UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Reply to:

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Las Vegas, NV 89101
Tel: (702) 388-6125

MEMORANDUM

DATE: April 22, 1993

FOR: Joseph Holonich, Director, HLPD

FROM: John E. Gilray, Sr. OR - YMP

SUBJECT: YMP Site Report

1. Status of Yucca Mountain Site Activities

ESF Title II design activities and the on-site Yucca Mountain activities pertaining to ESF North Portal construction, drilling, and coring and processing of core samples continue to be monitored closely by the OR office.

- ESF Title II 50% Design Reviews of Packages 1B and 2.

The YMPO is in the process of conducting a 50% management and technical review of ESF Title II design packages 1B and 2. The purpose of these reviews is to provide assurance that the design complies with federal and state regulations and is technically correct and satisfactory.

The ESF Title II design package 1B consists of the surface facilities at the North Portal including the overall site plan, the north portal change house, the north portal operations building, the north portal shop building, the north portal warehouse, the utilities plans (water, sewer, electrical, communications), the H-road, the compressed air system, and the explosives storage area.

This package contains 150 drawings, one set of specifications, and one set of calculations.

The ESF Title II design package 2 consists of the subsurface facilities of the North Portal from the portal to the topopah springs. The design includes the surface material handling system, the north ramp general arrangement, the subsurface ventilation system, the subsurface conveyor system, the subsurface electrical distribution system, and the instrumentation system. This package contains 40 drawings, one set of specifications and one set of calculations.

Representatives from the NRC staff, the Southwest Research Institute and myself participated as observers in the review of these design packages. Approximately 35 independent technical professionals are involved in reviewing these design packages utilizing a detailed check list and a document review record for identifying and resolving comments (note enclosure). Reviewers are required to complete a self study training program prior to beginning the reviews.

Dispositions and resolution of all comments are to be presented and discussed with review members at the YMP offices the week of April 26 for design package 1B and the week of May 3 for design package 2.

The OR office will continue to monitor those reviews and report to the NRC staff the final results of the disposition and resolution of the substantive comments generated from these two reviews.

Also during these reviews I had the opportunity to discuss in detail with the YMPO and M&O design organization the flowdown of hierarachy input requirements and how these requirements are included into the design and specification documents. A report of the results of this review will follow.

The 90% design review for design package 1B is planned for July 19, 1993, and the review of design package 2 is planned for August 11, 1993.

- Construction of the ESF North Portal

I have reviewed at the North Portal the on-going activities and associated documentation leading up to the first phase of blasting and excavation of the ESF North Portal starter tunnel. Blasting of the first pilot hole took place at 4:15 p.m., Tuesday, April 13, 1993. The drawings specifications, work procedures and the associated mapping and seismic monitoring activities were reviewed and discussed with the on-site REECo technical and QA staff. Overall the personnel interviewed appeared to have a sound knowledge and understanding of the procedural requirements and the importance of interactions between REECo on-site technical and QA personnel to insure all requirements are complied with. Specific process hold points are identified on the drilling and blasting specification checklist for the REECo QA staff to inspect and sign off prior to proceeding to the next significant work functions.

The vibratory and stress effects from blasting is monitored by Sandia National Lab. Geological mapping is performed after each blasting operation. Each blast-penetration will be in increments up to 10ft-long. The current excavation concept calls for the sequential removal of six blocks of rock. The crown block is the first to be excavated. The tunnel is expected to advance 200-feet into Exile Hill by the end of FY93.

The total penetration into Yucca Mountain is about 7.5 meters (as of 19 April). A third eight-hour shift is planned to start at the end of the month.

- Drilling and Field Testing Activities

NRC 1	Drilling and logging complete.
NRG 2, 3, & 8	Drilling complete and geophysical logging is in process.
NRG 4	Access road and pad construction has started. Drilling start date not determined yet.
NRG 2A	Drilling expected to start week on May 3..
UZ 14	LM300 drilling and coring has started and are presently at a depth of 52'.
UZ16	Drilling, boring and logging complete. The hole is capped and locked. Testing activities are being scheduled.

