



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

Reply to:

1050 E. Flamingo Road, #319
Las Vegas, Nevada 89119
Tel: (702) 388-6125
FTS: 598-6125

M E M O R A N D U M

DATE: June 15, 1990

FOR: John J. Linehan, Director, HLPD, Division of High-Level
Waste Management, M/S 4 H 3

FROM: *John W. Gilray*
John W. Gilray, Sr. DR - YMP

SUBJECT: YMP Site Report for the month of May, 1990

The following report pertains to the QA and waste package associated with the Yucca Mountain Project for the month of May, 1990.

I. QUALITY ASSURANCE

A. YMP Hierarchy Document

The YMP has developed approximately 21 project hierarchy documents which identify specific requirements that must be fulfilled and also guidance and definition as to how these requirements are to be met. All documents have been developed, 19 have been formally reviewed and 2 are awaiting resolution of comments. Since these documents are derived from higher level DOE Hqt. hierarchy documents which are not yet formally approved a conditional release statement is noted on each approved YMP document which requires a verification of the document against

9006210435 900615
PDR WASTE
WM-11 PDC

FULL TEXT ASCII SCAN

102
WM-1
NH03

the upper tier documents when the latter documents are approved. Not many changes are anticipated since the draft versions of the Hqts. documents which the YMP are working to are not expected to be significantly revised.

A separate package containing a flow chart identifying the overall hierarchy of documents and a copy of DOE order 4700.1 describing the purpose and content of these documents has been transmitted to Ken Hooks of NRC for further review and discussions with this office.

It may be worthwhile to have a thorough discussion with DOE on the development, review, approval and control of these hierarchy documents and how they are to be used at one of the QA bimonthly meetings.

B. YMP QA Internal Review of YMP Activities and Management Reviews

QA Internal Review

As a result of the YMP not performing internal audits of YMP quality related activities during 1988 and 1989 (identified on SDR-309) the YMP QA organization has conducted two extensive Internal Reviews of program procedures and activities to determine the extent the YMP activities are in compliance with their QA program. These reviews were conducted April 16 through 20, and June 11 through 15, 1990. The results of the April review have been documented in a report dated May 8, 1990, which I understand has been submitted to NRC. The report for the June review is in preparation.

Management Review

Each of the Division Managers within the YMP conducted an internal review of their activities and output documentation (records) to determine the extent they are in compliance with QA program requirements. The results of these reviews pointed out a general lack of compliance to program procedural controls. Action is underway to correct this deficiency which includes developing improved training methods, performing a rereview of the records and making the necessary corrections to assure compliance.

Summary

Overall, while numerous deficiencies in QA compliance were identified as a result of these two major reviews, they were determined by the YMP not to be of major significance.

The YMP believes that the initiated corrective actions associated with these deficiencies will enable the YMP to further enhance their QA program and to be in a more acceptable position for the forthcoming formal qualification audit.

C. Surveillances of YMP Review of the Study Plans

During the week of June 11, the YMP QA organization conducted a surveillance of YMP quality assurance and technical review of draft Study Plans. This surveillance was observed by Tilak Verma of NRC, and myself. While there was a consensus by the surveillance team that the overall technical process and content of Study Plans may be acceptable there were a number of QA deficiencies in the documentation of the reviews and the lack of clear procedural guidance for the preparation and review of Study Plans by the YMP participants and the YMP. The NRC observation report of this surveillance is under preparation.

The YMP management has agreed that it would be meaningful and beneficial for a technical representative from the NRC to observe a YMP technical review and comment resolution meeting on one or more Study Plans scheduled in the near future. This office will provide a schedule of such meetings to the NRC staff for consideration in observing one or more the these review meetings.

D. YMP Trend Analysis Program

The YMP Standard Deficiency Report #306 identified the need for the YMP to establish and implement a Trend Analysis Program. Accordingly, MACTECH under direction from the YMP QA organization has, during the last two months, been developing a YMP QA procedure for a Trend Analysis Program which includes a Software Program for identifying, tracking, and trending QA program deficiencies. This program is approximately 90% complete. The procedures should be released for implementation the latter part of July.

