



U.S. Nuclear Waste Technical Review Board

NWTRB
www.nwtrb.gov

U.S. Nuclear Waste Technical Review Board

Presented to:

Summer 2020 Board Meeting

Presented By:

Dr. Jean M. Bahr, Chair

Board Members

- ❖ **Jean M. Bahr, Ph.D., Chair** – University of Wisconsin, Madison
- ❖ **Allen G. Croff, Graduate Nuc. Engr. Degree, MBA** – Vanderbilt University
- ❖ **Efi Foufoula-Georgiou, Ph.D.** – University of California, Irvine
- ❖ **Tissa H. Illangasekare, Ph.D., P.E.** – Colorado School of Mines
- ❖ **Kenneth Lee Peddicord, Ph.D. , P.E.** – Texas A&M University
- ❖ **Paul J. Turinsky, Ph.D.** – North Carolina State University
- ❖ **Mary Lou Zoback, Ph.D.** – Stanford University
- ❖ **Steven M. Becker, Ph.D.** – Old Dominion University
- ❖ **Susan L. Brantley, Ph.D.** – Pennsylvania State University
- ❖ (vacant)
- ❖ (vacant)



About the Board



The U.S. Nuclear Waste Technical Review Board (Board) was established by Congress as an independent federal agency in the 1987 amendments to the Nuclear Waste Policy Act (NWPA).



Board Member Appointment



NATIONAL ACADEMY
OF SCIENCES



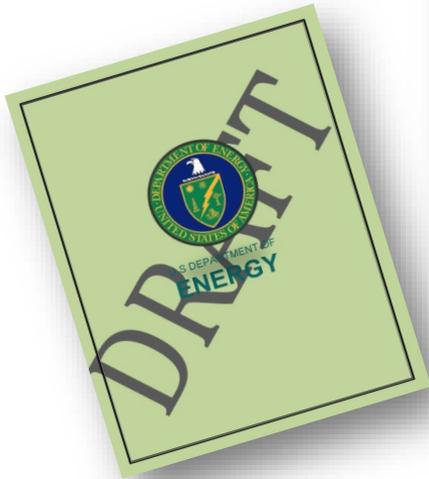
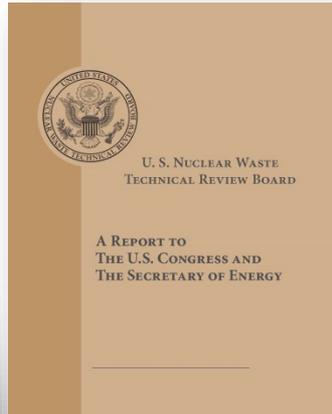
- At full strength, the Board is composed of eleven members
- Board members are nominated by the National Academy of Sciences and appointed by the President to four-year terms
- Terms are staggered, and Board members may continue to serve until they are reappointed or replaced



About the Board

The Board:

- Conducts independent and objective peer review of DOE activities
- Reports its findings, conclusions, and recommendations to the U.S. Congress and the Secretary of Energy
- By law, has access to draft DOE documents—according to the Legislative History of the NWPAA, so that Board recommendations can be made during decision-making, not after the fact
- Provides congressional testimony at the invitation of Congress



About the Board (cont.)



- Holds public meetings each year, normally in different locations in the United States—meetings are webcast
- Provides technical and scientific comments in letters or reports to DOE following public meetings
- Makes all official documents and information (meeting transcripts, archived webcasts, and presentations; reports, correspondence, and congressional testimony) available on its website: www.nwtrb.gov



Meeting Information

- Check out www.nwtrb.gov for meeting materials and Board reports, correspondence, and testimony
- Public comment period (at the end of each day)
 - Comments received by the end of each day's break period will be read online by Board staff member Bret Leslie
 - Time for each comment may be limited, but the entirety of the comment will be included in the meeting record
- The meeting is being recorded (the transcript and archived recording of the meeting will be available at www.nwtrb.gov)



Meeting Objective

- Review DOE research and development activities related to disposal in a geologic repository of commercial spent nuclear fuel in dual-purpose canisters.



