

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



- 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.)

•



 John Kowi
Arching Assembly Recompy In: Soulina: Foregy U.S. Dyapartenent of Energy 1000 (pd.quendeme: Are., VM Washington, SC 2018)

The factors of two trackmark forces final discretised in the DFA More thange of Kauro du Barra and Sanara and

The flowed recognises for issues of the flow and combination respirate the respirate for a public scientific of the type and flowed provide and flaw flowed in a graphic flow flow flowed intermediate the flow work property for the reserving and providing inflowed integrations. The second graphical, percentitions disflow, intermediate, and it and the second second and a second second and the second second second and the second second second and the second secon

Is comparison with the public reacting, several Tancia transform and multi-momentum strand and provide the public reacting of the public reaction of the public

Bingging. They among or decommunities speer singlish and the ONO's bugges in the Well's where addition and the singlish sectorizes of the adminish from the depend bulk image growth at matter these to allow space for additional SNM is the minish from standard sectorizes. Extension analysis, bulk allow space is a sectorized with the singlish from the speer bulk in the sectorized sectorizes and structure speed on the sectorized with the singlish speed on the sectorized sectorizes of the 1-1 Num bulk is additional to bulk and a short and provide sectorized by the singlish speed on the sectorized by the sectorized bulk is additional to bulk and a short and the single speed to bulk at the single sectorized by the Single SNM.

- 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





NWTRB www.nwtrb.gov

Meeting Information

- Meeting agenda and presentations are available at <u>www.nwtrb.gov</u>
- 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 <u>www.nwtrb.gov</u>)





Meeting Objective

- Review DOE research and development activities related to
 - geologic disposal of radioactive waste in clay-bearing host rocks
 - clay-based engineered barriers





www.nwtrb.gov

Meeting Agenda (September 13)

12:15 p.m. EDT	Opening Remarks <i>William Boyle</i> , 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 <i>Chris Camphouse</i> , 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 5:00 p.m. EDT	Public Comments 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



