

YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION

SURVEILLANCE REPORT OF

TECHNICAL AND MANAGEMENT SUPPORT SERVICES

SURVEILLANCE NUMBER YMP-SR-91-017

CONDUCTED MAY 6 THROUGH 8, 1991

ACTIVITIES SURVEILLED:

PREPARATION AND REVIEW OF THE EXPLORATORY SHAFT  
FACILITY DESIGN REQUIREMENTS DOCUMENT, APPENDIX J; REVIEW  
OF THE SITE CHARACTERIZATION PROGRAM BASELINE DOCUMENT;  
ASSOCIATED TRAINING AND REVIEW RECORD PACKAGES

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Donald G. Horton  
Director  
Yucca Mountain Quality Assurance Division

ENCLOSURE

## 1.0 INTRODUCTION

This report contains the results of Yucca Mountain Quality Assurance Division (YMQAD) Surveillance No. YMP-SR-91-017 of the Technical and Management Support Services (T&MSS) contractor, conducted in Las Vegas, Nevada, May 6 through 8, 1991. This surveillance was performed to verify compliance and effectiveness of selected T&MSS implementing procedures.

## 2.0 PURPOSE AND SCOPE

The purpose of this surveillance was to evaluate the effectiveness of the implementation of T&MSS quality procedures associated with the preparation and review of the Exploratory Shaft Facility Design Requirements (ESFDR) document, Appendix J; review of the Site Characterization Program Baseline (SCPB) document; flow-down to the Environmental Regulatory Compliance Plan (ERCP) requirements of the ESFDR, Appendix J; records; and associated personnel training. The scope of the surveillance included the following criteria and their attendant procedures:

<u>Criterion</u>	<u>Title</u>
II	Quality Assurance Program Standard Practice Procedure SP 1.31, Revision 3, "Initial Evaluation, Qualification, and Training of T&MSS Personnel"
IV	Document Control SP 2.3, Revision 1, "Review of T&MSS Technical Documents"
XVII	Quality Assurance Records SP 1.36, Revision 3, "Records Management: Record Source Implementation"

## 3.0 SURVEILLANCE PERSONNEL

The surveillance was conducted by the following personnel:

Donald J. Harris, Surveillance Team Leader, Senior Quality Assurance Engineer, Harza Engineering Company/YMQAD

Terry W. Noland, Principal Engineer, Westinghouse Electric Company/YMQAD

Kenneth T. McFall, Quality Assurance Scientist, Science Applications International Corporation/YMQAD

Tilak Verma, QA Manager, U.S. Nuclear Regulatory Commission, Observer

Susan W. Zimmerman, State of Nevada, Observer

#### 4.0 SUMMARY OF SURVEILLANCE RESULTS

The implementing procedures listed in Section 2.0 of this report were the source of questions used to conduct this surveillance. Checklists generated from these documents were used to determine compliance. The following results were obtained during the surveillance:

1. SP 2.3, Revision 1, "Review of T&MSS Technical Documents" (Non-quality Affecting)

The surveillance team examined the preparation and review process of ESFDR Appendix J, Environmental Requirements as directed in the U.S. Department of Energy (DOE) letter from the Director of the Office of Civilian Radioactive Waste Management, to the Acting Associate Director of the Office of Geologic Disposal and the Acting Associate Director of the Office of Exploratory Shaft Facility Design, dated February 12, 1991.

Appendix J of the ESFDR was incorporated in the Project Requirements List (PRL) as non-quality affecting; therefore, by direction of the YMQAD Division Director (QADD), the process was to be evaluated and documented in the surveillance report, but not subject to Corrective Action Requests (CARs) for any deficiencies detected. The affected management has the responsibility to resolve any potential condition adverse to quality on PRL items.

The Surveillance Team examined the ESFDR, Appendix J records generated in accordance with this procedure for compliance to selected paragraphs of the procedure. The following procedural violations are documented in this report for consideration for management action:

- a. Paragraph 5.1.3 requires the responsible manager to develop review acceptance criteria and, as a guide for the reviewers, to define the scope of the document, as well as the expectations for it and the limits of its application. Due to a time constraint and an expedited review, no review package cover memo was generated delineating the requirements of Paragraph 5.1.3.
- b. Paragraph 5.1.4 requires the responsible manager to identify the disciplines required for the Technical Review and to request (by memorandum) that managers of these disciplines provide technical reviewers and complete the Review Qualification Statement. Due to time constraints and an expedited review, the exact disciplines required for technical review were not specified, and the T&MSS-181 review forms were sent to the managers. This allows the managers to designate anyone they feel is qualified, in lieu of a specified discipline.

