



**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 98608  
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SEP 05 1995

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Site Characterization Project  
TRW Environmental Safety Systems, Inc.  
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ISSUANCE OF SURVEILLANCE RECORD YMP-SR-95-043 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-95-043 conducted by  
the YMQAD at the CRWMS facilities in Las Vegas, Nevada,  
July 27, 1995 through August 4, 1995.

The purpose of the surveillance was to verify compliance with  
Quality Assurance Requirements and Description, Revision 4,  
Sections 2 and 17 requirements when requesting and clarifying  
Exploratory Shaft Facility testing needs via memoranda.

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 Mario R. Diaz at  
794-7974 or Kristi A. Hodges at 794-7807.

Richard E. Spence, Director  
Yucca Mountain Quality Assurance Division

YMQAD:MRD-4362

Enclosure:  
Surveillance Record  
YMP-SR-95-043

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102.7  
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YMP-5

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PDR WASTE  
WM-11 PDR

SEP 05 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: Civilian Radioactive Waste Management (CRWMS) Management and Operating (M&O) Contractor	<sup>2</sup> SUBJECT: Use of Memoranda for Exploratory Studies Facility (ESF) testing activities.	<sup>3</sup> DATE: July 27, 1995 through August 4, 1995
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<sup>4</sup>SURVEILLANCE OBJECTIVE:  
 To verify compliance with Quality Assurance Requirements Description (QARD), Rev. 4, Section 2 and 17 requirements when requesting and clarifying ESF testing needs via memoranda.

<sup>5</sup> SURVEILLANCE SCOPE: To evaluate use of memoranda as interface documents for ESF testing activities and to determine whether information contained in the memoranda should be included in the field planning documents.	<sup>6</sup> SURVEILLANCE TEAM: Team Leader: <u>Kristi A. Hodges</u> Additional Team Members: <u>None</u>
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<sup>7</sup> PREPARED BY: <u>Kristi A. Hodges</u> <u>7/27/95</u> Surveillance Team Leader Date	<sup>8</sup> CONCURRENCE: <u>N/A</u> QA Division Director Date
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SURVEILLANCE RESULTS

<sup>9</sup>BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:  
 See Page(s) 2 through 5

<sup>10</sup>SURVEILLANCE CONCLUSIONS:  
 See Page(s) 5 and 6

<sup>11</sup> COMPLETED BY: <u>Kristi A. Hodges</u> <u>8/29/95</u> Surveillance Team Leader Date	<sup>12</sup> APPROVED BY: <u>Harris Kan</u> <u>8-29-95</u> QA Division Director Date
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**Block 9 (continued) BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:**

The purpose of this surveillance was to evaluate memoranda between Thompson Ramo Woolridge (TRW) Environmental Safety Systems (M&O ESF Design), Los Alamos National Laboratory (LANL) Test Coordination Officer (TCO), and Sandia National Laboratory (SNL) regarding placement of construction monitoring instrumentation; e.g., accelerometers, strain gauges, and convergence pins, for consistency with Office of Civilian Radioactive Waste Management (OCRWM) QARD, DOE/RW 0333P, Rev. 4, Section 2 (Organizational Interfaces and Planning Work) and Section 17 (QA Records) requirements.

A review was performed to determine whether information contained in the subject memoranda should be included in associated Job Packages (JPs) and Test Planning Packages (TPPs) and whether the use of memoranda is a result of elimination of LANL Work Plans (WPs). In addition, an evaluation of how these organizations coordinate their activities to meet common or parallel objectives was performed. The surveillance was performed from July 27 through August 4, 1995, at the Bank of America Building in Las Vegas, NV.

**Documents Reviewed**

The following seven memoranda request or clarify placement of steel set monitoring instrumentation:

TRW Environmental Safety Systems, Inc. memorandum LV.ESSB.MET.3/95-037; R. M. Sandifer to N. Z. Elkins, LANL; dated March 22, 1995; Subject: Monitoring of Instrumentation

TRW Environmental Safety Systems, Inc. memorandum LV.ESSB.EFF.03/95-557; R.M. Sandifer to N. Z. Elkins, LANL; dated March 28, 1995; Subject: Blast Vibration Monitoring

LANL memorandum LA-EES-13-LV-04-95-001; dated April 3, 1995; Subject: Request for Instrumentation of Steel Sets Numbered 112 and 114 in the Exploratory Studies Facility