- Excavations

Bare Mountain Test Pits and Trenches. Trench II is planned to be excavated the week of May 3.

2. Audit/Surveillance Activities

At the request of the NRC staff I participated as an observer of the surveillance of the M&O QA program at Las Vegas, March 22-25, 1993, and the DOE audit of the quality assurance activities related to the West Valley Demonstration Project February 22-26, 1993, at West Valley, New York. The results of the two observations follow:

- YMPO Surveillance of M&O QA Program

The scope of this YMPO surveillance (No. YMP-SR-93-16) of the M&O QA Program was limited to evaluating: 1) M&O procedures for receiving and processing changes to Raytheon Services Nevada (RSN) design documents; 2) M&O acceptance, review, and verification of designs, engineering analyses and calculations from RSN; 3) M&O use and control of Field Change Requests; 4) M&O procedures for the identification of design documents; and 5) M&O implementation of M&O design procedures. As a result of this surveillance, five deficiencies pertaining to the lack of QA program design control procedures were identified and documented. The surveillance team did, however, determine that the M&O design organization was working to documented design guidelines but these were not referenced nor incorporated in the M&O QA program procedures. Further, the surveillance team concluded that the design products (drawings, specifications and analysis) reviewed did not appear to be adversely impacted by these procedural deficiencies.

As a result of observing this surveillance it was determined that the YMQAD surveillance of the M&O QA program was useful and effective. The surveillance team was very familiar with the M&O QA procedures in the areas being surveilled. The NRC staff agrees with the YMQAD surveillance team's preliminary findings as stated above.

- DOE Audit of West Valley Demonstration Project (WVDP) QA Program

The scope of this audit (No. 93EA-WV-AU-001) focused on the acceptability and adequacy of those West Valley Nuclear Services (WVNS) and DOE West Valley Project Office (WVPO) QA controls, technical activities and work products which fall under the control of the OCRWM "Quality Assurance Requirements Document" DOE/RW-0214. Particular emphasis was placed on evaluating the acceptability of the corrective actions associated with the previously identified deficiencies and on implementation of these corrective actions. I observed the extent to which the auditors investigated WVNS and WVDP compliance to QA and technical controls and the close out of previous identified deficiencies.

Detailed audit checklists identifying the QA program and technical requirements were used throughout the audit covering Criteria 2 "QA Program;" 3 "Design Control;" 5 "Instructions, Procedures and Drawings;" 7 "Control of Purchased Items;" 8 "Identification and Control of Items;" 9 "Control Processes;" 14 "Inspection, Test and Operating Status;" 16 "Corrective Action;" 17 "Records;" and 19 "Computer Software Controls." The main areas the technical specialists reviewed were (1) the classification of items and activities associated with the canister design, (2) the design and analysis of the canister, and (3) the computer software programs. The audit team investigated the WVNS and WVPO QA and technical controls in detail to determine whether they were acceptable and being properly implemented.

Three preliminary findings and six observations were identified by the audit team. The three preliminary findings issued by the audit team involved (1) a deficiency relating to an auditor's certification which had lapsed prior to his participation as a lead auditor, (2) lack of documenting the basis for determining quality level assignments, and (3) a design package for the canister lifting grapple not being available for review.

As a result of observing this audit it was determined that the overall conduct of the audit was effective and agrees with the audit team conclusion that the WVPO and WVNS have implemented an adequate QA program.

There are no new issues that this office has identified that have not been brought to management's attention.

