Technical Issues That Need to Be Addressed in Preparing for a Nationwide Effort to Transport Spent Nuclear Fuel and High-Level Radioactive Waste Is Subject of U.S. NWTRB Report

On September 23, 2019, the U.S. Nuclear Waste Technical Review Board released a report to the U.S. Congress and the Secretary of Energy, titled Preparing For Nuclear Waste Transportation – Technical Issues That Need to Be Addressed in Preparing for a Nationwide Effort to Transport Spent Nuclear Fuel and High-Level Radioactive Waste. The report is a product of a multi-year effort, during which the Board reviewed the Department of Energy’s (DOE) activities related to the eventual transportation of spent nuclear fuel (SNF) and high-level radioactive waste (HLW). The report may be downloaded from the Board’s website at www.nwtrb.gov.

Although DOE is not yet actively planning to begin SNF and HLW transportation, it is conducting several evaluation, research, and development activities that will support a future nationwide transportation campaign. The report identifies technical issues that DOE will need to address in preparing to transport SNF and HLW to a waste repository or interim storage site. SNF and HLW inventories in the U.S. include a diverse collection of waste forms, waste storage containers, storage conditions, storage locations, waste transportation containers, and licensing requirements. The large size, broad scope, and geographic distribution of the SNF and HLW program make resolving the technical and integration issues associated with a nationwide transportation effort a significant challenge. While all technical issues must be resolved before the nation’s entire inventory of waste can eventually be transported, not all technical issues must be resolved before the first of the waste can be transported. The Board observes that unresolved technical issues could significantly delay or impede the implementation of a national transportation program for radioactive waste.

The report presents three findings and three recommendation in areas related to (i) technical and integration issues, (ii) readiness to move commercial SNF from shutdown nuclear power plant sites and DOE-managed SNF and HLW from DOE sites where they are located, and (iii) advance planning for development of casks and canisters for SNF and HLW.
The Board was established in the Nuclear Waste Policy Amendments Act of 1987 to perform ongoing evaluation of the technical and scientific validity of DOE activities related to the management and disposal of SNF and HLW. The Board is required to report its findings, conclusions, and recommendations to Congress and the Secretary of Energy. Board members are appointed by the President from a list of nominees submitted by the National Academy of Sciences. The Board is an independent federal agency in the Executive Branch.