



U.S. Nuclear Waste Technical Review Board

The U.S. Nuclear Waste Technical Review Board was established in the 1987 amendments to the Nuclear Waste Policy Act (NWPA). The Board evaluates the technical validity of Department of Energy (DOE) activities related to implementing the NWPA and provides objective expert advice on nuclear waste management to Congress and the Secretary of Energy. The Board is required by law to report its findings and recommendations at least two times each year to Congress and the Secretary of Energy.

A combination of attributes make the Board unique: (1) the Board is an independent federal agency; (2) the Board advises both Congress and the Secretary of Energy; and (3) the Board performs an ongoing and integrated technical peer review of DOE activities related to transporting, packaging, storing, and disposing of spent nuclear fuel (SNF) and high-level radioactive waste (HLW).

The Board's Continuing Role

For more than 20 years, DOE has focused on developing a permanent geologic repository at Yucca Mountain in Nevada for disposing of SNF and HLW. During that time, the Board has performed ongoing peer review of those DOE activities and conveyed its findings and recommendations to Congress and the Secretary of Energy in reports, testimony, and correspondence.

In January 2010, Energy Secretary Steven Chu appointed a Blue Ribbon Commission to consider alternatives for the back end of the nuclear fuel cycle. DOE continues to have responsibility under the NWPA for the management and disposition of SNF and HLW even as new options for managing the waste are evaluated. Similarly, the Board's statutory responsibility for conducting ongoing technical peer review of those DOE activities remains unchanged.

Board Priorities

In accordance with its technical mandate, the Board's priorities reflect the transition of DOE responsibilities under the NWPA to DOE's Office of Nuclear Energy and Office of Environmental Management. Some Board priorities for fiscal year 2011 are:

- **“Technical Advancements and Issues” from Disposal Efforts to Date.** Based on its 20-year review of the U.S. repository program and its knowledge of disposal programs in other countries, the Board has completed a report containing technical insights that will be useful to future U.S. management and disposal programs.
- **“Experience Gained” from International and U.S. Nuclear Waste Management Programs.** The Board has completed the report that discusses the waste-management experiences of 13 countries and draws inferences.
- **Very-Long-Term Dry Storage.** The Board issued a white paper on technical issues related to extended dry storage of spent nuclear fuel in December 2010.
- **Systems Analysis.** The Board has developed a systems analysis tool (“NUWASTE”) to support its evaluation of DOE activities. A Board report has been prepared containing initial results from NUWASTE analyses.
- **Management of DOE-Owned SNF and HLW.** The Board is preparing a report on this subject based on its survey of several federal facilities.

More information on the Board, and all Board reports, correspondence, and testimony are available on the Board's website at www.nwtrb.gov.

Members of the Board

The Board is composed of 11 members who serve on a part-time basis. Board members are appointed by the President from a list of candidates submitted by the National Academy of Sciences. By law, nominees to the Board are selected solely on the basis of distinguished professional service and are eminent in a field of science or engineering, including environmental sciences. The names and affiliations of the current Board members are listed below.

B. John Garrick, Ph.D., P.E., is Chairman of the Board. A founder of PLG, Inc., he retired from the firm in 1997 and is a private consultant.

William Howard Arnold, Ph.D., P.E., is a private consultant with long experience as a top executive in the nuclear industry. He retired from a 40-year career, first with Westinghouse and then with Louisiana Energy Services, in 1996.

Sue B. Clark, Ph.D., is professor and Chair of the Chemistry Department at Washington State University (WSU).

Rodney C. Ewing, Ph.D., is the Edward H. Kraus Distinguished University Professor at the University of Michigan. He has faculty appointments in the departments of Earth and Environmental Sciences, Nuclear Engineering & Radiological Sciences and Materials Science & Engineering. He is an Emeritus Regents' Professor at the University of New Mexico, where he was a member of the faculty from 1974 to 1997.

George M. Hornberger, Ph.D., is a Distinguished University Professor at Vanderbilt University, where he is director of the Vanderbilt Institute for Energy and Environment. He also is the Craig E. Philip Professor of Engineering and a Professor of Earth and Environmental Sciences there.

Andrew C. Kadak, Ph.D., is a Principal in Exponent, a consulting engineering firm. Before joining Exponent in 2010, he was a Professor of the Practice in the Nuclear Science and Engineering Department at the Massachusetts Institute of Technology.

Ronald M. Latanision, Ph.D., is emeritus professor of materials science and engineering and of nuclear engineering at the Massachusetts Institute of Technology and a Corporate Vice President of the engineering consulting firm, Exponent.

Ali Mosleh, Ph.D., is Nicole J. Kim Professor of Engineering, director of the Reliability Engineering Program, and director of the Center for Risk and Reliability at the University of Maryland.

William M. Murphy, Ph.D., is professor of Geological and Environmental Sciences at California State University, Chico. He also is a technical administrative judge on the Atomic Safety and Licensing Board Panel of the U.S. Nuclear Regulatory Commission.

Linda K. Nozick, Ph.D., is professor in the School of Civil and Environmental Engineering and director of the College Program in Systems Engineering at Cornell University.

Henry Petroski, Ph.D., P.E., is Aleksandar S. Vesic Professor of Civil Engineering and a professor of history at Duke University.