



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20565-0001

June 13, 1996

Ms. Jacqueline Ellwood
3934 Morrisville Road
Jarrettsville, MD 21084

SUBJECT: DISPOSAL OF NUCLEAR WASTE

Dear Ms. Ellwood:

I am responding to your letter to the U.S. Environmental Protection Agency (EPA) of March 13, 1996, about the disposal of radioactive waste. The radioactive waste you refer to is called high-level radioactive waste (HLW), which is primarily in the form of spent fuel from commercial nuclear power plants. This HLW is currently stored at or near the power plants where it is produced. Storage is either in the power plants' spent fuel pools that are designed and built as part of the plants or in "independent spent fuel storage installations" that are designed and built as the need arises. These facilities are licensed by the U.S. Nuclear Regulatory Commission, and Federal regulations cover their design, fabrication, and use.

As your letter indicated, an international agreement precludes consideration of HLW disposal at sea. The United States did sign this agreement.

Our country's policies governing the permanent disposal of HLW are defined by the Nuclear Waste Policy Act of 1982 (NWPA) and the Nuclear Waste Policy Amendments Act (NWPAA) of 1987. Under these acts, the U.S. Department of Energy (DOE) is responsible for HLW disposal, EPA is responsible for developing appropriate environmental standards for HLW disposal, and NRC has the licensing authority for HLW disposal. DOE has the ultimate responsibility for safety of the disposal. NRC establishes the minimum requirements that DOE must meet to demonstrate with reasonable assurance that the public health and safety is adequately protected.

To provide the long-term permanent isolation required for safe HLW disposal, the NWPA specifies that HLW be placed in one or more deep-underground geologic repositories to be built and operated by DOE. To this end, DOE is developing a waste management system consisting, in part, of a geologic repository in which HLW can be permanently isolated deep beneath the surface of the earth.

In the NWPAA, Congress designated the Yucca Mountain site in Nevada as the single candidate site for characterization as a potential geologic repository.

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The Yucca Mountain site has not been selected for a repository; rather, it has been designated by Congress as the only site to be thoroughly examined at this time. This examination is referred to as "site characterization," and it involves exploration and research, both in the laboratory and in the field, undertaken to establish the geologic conditions and the ranges of those conditions at a particular site. Site characterization includes bore-hole drilling, surface excavations, excavation of exploratory shafts or ramps, subsurface lateral excavations and boring, and in-situ testing at depth to determine the suitability of a site for a geologic repository.

EPA regulations are being developed for HLW disposal in a geologic repository. These regulations will establish generally applicable environmental standards for the management and disposal of HLW at a potential Yucca Mountain site. NRC is responsible for ensuring the implementation of these standards in licensing requirements for HLW disposal.

Current NRC regulations for HLW disposal in a geologic repository govern site characterization and other pre-licensing activities, authorization for DOE to begin construction of the facility, authorization for DOE to receive and place HLW in the facility, and authorization for DOE to close the facility (license termination). Current NRC regulations for HLW disposal will be appropriately changed to meet the EPA regulations after they have been issued.

The HLW repository program is currently focused on site characterization activities. In this phase, one of NRC's primary responsibilities is to review DOE's site characterization plan and associated activities and to identify to DOE any specific concerns related to licensing the facility. In addition, the NRC staff observes various site characterization activities in the field (such as drilling and tunneling) and also observes DOE quality assurance audits.

DOE completed its site characterization plan for the Yucca Mountain site in December 1988. NRC completed its review of that document in July 1989 and concluded that, overall, it was a usable plan for site characterization. Implementation of the plan depends on the money authorized by Congress to be spent on the national HLW program. Although fees are charged to utilities to fund the national HLW program, Congress annually specifies the amount of these fees that can be spent by DOE, EPA, and NRC.


In 1991, the State of Nevada granted DOE the permits necessary for DOE to proceed with site characterization activities at Yucca Mountain. These activities include the excavation of test pits and trenches, bore-hole drilling, and hydrologic monitoring to address technical issues related to volcanism, radionuclide transport, seismicity, and faulting. Site characterization is continuing consistent with DOE's Waste Isolation Strategy and revised program plan.

J. Ellwood

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The information given above briefly describes where our country is today in regard to HLW disposal. It addresses the concerns expressed in your letter of March 13, 1996. I trust that this reply has responded to your concerns. If you have further comments or questions regarding HLW disposal, please call John Austin of my staff on (301) 415-7252.

Sincerely,


Carl J. Paperiello, Director
Office of Nuclear Material Safety
and Safeguards

cc: Ms. S. L. Hudnall, Director
U.S. Environmental Protection Agency
Washington, DC 20460

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[Original Signed By]

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