

MAY 19 1992

Dr. John W. Bartlett, Director
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Dr. Bartlett:

SUBJECT: TRANSMITTAL OF THE QUARTERLY PROGRESS REPORT ON THE PRE-LICENSING
PHASE OF THE CIVILIAN HIGH-LEVEL RADIOACTIVE WASTE MANAGEMENT
PROGRAM

Enclosed for your information is a copy of SECY-92-167, the "Quarterly
Progress Report on the Pre-Licensing Phase of the U.S. Department of Energy's
(DOE's) Civilian High-Level Radioactive Waste Management Program." The U.S.
Nuclear Regulatory Commission staff prepares Quarterly Progress Reports
in order to provide the Commission with an assessment of progress being made
on key aspects of the NRC and the DOE pre-licensing consultation program.
This report covers the period from January 1992 through March 1992.

If you have any questions, please feel free to contact me at (301) 504-3352,
or Mr. Joe Holonich, of my staff, at (301) 504-3387.

Sincerely,
Original signed by
Guy A. Arlotto

Robert M. Bernero, Director
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

cc: See page 2

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POLICY ISSUE **(Information)**

May 7, 1992

SECY-92-167

For: The Commissioners

From: James M. Taylor
Executive Director
for Operations

Subject: QUARTERLY PROGRESS REPORT ON THE PRE-LICENSING PHASE OF THE U.S. DEPARTMENT OF ENERGY'S CIVILIAN HIGH-LEVEL RADIOACTIVE WASTE MANAGEMENT PROGRAM

Purpose: To provide the Commission with a Quarterly Progress Report (January through March 1992) on the pre-licensing phase of the U.S. Department of Energy's (DOE's) civilian high-level radioactive waste (HLW) management program.

Background: In the Quarterly Progress Report on the pre-licensing phase of DOE's program, the Nuclear Regulatory Commission staff discusses the key aspects of the NRC/DOE pre-licensing consultation program that deserve Commission attention. The previous Quarterly Progress Report, SECY-92-034, discussed activities that occurred from October through December 1991.

Executive Summary: The most significant activities during this period were related to the following areas: (1) DOE Implementation of Scheduled and Systematic Consultations; and (2) Early Implementation of a Quality Assurance (QA) Program.

Contact:
Robert Carlson, NMSS
504-2435

NOTE: TO BE MADE PUBLICLY AVAILABLE
IN 10 WORKING DAYS FROM THE
DATE OF THIS PAPER

DOE Implementation of Scheduled and Systematic Consultations

- o A public meeting was held on February 6, 1992, among the staff, the Office of the General Counsel, and representatives of DOE and its contractors. Representatives from the State of Nevada and Nye County also attended and participated. The discussions focused on the basis, content, and extent of precicensing consultation in the HLW Repository Program, with particular emphasis on the purpose and limitations of issue resolution at the staff level during precicensing.
- o On March 3, 1992, DOE issued two reports. The first, "Report of Early Site Suitability Evaluation of the Potential Repository Site at Yucca Mountain, Nevada," is the result of an evaluation by DOE contractors to determine if there is evidence of features or conditions that could render the Yucca Mountain site unsuitable for repository development.

The second report is entitled, "Exploratory Studies Facility (ESF) Alternatives Study: Final Report." In its letter, transmitting the second report, DOE identified those parts that respond to NRC's site characterization concerns, including Site Characterization Analysis (SCA) Objection 1 on the ESF design and design control process. This was provided in response to a staff request dated September 4, 1991.

- o DOE began excavation of test pits in the proposed area of the repository surface facilities. These pits are the first stage in DOE's study to determine whether or not recent faulting has occurred in the area of the surface facilities. In addition, trenches were excavated for volcanism studies in the area of the Lathrop Wells Cone.
- o On March 30, 1992, DOE began a 50 percent design review of package 1A for the north portal area. The package covers surface preparation, and electrical and water distribution systems for the ESF.

Early Implementation of a QA Program

- o NRC completed its evaluation of DOE's request to remove SCA Objection 2, related to QA. After determining that all organizations participating in DOE's site characterization program had developed and were implementing a QA program that met NRC requirements, NRC notified DOE, by letter dated March 2, 1992, that the

objection was removed. Subsequently, the State of Nevada voiced its opposition to NRC's removal of SCA Objection 2 in a letter dated March 4, 1992.

