



**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 98608  
Las Vegas, NV 89193-8608

**FEB 14 1995**

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Technical Project Officer  
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Site Characterization Project  
TRW Environmental Safety Systems, Inc.  
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101 Convention Center Drive  
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ISSUANCE OF SURVEILLANCE RECORD YMP-SR-95-015 RESULTING FROM  
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION'S (YMQAD) SURVEILLANCE  
OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT  
AND OPERATING CONTRACTOR (CRWMS M&O) (SCPB: N/A)

Enclosed is the record of Surveillance YMP-SR-95-015 conducted  
by the YMQAD at the CRWMS M&O facilities in Las Vegas, Nevada,  
December 19, 1994, through January 18, 1995.

The purpose of the surveillance was to evaluate CRWMS M&O  
activities associated with obtaining and using the data sets  
in Sandia Letter Technical Report 94-0001 as design inputs.

Corrective Action Request (CAR) YM-95-026 was issued as a  
result of this surveillance. Response to the CAR, which was  
transmitted via separate letter, is due by the date indicated  
in Block 13 of the CAR.

This surveillance is considered completed and closed as of the  
date of this letter. A response to this surveillance record  
and any documented recommendations is not required.

If you have any questions, please contact either Robert B.  
Constable at 794-7945 or John R. Matras at 794-7197.

Richard E. Spence, Director  
Yucca Mountain Quality Assurance Division

YMQAD:RBC-2018

Enclosure:  
Surveillance Record  
YMP-SR-95-015

YMP-5

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PDR WASTE  
WM-11 PDR

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wm-11  
NH03/1

FEB 14 1995

cc w/encl:

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OFFICE OF  
 RADIOACTIVE WASTE MANAGEMENT  
 U.S. DEPARTMENT OF ENERGY  
 WASHINGTON, D.C.

QUALITY ASSURANCE SURVEILLANCE RECORD

SURVEILLANCE DATA

<sup>1</sup>ORGANIZATION/LOCATION:  
 Management and Operating  
 (M&O) Contractor TRW, Las  
 Vegas, NV

<sup>2</sup>SUBJECT:  
 Use of data from SLTR94-0001 by the M&O

<sup>3</sup>DATE: 12/19/94 through 1/18/95

<sup>4</sup>SURVEILLANCE OBJECTIVE: See page 2

<sup>5</sup>SURVEILLANCE SCOPE: Evaluation of the M&O activities associated with  
 obtaining and using the data sets in SLTR94-0001 as design inputs.

<sup>6</sup>SURVEILLANCE TEAM:  
 Team Leader:

John R. Matras

Additional Team Members:

William B. Sublette

<sup>7</sup>PREPARED BY:

*John R. Matras*

<sup>8</sup>CONCURRENCE:

*N/A*

John R. Matras

12/18/94

QA Division Director

Date

Surveillance Team Leader

Date

SURVEILLANCE RESULTS

<sup>9</sup>BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:  
 See pages 2 and 3

<sup>10</sup>SURVEILLANCE CONCLUSIONS:  
 See pages 3 and 4

<sup>11</sup>COMPLETED BY:

*C.C. Wane for*

<sup>12</sup>APPROVED BY:

*William B. Sublette for*

JOHN R. MATRAS

1-2-95

2.7.95

Surveillance Team Leader

Date

QA Division Director

Date

ENCLOSURE

**Block 4 (continued) Surveillance Objective:**

1. Verify how data generated from Sandia Letter Technical Report (SLTR)94-0001 was utilized by the Management and Operating (M&O) Contractor as design inputs.
2. Evaluate the interface controls Sandia National Laboratories (SNL) and the M&O followed.
3. Verify how the M&O distinguishes between qualified and unqualified data in the report used as design inputs.

**Block 9 (continued) Basis of Evaluation/Description of Observations:**

**SURVEILLANCE INITIATION**

In response to a recommendation made in Audit Record YM-ARP-95-03 a surveillance was conducted by the Yucca Mountain Quality Assurance Division (YMQAD). Surveillance YMP-SR-95-015 of the M&O was conducted between December 19, 1994 through January 18, 1995. This was a cooperative effort between the M&O and YMQAD since the M&O was conducting similar surveillances (95-NSS-009 and 95-NSS-010). A joint checklist was developed and used for the surveillances.

The surveillances concentrated on SLTR94-0001. This report provided information on the geoen지니어ing characterization of nonlithified (soil-like) tuff materials of the pre-Rainier Mesa and Rainier Mesa to be encountered by the North Ramp in the vicinity of the Bow Ridge Fault. This information was used by the M&O in the design of the Exploratory Studies Facility (ESF) of the Yucca Mountain Site Characterization Project.

This surveillance focussed on how data obtained from SLTR94-0001 was utilized by the M&O as design inputs, the interface controls followed by the M&O and SNL, and determined how the M&O distinguishes between qualified and unqualified data in the report that was used as design inputs.

