



Department of Energy
Washington, DC 20585

DEC 28 1988

Mr. Hugh L. Thompson, Jr.
Director
Office of Nuclear Material Safety
and Safeguards
Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Thompson:

In accordance with the Nuclear Waste Policy Act (NWPA) of 1982, as amended, the Secretary of Energy has issued the Department's Site Characterization Plan (SCP) for the Yucca Mountain site to the U.S. Nuclear Regulatory Commission (NRC) and to the Governor and the Legislature of the State of Nevada. Copies of this plan have been sent to you and to your staff under separate cover. Copies have also been sent to the Nevada Nuclear Waste Project Office, to Commissioners of the affected local governments in Nye, Clark, and Lincoln Counties, Nevada, and to other interested parties.

The SCP has been developed pursuant to the statutory requirements for a general plan, as specified in Sections 113(b)(1)(A)-(C) of the NWPA, and those of Sections 60.15 and 60.17 of the NRC regulation for disposal of high-level radioactive wastes in geologic repositories, 10 CFR Part 60. The content of the SCP is also consistent with the guidance provided by the NRC in Regulatory Guide 4.17 for the format and content of site characterization plans, as implemented by the Department of Energy's (DOE) Annotated Outline for Site Characterization Plans (DOE/RW-0142, April 1987).

The release of the SCP follows nearly a year of interactions with your staff and representatives of the State of Nevada on the Consultation Draft of the SCP (SCP/CD), issued on January 8, 1988. DOE has found these interactions to be helpful in its efforts to clarify and enhance the SCP and the plans for site characterization. The SCP reflects extensive revisions made in response to NRC's point papers which present NRC's objections, comments, and questions on the SCP/CD. In particular, the SCP incorporates information to specifically address the concerns expressed by the NRC in its five objections.

In response to Objection 1, relating to treatment of alternative conceptual models of the site, the SCP contains a discussion of DOE's approach to addressing such alternatives during site characterization. The SCP identifies the alternative hypotheses that have been considered in

8901090114 881228
PDR WASTE
WM-11 PDC

Add: ACNW 6cys.
Change LPDR from 1 to 3

102.8
NH03
wm-1

developing conceptual models for site and regional characteristics, and also identifies the studies and activities that will provide information to help distinguish among these alternative conceptual models.

Objections 2, 3, and 4 all relate to the design and location of the exploratory shaft facility (ESF) and the potential effects of ESF construction and testing on site characterization or waste isolation. In response to these concerns, the SCP contains a detailed discussion and evaluation of the potential for site activities, such as ESF construction and in situ testing, to interfere with test results and thereby affect DOE's ability to characterize the site or to impact adversely on the capability of the site to isolate waste. On the basis of these analyses, DOE believes that the SCP and its supporting documents adequately address NRC's regulatory concerns, and that the planned site characterization activities: 1) will not adversely affect the ability of the site to isolate the emplaced spent fuel and high-level waste, 2) are designed and sufficiently separated in time and space so as to avoid adverse construction-to-test, operation-to-test, and test-to-test interferences in order to ensure licensable data, and 3) will provide information representative of a wide range of site conditions.

To address Objection 5 and related concerns regarding DOE's quality assurance (QA) program, the development and implementation of which are beyond the scope of the SCP, the Office of Civilian Radioactive Waste Management (OCRWM) has reorganized to emphasize the QA function. A newly centralized Office of Quality Assurance has been created which reports directly to the Director of OCRWM. Prior to implementing new site characterization activities, OCRWM is committed to having a fully qualified QA program in place for those activities. Toward this end, OCRWM has submitted its major QA documents for NRC review, and the QA Plan for the Yucca Mountain Project has been accepted by NRC.

The SCP also contains information that specifically addresses the three NRC concerns regarding the DOE positions with respect to substantially complete containment, testing of seal components, and performance confirmation. In response to the NRC concern regarding DOE's interpretation of substantially complete containment, the SCP reflects a revised interpretation, based on the understanding that the set of waste packages should contain the emplaced waste for 300 to 1,000 years following permanent closure, allowing for recognized technological limitations and residual uncertainties. The SCP also reflects substantial revisions made in response to NRC's concern regarding the seals program, by describing activities that will lead to selecting, designing, and conducting in situ tests for seal components. To address the NRC concern regarding the description of OCRWM's performance confirmation program, the SCP incorporates revisions that clearly define the phased nature of the OCRWM's program and the objectives for each phase in terms of the applicable requirements of 10 CFR Part 60.

