

YUCCA MOUNTAIN PROJECT OFFICE

QUALITY ASSURANCE SURVEILLANCE REPORT

OF

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

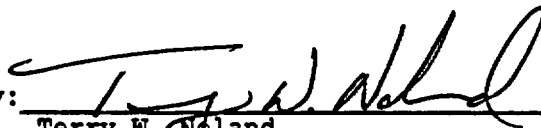
SURVEILLANCE NUMBER YMP-SR-91-006

CONDUCTED NOVEMBER 29 AND DECEMBER 3 THROUGH 4, 1990

ACTIVITIES SURVEILLED:

PREPARATION AND REVIEW OF "TECHNICAL REQUIREMENTS OF THE YUCCA MOUNTAIN PROJECT (MIDWAY VALLEY TRENCHING CALCITE/SILICA ACTIVITIES)," YMP/CM-0007, REVISION 2

Prepared by:



Date:

12/14/90

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Quality Assurance Engineer  
Yucca Mountain Quality Assurance Division

Approved by:



Date:

12/14/90

Donald G. Horton, Director  
Yucca Mountain Quality Assurance Division

## 1.0 INTRODUCTION

This report contains the results of a surveillance conducted by the Yucca Mountain Quality Assurance Division (YMQAD) of the Yucca Mountain Site Characterization Project Office (Project Office) and Sandia National Laboratories (SNL) preparation and review of "Technical Requirements for the Yucca Mountain Project (Midway Valley Trenching and Calcite/Silica Activities)," YMP/CM-0007, Revision 2. This surveillance was recommended as a result of Audit 90-I-01 and was conducted on November 29, 1990, at the Project Office, and on December 3 through 4, 1990, at SNL.

## 2.0 PURPOSE AND SCOPE

The purpose of this surveillance was to verify that YMP/CM-0007, Revision 2, was prepared in accordance with SNL and Project Office procedures. In addition, this surveillance checked the traceability of requirements within YMP/CM-0007, Revision 2, back to the governing document.

## 3.0 SURVEILLANCE PERSONNEL

T. W. Noland, Principal Engineer - Quality Assurance (QA), Westinghouse /YMQAD, Las Vegas, Nevada  
James Blaylock, QA Verification Manager, U.S. Department of Energy (DOE)/YMQAD, Las Vegas, Nevada  
John Gilray, Observer, U.S. Nuclear Regulatory Commission (NRC), Las Vegas, Nevada

## 4.0 SUMMARY OF SURVEILLANCE RESULTS

This surveillance was performed in two parts with the first part being conducted at the Project Office on November 29, 1990, and the second being conducted at SNL on December 3 through 4, 1990. There were no Corrective Action Reports issued as a result of this surveillance. The preparation and review of YMP/CM-0007, Revision 2, was performed in accordance with SNL and Project Office procedures.

### 4.1 PROJECT OFFICE SUMMARY

The Project Office portion of this surveillance consisted of verifying that the review of Draft H of YMP/CM-0007 was in accordance with Quality Management Procedure QMP-06-04, Revision 1. There were 21 reviewers for the review of Draft H. The following items were verified for the review:

1. All primary reviewers were selected by the managers of the reviewing organizations, in accordance with Step 10 of QMP-06-04, Revision 1.
2. All assigned technical reviewers were found to be independent of preparation of the document in accordance with Step 10 of QMP-06-04, Revision 1. Technical reviewers were selected for the following disciplines: Seismic, Faulting Hazards, Sample Management, Environmental, Field Construction, Systems, Performance Assessment, Testing Linkage, and Engineering and Construction. The disciplines covered indicate a thorough technical review.
3. All reviewers were provided with a review package that consisted of the following: a copy of the request form; a copy of the document to be reviewed; a Document Review Cover Sheet with the proper entries in Section 1; Document Review Sheets (DRSs) with the document identification number entered; a Comment Dispute Resolution Sheet with document title and identification number entered; a Document Transmittal/Acknowledgment Sheet with instructions; and review criteria. The review packages provided were in accordance with Step 11 of QMP-06-04, Revision 1.
4. All DRSs were found to be completed in black ink, in accordance with DRS Instruction (a) of QMP-06-04, Revision 1.
5. The DRSs for the following reviewers were found to have comments numbered and the sections or steps to which the comments applied were indicated (where appropriate), in accordance with DRS Instruction (a) of QMP-06-04, Revision 1.

