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Mr. Dwight E. Shelor, Associate Director
for Systems and Compliance
Office of Civilian Radioactive Waste Management
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, D. C. 20585

Dear Mr. Shelor:

SUBJECT: REVIEW OF EXPLORATORY STUDIES FACILITY ALTERNATIVES STUDY AND CALICO HILLS RISK/BENEFIT ANALYSIS

The U. S. Department of Energy (DOE) provided the U.S. Nuclear Regulatory Commission with the Calico Hills Risk/Benefit Analysis (CHRBA) on January 1, 1991, and the final draft of the Exploratory Studies Facility Alternatives Study (ESFAS) Report on July 18, 1991. The ESFAS Final Report was transmitted on September 4, 1991, with no substantial changes from the final draft. In a subsequent letter dated March 3, 1992, DOE identified to the staff what information contained in the CHRBA and ESFAS was pertinent to concerns raised by the NRC in its Site Characterization Analysis (SCA). Based on the information identified by DOE, the NRC staff completed its review of the sections of the CHRBA and ESFAS pertinent to its SCA concerns, and documented the results in its November 2, 1992, letter (Bernero to Bartlett).

Although the NRC staff does not plan to conduct any additional review of these documents, it does plan to evaluate the waste isolation impacts related to the penetration of the Calico Hills unit, as well as, the penetration of the Topopah Spring unit as part of its detailed review of the Exploratory Studies Facility (ESF) Title II design. However, DOE has not yet submitted a revised ESF Title II design that reflects the changes DOE has presented to various organizations such as the Nuclear Waste Technical Review Board, and has not shown how the proposed phased approach to the ESF design will be implemented to produce a satisfactory design for the complete ESF. In addition, it is the staff's understanding that the conceptual design of the Geologic Repository Operations Area (GROA) provided in the Site Characterization Plan (SCP) has undergone major modifications.

As you know, 10 CFR 60.16-18 discusses site characterization information to be provided to the NRC and the approach the NRC staff is to follow in conducting preapplication reviews. Based on those requirements, the staff needs to review the proposed conceptual design for the repository in the context of the ESF Title II design. The staff considers access to an ESF Title II design critical to its ability to provide pre-licensing consultation to DOE, and to understand how the separate ESF design phases mesh together to form a complete ESF design that is compatible with the conceptual design of the GROA.

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Therefore, it is necessary that DOE provide the revised ESF Title II design for NRC review as soon as possible because major procurement activities are underway for equipment to begin ESF construction. DOE should also provide a description of the revised design in its next SCP Progress Report. Recognizing that design changes will occur during design development, progress toward a final ESF design and changes to the design should also be described by DOE in the progress reports. In addition, the benefits gained from these reviews of the ESF design would be greatly enhanced by having the aforementioned conceptual design of the GROA, required by 10 CFR 60.17(c), available for reference.

With respect to its evaluation of the ESF Title II design, the staff would like to reiterate its position taken at the July 1989 meeting on the design and design control process of the ESF. At that meeting, DOE committed to establish hold points in the course of Title II design package preparation which would allow the NRC staff, the State of Nevada and representatives of Affected Local Governments the opportunity to conduct in-depth reviews of the design work performed and to make formal comments, if warranted. The NRC staff, as well as State and Local Government personnel, can participate as observers at the comprehensive 50% and 90% design reviews to which each design package is subjected. The NRC staff believes that the observation of a design review provides some opportunity to conduct reviews as agreed upon in the July 1989 meeting. However, it should be recognized that the design review efforts of DOE may not have the same focus as the regulatory review of design packages to be conducted by the NRC staff. Therefore, the staff believes that it is important that it be given an opportunity to provide comments at the DOE design reviews in keeping with the commitments made by DOE at the July 1989 meeting.

If you have any questions or comments concerning this letter, please contact Paul Prestholt of my staff at (301) 504-3810.

Sincerely,

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Joseph J. Holonich, Director
 Repository Licensing and Quality Assurance
 Project Directorate
 Division of High-Level Waste Management
 Office of Nuclear Material Safety
 and Safeguards

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Mr. Dwight E. Shelor

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