

U.S. Nuclear Waste Technical Review Board to Hold “Workshop on Recent Advances in Repository Science and Operations from International Underground Research Laboratory Collaborations”

Several countries, including Belgium, Canada, Finland, France, Germany, Japan, Korea, Sweden, Switzerland, and the United States, have operated underground research laboratories (URLs) to support the development of deep geologic repositories for high-level radioactive waste (HLW) and spent nuclear fuel (SNF). URLs enable research and technology development activities to be conducted under conditions prototypical of repository environments. In accordance with its mandate to review the technical and scientific validity of U.S. Department of Energy activities related to implementing the Nuclear Waste Policy Act and to advise Congress and the Secretary of Energy on nuclear waste management and disposal issues, the U.S. Nuclear Waste Technical Review Board will hold a workshop on recent advances in repository science, technology, and operation from international URL collaborations. The workshop objective will be to elicit the views of experts regarding unique learning opportunities and recent advances in the scientific understanding of the long-term performance, as well as in the technology and operation, of geologic repositories for HLW and SNF based on studies that have been performed in URLs.

The workshop will have invited presentations, panel discussions, and a poster session related to URL studies and lessons learned from these studies on repository issues, including:

- Performance of natural barriers
- Performance of engineered barriers (waste form, waste package, buffer, backfill, seals, plugs)
- Coupled thermal-mechanical-hydrologic-chemical processes
- Microbially influenced processes (e.g., radionuclide dissolution and transport, waste form and waste package degradation)
- Waste package emplacement and retrieval
- Repository construction and operation
- Performance monitoring sensors and technologies
- Model development and uncertainty quantification

The 2-day workshop will be held in the San Francisco Bay Area, California, on April 24-25, 2019. The workshop is open to the public. To request information on the workshop, please send an email to URLWorkshop@nwtrb.gov.