



U.S. Nuclear Waste Technical Review Board

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# U.S. Nuclear Waste Technical Review Board

Presented to:

**Summer 2021 Board Meeting**

Presented By:

**Dr. Jean Bahr, Chair**

# Board Members

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- ❖ **Jean M. Bahr, Ph.D., Chair** – University of Wisconsin, Madison
- ❖ **Steven M. Becker, Ph.D.** – Old Dominion University
- ❖ **Allen G. Croff, Graduate Nuc. Engr. Degree, MBA** – Vanderbilt University
- ❖ **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., Deputy Chair** – North Carolina State University
- ❖ (other positions vacant)



# 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



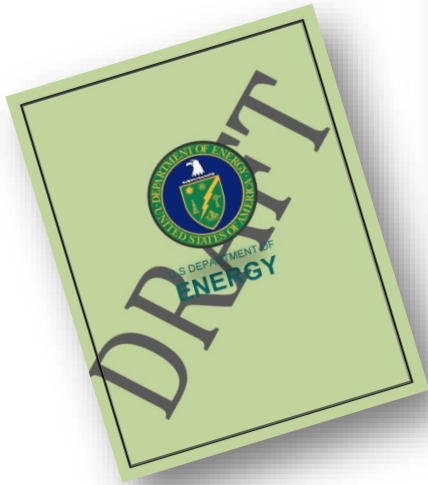
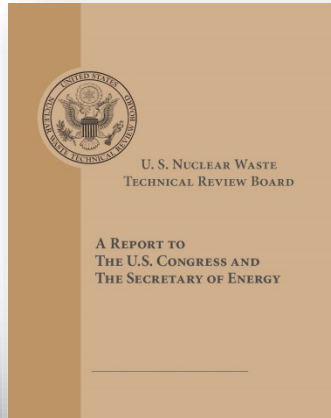
- At full strength, the Board is composed of eleven members
- Board members are nominated by the National Academy of Sciences and appointed by the President to four-year terms
- Terms are staggered, and Board members may continue to serve until they are reappointed or replaced



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



# Meeting Information

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- Go to [www.nwtrb.gov](http://www.nwtrb.gov) for meeting materials and Board reports, correspondence, and testimony
- Public comment period (at the end of the meeting)
  - Comments received will be read online by Board staff member Bret Leslie in the order they are received
  - 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](http://www.nwtrb.gov))



# Al-clad Spent Nuclear Fuel

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The Department of Energy (DOE) manages approximately 20 metric tons heavy metal of aluminum-clad spent nuclear fuel (SNF)

- The SNF is stored primarily in Idaho and South Carolina
- Processing of SNF at the H Canyon facility may end in the 2030s
- Some spent fuel pools are showing signs of age
- In 2017, DOE decided to examine alternatives to move the fuel from pool storage to long-term dry storage
- In response, Idaho National Laboratory is leading an integrated technology development program





# Meeting Agenda

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- 11:45 a.m. DOE Support of Research on Aluminum-clad Spent Nuclear Fuel (SNF) Packaging, Drying, and Dry Storage**  
Mark Senderling, John Shultz, DOE, Office of Environmental Management
- 12:10 p.m. Review of the Research Program on Extended Dry Storage of Aluminum-clad SNF**  
Josh Jarrell, Idaho National Laboratory
- 12:45 p.m. Drying of Aluminum-clad SNF Surrogates**  
Rebecca Smith, Idaho National Laboratory
- 1:30 p.m. Break**
- 1:50 p.m. Radiolytic Gas Generation due to Aluminum-clad SNF Corrosion Layers**  
Greg Horne, Idaho National Laboratory
- 2:35 p.m. Scale-Up Radiolysis Testing of Aluminum-clad SNF and Surrogates in a Mini-Canister Environment**  
Anna d'Entremont, Savannah River National Laboratory
- 3:20 p.m. Modeling and Simulation Results for Aluminum-clad SNF in DOE Standard Canisters**  
Alex Abboud, Idaho National Laboratory
- 4:05 p.m. Development of Wireless Sensors for Dry-Storage of Aluminum-clad SNF (Instrumented Lid Project)**  
Evans Kitcher, Idaho National Laboratory
- 4:50 p.m. Public Comments**
- 5:10 p.m. Adjourn**