- c. Paragraph 5.1.4a requires the responsible manager to request a minimum of one reviewer for each discipline to be reviewed. If only one discipline is involved, a minimum of two reviewers is required. The requesting organization requested five reviewers of unspecified disciplines on the T&MSS-181 review form from the following Departments Managers: M.D. Voegele, D.K. Chandler, J.L. King, J.D. Waddell and J.M. Davenport. Three of the designated review organizations were not able to provide written comments. Subsequently, the requesting organizations decided that two reviewers from different organizations were sufficient and meet the Paragraph 5.1.4a requirements; however, Paragraph 5.2.5b appears to require the assigned staff member to select another qualified reviewer.
- d. Paragraph 5.2.14 requires the responsible manager to review the disposition and resolution of the comments and sign the T&MSS-340 Review and Comment form. C.G. Pflum's T&MSS-340 form was not signed by the manager, as required.
- e. The Surveillance Team's review of the flow-down of requirements from the ERCP to the ESFDR Appendix J indicated the following areas of concern:
  - (1) 37 documents are mentioned in the text of Appendix J, but not in the Appendix J reference section.
  - (2) 12 references are cited in the Reference section of Appendix J, but are not mentioned in the text of Appendix J.
  - (3) 44 references are listed in the ERCP references, but not in the Appendix J references; however, in the Surveillance Team's opinion, many do not concern the Exploratory Studies Facility (ESF).
  - (4) 8 references are listed in Appendix J that are not included in the ERCP. (These became effective after issuance of the ERCP.)

2. SP 2.3, Revision 1, "Review of T&MSS Technical Documents"  
(Quality-affecting)

The surveillance team surveilled the review process of the SCPB and verified the following:

- a. Interoffice Memo, M.A. Lugo to Reviewers, dated March 12, 1991, "Review of SCPB, Revision 1," provided review criteria, scope, expectations and limitations for the review, and requested reviews from Quality Assurance (QA), Engineering, Systems Engineering, Geotechnical, and Nuclear Regulatory Compliance.

- b. The selected reviewers were qualified in the identified disciplines for Engineering, Systems Engineering, Nuclear Regulatory Compliance and QA. The entry for the Geotechnical Qualification statement on form T&MSS-20, "Review Qualification Statement," identified a reviewer who was qualified as a technical reviewer in the discipline of Science, rather than the required Geotechnical discipline. CAR No. YMP-91-048 was initiated to cover the variance to Paragraph 5.1.5 of the procedure.
  - c. The reviewers documented their comments on form T&MSS-340 and 340A, "Review and Comment." The comments were legible, reproducible, and completed in accordance with the procedure. All comments were properly dispositioned by the co-authors of the document.
  - d. The reviewers signed line B of form T&MSS-340, "Review and Comment," indicating their mandatory comments were incorporated into the document to their satisfaction.
3. SP 1.31, Revision 3, "Initial Evaluation, Qualification, and Training of T&MSS Personnel"

The Surveillance team's evaluation of training was limited to ensuring that training for T&MSS personnel was documented on form T&MSS/027/4, "Qualification Training for T&MSS Personnel," or on "T&MSS Continuation Training for T&MSS Personnel" for SP 2.3, Revision 1.

The team verified that personnel actively involved in the review of ESFDR Appendix J completed their training on SP 2.3 prior to performing the review. Those personnel involved were T.H. Pysto, C.G. Pflum, J.L. King, J.M. Davenport, M.A. Lugo, and W.B. Simecka.

In addition, the team verified that personnel involved in the Request for Review, Managers assigning reviewers, and the reviewers of the SCPB were trained on SP 2.3. The training files for the following personnel were surveilled:

# C.L. Biddison	+ M.A. Glora	° R.C. Murray
* D.M. Boak	+ J.B. Harper	* M.W. Parsons
* K.K. Church	+ Nate Hopton	+ R.R. Schneider
+ H.Z. Dokuzoguz	* K.B. Johnson	* H.H. Spieker
* J.R. Doyle	# M.A. Lugo	* Robert Spooner
* G.P. Fehr	* J.R. Matras	

KEY: \* Reviewers  
# Co-authors (resolved comments)  
° Work Package Manager  
+ Managers assigned reviewers and signed form T&MSS-20, and form T&MSS-181

CAR No. YMP-91-049 was initiated due to the lack of documented evidence of training to SP 2.3 in the training files for the following personnel: G.P. Fehr, H.Z. Dokuzogoz, R.C. Murray, and Nate Hopton.

4. SP 1.36, Revision 3, "Records Management: Records Source Implementation"

The Surveillance Team verified that the record package for the ESFDR, Appendix J, Review was authenticated and submitted to the Local Records Center (LRC) as "QA: N/A." The LRC is returning the records to the compiler due to blank spaces on the T&MSS-181 review form, and the T&MSS-340 review and comment form, and because no final, accepted ESFDR Appendix J document was submitted.

