



U.S. Nuclear Waste Technical Review Board

**NWTRB**  
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# U.S. Nuclear Waste Technical Review Board

Presented at:

**Fall 2019 Board Meeting:**

**DOE Research and Development Related to Packaging,  
Drying, and Dry-storage of Spent Nuclear Fuel**

Presented by:

**Dr. Jean M. Bahr, Chair**

**November 19, 2019**

**Alexandria, VA**

# About the Board

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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



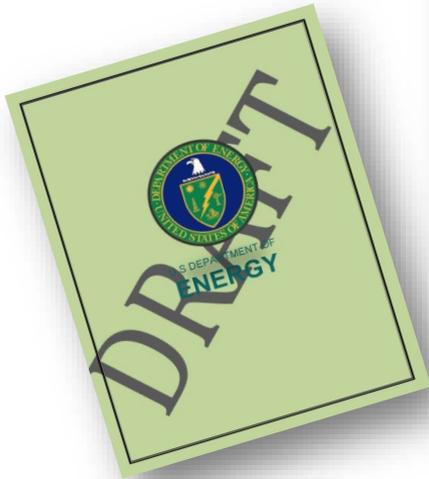
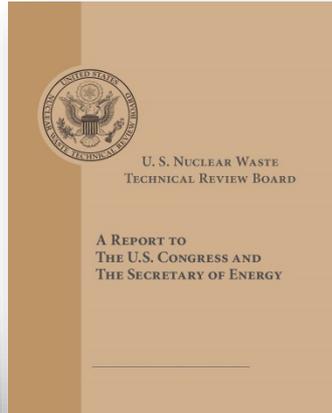
- At full strength, the Board is composed of eleven members
- Board members are nominated by the National Academy of Sciences and appointed by the President to four-year terms
- Terms are staggered, and Board members may continue to serve until they are reappointed or replaced



# 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 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](http://www.nwtrb.gov)



# Board Members

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- ❖ **Jean M. Bahr, Ph.D., Chair** – University of Wisconsin, Madison
- ❖ **Steven M. Becker, Ph.D.** – Old Dominion University
- ❖ **Susan L. Brantley, Ph.D.** – Pennsylvania State University
- ❖ **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
- ❖ (vacant)
- ❖ (vacant)



# Meeting Information

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- Check out [www.nwtrb.gov](http://www.nwtrb.gov) for meeting materials and Board reports, correspondence, and testimony
- Public comment periods (before noon and before adjournment)
- Written comments may be submitted by the public (will be part of meeting record)
- The meeting is being webcast live (the transcript and archived version of the webcast will be available at [www.nwtrb.gov](http://www.nwtrb.gov))



# Meeting Objectives

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- Review DOE research and development (R&D) activities related to drying and dry-storage of DOE-managed aluminum-clad spent nuclear fuel (SNF)
- Review DOE efforts to develop a DOE Standardized Canister for DOE-managed SNF
- Review DOE R&D activities related to packaging and drying commercial SNF as well as related computer modeling of temperatures inside SNF casks and canisters
- Examine potential lessons learned from the experience in the with drying and dry storage of SNF in the United Kingdom



# Meeting Agenda

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- DOE Office of Nuclear Energy (DOE-NE)
  - Introduction
  - Review of the High Burnup Dry Cask Research and Demonstration Project (HDRP)
  - Thermal modeling of SNF storage casks
- NWTRB Staff – Summary of DOE-managed SNF
- DOE-NE
  - Design work on the DOE Standardized Canister for DOE-managed SNF
- DOE Office of Environmental Management
  - R&D related to the drying and dry-storage of aluminum clad SNF
- Sellafield, Ltd., United Kingdom (UK)
  - R&D related to the drying of UK SNF, including aluminum-clad SNF
- Panel discussion

