S. NWTRB Report

On December 29, 2017, the U.S. Nuclear Waste Technical Review Board published on its website a *Report to Congress and the Secretary of Energy on Management and Disposal of U.S. Department of Energy Spent Nuclear Fuel*. The report is a product of three years of effort, during which the Board reviewed the Department of Energy's (DOE) activities related to managing the inventory of spent nuclear fuel (SNF) that is under DOE control at four federal facilities, representing approximately 99% by mass of the total quantity of DOE SNF. The report may be downloaded from the Board's website at www.nwtrb.gov. Hard copies of the report are now available and may be requested by contacting Davonya Barnes at barnes@nwtrb.gov.

While disposal of SNF and high-level radioactive waste (HLW) in a deep geologic repository remains the ultimate objective of the DOE nuclear waste management program, there is significant uncertainty about when such a repository will be available in the United States. Until disposal occurs, it is essential to manage SNF in a way that will not impede its eventual disposal, and it is also important to improve understanding of processes related to potential degradation of the SNF that could affect future packaging, transportation, and disposal activities.

The quantities and characteristics of DOE SNF, by storage site, are provided in the report. The report also examines DOE packaging and storage activities and plans at each of the sites. Three main issue areas are highlighted: First, issues related to managing the aging of DOE SNF and the facilities used to store the SNF are discussed. Second, issues related to packaging of stored non-naval DOE SNF into standardized canisters are identified. Third, the report discusses issues that would affect disposal of DOE SNF if DOE continues to evaluate a range of repository settings.

The report presents six principal findings and six recommendations in areas related to managing and disposing of DOE SNF: (i) aging management, (ii) measuring and monitoring conditions during storage, (iii) SNF drying procedures, (iv) development of packaging facilities, (v) waste acceptance system requirements, and (vi) SNF disposal research efforts.

The Board was established in the Nuclear Waste Policy Amendments Act of 1987 to perform ongoing evaluation of the technical and scientific validity of DOE activities related to the management and disposal of SNF and HLW. The Board is required to report its findings, conclusions, and recommendations to Congress and the Secretary of Energy. Board members are appointed by the President from a list of nominees submitted by the National Academy of Sciences. The Board is an independent federal agency in the Executive Branch.
