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MEMORANDUM FOR: King Stablein  
 Repository Projects Branch, WM

FROM: Dinesh Gupta  
 Engineering Branch, WM

SUBJECT: NRC COMMENTS ON DOE JUNE 7, 1985 LETTER

We have coordinated the technical review of the DOE letter dated June 7, 1985 with the various staff members of the NNWSI team. Enclosed is a copy of the compiled comments and suggested draft letter (from Linehan to Vieth) that may be used for forwarding our comments to the DOE.

In order to minimize the concurrence chain, we suggest that after the text of the forwarding letter is reviewed by WMG and WMRP, it should be officially concurred by one representative from EG, GT, and RP.

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 Dinesh Gupta  
 Engineering Branch, WM

Enclosures:  
 As stated

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Dr. Donald Vieth, Director  
Waste Management Program Office  
U.S. Department of Energy  
Las Vegas, Nevada

Dear Mr. Vieth:

The NRC staff has reviewed both the DOE June 7, 1985 letter and the supporting reference documents that provide information on exploratory shaft construction and sealing. This information was provided in response to our letter of April 14, 1983 (Coplan to Vieth).

The two broad areas of concern considered in our review are: 1) that the site characterization activities (e.g, construction of an exploratory shaft) will not compromise subsequent long-term isolation and containment capabilities of the repository; and 2) that plans for construction of the exploratory shafts will not preclude the acquisition of adequate information for site characterization. These two concerns are raised so that DOE commitments to construction techniques can be thoroughly examined prior to implementation.

Our April 14, 1983 letter identifies NRC information needs pertaining to six broad areas associated with exploratory shaft construction and sealing: 1) shaft and seal design considerations; 2) construction plans and procedures; 3) sealing and grouting plans and procedures; 4) construction testing and inspection plans and procedures; 5) plans and procedures for gathering specific information related to site characterization; and 6) quality assurance for all of the above. Specific NRC staff comments representing the official NRC position on the DOE's letter response associated with each of the above six areas are addressed in Enclosure 1. Additional comments from NRC contractors can be found in Enclosure 2.

In the subject letter dated June 7, 1985, the DOE has proposed construction methods (ES-1, drill and blast, ES-2, raise bore) for the two exploratory shafts. The NRC has no objection to the use of the proposed construction methods, provided that they are properly constructed and controlled with an adequate quality assurance program.

After reviewing the other information provided in the DOE letter of June 7, 1985 and the supporting references, the NRC has identified the following concerns which are addressed in Enclosure 1.

1. At this time the NRC cannot accept the conclusion, as stated in the DOE response, that the construction of the Exploratory Shaft Facility will not affect the ability of the site to meet the performance objectives of 10 CFR Part 60.
2. The construction controls as shown in Enclosure B of the DOE response appear to be weak and are unlikely to ensure that construction overbreak will be kept to a reasonable minimum.
3. The testing and exploration that will be performed in the exploratory shaft are stated to be contained in the reference document entitled the "Exploratory Shaft Test Plan." This document is not available for NRC review at this time. DOE should submit this document for NRC review as soon as it is completed.
4. In response to many of NRC's concerns, the DOE has stated that the effort needed to resolve these concerns has yet to be completed. These unresolved concerns are considered to be open items and are identified in Enclosure 1 as such. The DOE should provide schedules for completion of each of these open items. As the items are completed, the DOE should submit the information to NRC for review.
5. Since a decision has been made to construct a second shaft, the DOE should include a discussion of the construction and testing that will occur in the second exploratory shaft.
6. The NRC does not agree with the quality assurance classifications that the DOE has given to (a) the construction of the exploratory shaft; (b) the liner; and (c) the rock support and structure system.

The NRC concerns as stated in this letter and enclosures were discussed with you at the NRC/NNWSI Technical Meeting that was held on August 27-28, 1985. The NRC expects that after our comments have been considered by the DOE, an updated performance analysis and response would be submitted for NRC review.

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If you have any questions about the attached material, please contact King Stablein of our staff at (301) 427-4611.

Sincerely,

John J. Linehan, Section Leader  
Projects Section #1  
Repository Projects Branch  
Division of Waste Management, NMSS

**Enclosures:**

1. NRC comments on DOE letter of 6/7/85 and supporting reference on exploratory shaft construction and sealing.
2. NRC contractor comments.

**Record Note:** The technical review of the DOE June 7, 1985 letter and the supporting documents has been coordinated with the following staff members: Dinesh Gupta, David Tiktinsky, Tom Jungling, Jeff Pohle, Ted Johnson, John Trapp, Linda Kovach, Atef Elzeftawy, and Jim Kennedy.