DOE/RW-0160

Nuclear Waste Policy Act
(Section 113)

Consultation Draft

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Site Characterization Plan

Yucca Mountain Site, Nevada Research and Development Area, Nevada

Volume IV

PART B

January 1988

U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Washington, DC 20585

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Office of Civilian Radioactive Waste Management
Washington, DC 20585

Prepared Under Contract No. DE-AC08-87NV 10576

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Consultation Draft Site Characterization Plan

- Preface -

The extensive experience gained in this and other programs--including field investigations, underground testing, laboratory studies, design activities, and analyses--causes the DOE to recognize that the development of the SCP and the site-characterization program are evolutionary and iterative processes requiring flexibility in planning. They may be changed in response to comments about plans, to reflect new information from testing and analyses, or in response to comments about test results once testing is begun. Any changes that are identified as necessary will be documented in the semi-annual progress reports that will be made available for review by all parties.

It should also be noted that the issue-resolution strategies and performance allocations in the SCP/CD are preliminary, and the tentative goals identified in Chapter 8 are not criteria that must be met for regulatory compliance. Agreements between the DOE and NRC staffs clearly recognize and accept that these goals are useful for establishing a testing program, but are not necessary for regulatory compliance. As site characterization progresses and more information is acquired, the goals will probably be changed, with some goals being tightened and others relaxed. In the meantime, during the consultation process, these tentative goals are expected to provide an important focus for comments and discussions on performance allocation, goals, and the testing program.

The SCP/CD does not present complete information on the sequencing of activities, the priorities assigned to activities, or a complete schedule for the site-characterization program. Such information is only now being developed through the preparation of detailed study plans for studies and tests to be performed during site characterization. These study plans will be made available before the start of new onsite activities, in accordance with previous agreements with the States, the affected Indian Tribes, and the NRC staff. As the study plans are completed, the DOE will be able to establish sequencing and priorities for the activities found to constitute an adequate and necessary site-characterization program. This will allow a schedule for the entire program to be developed and included in Section 8.5 of the SCP.

As already mentioned, this SCP/CD is being issued to facilitate a consultation process that is expected to enhance the quality of the SCP. This consultation will occur through interactions at the workshops that will be held after the release of this document and through comments received later on. The DOE believes that the benefits of the consultation process would be maximized if the interactions focused on several key questions. For the NRC staff, the key question is as follows: does the SCP/CD provide confidence that the DOE has adequately identified the issues and the kinds of information the NRC will need in its licensing decisions? The key question for the States and the affected Indian Tribes is how well their specific concerns have been identified and addressed. In addition, since Chapter 8 describes the site-characterization program, focus on this chapter is critical.

The DOE has chosen this SCP/CD as its primary instrument for consultations that will assist in defining in the SCP a technically sound and fiscally prudent site-characterization program that will generate the information necessary for siting, designing, and licensing a geologic repository that will protect the health and safety of the public.

This consultation draft of the site characterization plan (SCP/CD) is being submitted by the Department of Energy (DOE) to the States, affected Indian Tribes, and the Nuclear Regulatory Commission (NRC) as part of the process for the preparation and issuance of the site characterization plan (SCP) required by the Nuclear Waste Policy Act and by the NRC in 10 CFR Part 60. The DOE expects that consultation with the States, affected Indian Tribes, and the NRC will greatly assist the preparation of an SCP representing a site-characterization program that will achieve the DOE's technical and programmatic objectives by being technically sound, timely, and cost effective. In addition, the consultation process is expected to enhance the process for review and comment by the public that will follow the formal issuance of the SCP.

Several observations about this consultation draft should be made to ensure that it is used appropriately. The Act, in Section 113(b), requires that the DOE develop an SCP that is only a general plan for site characterization. This plan is to include a description of the site and is to be accompanied by certain information about the waste package and a conceptual repository design. Essentially the same requirements are specified by the NRC in 10 CFR 60.17. The Act also specifies that the site-characterization activities are to be only the activities that the Secretary of Energy considers necessary to provide data for evaluating the suitability of the site and for compliance (in part) with the National Environmental Policy Act. Although only a general plan is called for, the DOE has, as a matter of policy, prepared a comprehensive and detailed SCP/CD that includes available geotechnical information about the site, a description of the conceptual design of the repository, a description of the waste package, and a detailed discussion of the plans for characterizing the site. The purpose of preparing such a comprehensive and detailed plan is to facilitate the review of the planned site-characterization program by the States and affected Indian Tribes to obtain from the the NRC staff input as to whether the program covered by the plan can be expected to be sufficient for eventual licensing. The comprehensive content and the level of detail reflect earlier consultations with the NRC staff as well as the States and affected Indian Tribes.

The program described in the SCP/CD places primary emphasis on the technical sufficiency of the proposed investigations to ensure that all the potentially needed information will be obtained. The information needed is defined as the geotechnical information necessary to demonstrate the suitability of the site for a repository; to design the repository and the waste package; to select, on the basis of a comparative evaluation, a site for a repository; and to obtain from the NRC an authorization to construct the repository. The DOE has concluded that the compendium of tests, analyses, and activities identified in the SCP/CD is likely to generate all the information needed for siting, design, and licensing. Much less emphasis, however, has been placed on determining the need for each element in the program and for ensuring that there are no unnecessary and redundant

activities. As a result, the DOE considers that the SCP/CD is comprehensive and sufficient, but it may not yet represent the most efficient or cost-effective program for site characterization. Accordingly, during the consultation period, the DOE will carefully evaluate the program described in this SCP/CD, revise it as necessary and appropriate, and document the changes in the SCP. The DOE intends to ensure that each of the tests, analyses, and activities in the site-characterization program is necessary and is included in the plan; that unnecessary or redundant tests, analyses, and activities are not conducted; and that the program is based on sound management and fiscal prudence.