Summaries of OCRWM's actions in response to each of NRC's objections, comments, and questions are enclosed to facilitate your review of

the SCP. These summaries indicate the nature and location of changes that have been incorporated in the SCP in response to NRC concerns.

Integrated schedule networks for the activities related to resolution of each of the performance and design issues covered in the SCP, and for each of the site programs that will provide information needed to support resolution of these issues, have been incorporated in the SCP. These networks were developed to be consistent with the schedules and milestones presented in the OCRWM's "Draft 1988 Mission Plan Amendment." Although the logic and sequence of activities indicated in these networks are still valid, the 5-month delay in the start of ESF construction that was announced by OCRWM on October 19, 1988, at a meeting with NRC and the State of Nevada, is not reflected in the schedules. OCRWM is currently evaluating the potential impact of this delay on other program activities and milestones. Any revisions to the schedules and milestones for site characterization activities will be provided in OCRWM's semiannual progress reports to NRC and the State.

The SCP constitutes a comprehensive plan to guide site characterization activities. The program described will provide the information on geological conditions and other characteristics of the site that will be needed for DOE to assess the suitability of the site and, if the site is found to be suitable, to prepare a high-quality license application. The SCP, together with its supporting documents, provides sufficient information for NRC to review the adequacy of DOE's plans to obtain the data necessary to evaluate site suitability.

The documents discussed by OCRWM and NRC in their interactions on the ESF design-control process are being issued in the same timeframe as the SCP. These documents include a report on the basis for the selection of the ESF locations, documentation of controls applied during ESF Title I design, the Title I design report and the associated drawing package, and a design acceptability analysis for the Title I design. Study plans covering ESF construction phase testing are also being provided in the same timeframe as the SCP.

Other study plans will be made available, as appropriate, to provide an opportunity for NRC review prior to the initiation of new site characterization activities. OCRWM's Environmental Regulatory Compliance Plan and Environmental Monitoring and Mitigation Plan are available to facilitate review by the State of Nevada and other interested parties of OCRWM's plans to address environmental requirements and to minimize, to the maximum extent practicable, any significant adverse environmental impacts of site characterization.

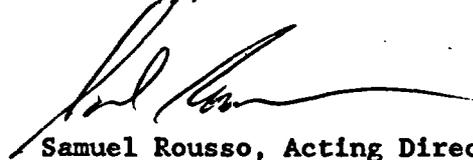
The SCP has been made available to the public, with copies being placed in selected Nevada public libraries, in DOE's Beatty Information Office, and in the public reading rooms in DOE's operation offices nationwide.

For your information, I have enclosed copies of the SCP Public Handbook and the SCP Overview which have been prepared to assist the public in

understanding and commenting on the SCP during the 90-day comment period beginning January 15 and ending April 15, 1989. This comment period will include hearings in several locations in Nevada to receive oral or written comments. A Federal Register notice will be issued shortly detailing the procedures for participation in the public hearings. Comments received from the State of Nevada, the public, and others during this period and from NRC in its site characterization analysis will be considered by OCRWM. Changes made in the site characterization program in response to these and subsequent comments will be addressed in semiannual progress reports.

I want to extend my appreciation to you and your staff for your thoughtful and critical review of the SCP/CD and for your clarification of NRC positions during numerous technical interactions over the past year. We expect that once you have begun a review of the SCP, there may be a need for further interactions. We intend to proceed with site characterization activities as soon as possible. During the course of these activities, I hope that we can continue building on the foundation of cooperative interaction that has been established.

Sincerely,



Samuel Rousso, Acting Director
Office of Civilian Radioactive
Waste Management

3 Enclosures:

Summaries of DOE responses to NRC objectives
SCP Public Handbook
SCP Overview

Separate Cover:

Site Characterization Plan for Yucca Mountain

cc:

Robert E. Browning
Director, High-Level Waste
Management Division
Nuclear Regulatory Commission

John J. Linehan
Director, Repository Licensing
and Quality Assurance Project
Directorate
Nuclear Regulatory Commission