E. Total Quality Management

On August 7 the YMP will be conducting a one-day Total Quality Management (TQM) seminar at Las Vegas with assistance and participation by the Federal Quality Institute which is based at Washington, D.C. This seminar represents a start of introducing the YMP managers to a government wide program to improve quality, timeliness and efficiency of services within the federal government. The Federal Quality Institute with support from the President's Council on Management Improvement has conducted approximately 40 TQM seminars for 35 agencies throughout the country since the Spring of 1988. Background material describing in more detail the function of the Federal Quality Institute and the TQM concept has been transmitted to Ken Hooks of NRC under separate cover. Jim Tarro, DOE Director of Administration and Human Resource Managements has been directed by Secretary Watkins

to implement a TQM program for DOE. I attended a EG&G TQM seminar June 7 with Jim Tarro making several presentations on the subject. A copy of his presentation and video tapes of the major speakers will be sent to Ken Hooks for review. REECo management will be attending a TQM training seminar conducted by Philip Crosby Associates, Inc., June 19 through 21. This TQM approach should further enhance management's awareness of the need for QA controls and provide management tools of how to achieve improved quality objectives.

II. WASTE PACKAGE

- ◆ The LLNL monthly status report for the month of May is enclosed. It is encouraged that comments and/or questions regarding the contents of this report be directed through this office for action and resolution in order to minimize the impact on the YMP.
- ◆ The YMP Waste Package Plan previously discussed in my last two monthly reports is undergoing a review by DOE Hqts. and comments to the YMP are expected to be received by mid June.
- ◆ The YMP QA organization conducted their yearly QA audit of the implementation of the LLNL QA program the week of May 14. Jim Conway of NRC observed this audit and the NRC observation report on this audit is in preparation.
- ◆ The YMP is developing revised Waste Acceptance Preliminary Specifications which specify the properties and requirements for the high-level waste forms to be produced by the West Valley Demonstration Project at West Valley, by the Defense Waste Processing Facility at Savannah River Plant and by the Hanford Facility. These specifications when approved will supersede existing Waste Acceptance Preliminary Specifications for these facilities.

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

cc: with encls: K. Hooks, J. Bunting, M/S 4 H3; J. Latz

Without encls: R. Stein, C. P. Gertz, R. E. Loux, M. Glora,
G. Cook, D. M. Kunihiro, D. Weigel, R. E. Browning, M/S 4 H3;
R. Bernero, M/S 6 A4; H. Thompson, M/S 17 G21; H. Denton,
M/S 17 F2; S. Gagner, M/S 2 G5; L. Kovach, M/S NLS260.



LLYMP9006001
June 1, 1990

WBS 1.2.9
"QA: N/A"

Carl Gertz, Project Manager
Department of Energy
Nevada Operations Office
Yucca Mountain Project Office
P.O. Box 98518
Las Vegas, Nevada 89193-8518

SUBJECT: Yucca Mountain Project Status Report - May 1990

Attached is the May 1990 Project Status Report for LLNL's participation in the Yucca Mountain Project.

If further information is required, please contact Deborah A. Kiraly of my staff at FTS 543-4571.

Sincerely,

A handwritten signature in cursive script, appearing to read "L. Jardine", written over a horizontal line.

Leslie Jardine
LLNL Technical Project Officer
for YMP

dk
LJJ/DK/dk

cc:
Distribution

DISCLAIMER

The LLNL Yucca Mountain Project cautions that any information is preliminary and subject to change as further analyses are performed or as an enlarged and perhaps more representative data base is accumulated. These data and interpretations should be used accordingly.

LAWRENCE LIVERMORE NATIONAL LABORATORY
(LLNL)
YUCCA MOUNTAIN PROJECT (YMP) STATUS REPORT

MAY 1990

1.2.1 SYSTEMS

1.2.1.1 Management and Integration

Implementation and procedure development for Software QA activities continued. Draft procedures have been issued for trial use to identify implementation problems.

1.2.1.2.4 Systems Engineering Implementation

LLNL submitted to YMPO the revised Waste Package Design Requirements Document (Draft C) and the Technical Assessment Review Comment records with our proposed resolutions.

1.2.1.4.2 Waste Package Performance Assessment

D. Chesnut participated in the May 23-24 Performance Assessment Working Groups 1, 2, and 3 meeting in Albuquerque.

Activity I-20-20a, Scenario Identification, was audited by YMPO as a part of the LLNL-YMP audit May 14-18, 1990.

Staff provided quantitative review of the Battelle, PNL contribution to a Performance Assessment Working Group 2 joint paper, and new conclusions based on comparison of PNL and LLNL analyses. The paper will provide the EBS source term support for the YMPO/OCRWM Performance Assessment exercise for nominal conditions.

1.2.1.4.5 Geochemical Modeling and Data Base Development

1.2.2 WASTE PACKAGE

1.2.2.1 Management and Integration

Staff met informally with members of the Nuclear Waste Technical Review Board (TRB), YMPO and OCRWM on May 22 in Atlanta. A formal meeting in late August is planned to explore issues raised including how the Waste Package Plan (WPP) addresses the TRB's concerns.

