



Licensing of Yucca Mountain as a Geological Repository for Radioactive Wastes

Position Statement
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The American Nuclear Society (ANS) supports (1) the development and use of geological repositories for disposal of high-level radioactive wastes and (2) expeditious processing of the Yucca Mountain license application in an open, technically sound manner. Geological disposal means placing the wastes hundreds of feet underground and far from the biosphere. The U.S. Nuclear Regulatory Commission (NRC) is following a legislatively well-defined regulatory process to evaluate the safety of the proposed Yucca Mountain Site to meet both the scientific requirements and the institutional requirements.

Generation of electricity using nuclear energy produces wastes that require long-term isolation from the biosphere. Radioactive wastes decay over time to nonradioactive wastes; thus, safe disposal is based on isolation of high-level radioactive wastes until most of the radioactivity has decayed away. The U.S. National Academy of Sciences and the equivalent scientific advisory panels in every major country support geological disposal of such wastes as the preferred safe method for their ultimate disposal.¹

The United States has one operating geological repository: the Waste Isolation Pilot Plant in New Mexico. This repository houses long-lived transuranic wastes from the production of nuclear weapons and research, development, and demonstration activities; the most abundant transuranic element in these wastes is plutonium. The proposed Yucca Mountain repository is primarily for high-level radioactive wastes from nuclear power plants; about ten percent of the repository is for defense-related high-level wastes.

As part of the Nuclear Waste Policy Act, as amended in 1987, the U.S. Congress voted to allow the Yucca Mountain project to proceed to submit a license application to become the nation's proposed geological repository—subject to demonstration that the site is suitable and safe. Federal law gave responsibility to the U.S. Environmental Protection Agency (EPA) to develop the standards that defined safe disposal of long-lived radioactive wastes in a geological repository. Regulatory standards have been developed, reviewed by the courts, are in effect, and are to be used by the NRC in determining whether the repository can be operated in a safe manner. The U.S. Department of Energy (DOE) has investigated the suitability of the site as a repository, developed a design for the proposed repository, and recently submitted an application to the NRC to open Yucca Mountain as a geological repository. The license application for the

¹ “Progress Towards Geologic Disposal of Radioactive Waste: Where do We Stand?” Nuclear Energy Agency, Organisation for Economic Co-operation and Development; available on the Internet at <http://www.nea.fr.html/rwm/reports/1999/progress.pdf>.



proposed Yucca Mountain repository has been docketed by the NRC. The NRC now has several years to review the application and to determine whether the DOE has made an adequate case for the safety of Yucca Mountain as a repository. The ANS is confident that the NRC will make this determination fairly and only after thoroughly reviewing the scientific information in the application.

Federal law requires further study of the long-term performance of Yucca Mountain, as the EPA is doing for the Waste Isolation Pilot Plant, to confirm the long-term behavior of the repository.

The ANS supports the completion of the ongoing licensing process. The ANS believes it is vital that the repository program be adequately funded. In order to ensure adequate funding, the program should be allowed to use the Nuclear Waste Fund, whose source is nuclear utility rate payers.

The American Nuclear Society, founded in 1954, is a not-for-profit scientific and educational society of over 10,000 scientists, engineers, and educators from universities, government and private laboratories, and industry.

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