H. E. Adkins	H. Z. Dokuzoguz	M. A. Glora
R. V. Barton	G. A. Fasano	T. A. Grant
J. A. Catozzi	W. A. Girdley	R. C. Greenwold
6. Major comments were properly designated for the reviewers listed in Item 5 above, in accordance with DRS Instruction (a) of QMP-06-04, Revision 1.
7. Section II of the DRSs was properly completed for the two primary reviewers who assigned their reviews to a secondary reviewer, in accordance with Step 13 of QMP-06-04, Revision 1. The secondary reviewers were H. E. Adkins, for W. R. Dixon, and K. T. McFall, for D. G. Horton.
8. Responses were provided by subject matter experts to all major comments submitted by the reviewers listed in Item 5 above, in accordance with Step 15 of QMP-06-04, Revision 1.

9. The reviewers' acceptance of responses were indicated by checking yes or no, initialing, and dating, for the reviewers listed in Item 5 above, in accordance with DRS Instruction (c) of QMP-06-04, Revision 1.
10. There was one disputed comment for all the reviews performed on Draft H. This was T. A. Grant Comment No. 1, which was documented on a Comment Dispute Resolution Sheet and was resolved by E. A. Petrie, in accordance with Step 21 of QMP-06-04, Revision 1.
11. The following Reviewer Draft H Comments were checked and found to be properly incorporated in YMP/CM-0007, Draft J, Revision 2.
  - M. A. Glora Comment 23
  - G. A. Fasano Comments 5 and 30
  - J. A. Catozzi Comment 4
  - T. Hinkebein Comments 1 and 12
  - S. Jones Comments 1a and 3
  - E. A. Petrie Comments 3 and 4
  - J. L. King Comments 1 and 4
  - R. J. White Comment 6

Each of the above reviewers indicated on the Document Review Cover Sheets that they had verified that all of their comment dispositions had been satisfactorily incorporated into the final draft, in accordance with DRS Instruction (d) of QMP-06-04, Revision 1.

12. YMP/CM-0007, Revision 2 was approved by R. V. Barton, for E. H. Petrie; D. G. Horton; and C. P. Gertz on November 19, 1990 in accordance with Step 23 of QMP-06-04, Revision 1.

#### 4.2 SNL SUMMARY

The SNL portion of the surveillance consisted of verifying that the proper controlling documents were in place to control preparation of the SNL sections of YMP/CM-0007, Revision 2, and that a SNL internal review was performed on their sections prior to submittal to the Project Office. In addition, the selected requirements of Section 3 of YMP/CM-0007, Revision 2, were checked to verify that they were traceable to the governing document. Specific items verified are as follows:

1. SNL did not have an approved work plan or grading report in place prior to start of preparation of their sections of YMP/CM-0007. This deficiency was documented in Deviation Report (DR) SNL 91-01. The DR documents appropriate remedial action, but does

not document any corrective action to ensure that work plans and grading reports are prepared prior to the start of future work activities. SNL Quality Assurance Procedure QAP 16-2, Revision B, does not require that corrective action be identified for DRs, but in the opinion of the Surveillance Team it would be appropriate to do so for SNL 91-01, to prevent recurrence in future work activities.

2. Interface Memorandum of Understanding (MOU) No. 330001, Revision 0, was approved August 27, 1990 to cover SNL involvement in YMP/CM-0007, in accordance with Administrative Procedure (Quality) AP 5.19Q, Revision 1, Section 2.
3. Draft A of the SNL input to YMP/CM-0007 was internally reviewed as required by Department Operating Procedure DOP 3-13, Section 2, prior to submittal to the Project Office. The review performed consisted of a management review by L. Shephard and a technical review by F. J. Schelling.
4. L. Shephard and F. J. Schelling were provided review criteria as required by DOP 3-13, Revision C, Section 4.2, and the scopes of their reviews were defined as required by DOP 3-13, Section 5.1 c.
5. L. Shephard and F. J. Schelling were qualified for the scopes of their reviews and had both been trained to DOP 3-13, Revision C.
6. The Document Review and Comment (DRC) Forms were properly completed, including header information, reviewer comments, author/requester dispositions of comments, and reviewer's acceptance of comment disposition, in accordance with DOP 3-13 Section 5.1 a, DRC Instruction B, DRC Instruction C, and DRC Instruction D, respectively. There were no comments that require elevation to higher management for resolution.
7. The reviewers indicated by signature in accordance with DOP 3-13, Section 5.4, that their comments had been incorporated into the final draft (Draft C). Incorporation of F. J. Schelling's 10 comments were checked and all 10 comments were found to be relative to items that were no longer part of Draft C.
8. The traceability of YMP/CM-0007, Revision 2, requirements to the governing document was checked. The SNL Draft A and Draft C inputs did not tie the origin of the requirement, except for cases in which the regulation was cited in the requirement itself. Consequently, the requirement origin was added during the evolution of the document from Draft H to Draft J by the Project Office.

