



U.S. Nuclear Waste Technical Review Board

NWTRB
www.nwtrb.gov

U.S. Nuclear Waste Technical Review Board

Presented to:

Summer 2022 Board Meeting

Presented By:

Dr. Jean M. Bahr, Chair

Board Members

- ❖ **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.** – North Carolina State University
- ❖ (Other positions 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



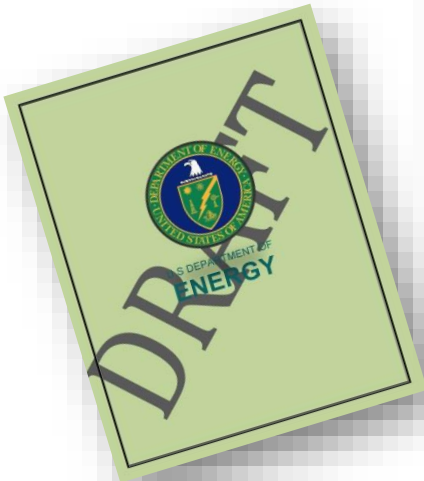
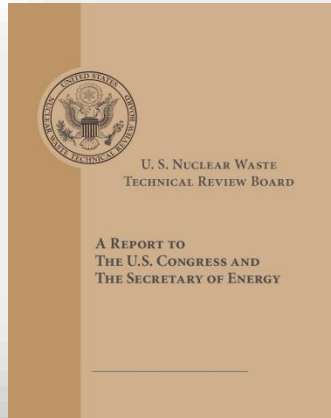
- At full strength, the Board is composed of eleven members
- Board members are nominated by the National Academy of Sciences and appointed by the President to four-year terms
- Terms are staggered, and Board members may continue to serve until they are reappointed or replaced



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



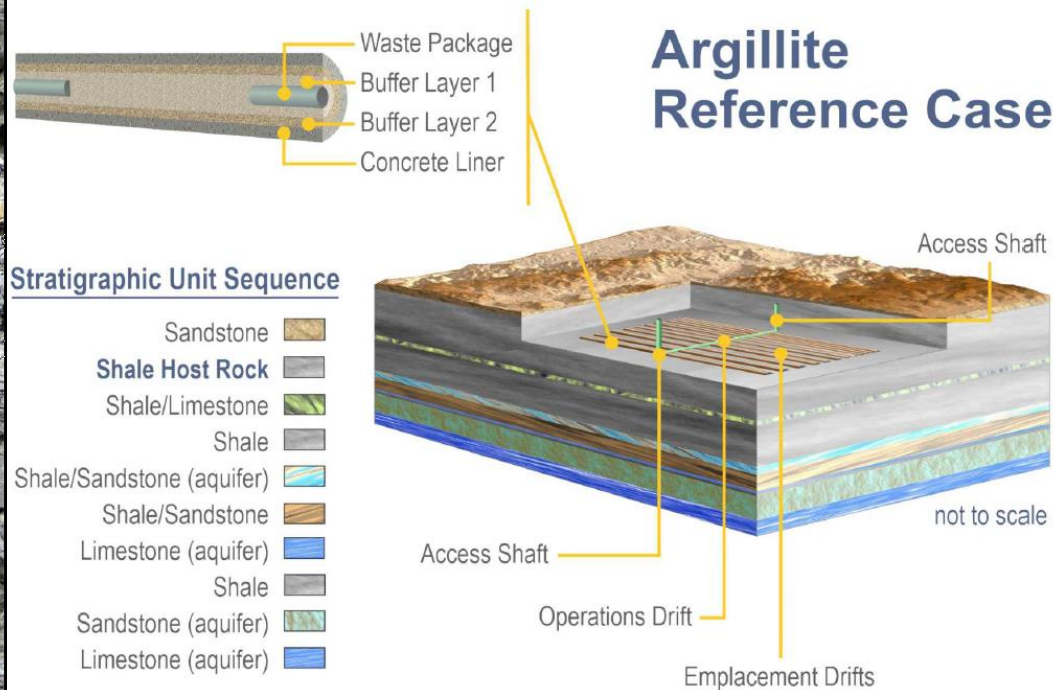
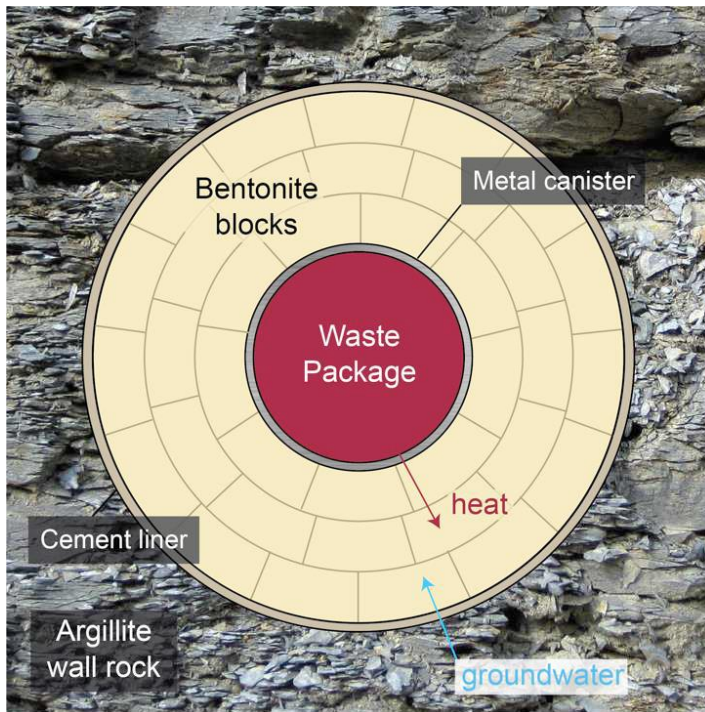
Meeting Information

