

OCRWM-HQ QUALITY ASSURANCE SURVEILLANCE REPORT  
SURVEILLANCE OF THE YMP QA PROGRAM QUALIFICATION  
AUDIT 89-01 OF FENIX & SCISSION, INC. (F&S)

SURVEILLANCE NUMBER OCRWM-HQ-SR-89-005

CONDUCTED APRIL 10 - 14, 1989

Prepared by: Gay J Faust Date 4-28-89  
Surveillance Team Leader

Approved by: Wesley A Shuler Date 5-9-89  
Director, OQA

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WM-11 PDC

SURVEILLANCE REPORT NUMBER  
OCRWM-HQ-SR-89-005

A. INTRODUCTION

A surveillance to assess the QA Program compliance, adequacy and effectiveness of the YMP QA audit program was performed by the OCRWM Office of Quality Assurance on April 10 - 14, 1989.

The surveillance team consisted of the following persons:

Team Leader - G. Faust (Weston)  
Member - V. Montenyohl (Weston)

Personnel contacted during this surveillance:

J. Blaylock (YMP)  
H. Caldwell (SAIC)  
J. Friend (SAIC)  
S. Metta (SAIC)

B. SURVEILLANCE SCOPE

The scope of this surveillance was the YMP QA Program Qualification Audit 89-01 of Fenix and Scission, Inc. (F&S). The purpose of the surveillance was to assess the QA Program compliance, adequacy and effectiveness of the YMP QA audit program. The surveillance included investigation of the following YMP QA Program elements:

1. Audit personnel qualification and certification system.
2. QA audit program system.
3. Standard deficiency reporting system.

C. REQUIREMENTS SURVEILLED

1. YMP Quality Assurance Plan 88-9 (as applicable)
2. YMP Quality Assurance Program Plan 88-1 (as applicable)
3. QMP-02-02, Rev. 1 Qualification of Quality Assurance Program Audit Personnel
4. QMP-16-03, Rev. 1 Standard Deficiency Reporting System
5. QMP-18-01, Rev. 3 Audit System for the Waste Management Project Office

D. RESULTS OF SURVEILLANCE

The following is a summary of the results of the surveillance:

1. The audit was very well prepared and in conformance with the requirements of QMP-18-01, Rev. 3, "Audit System for the WMPO." Audit preparation included a pre-audit procedure review and identification of potential concerns. The potential procedural concerns, the outstanding standard deficiency reports and the results of previous audits were considered and incorporated into the audit checklist.
2. The audit was conducted in a professional manner, and the interface and coordination between the audit team, audited organization and the audit observers went very well. With very little QA Program implementation to verify, the audit team did a thorough and effective job of going beyond verification of the F&S QA Program compliance with the project QA requirements of NNWSI 88-9, Rev. 2, to evaluate:
  - a) Whether the QA Program, when implemented, would achieve the required quality, and
  - b) The level of F&S personnel knowledge and understanding of the F&S QA Program.

Conduct of the audit was in compliance with the requirements of QMP-18-01, Rev. 3, "Audit System for the WMPO".

3. The technical specialists included on the audit team were knowledgeable and well versed in the project QA requirements and added significant value to the effectiveness of the audit.
4. The lead auditor/auditors were qualified and certified, and the technical specialists trained, in conformance with the requirements of QMP-02-02, Rev. 1, "Qualification of Quality Assurance Program Audit Personnel." However, minor deficiencies in the lead auditor/auditor/technical specialist qualification, certification and/or training records file were identified. Further investigation determined that this condition had been previously identified during a YMP internal surveillance (YMP-SR-89-032) and documented on SDR 301. SDR 301 was pending response at the time of this surveillance. Based on Surveillance Report YMP-SR-89-032 and SDR 301, the conditions noted during this surveillance will be identified as an observation as part of this surveillance report.
5. The YMP QA Audit 89-01 identified two (2) deficiencies, which will be documented on SDRs in accordance with QMP-16-03, Rev. 1, "Standard Deficiency Reporting System" and nineteen (19) observations. The two (2) deficiencies related to: 1) inadequacies in the logging of records received as part of the QA records system and 2) changes to controlled documents not being reviewed by the same organizations with review responsibility for the original documents. The nineteen (19) observations primarily dealt with procedural weaknesses identified during the audit, which could lead to future deficiencies during QA program implementation.

6. The YMP audit team conclusion(s) presented at the audit exit were as follows:

- a. Based on the results of the audit, the F&S QA Program appears to be adequate to support the initiation of Title II design. This is based on the fact that staffing appears adequate, training is satisfactory, most required procedures are in place, and there are no major outstanding deficiencies.
- b. It should be noted that the QA Program at this point is not in total compliance with 88-9, Rev. 2; (i.e., procurement and software QA program).
- c. In addition, the nineteen (19) observations should also be an indication that the full program is not yet totally complete. Some of the observations would have been SDRs if quality related work the Program governs would have been in progress. These observations should be closely scrutinized and actions taken where necessary.

E. OBSERVATIONS

1. During a review of the lead auditor/auditor/technical specialist qualification, certification and/or training QA records files, the QA records noted in Attachment 1 were not included in the QA records files, as required by QMP-02-02, Rev. 1, "Qualification of QA Program Audit Personnel."