Discussion:

1. DOE Implementation of Scheduled and Systematic Consultations

During this reporting period, four public interactions were conducted with DOE. Representatives from the State of Nevada and DOE program participants also participated in all these interactions. The only participation from affected units of local government, in these interactions, was Nye County, NV, in the meeting held on February 6, 1992, and Lander County, NV, in the technical exchange conducted on February 25-26, 1992.

The first technical exchange with DOE was on its Waste Acceptance Process (WAP) at Pacific Northwest Laboratory (PNL) in Hanford, WA on February 25-26, 1992. DOE developed the WAP in 1985, to ensure that waste forms it produces (other than spent nuclear fuel) would be acceptable for disposal in any potential geologic repository. As part of the preclicensing consultation phase with DOE, the staff has been monitoring DOE's progress in the development of the WAP at the various producer sites (e.g., West Valley, Savannah River, and Hanford) through document reviews, technical interactions, on-site visits, and QA observation audits. At Hanford, DOE is considering the construction of a waste vitrification facility to immobilize the HLW currently stored in on-site tanks. During the exchange, participants toured these and other facilities and observed activities related to on-going spent fuel research. In addition to discussing DOE's on-going waste vitrification research and development, presentations at the technical exchange covered DOE's current and projected work in the area of waste form-spent reactor fuel.

The focus of the second technical exchange, on March 17, 1992, was to discuss how the staff responded to the comments received on the July 1991 public comment draft staff technical position (STP) on "Geologic Repository Operations Area Underground Facility Design--Thermal Loads." Overall, it was reported that both DOE and the State of Nevada were satisfied with the staff's responses to their respective comments on the STP. Based on this interaction, the staff now intends to brief the Advisory Committee on Nuclear Waste (ACNW) on the final draft of the STP in July. Pending a favorable response from the ACNW, the staff plans to issue a final STP in the fall of 1992.

On March 18, 1992, the staff and DOE conducted a third technical exchange to discuss technical and regulatory issues related to evaluating gas transport and moisture redistribution, due to repository-induced thermal gradients at the proposed geologic repository at Yucca Mountain, Nevada. In particular, the respective modeling approaches of the staff and DOE were discussed. No action items were identified as a result of this interaction.

The fourth interaction was a meeting held on February 6, 1992, between the staff, the Office of the General Counsel, and representatives of DOE and its contractors. The discussions focused on the basis, content, and extent of prelicensing consultation in the HLW program, including issue resolution and NRC's review of DOE's "Annotated Outline Planning Package" for the geologic repository, and MRS facility, as well as topical reports and study plans. Furthermore, it was emphasized that NRC-DOE interactions are open and formal and that "resolution", at this time, is only at the staff level. All issues will be finally and completely resolved only in the licensing proceeding, or for generic issues possibly by rulemaking, after public notice and comment. Subsequently, on March 23, 1992, a letter was received from Mr. Robert Loux, Director of the Nuclear Waste Project Office of the Nevada Agency for Nuclear Projects. In this letter, Mr. Loux indicated that the meeting, "...laid an important foundation for a better understanding of the basis for, and a clarification for all parties of the role of the NRC staff during the pre-licensing period."

Also discussed were the first drafts of both the HLW repository and Monitored Retrievable Storage (MRS) annotated outlines for the respective license applications, transmitted to NRC in December 1991. DOE clarified that the annotated outlines were being sent to NRC for information purposes only. At the meeting, the need for DOE to incorporate its annotated outlines and associated topical reports into the existing Site Characterization Plan review/semi-annual progress report process, and the Issue-Hierarchy and Issue-Resolution Strategy to which the staff and DOE have previously agreed was discussed.

DOE transmitted two reports to NRC during this period. First, on March 3, 1992, DOE provided NRC with the "Exploratory Studies Facility (ESF) Alternatives Study: Final Report," and a transmittal letter that discussed how specific aspects of this report responded to NRC's site characterization concerns, as requested in a staff

letter to DOE, dated September 4, 1991. These concerns pertained to SCA Objection 1 on the ESF design and design-control process. The NRC staff is reviewing the information provided by DOE and will decide whether to lift the objection and close related comments, based on that information.