TRW Environmental Safety Systems, Inc. memorandum LV.ESSB.MET.3/95-042; R. M. Sandifer to N. Z. Elkins, LANL; dated April 4, 1995; Subject: Monitoring of Instrumentation

LANL memorandum LA-EES-13-LV-04-95-011; F. Homuth to J. Grant, SNL; dated April 19, 1995; Subject: Request for Instrumentation of Steel Sets Numbered 90 and 96 in the Exploratory Studies Facility

TRW Environmental Safety Systems, Inc. memorandum LV.ESSB.MET.5/95-060; R. M. Sandifer to N. Z. Elkins, LANL; dated May 1, 1995; Subject: Steel Set Monitoring of Instrumentation

LANL memorandum LA-EES-13-LV-05-95-036; F. Homuth to J. Grant, SNL; dated May 18, 1995; Subject: Modification of Steel Set Monitoring and Instrumentation in the Exploratory Studies Facility

**Background:**

Prior to the surveillance, a concern was raised that work was being implemented via memoranda rather than in accordance with the JPs, TPPs, and procedures. Memoranda had surfaced within the Yucca Mountain Quality Assurance Division (YMQAD) that requested and coordinated construction monitoring in support of design activities. These memoranda were requests by ESF Design to the LANL TCO and by LANL to SNL to install instrumentation at selected steel set locations.

SNL is performing construction monitoring in accordance with Study Plan 8.3.1.15.1.8, "In Situ Design Verification," Rev. 0, which is comprised of four ESF experiments. The JP is 92-20D, "Construction Monitoring in the Ramps, MTL Drifts, and Alcoves" (no revision) and the TPP is T-93-2, "Construction Monitoring in the Exploratory Studies Facility," Rev. 3.

**Interface Control (QARD, Rev. 4, Section 2):**

The use of memoranda to request data in support of design activities (Design Package 2C) was part of an unresolved interface control issue documented in Corrective Action Request (CAR) YM-95-026. The TCO representative who was assigned responsibility for writing a revised CAR response was also the primary interface for this surveillance. Fortunate timing allowed for discussions with the CAR initiator and assigned responder to address QA concerns that had precluded CAR resolution. It also provided an opportunity to address concerns with the TCO and testing organization interfaces and the role of the TPP as an interface document without having to generate additional deficiency documentation.

Based upon these discussions, a CAR response was developed that committed to discontinuing the use of memoranda to request or clarify test related design data needs. It required revision to an M&O Quality Administrative Procedure (QAP) 3-12 to formalize requests for data. In addition, a commitment was made to revise the field planning documents (JP and TPP) for construction monitoring to indicate that the TCO will coordinate with the applicable testing organizations to ensure that data requests are accurate, complete, understandable, and within the prescribed JP/TPP scope. Requests that are determined by the TCO to be outside of the prescribed scope will require formal revision of the JP/TPP. Requests that are within the scope will be passed on to the testing organization for implementation.

Absent from the response was a commitment to establish a process for controlling interfaces when a request or clarification does not change the planning document workscope. Currently, a test request or clarification is added to the JP file for retention, however, these are considered planning document addenda and not JP completion records. It is recommended that these documents not be mixed with the completion records in the JP file (see recommendation #1).

A decision was made not to tie the CAR resolution to revision of the field planning process. The TPP and JP procedures (YAPs 5.5Q and 5.6Q) are to be combined into a single procedure with a streamlined approach for ESF testing. The draft procedure does not address appending requests or clarifications, but based upon preliminary discussions, potential methods will be examined and considered for inclusion in the revised process. It is

recommended that a process be established, perhaps a quick change methodology that allows lower-level review and approval, to append requests and clarifications to the controlled planning document (see recommendation #2).

**Planning Work (QARD, Rev. 4, Section 2):**

The TPP for construction monitoring is vague when addressing instrumentation of ground support. Terminology is used; e.g., approximately, may, and should, to allow flexibility in the number and location of instruments. The surveillance intended to determine whether the memoranda included information that should be in the JP or TPP.

Based upon review of the memoranda, the TPP is considered appropriate for this type of detail, however, because of unforeseen variables and fluctuating conditions in the ESF, it is impractical to plan all activities. It is also impractical to suggest a formal review by numerous organizational entities for each request or clarification. As stated above, methods for appending requests or clarifications that preclude unnecessary planning document revisions will be evaluated for inclusion in the revised field test planning process.

