



UNITED STATES  
NUCLEAR WASTE TECHNICAL REVIEW BOARD  
2300 Clarendon Boulevard, Suite 1300  
Arlington, VA 22201

October 16, 2010

The Honorable Warren F. Miller, Jr.  
Assistant Secretary for Nuclear Energy  
U.S. Department of Energy  
1000 Independence Ave., SW  
Washington, DC 20585

Dear Dr. Miller:

The U.S. Nuclear Waste Technical Review Board held a public meeting in Idaho Falls, Idaho, on June 29, 2010. The principal topics were (1) management and ultimate disposition of the spent nuclear fuels (SNF) and high-level radioactive wastes (HLW) that are the responsibility of the U.S. Department of Energy's Idaho Operations Office (DOE-ID) and the Naval Nuclear Propulsion Program and (2) future technologies and activities that could affect the amounts and forms of SNF and HLW that will require management and disposal or could affect the radioactive hazard levels of the SNF and HLW over time.

Several of the 11 people who made presentations at the meeting were employees of DOE's Office of Nuclear Energy (DOE-NE). We greatly appreciate their participation and the quality of their presentations.

The Board was established as an independent federal agency in the 1987 amendments to the Nuclear Waste Policy Act. The Board's statutory role is to review the technical validity of activities undertaken by the Secretary of Energy related to implementation of the Nuclear Waste Policy Act. The Board reports its findings and recommendations to Congress and the Secretary of Energy at least twice a year. According to the legislative history, the Board is expected to make its recommendations before decisions are made, not after the fact. Thus, the Board established a practice many years ago of sending a follow-up letter after each of its public meetings to the appropriate DOE program managers. This letter continues that practice.

### **Extended Storage and Subsequent Transportation of SNF**

When a repository or storage location for SNF will be available is not known at this point, and that uncertainty may continue well into the future. The Board believes that studies should be undertaken to identify and plan for actions that are needed for preventing problems from occurring during the transportation, repackaging, or disposal of SNF following *extended* periods of dry storage. Studies of the safety, cost, and technical issues associated with various alternatives for managing, packaging, and transporting the SNF also would be invaluable to the Blue Ribbon Commission for America's Nuclear Future, to the Office of Environmental Management for its long-term planning, and to the Board in setting priorities for its technical peer review.

## **DOE-NE's Used Nuclear Fuel Disposition Program**

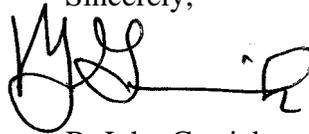
The Board realizes that the Used Nuclear Fuel Disposition Program is still in its formative phase and may be affected by congressional direction and funding for fiscal year 2011. A program that identifies alternatives and conducts scientific research and technology development to enable and optimize storage, transportation, and disposal of SNF and HLW generated by existing and future nuclear-fuel cycles would be helpful to decision-makers and technology-implementers. Each element of the program should have clear objectives and be integrated with other DOE-NE programs, particularly those of the Office of Fuel Cycle Research and Development.

Some aspects of DOE-NE's Used Nuclear Fuel Disposition Program proposed for fiscal year 2011 appear similar to the Science & Technology (S&T) Program that DOE's Office of Civilian Radioactive Waste Management (DOE-RW) established in 2003. The S&T Program was explicitly distinct from the mainline DOE-RW activity of developing an application for a license to construct a repository at Yucca Mountain. The goals of the S&T Program were to (1) improve existing technologies and develop new technologies for achieving efficiencies and savings in the waste management system and (2) increase fundamental understanding of repository performance. Although intended to be permanent, the program was suspended in 2008, just when it had assembled several teams of highly qualified engineers and scientists who were producing significant results. The Board strongly endorsed the S&T program. In the Board's view, the need for a similar effort, such as the one being defined by the Used Nuclear Fuel Disposition Program, is even greater now because the scope of scientific and technical options has grown substantially. However, the experience of the S&T program demonstrates that a fully successful program requires continuity.

According to the proposed fiscal year 2011 budget for the Used Nuclear Fuel Disposition Program presented at the meeting, \$12 million is allocated to "science programs transferred from RW to NE." Because the level of science activity in the fiscal year 2010 DOE-RW program appears much smaller, the Board would appreciate receiving more information about the science programs that will be transferred from DOE-RW to DOE-NE.

Thank you for helping make the Board's meeting in Idaho Falls a success.

Sincerely,

A handwritten signature in black ink, appearing to read "B. John Garrick". The signature is stylized and somewhat cursive, with a long horizontal line extending to the right.

B. John Garrick  
Chairman