1.2.2.3 Waste Form and Materials Testing

Waste Form Testing - Spent Fuel/Glass

The disposition of audit findings LLNL-NCR-043 associated with Activity D-20-44 (TGA Oxidation Testing of Spent Fuel) was addressed by initiating a change notice and completing a response to Part IV of the Non-Conformance Report.

The glove box for the UO_2 dissolution testing arrived and is being assembled and leak-flow tested by a factory engineer.

Staff reviewed a paper from Battelle, PNL - MCC on very short notice at the request of M. Cloninger, YMPO. The paper, "Radionuclide Distribution in LWR Spent Fuel," needed a prompt review to meet the publisher's deadline.

The LLNL review comments on the ANL Test Plan, YMP Series 5 Spent Fuel Leaching and Dissolution Tests, were addressed by ANL, and an associated draft Activity Plan was completed by LLNL.

Review comments on the Test Plan for UO_2 Flow-Through Testing were addressed by LLNL, and updates on the associated draft Activity Plan concerning QA grading to replace QA Level assignment remain to be completed.

W. Bourcier made two presentations at the American Ceramic Society Meeting that was held in Dallas, Texas. The first was on glass dissolution modeling, and the second was on spent fuel oxidation modeling.

A technical interchange meeting was held with J. Bates at Argonne National Laboratory.

Budget allocations at PNL were re-distributed to provide funds for on-going dry-bath oxidation testing and test plans for both pressurized cladding testing and carbon-14 cladding release testing. Initiated discussions with PNL to resolve audit findings NCR-034 and NCR-035 from the LLNL audit of PNL held April 12-13, 1990. Continued PNL work scope discussions for allocation of additional funding that was released from YMP for Spent Fuel work.

Continued PACs planning work; have obtained an initial first set of network drawings for Spent Fuel, Glass, and Integrated Testing tasks.

Activity D-20-44, Spent Fuel Oxidation Testing Using a Thermogravimetric Apparatus, was subjected to an internal LLNL technical audit on May 2-3..

Activity D-20-45, Oven Oxidation Tests of Spent Fuel and UO_2 , was audited by YMPO as a part of the LLNL-YMP audit May 14-18, 1990.

1.2.2.4 Waste Package Design

Container Fabrication and Closure Development

A letter was sent to Babcock and Wilcox Fuel Company requesting copies of:

1. an existing list of records generated for the YMP, and
2. a list of materials including raw stock and samples prepared.

This information will be used to plan the closure of the contract.

1.2.5 REGULATORY AND INSTITUTIONAL

Staff participated in the Sample Overview committee meeting held on May 8 at the Apache Leap site in Arizona.

NRC Interaction Support

No significant activities.

Site Characterization Program

Staff attended the SCP Comment Integration Group (IG) meeting held at YMPO on May 23-24.

Technical Support Documentation

No significant activities.

Study Plan Coordination

The USGS Study Plan 8.3.1.5.1.4, R0, "Analysis of Paleoenvironmental History of the Yucca Mountain Region" and the SNL Study Plan 8.3.1.4.3.1, R0, "Systematic Acquisition of Site-Specific Subsurface Information," were received for technical review.

Semiannual Progress Reports

Corrections to the LLNL portion of the draft Technical Status Report #2 (TSR#2) were transmitted to SAIC on May 4.

Final corrections for the draft input to the progress report on Site Characterization were submitted to YMPO.

1.2.9 PROJECT MANAGEMENT

1.2.9.1 Management

An internal LLNL management review of current YMP activities was held on May 2. The results of the review are being incorporated into the technical and management direction of the LLNL YMP.

Distributed LLNL QA Audit Report 90-14 "Pacific Northwest Laboratories".

Participated in YMP Audit 90-02 by the Project Office to verify that the LLNL QA Program meets the requirements of the LLNL QA Program Plan. Developed responses to identified deficiencies during YMP Audit 90-02.

Transmitted to the Project Office Change Notices 033-YMP-R 2.0 and 033-YMP-R 3.0.

Reviewed and approved SIMCO Quality Assurance Manual, Rev. 1.

Distributed an internal draft recommendation for a software quality assurance procedure to be applied to spreadsheets (such as Excel or Lotus) used for quality affecting work in YMP. It was requested that users try this draft procedure a few times to determine the suitability of the procedure for verifying quality of scientific spreadsheet work. It will then be revised and formally implemented.