The Surveillance Team verified that the record package for the SCPB, Revision 1, review was authenticated and submitted to the LRC. A review of the submitted records did not detect any discrepancies. The record package had not been processed as of May 8, 1991, by the LRC.

5.0 PERSONNEL CONTACTED DURING THE COURSE OF THE SURVEILLANCE

The following personnel were contacted by the Surveillance Team:

K.H. Amaditz, Training Coordinator, Geotechnical Department  
J.B. Harper, Manager, Quality Assurance Department  
L.P. Larkin, Training Coordinator, Nuclear Regulatory Compliance Department  
M.A. Lugo, Staff Licensing Integration  
E.W. McCann, Manager, Environmental Compliance and Planning Department  
J.R. Narron, Training Coordinator, Quality Assurance Department  
L.C. Raymer, Training Coordinator, Systems Engineering Department  
G.J. Schaning, Training Coordinator, Environmental Compliance and Permitting Department  
S.H. Sims, Training Coordinator, Project Management  
C.K. VanHouse, Training Coordinator, Field Operations and Support Department

6.0 MEASURING AND TEST EQUIPMENT USED DURING THE SURVEILLANCE

There was no measuring and/or test equipment used during the course of this surveillance.

7.0 SURVEILLANCE TEAM EVALUATION

The results of this surveillance indicate that the T&MSS QA program was implemented satisfactorily for the review of the SCPB, in accordance with SP 2.3, "Review of Technical Documents." The review appears to be satisfactory based on the number of reviewers, their qualifications, the depth of the reviews, and the number of comments generated.

Two CARs were generated against the SCPB review (see Section 8.0) for a Science Discipline Review that was performed in lieu of a Geotechnical Review, and because there was no documented SP 2.3, Revision 1, training for personnel involved in the SCPB review. The SCPB review record package is satisfactory and has been authenticated and submitted to the LRC.

The surveillance results indicate that the T&MSS QA program was not fully implemented during the preparation and review of the ESFDR, Appendix J, which was incorporated on the PRL as non-quality affecting. The Surveillance Team's evaluation resulted in classifying the "Preparation and Review of the ESFDR, Appendix J" as indeterminate, based on apparent disconnects of the flow-down requirements (see Section 4.0, Item 1E).

## 8.0 SYNOPSIS OF DEFICIENCIES

The following CARs were generated as a result of this surveillance:

YMP-91-048 - SP 2.3, Section 5.1.4 requires the responsible manager to "...identify the discipline required for technical review." Section 5.1.5 requires the manager of the identified discipline to select a reviewer(s) qualified within their job description in the identified discipline. Contrary to the cited requirements a qualified Science Reviewer was used in lieu of a qualified Geotechnical Reviewer.

YMP-91-049 - SP 1.31, Section 5.2.2 requires the manager to assign training when it has been determined the individual will be performing quality-affecting work. Section 5.3.2 requires training to be completed to the cited requirements. There was no objective evidence that four personnel associated with the review were trained to SP 2.3, Revision 1, prior to performing quality-affecting work.

## 9.0 RECOMMENDATIONS

This surveillance generated the following recommendations:

1. Revise SP 2.3, "Review of T&MSS Technical Documents," to incorporate a listing of actual disciplines of reviewers. Require the requestor to indicate precisely the disciplines required to review the document. Currently, the requestor submits the review package to the manager of an organization and allows them to choose the person they feel is qualified, this may not be the discipline selected by the requestor. Adding to the confusion is the fact that each division or department has many different disciplines of qualified reviewers from which to choose.

2. Revise SP 2.3, "Review of T&MSS Technical Documents," to incorporate document preparation. Currently the T&MSS QA program fails to address the document preparation or revision process for those documents (similar to ESFDR, Appendix J) assigned by the Yucca Mountain Site Characterization Project Office (YMPO) to T&MSS (as a participant) to develop.
3. Revise SP 2.3, "Review of T&MSS Technical Documents," to require a matrix of flow-down requirements of the upper-tier documents. The matrix could either be separate or incorporated within the document being prepared.
4. Revise SP 2.3, "Review of T&MSS Technical Documents," to remove the conflict with the purpose and the scope. The purpose and scope is for reviewing technical documents developed internally by T&MSS; however, the SCPB was reviewed under T&MSS SP 2.3, which appears to be outside the scope of the procedure. The review of the SCPB was requested by the YMPO; therefore, a QMP-06-04 review probably should have been performed in lieu of the SP 2.3 review.