The second report, also issued by DOE on March 3, 1992, is entitled, "Report of Early Site Suitability Evaluation of the Potential Repository Site at Yucca Mountain, Nevada." This report is the result of an evaluation by DOE contractors to determine if there is evidence of features or conditions that could render the Yucca Mountain site unsuitable for repository development. Criteria for the evaluation are the site disqualifying and qualifying conditions stated in DOE's HLW regulations, 10 CFR Part 960. DOE has requested a 90-day period for public comments. The NRC staff plans to review this report and provide comments. Its review will be in accordance with previously outlined Commission policy identified to the staff, at the time of the Commission's concurrence in the guidelines, and included in NRC's comments on 10 CFR Part 960.

DOE also continued site characterization work at Yucca Mountain during this reporting period. To date, seven holes have been drilled, to measure water influx from the surface into the shallow subsurface. Additionally, DOE also began excavation of test pits in the proposed area of the repository surface facilities. These pits are the first stage of DOE's study to determine whether or not recent faulting has occurred in the area of the surface facilities. Trenches were excavated for volcanism studies in the area of the Lathrop Wells Cone. Finally, on March 30, 1992, DOE began a 50 percent design review of package 1A for the north portal area. The package covers surface preparation, and electrical and water distribution systems for the ESF.

2. Early Implementation of a QA Program

The NRC staff completed its evaluation of DOE's request to remove SCA Objection 2 related to QA. NRC notified DOE by letter, dated March 2, 1992, that the objection was removed. The NRC staff determined that all organizations participating in site characterization activities have developed and are implementing a QA program that meets NRC requirements. The NRC staff will continue to monitor QA program implementation through future audits and surveillances.

The State of Nevada voiced its opposition to NRC's removal of SCA Objection 2 in a letter dated March 4, 1992. The State's bases for its concern were that the staff had not reviewed and accepted the DOE Management and Operations (M&O) contractor's program, and that there was insufficient implementation of participant QA programs to determine if the programs were effective. The staff is presently preparing a response to the State providing information supporting its decision to lift SCA Objection 2.

Also, during this reporting period, the staff observed DOE's Office of Civilian Radioactive Waste Management QA audits of the Yucca Mountain Project Office, Sandia National Laboratories, Oak Ridge National Laboratory, and Los Alamos National Laboratory. No findings were identified, during the audits, that would preclude DOE from continuing with surface-based site characterization or other quality-affecting activities.

3. Performance Assessment

There have been no significant developments in the area of performance assessment during this quarterly reporting period.

4. Early Resolution of State and Tribal Concerns

On March 2, 1992, the Nevada State Engineer approved the water appropriations permit that will allow DOE to carry out exploratory studies at Yucca Mountain. The permit approves the withdrawal of 0.2 cubic feet per second, up to 94.83 acre feet of water per year, from an existing well for 10 years. Permit conditions include implementation of a groundwater monitoring plan that was developed with the National Park Service.

On March 19, 1992, after a monthly meeting of the Nevada State, local and Indian Tribe (SL&IT) Working Group, a representative from Lincoln County, Nevada extended an invitation to NRC to attend the next SL&IT Working Group meeting scheduled for May 14, 1992, in Las Vegas, Nevada. The purpose of the meeting would be for NRC representatives to meet with new local representatives and to explain its roles, as well as to give a status of NRC HLW program activities. It would also provide an opportunity for the SL&IT representatives to present a status of their HLW program activities and to raise any questions or concerns that they may have.

5. Rulemaking and Regulatory Guidance Development

After responding to the ACNW's programmatic comments and recommendations, the staff completed its final STP on "Investigations to Identify Fault Displacement Hazards and Seismic Hazards at a Geologic Repository," which will soon be published as NUREG 1451. This STP will provide guidance to DOE on appropriate investigations that can be used to identify fault-displacement and seismic hazards at the proposed site for the geologic repository.

6. MRS

As noted in Section 1 of this Quarterly Progress Report, on February 6, 1992, the staff met with DOE to discuss the role of annotated outlines and topical reports for the MRS license application. DOE plans to submit its second version of an MRS annotated outline for NRC information in April 1992. Several iterations per year of the annotated outline could be expected, dependent on obtaining a host site and progress of the design for the MRS. Also on February 6 and 7, 1992, the staff observed the MRS design readiness review--a self-assessment by DOE's M&O Contractor. The review focused on the procedure required to allow the MRS design group to begin quality-affecting design work. The staff also observed DOE's Readiness Review Meeting where the draft Readiness Review Report was presented and reviewed by a senior review board.