Enclosures

cc/w enc.:
C. Gertz, DOE
D. Shelor, DOE
T. Hickey, State Senator
R. Ballard, M/S 4 H 3

w/o enc.:
K. Hooks, M/S 4 H 3
C. Abrams, M/S 4 H 3
B. Youngblood, M/S 4 H 3
J. Linehan, M/S 4 H 3
R. Bernero, M/S 6 E 6
H. Thompson, M/S 17 G 21
S. Gagner, M/S 2 G 5
E. O'Donnell, M/S NLS 260
R. Loux, State of NV
S. Jones, DOE
R. Spence, DOE

PROJECT MILESTONE REVIEW CHECKLIST

		Yes	No	N/A
1.	Were the design inputs correctly selected, verified, and approved?			
2.	Are assumptions necessary to perform the design activity adequately described and reasonable? Where necessary, are the assumptions identified for subsequent reverifications when the detailed design activities are completed?			
3.	Was an appropriate design method used?			
4.	Were the design inputs correctly incorporated into the design?			
5.	Is the design output reasonable compared to design inputs?			
6.	Are the necessary design input and verification requirements for interfacing organizations specified in the design documents or in supporting procedures or instructions?			
7.	Are the applicable codes, standards, and regulatory, functional and technical requirements, including issues and addenda, properly identified and are their requirements for design met?			
8.	Have all computer codes used in the design analysis been validated and verified on the computer systems used in the analysis?			
9.	Were design, design verification, and peer review (as applicable) procedures correctly implemented?			
10.	Have qualified and certified materials and parts been specified where appropriate?			
11.	Is the design specified producible/constructable by conventional means?			
12.	Does the design adequately consider maintainability, operability, reliability, and radiological safety?			
13.	Are the appropriate quality and QA requirements satisfied?			
14.	Have applicable construction and operating experiences been considered?			
15.	Have the design interface requirements been satisfied?			
16.	Are the specified parts, equipment, and processes suitable for the required application?			
17.	Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed?			

PROJECT MILESTONE REVIEW CHECKLIST

		Yes	No	N A
18.	Have adequate maintenance features and requirements been specified?			
19.	Are accessibility and other design provisions adequate for performance of needed maintenance, in-service-inspection, and repair?			
20.	Are the acceptance criteria incorporated in the design documents sufficiently detailed and specific to allow verification that design requirements have been satisfactorily accomplished?			
21.	Have adequate preoperational and subsequent periodic test requirements been appropriately specified?			
22.	Are adequate handling, storage, cleaning, and shipping requirements specified?			
23.	Are adequate identification requirements for control of items and materials specified?			
24.	Are requirements for record preparation, submitted review, approval, and retention, adequately specified?			
25.	Are detailed regulatory considerations implemented in this design?			
26.	Are detailed site characterization test considerations implemented in this design?			
27.	Is this design in compliance with Mine Safety and Health Act (MSHA) and Occupational Safety and Health Act (OSHA) requirements?			
28.	Are detailed reliability, maintainability, and operability considerations implemented in this design?			
29.	Are detailed environmental considerations implemented in this design?			
30.	Are detailed socioeconomic considerations implemented in this design?			
31.	Are detailed constructability considerations implemented in this design?			

Document Title: _____

Document Number: _____

Print Reviewer Name: _____ Organization: _____

Reviewer Signature: _____ Date: _____

Civilian Radioactive Waste Management System

Management & Operating Contractor

ESF PACKAGE 2
50% MANAGEMENT REVIEW

Document Review Record

WBS. 1.2.6

QA Class: QA
JRB 4/16/93

Page 1 of

Document Title: Document Identifier: Revision: Date:	Review Instructions/Acceptance Criteria: Quality Affecting? Yes [x] No [ ]	Forward Results to: James R. Beyer CRWMS M&O-LV Suite 546 794-1855

Review Instructions/ Criteria Prepared by: James R. Beyer (Signature) Date: 4/16/93	Review Instructions/ Criteria Approved by: (Signature) Date: 4/16/93

Comments that are annotated with an asterisk (*) are MANDATORY and require immediate response and

Comment No.	Section/ Paragraph	Comment	Response	Accept/ Reject

Reviewed by: _____ _____	Response by: _____ _____
Signature Date	Signature Date