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

TECHNICAL WORKSHOP

Impacts of Dry-Storage Canister Designs on Future Handling, Storage, Transportation, and Geologic Disposal of Spent Nuclear Fuel in the United States

Dates: November 18, 2013 (1:00 p.m. – 5:45 p.m.) & November 19, 2013 (8:00 a.m. – 5:00 p.m.)
Venue: Embassy Suites Hotel, 1250 22nd Street, NW, Washington, DC 20037; 202-857-3388

Following discharge from a nuclear reactor, spent nuclear fuel (SNF) continues to generate heat, so nuclear utilities initially allow the SNF to cool in water-filled pools at the nuclear power plant sites. When the pools approach their licensed capacity, many utilities transfer the SNF into large dry-storage containers that are then stored at the utility sites on secure concrete pads.

Until a repository for permanent disposal or a consolidated temporary storage facility for SNF is available, the number of large dry-storage canisters stored at the nation's nuclear power plants will increase over time. Moreover, unless the dry-storage canisters can be directly disposed in a geologic repository, it will be necessary to transfer the SNF they contain into approved repository disposal containers prior to permanent disposal. Some of this repackaging could take place at a consolidated storage facility. However, not all of the dry-storage canisters currently in use are certified for transportation. Consequently, repackaging some of the SNF currently in dry-storage canisters may be necessary even before it is transported to a repository or a consolidated storage facility.

Repackaging SNF stored in these large dry-storage canisters will have significant implications for the waste management system: repackaging likely will take a long time; it will involve extensive SNF handling operations that could result in exposure of workers to radiation; and, at sites where the reactor has been shut down and the SNF pool has been decommissioned, construction of a pool or dry-transfer facility may be necessary. In addition, the emptied dry-storage canisters would require decontamination following repackaging and might require disposal as low-level waste.

Direct disposal of the large dry-storage canisters that have been loaded with SNF also would present significant challenges. Their higher heat-load and greater weight, compared with smaller repository disposal containers, could affect the types of geologic environments that may be considered and/or the extent of engineering necessary for a geologic repository.

The U.S. Nuclear Waste Technical Waste Review Board will hold a workshop on November 18-19, 2013, to look broadly at these issues and to identify others, as well as the implications for future handling, storage, transportation, and disposal of commercial SNF and SNF managed by the U.S. Department of Energy (DOE). DOE and the U.S. Nuclear Regulatory Commission plan to participate in the workshop. You are invited to attend this important event. To RSVP please send an email to november2013workshop@nwtrb.gov or call Gene Rowe at 703-236-7512 or Karyn Severson at 703-235-4473. Additional information is available at www.nwtrb.gov.