

PREPARED TESTIMONY
SUBMITTED BY
UNITED STATES NUCLEAR REGULATORY COMMISSION

TO
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY
UNITED STATES HOUSE OF REPRESENTATIVES

CONCERNING
CIVILIAN HIGH-LEVEL RADIOACTIVE WASTE MANAGEMENT PROGRAM

PRESENTED BY
ROBERT M. BERNERO
DIRECTOR, OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

SUBMITTED: FEBRUARY 6, 1992

9202200026

Good morning Madame Chair and Members of the Subcommittee, I am Robert M. Bernero, Director of the Nuclear Regulatory Commission's (NRC's) Office of Nuclear Material Safety and Safeguards. I would like to thank you for the opportunity to present a brief status report on NRC's repository licensing program with an emphasis on our reviews of the Department of Energy (DOE) site characterization program at the Yucca Mountain site. In addition, I will address the NRC staff's review of the Environmental Protection Agency (EPA) high-level waste standards.

The NRC's high-level waste repository program is proceeding consistent with the responsibilities and process established by the Nuclear Waste Policy Act, as amended. During this pre-licensing phase, NRC is focusing its efforts on: refining the regulatory framework so that it is clear and complete, developing technical capabilities to review DOE's site characterization program and license application, identifying and resolving potential licensing issues, and issuing guidance to DOE to help ensure that DOE submits a complete and acceptable license application.

One important method that NRC uses to give DOE guidance is pre-licensing review and consultation. This process involves technical review and comment on DOE's plans and reports as well as on-site reviews of selected site characterization activities and data. Quality assurance reviews, audits and surveillances are also conducted. NRC's two on-site representatives are particularly useful in supporting the headquarters staff for both technical reviews and quality assurance audits of DOE field activities at the Yucca Mountain site. NRC also

conducts numerous interactions with DOE to discuss resolution of the major concerns identified in our reviews. I would like to emphasize that NRC's pre-licensing reviews and interactions are documented and available to the public. Furthermore, our interactions with DOE are open to the public and offer the opportunity for participation by the State of Nevada and local units of government so that we can consider the views of other parties.

To date, NRC's most significant pre-licensing review has been of DOE's Site Characterization Plan (SCP) for Yucca Mountain, which DOE issued in December 1988. NRC documented its review in a Site Characterization Analysis. This analysis identified two objections to DOE beginning site characterization work and a number of major comments. DOE is working to address and resolve these objections before proceeding with work related to the objections. Therefore, we have been giving particular attention to reviewing DOE's progress toward resolving them and will document the outcome.

The first objection was that DOE had not demonstrated the adequacy of the design control process under which the Exploratory Studies Facility (ESF) design presented in the SCP was developed or the adequacy of the design itself. In response to this objection and concerns expressed by others, DOE has revised its ESF Title I design under a newly developed design control process. DOE is now considering NRC's concerns with the SCP ESF design and design control process; however, closure of these concerns awaits DOE submittal and NRC review of appropriate documentation.

The second objection was that an adequate quality assurance (QA) program was not in place for site characterization activities. Considerable progress has been made by DOE toward resolution of this concern. We have been conducting reviews of the detailed QA programs developed by DOE and its contractors. Each of these reviews is divided into an evaluation of the QA program plans and an evaluation of effectiveness in program implementation. To evaluate effectiveness, NRC observes the DOE audits and surveillances conducted at all major organizations participating in the site characterization program. During the past year NRC has concurred with DOE's findings that the QA programs of organizations involved with limited new site characterization activities in Midway Valley were acceptable. At the present time essentially all QA concerns have been resolved, and we expect to remove this objection soon.

In addition to DOE's response to the two NRC objections, DOE also responded in December 1990, to the other concerns we had with DOE's SCP. We reviewed these responses and provided DOE with our evaluations in July 1991. DOE responses closed out 59 of the 198 NRC concerns and represented significant progress toward closure of others. We continue to interact with DOE on timely resolution of the remaining concerns.

NRC also has been reviewing DOE study plans which are the detailed plans necessary to implement the investigations described in the SCP. To date we have reviewed 28 study plans, including many related to new surface-based testing. During these reviews, we have not identified any objections to DOE starting these studies. Moving ahead with these and eventually other site characterization studies is necessary to resolve the technical questions about the acceptability of the Yucca Mountain site.

I would now like to address the status of NRC's review of EPA's high-level waste standards. In preparation for reissuance of the standards, EPA has circulated "working drafts" of the standards to solicit the views of other Federal agencies and interested parties. We provided EPA with our review comments on Working Draft 2 in August 1990, and on Working Draft 3 in October 1991. The Working Draft 3 comments reiterated NRC's earlier concern about the underlying technical basis for EPA's standards and recommended risk comparisons to support the basis for the standards. The comments also repeated NRC's earlier recommendation for adoption of alternative wording for EPA's probabilistic containment requirements. Finally, the comments continued to express jurisdictional objections to assurance requirements and other implementation criteria and guidance, which NRC believes are inappropriate for inclusion in a "generally applicable environmental standard."

The EPA staff suggested that a series of meetings with the NRC staff be conducted to attempt to resolve the issues raised in the NRC comments as well as other comments. There have been two of these meetings to date, and another will be held later this month. It appears that EPA is trying to accommodate several of the specific technical concerns raised in NRC comments. However, some of the more important NRC comments involved the underlying technical basis used by EPA to support the standards. Since EPA's updated technical support is not yet available for review, it is not yet clear how or if some of our concerns will be resolved.

In addition to our review and comment on the EPA standards, we have also participated in a September 1991 workshop on issues related to the EPA standards sponsored by the Electric Power Research Institute (EPRI). The states of Nevada and New Mexico as well as EPA, DOE, and other interested parties were invited and participated in this workshop. The NRC staff is participating this week in a second EPRI-sponsored workshop in Arlington, Virginia.

Finally, fundamental to any safety evaluation of any site is the need to understand the natural system and its potential effects on repository performance regardless of the specific form or numerical values of the EPA standards against which the site ultimately will be judged. The purpose of site characterization is to gather the scientific information necessary for this understanding. Therefore, beginning site characterization should be viewed as largely independent of potential changes to the EPA standards.

This concludes my statement. Madame Chair, I am prepared to answer any questions that you or the Subcommittee members might have.

The following should be added to the C5 distribution code mailing list.

Karen RaJala
P.O. Box 135
Ely, Nevada 89301

Herman Staat
Post Office Box 1450
Hawthorne, NV 89415

Jason Pitts
Lincoln County Courthouse
Pioche, NV 89043

Ray Williams, Jr.
Post Office Box 10
Austin, NV 89310

Leonard J. Fiorenzi
Post Office Box 257
Eureka, NV 89316

Brad Mettam
Post Office Box 536
Goldfield, NV 89013

Jerry Duke
225 East Bridger Avenue
Las Vegas, NV 89155

Bjorn Selinder
190 West First Street
Fallon, NV 89406

Roger Dehart
Planning Director
Post Office Drawer L
Independence, CA 93526

*John Gervers, President
LATIR Energy Consultants
P.O. Box 126-B, Route 7
Old Santa Fe Trail
Santa Fe, NM 87505*