A number of groups expressed interest in hosting an MRS site and applied for and received \$100,000 Phase I grants from DOE. The purpose of these grants is to study the feasibility of hosting an MRS site. On March 13, 1992, the Mescalero Apache Indian Tribal Council, Mescalero, New Mexico, completed its Phase I study and applied for \$200,000 for the first of a two-part Phase II grant from DOE. The Mescalero Apache Indian Tribal Council will use this funding to continue its fact-finding studies and public information efforts. Grant County, North Dakota, has also received a Phase I grant from DOE. On February 19, 1992, the Office of Nuclear Material Safety and Safeguards staff participated in a public meeting conducted by the Grant County, North Dakota, Independent Citizen's Investigation Committee, to discuss NRC's role in licensing an MRS and transportation safety. In early March 1992, the Grant County Commissioners sent a letter to the Office of the Nuclear Waste Negotiator indicating that they were not going to pursue their MRS study any further.

Fremont County, Wyoming, has received a Phase I grant from DOE. In February 1992, documents providing background information on the development and licensing of an MRS site, as well as information on the Commission's waste confidence decision, transportation of spent fuel, and dry cask storage were provided to the Fremont County Wyoming Citizens Advisory Group on MRS. The Citizens Advisory Group is planning to conduct a series of public meetings in April 1992, in which the staff has been invited to participate.

Two Indian tribes in Oklahoma have applied for, and received, \$100,000 Phase I grants from DOE. The Chickasaw Indian Nation is considering whether to accept the grant, and the Sac and Fox Nation has reconsidered, and is not accepting the grant. The Prairie Island Indian Community, Red Wing, Minnesota, has received its Phase I grant and is beginning its studies. The Yakima Indian Nation of Washington has accepted its Phase I grant and is also beginning its studies. As of the end of March, Phase I MRS feasibility-assessment grant applications were received and are under review by DOE from the following applicants: Skull Valley Goshute, Grantsville, UT; Apache County, AZ; Alabama Quassarte, Eufaula, OK; Tetlin Village, Tok, AK; Eastern Shawnee Tribe, Ottawa County, OK; Lower Brule Sioux, Lower Brule, SD; Akhiok-Kaguyak/Akhiok, Traditional Council, Anchorage, AK; Apache Development Authority, Anadarko, OK; and Absentee Shawnee, Shawnee, OK.

7. Spent Fuel Storage and Transportation System Compatibility

There have been no significant design developments in spent fuel storage and transportation system compatibility since the October 1991 Commission Paper, "U.S. Department of Energy and Industry Progress in Developing Cask Designs to Achieve Compatibility for Dry Storage and Transportation Purposes" (SECY-91-313).

8. Transportation

During this reporting period, DOE stated that for budgetary reasons, its contract with Westinghouse Electric Company (WEC), for the development of the Titan spent fuel shipping cask, was being terminated. Subsequently, WEC requested that the staff terminate all pre-application efforts associated with the project. The Titan was a legal-weight truck cask being developed under the Nuclear Waste Policy Act (NWPA). DOE is funding two other contractors for the development of two legal-weight truck casks and one rail cask under the NWPA.

9. Research

There have been no significant developments in research during this quarterly reporting period.

10. Nuclear Waste Negotiator

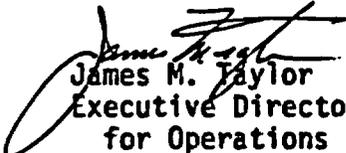
NRC staff continues to maintain a good working relationship with the Nuclear Waste Negotiator and his staff, to ensure the timely exchange of information surrounding the status of the MRS grant program and the recipients' request for NRC information and participation at public meetings. Mr. David Leroy and a staff member met on February 28, 1992, with each of the Commissioners and their staffs, the Deputy Executive Director for Nuclear Materials Safety Safeguards and Operation Support, and the Director and Deputy Director of State Programs. Mr. Leroy reiterated his commitment to a fair and open process where all views would be considered, and where no artificially imposed schedules would drive the process. Section 6 of this Quarterly Progress Report discusses the status of MRS-related activities, and will be the forum for presenting most of the actions related to the Nuclear Waste Negotiator in future reporting periods.

Coordination:

The Office of the General Counsel has reviewed this paper and has no legal objection.

Conclusions:

During this reporting period, there were no issues between the staff and DOE that required Commission action. The staffs continued to make progress in addressing and working towards resolving issues.


James M. Taylor
Executive Director
for Operations

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