All references were to the Waste Management System Requirements WMSR IV (March 1990). Requirements identified by SNL for inclusion in YMP/CM-0007, Revision 2, are found only in Section III; this discussion pertains only to those requirements within that section. Many of the requirements were either verbatim or paraphrased such that the tie to WMSR IV was easily traced. Other requirements appear to be administrative rather than technical; thus, the tie to WMSR IV is not clear. In the opinion of the Surveillance Team, the following references are not clear:

Yucca Mountain Mined Geologic Disposal System

- Constraint B - [W 2.2.1(3)]
- Constraint C(6) - [W 2.2.1(3)]
- Constraint D - [W 2.2.1(3)]
- Constraint F - [W 2.2.1.4.2.4(3)]

1.0 Site

Functional Requirements

1.0 Preclosure - [W 2.2.1(3)]

2.0 Postclosure - [W 2.2.1.4.1]

3.0 System Performance Evaluation

- Functional Requirement 1 - [W 1.2.2.1(8)]
- Constraint A - [W 2.2.1(8.17)]

5.0 PERSONNEL CONTACTED

G. D. Dymmel, Project Office, Las Vegas, Nevada  
J. D. Waddell, Science Applications International Corporation (SAIC),  
Las Vegas, Nevada  
L. C. Raymer, SAIC, Las Vegas, Nevada  
R. R. Schneider, SAIC, Las Vegas, Nevada  
E. L. Spangler, SAIC, Las Vegas, Nevada  
R. R. Richards, SNL, Albuquerque, New Mexico  
G. A. Smit, SNL, Albuquerque, New Mexico  
L. J. Klamerus, SNL, Albuquerque, New Mexico  
James Voight, MAC Technical Services Company/SNL, Albuquerque, New Mexico  
Rich Kalinski, Los Alamos Technical Associates (LATA), Albuquerque,  
New Mexico  
Leigh Laporte, LATA, Albuquerque, New Mexico

6.0 MEASURING AND TEST EQUIPMENT

None

## 7.0 SYNOPSIS OF DEFICIENCY DOCUMENTS

There were no deficiency documents issued as a result of this surveillance.

## 8.0 RECOMMENDED ACTIONS

The Surveillance Team recommends that the following areas be evaluated by SNL and Project Office management:

1. DR SNL 91-01 documents that SNL started preparation of input to YMP/CM-0007, before approval of a work plan and grading report. The DR identifies appropriate remedial action but does not identify any corrective action to prevent recurrence. Although not required by SNL QAP 16-2, Revision B, the Surveillance Team feels that corrective action should be taken by SNL to prevent recurrence in future activities.
2. SNL's preparation of their sections as a separate document caused some continuity problems between those and the rest of YMP/CM-0007, Revision 2. In addition, because SNL prepared their sections to their QA Program, a separate work plan, grading report, and MOU had to be prepared to cover their work, and a separate SNL internal review of their sections was required prior to submittal to the Project Office. The Surveillance Team recommends that for future Project Office documents in which portions are written by outside author(s), the outside author(s) should be placed under temporary assignment to the Project Office and work to the Project Office QA program.
3. The traceability of YMP/CM-0007, Draft J, Section III, requirements back to WMSR IV (March 90) was checked during the surveillance. Many of the requirements were either verbatim or paraphrased such that the tie to the WMSR IV was easily traceable. Some requirements appeared to be administrative rather than technical; thus, the tie back to the WMSR IV was not clear. Examples in which the traceability was not clear are given in Section 4.2, Item No. 8, of this report. The Surveillance Team recommends that the Project Office check the traceability of all requirements within YMP/CM-0007, Revision 2.

## 9.0 REQUIRED ACTIONS

There are no required actions as a result of this surveillance.