There is concern that some requests; e.g., monitoring of ground support during alcove blasting and construction, could have been planned. Planning documents should be written/ revised to contain as much detail as is practical. Although it is understood that some conditions can not be predicted, it is recommended that construction monitoring of typical ESF conditions and designed subsurface structures be included in the planning documents (see recommendation #3).

Another concern expressed within the YMQAD was that the memoranda might have been generated as a result of the elimination of the WPs. WPs were interface documents generated by the TCO that were rescinded based upon QA concerns identified in another CAR (YM-95-025). That CAR was closed with a documented statement that detail once included in the WP must be controlled through the appropriate DOE procedures and not through letters and memoranda. The surfacing of the memoranda appeared to be related to the withdrawal of the WPs, but based upon further evaluation, the scope of the memoranda is beyond the scope of what was included in the WPs. The two issues are not related with exception of an overall Project problem with control of interfaces.

**QA Records (QARD, Rev. 4, Section 17):**

The memoranda brought to the attention of the YMQAD was distributed with QA:NA record classifications and without reference to the applicable JP or TPP. LANL personnel provided evidence that its memoranda had been corrected to reflect QA:L (Lifetime) and copied to the Document Record Center (DRC) for inclusion in the JP file (#DRC-098). The memoranda generated by ESF Design remained with a QA:NA designation, although it was copied to a Project File (#102.01.1). It was however attached by LANL to its memoranda and added to the DRC JP file. The record value of the memoranda is open to debate, but as part of a compiled record package, it will be retained in accordance with the value assigned to that package. The completed JP package will be assigned a Lifetime QA record designation.

Test requests or clarifications are not specified in the JP or TPP as records to be retained in the DRC JP file. Once again, a distinction between input and output documents needs to be made. These documents are addenda to planning documents, not outputs of those documents. The appropriate place for them to reside is with the controlled planning document (see recommendations #1 and #2). Regardless, memoranda that has been generated to request, clarify, and coordinate construction monitoring have been captured for retention.

#### **Personnel Contacted**

Andrew G. Burningham, LANL TCO representative  
John Matras, YMQAD QA Specialist  
E. Fred Homuth, LANL Integrated Data Control System Coordinator  
Joseph W. Willis, M&O Location Quality Assurance Manager

#### **Block 10 (Continued) Surveillance Conclusions:**

This surveillance served a dual purpose; it provided an evaluation of the use of memoranda as interface documents and assisted with the resolution of an existing YMQAD CAR. The surveillance focused on solutions to complex interface issues that have evaded comprehension by technical, management, and support personnel alike.

Preliminary steps were taken to understand the existing communication processes between the various organizational entities. However, the surveillance and the CAR were limited in scope and did not address other apparent interface problems; e.g., document hierarchy and data transfer, acquisition, and validation. It is the perception of the surveillance team leader, CAR initiator, and assigned responder that these and other interface issues will require future evaluation.

A memorandum to transition responsibility of the Project Interface Control Working Group (ICWG) from DOE to the CRWMS M&O was issued by the Project Manager on July 25, 1995. It appears that this group was not utilized for resolution of the CAR and may not have been aware of its existence. Likewise, personnel involved in the initiation and resolution of the CAR were unaware of the working group. A flowchart was developed, perhaps by the ICWG, of design and testing program interactions. Although not entirely accurate, it was a helpful reference during this surveillance. As the workgroup function transitions to the M&O, it is recommended that priority be placed on developing a revised flowchart with reference to where interfaces are established in procedures (see recommendation #4).

There were no corrective action documents issued as a result of this surveillance, however, four recommendations for management consideration are detailed below.

#### **Recommendations**

1. Because test requests or clarifications are not produced by completion of JP activities, it is recommended that they not be mixed with the completion records in the JP file.

2. It is recommended that a process be established, perhaps a quick change methodology allowing lower-level review and approval, to append requests and clarifications to the controlled planning document.
3. It is recommended that construction monitoring of typical ESF conditions; e.g., fractured areas, and engineered subsurface structures; e.g., alcove turn-outs, be addressed/identified in the planning documents.
4. As the ICWG function transitions to the M&O, it is recommended that priority be placed on developing a revised flowchart with reference to where interfaces are established in procedures.