#### 10.0 COMMENTS

The following comments were generated as a result of the surveillance:

1. The training records currently being maintained by the different Department Training Coordinators is confusing. To verify qualifications or required training 24 different Training Coordinators that would potentially have to be contacted within T&MSS. Also, the Training Department is not currently on distribution for the T&MSS training records.
2. For those non-quality affecting activities on the PRL (similar to the ESFDR, Appendix J), T&MSS has committed to utilize their approved program for those activities. An accelerated schedule or time constraint is not an excuse to deviate from the procedure governing the activity.

#### 11.0 REQUIRED ACTIONS

Responses to the CARs delineated in Section 8.0 of this report are due within the time frame stated in Block 10 of each CAR, as detailed in the CAR transmittal letter. Upon response, and satisfactory verification of all remedial and corrective actions, the CARs will be closed and the YMPOAD will notify T&MSS by letter of the closure.



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

14CAR NO.: YM-91-049  
 DATE: 05/28/91  
 SHEET: 1 OF 1  
 QA  
 WBS No.: 1.2.9.3

**CORRECTIVE ACTION REQUEST**

1 Controlling Document  
Standard Practice SP 1.31, Revision 3

2 Related Report No.  
YMP-SR-91-017

3 Responsible Organization  
T&MSS

4 Discussed With  
M. Lugo, J.B. Harper, & E. W. McCann

10 Response Due  
20 days from issue

11 Responsibility for Corrective Action

12 Stop Work Order Y or N  
N

5 Requirement:

Standard Practice SP 1.31, Rev. 3, Section 5.2.2, states in part that the responsible manager shall "...assign required training or indoctrination (per T&MSS /027/4) the individual is expected to accomplish when it has been determined they will be performing quality-affecting work."

Standard Practice SP 1.31, Rev. 3, Section 5.3.2, states in part that the responsible manager shall "...determine which staff members, if any, must be trained or indoctrinated on the revisions...training must be completed prior to the performance of any quality-affecting work using the procedure, or within 30 calendar days, whichever is sooner."

6 Adverse Condition:

There is no documented SP 2.3, Rev. 1 training on file for the following personnel who were involved in the SCPB, Rev. 1 Review:

- G. Fehr - Reviewer
- R. Murray - Work Package Manager
- N. Hopton - assigned reviewer signed quality statement and T&MSS 340 and 181 forms
- M. Dokuzoguz - assigned reviewer signed quality statement and T&MSS 340 and 181 forms

7 Recommended Action(s):

Take the appropriate investigative and corrective action to correct the deficiency identified in Block 6.

8 Initiator  
T. W. Noland  
*T.W. Noland*

Date: 05/28/91

9 Severity Level -  
1  2  3

13 Approved By:  
OQA *Catherine Hopton*

Date: 5-31-91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:  
OAR \_\_\_\_\_ Date \_\_\_\_\_

17 Closure Approved By:  
OQA \_\_\_\_\_

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

14 CAR NO.: YM-91-048  
DATE: 05/28/91  
SHEET: 1 OF 1  
QA  
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document  
Standard Practice SP 2.3, Revision 1

2 Related Report No.  
YMP-SR-91-017

3 Responsible Organization  
TEMSS

4 Discussed With  
M. Lugo and J. E. Harper

10 Response Due  
20 days from issue

11 Responsibility for Corrective Action

12 Stop Work Order Y or N  
N

5 Requirement:

SP 2.3, Revision 1, Section 5.1.4 states that the responsible manager shall "...identify disciplines required for the technical review, and by memorandum, request managers of those disciplines to provide technical reviewer and completed Reviewer Qualification Statement (form TEMSS-20) attesting to the qualifications and training of the reviewer."

SP 2.3, Revision 1, Section 5.1.5 states that the manager of the identified discipline shall, "...select reviewer(s) qualified within their job description in identified discipline, from your staff. Notify assigned staff member of your selection and provide completed Reviewer Qualification Statement (form TEMSS-20) to the assigned staff member."

6 Adverse Condition:

Interoffice Memo dated March 12, 1991, "Review of SCPB Rev. 1" included distribution to the Geotechnical Department Manager requesting a review from the Geotechnical Department. The assigned technical reviewer's background was in biology, chemical engineering and business and the Review Qualification Statement stated that the reviewer was qualified to perform a "Science" review rather than a "Geotechnical" review as requested.

7 Recommended Action(s):

Revise SP 2.3 to require the memo requesting reviewer(s) specifically specify the precise review discipline(s) required from each department to assure applicable review disciplines are covered.

8 Initiator  
T. W. Noland 05/28/91  
*T.W. Noland*

9 Severity Level -  
1  2  3

13 Approved By:  
OQA *[Signature]* 5-31-91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:  
QAR \_\_\_\_\_ Date \_\_\_\_\_

17 Closure Approved By:  
OQA \_\_\_\_\_