- Meeting agenda and presentations are available at www.nwtrb.gov
- Public comment period (at the end of each day)
 - Oral commenters encouraged to sign the public comment register
 - Virtual comments
 - Use “Comment for the Record”
 - Received before the public comment period begins will be read online by Board staff member Bret Leslie
 - Time for each comment during the meeting may be limited, but the entirety of the comment will be included in the meeting record
- The meeting is being webcast live (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
 - geologic disposal of radioactive waste in clay-bearing host rocks
 - clay-based engineered barriers



Meeting Agenda (September 13)

- 12:15 p.m. EDT** **Opening Remarks**
William Boyle, DOE, Office of Nuclear Energy
- 12:30 p.m. EDT** **Overview of DOE R&D Efforts Related to a Clay-Based Repository and Clay-Based Engineered Barriers**
Chris Camphouse, Sandia National Laboratories
- 1:30 p.m. EDT** **Modeling of the Long-Term Integrity of the Argillite Host Rock Barrier**
Jonny Rutqvist, Lawrence Berkeley National Laboratory
- 2:30 p.m. EDT** **Break**
- 2:45 p.m. EDT** **Overview of Engineered Barrier System Function and Design in an Argillite Host Rock**
Ed Matteo, Sandia National Laboratories
- 3:45 p.m. EDT** **A Review of High Temperature Engineered Barrier Systems Experiments**
Part 1 - *Carlos Jové-Colón*, Sandia National Laboratories, and
Part 2 - *Florie Caporuscio*, Los Alamos National Laboratory
- 4:45 p.m. EDT** **Public Comments**
- 5:00 p.m. EDT** **Adjourn Day 1**



Meeting Agenda (September 14)

- 12:05 p.m. EDT** **Laboratory Experiments to Understand Coupled Processes in Clay-based Barriers Under High Temperature**
María Victoria Villar, CIEMAT, Spain
- 1:05 p.m. EDT** **Argillaceous Formations as Barriers to Flow – Knowns and Unknowns**
Chris Neuzil, Independent Consultant
- 2:05 p.m. EDT** **Break**
- 2:25 p.m. EDT** **Coupled Thermal-Hydrological-Mechanical-Chemical Processes under High Temperature in Bentonite Buffer: Laboratory Experiments, Field Tests, and Modeling**
LianGe Zheng, Lawrence Berkeley National Laboratory
- 3:25 p.m. EDT** **Integration of Models Related to Clay-Bearing Host Rocks and Engineered Barriers into the Geologic Disposal Safety Assessment (GDSA) Framework**
Tara LaForce, Sandia National Laboratories
- 4:25 p.m. EDT** **Public Comments**
- 4:45 p.m. EDT** **Adjourn Public Meeting**