**SURVEILLANCE ACTIVITIES**

M&O engineering interfaced with the Test Coordination Organization (TCO) which is supported by Los Alamos National Laboratory (LANL). The TCO coordinated meetings between the M&O and SNL personnel where the requirements for the data sets to be used as design inputs were established and documented by LANL in three memorandums. M&O engineers worked closely with SNL in the development of the data. The M&O was not involved with the formal review of the final letter report. When the data was complete SNL transmitted the data to the M&O with a transmittal letter and Transfer Technical Data Information Form (TDIF) 303645. There are no implementing procedures to control these external interfaces between the M&O, SNL, and LANL describing how the M&O would specify requirements and review the completed letter before issue. Corrective Action Request (CAR) YM-95-026

was issued to reflect the lack of procedural control. It should be noted that the data contained in SLTR94-0001 was verified as adequate for intended use by the M&O engineer.

The M&O engineer knew that the report contained both qualified and non-qualified data. The non-qualified data was clearly labeled in the report and was not used as a design input. SLTR94-0001 was identified during the audit as providing design inputs to two M&O design analyses. M&O engineers stated that if there were changes to SLTR94-0001 that might affect the use of the data as design input they would review the affected analyses in the design input section, to see if SLTR94-0001 was used and then evaluate the effects on the use. Since the design team has not changed and there are relatively few design documents this process should work. It is recommended that in the future the M&O develop a configuration management system for tracking the use of data as inputs to design documents. (Refer to recommendation)

M&O engineers were interviewed as to the process followed when selecting the data from SLTR94-0001. The first step was a design verification of the design inputs. This included looking at qualification status identified on the TDIF 303453, Data Tracking Number (DTN) SNF29014993002.026. The design engineer then reviewed the report to verify that the information to be used as design inputs were correct for the intended use.

**Block 10 (continued) SURVEILLANCE CONCLUSIONS:**

The surveillance verified that information contained in SLTR94-0001 was utilized by the M&O as design inputs. This data went through a design verification by the M&O design engineer before being used.

There were no proceduralized interface controls followed by the M&O with SNL in the development of SLTR94-0001. The M&O engineer and SNL Principal Investigator (PI) informally interfaced with each other with the aid of LANL TCO. This lack of procedural control resulted in the issuance of a CAR.

SLTR94-0001 identified which data in the report were not qualified. The M&O verification took this into account when selecting the design inputs. If the status of data in a report were to change from qualified to non-qualified the M&O does not have a configuration management system to track the use of data in design documents. They rely on the engineer to check the references to design documents. A recommendation was made that a configuration management system be established to facilitate this activity.

One CAR was issued and one recommendation was made.

CAR:

YM-95-026 was issued against the U. S. Department of Energy (DOE) that identified a lack of procedural control over the external interfaces between organizations in the area of data request/development/receipt.

Recommendation:

A configuration management system should be developed to track the use of data retrieved from the technical data management system that are used as design inputs in design documents. Changes to data used as design inputs must be evaluated as to the effect on the design. There were no activities identified during the surveillance where changed data were used as design inputs.

ATTACHMENT 1

PERSONNEL CONTACTED:

Michaele Brady, Deputy Technical Project Officer, SNL  
Steve Bodnar, Technical Data Manger, M&O  
Saeed Banabian, Geotechnical Specialist, M&O  
Jim Gardiner, Engineer, DOE  
Jeff Gardner, System Engineering Lead, Project Management Office  
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John Pye, ESF Subsurface Design Lead, M&O  
Dennis Royer, Systems Lead, DOE  
George Vaslos, Lead Auditor, M&O  
Bernard J. Verna, Design Lead, DOE

OBJECTIVE EVIDENCE:

Reports: SLTR94-0001, "Site Characterization Project  
Geoengineering Characterization of  
Nonlithified Tuffs to be Encountered by the  
North Ramp West of the Bow Ridge Fault."

Design Documents: BABEAB000-01717-0200-00010, Revision 01, "TS  
North Ramp Ground Support Scoping Analysis."  
  
BABEAB000-01717-0200-00004, Revision 01, "TS  
North Ramp Stability Analysis."

Data Forms: TDIF 303453, DTN SNF29041993002.026  
TDIF 303645, DTN SNF29041993002.026, Transfer  
TDIF

Correspondence: Los Alamos Memorandum, H. Kalia to  
Distribution, LA-EES-13-LV-05-94-020  
  
Los Alamos Memorandum, H. Kalia to  
Distribution, TWS-EES-13-LV-11-93-024  
  
Los Alamos Memorandum, H. Kalia to  
Distribution, TWS-EES-13-LV-10-93-016  
  
Interim Data Transmittal, SLTR94-0001: "Yucca  
Mountain Site Characterization Project  
Geoengineering Characterization of  
Nonlithified Tuffs to be Encountered by the  
North Ramp West of the Bow Ridge Fault,"  
Revision 7.