Figure 1. Holtec HI-STAR 100 dry-storage systems each containing a dual-purpose canister (inset photo).
(Source: Holtec International)

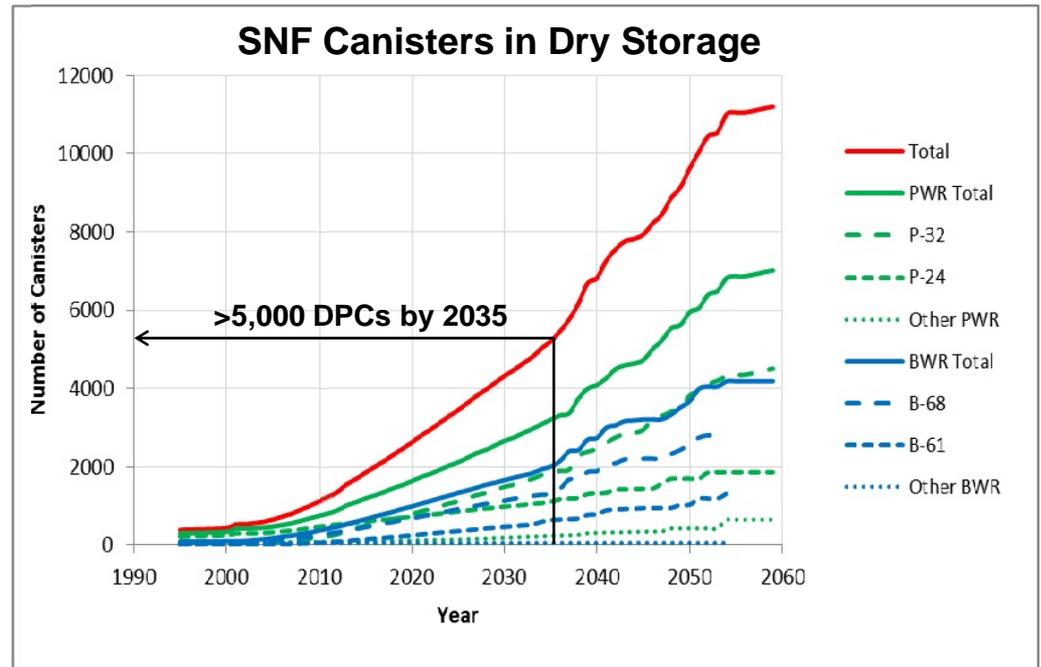


Figure 2. Number of dual-purpose canisters versus time.
(Modified from Hardin et al. (2013); FCRD-UFD-2013-000171, Rev. 1)



Meeting Agenda (July 27)

- 12:45 p.m. EDT** **Department of Energy (DOE) Opening Remarks**
William Boyle, DOE, Office of Nuclear Energy
- 1:15 p.m. EDT** **Review of, and Update on, Past Studies on Technical Feasibility of Dual-Purpose Canister Direct Disposal**
Timothy Gunter, DOE, Office of Nuclear Energy
- 2:00 p.m. EDT** **Break**
- 2:30 p.m. EDT** **Technical Basis for Engineering Feasibility and Thermal Management**
Ernest Hardin, Sandia National Laboratories
- 3:30 p.m. EDT** **Ongoing Research and Development: Dual-Purpose Canister Reactivity Analysis**
Kaushik Banerjee, Oak Ridge National Laboratory
- 4:30 p.m. EDT** **Public Comments**
- 5:00 p.m. EDT** **Adjourn**



Meeting Agenda (July 28)

12:30 p.m. EDT Ongoing Research and Development: Consequences of Nuclear Criticality in Dual-Purpose Canisters After Disposal

Laura Price, Sandia National Laboratories

1:30 p.m. EDT Ongoing Research and Development: Filler Approach and Testing

Kaushik Banerjee, Oak Ridge National Laboratory

2:15 p.m. EDT Break

2:45 p.m. EDT Ongoing Research and Development: Cement Filler Testing and Analysis

Mark Rigali, Sandia National Laboratories

3:30 p.m. EDT Cross-cutting Research and Development

Geoff Freeze, Sandia National Laboratories and

Rob Howard, Oak Ridge National Laboratory

4:00 p.m. EDT Public Comments

4:30 p.m. EDT Adjourn Public Meeting