Since this condition was previously identified in YMP Surveillance YMP-SR-89-032 and documented in SDR 301 (which was pending response) it is being noted as an observation. A follow-up of this area will be conducted as part of subsequent surveillances.

F. CONFERENCES

A separate preconference surveillance meeting was not conducted. The surveillance purpose, scope, team member introductions, etc., was presented as part of the audit team briefing meeting held on April 10, 1989. A post-conference surveillance meeting was held on A

AUDIT PERSONNEL RECORDS  
UNAVAILABLE

1. J. Friend

- No records of audit participation.
- No record of evaluation of training needs as a lead auditor.
- No record of lead auditor exam.

2. S. Dana

- No record of evaluation of training needs as a lead auditor.
- No record of lead auditor exam.
- WMPO indoctrination records not signed by S. Dana.

3. S. Crawford

- No record of evaluation of training needs as an auditor.

4. A. Watkins

- No signed audit guide for technical specialists.
- No training records.



## Department of Energy

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Las Vegas, NV 89193-8518

WBS 1.2.9.3  
QA

MAR 01 1990

Dwight E. Shelor, Acting Director, Quality Assurance Division, HQ (RW-3) FORS

YUCCA MOUNTAIN PROJECT OFFICE (PROJECT OFFICE) ACCEPTANCE OF THE FENIX AND  
SCISSON OF NEVADA (FSN) QUALITY ASSURANCE (QA) PROGRAM.

Reference: Letter, Gertz to Shelor, dtd. 10/25/89

The purpose of this memorandum is to provide an update documenting the Project Office acceptance of the QA Program of FSN. This acceptance is based upon the following:

1. The U.S. Nuclear Regulatory Commission (NRC) has accepted the FSN Quality Assurance Program Plan (QAPP) based upon safety evaluation letter, dated October 24, 1989, from Linehan to Stein. All NRC staff comments were resolved before issuance of the safety evaluation letter.
2. Project Office QA surveillance of the FSN QA Program procedures for adequacy to control the subject activities and conformance with applicable FSN QAPP requirements (reference enclosure 1 for surveillance report numbers, scope, and summary of results).
3. Project Office performance of the FSN QA Program Qualification Audit 89-1, conducted April 10-14, 1989 (reference letter, Blaylock to Bullock, dated May 5, 1989). Responses have been provided to NRC observations generated as a result of the audit. This audit concluded that the QA Program is capable of identifying, tracking, and closing deficiencies.
4. Project Office review of outstanding FSN QA Program deficiencies that could have technical or quality impact on output products (reference enclosure 2 for outstanding deficiency numbers and descriptions).
5. The Privacy Act issue did not have an impact on the acceptance of the FSN QA Program.

The Severity Level Checklist criteria established in Project Office Quality Management Procedures-16-03 were used to determine impact of the open deficiencies (reference enclosure 3). If the deficiency did not meet Severity Level I criteria, it was regarded as not having significant impact start of Title II activities.


MAR 01 1990

Based on the above, the Project Office has concluded that the FSN QA program is in compliance with the applicable requirements of the Yucca Mountain Project QA Plan, NNWSI/88-9, Revision 2, and is adequate to support the initiation of Title II work relative to quality affecting activities, with the following exceptions:

1. Software QA - The Project Office has approved the FSN Software QA Plan for use to develop and issue the implementing procedures related to the plan. The implementing procedures are now in the review and approval stage. Controls are still in place to ensure no implementation will occur prior to approval of the Software QA Program.
2. Procurement - Two observations, 89-1-18 and 89-1-19, were identified in the Project Office Qualification Audit 89-1 of FSN. Based on the acceptable responses provided by FSN to the noted observations, procurement of quality affecting items will not occur until this activity has been sufficiently addressed in the QA Program. Items requiring action in the two (2) noted observations have been partially completed. Administrative Procedure-4.1Q, Revision 0, has been issued by the Project Office and FSN is subsequently generating additional procurement procedures which are presently in the review and approval cycle. Controls are still in place to prohibit procurement of quality related items and activities.

The Project Office will verify and document resolution of these exceptions by Yucca Mountain Project QA surveillances.

If you have questions or comments regarding the Project Office position on this matter, please contact Donald G. Horton of my staff at (702) 794-7504 or FTS 544-7504.



Carl P. Gertz, Project Manager  
Yucca Mountain Project Office

YMP:DGH-2173

Enclosures:

1. Task Force Surveillances  
of the FSN QA Program
2. Current FSN Open QA Deficiencies
3. SDR Severity Level Checklist

cc w/encls:

Ralph Stein, HQ (RW-30) FORS  
R. L. Bullock, FSN, Las Vegas, NV  
D. J. Tunney, FSN, Las Vegas, NV  
J. H. Nelson, SAIC, Las Vegas, NV, 517/T-04  
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**TASK FORCE SURVEILLANCES  
OF THE FSN QA PROGRAM**

SURVEILLANCE NUMBER	PROCEDURE AND SCOPE	SUMMARY RESULTS	DEFICIENCIES ISSUED
YMP-SR-89-006	QAP-2.2(N) (R3) - Training and Indoctrination of QA Personnel DC-18(R2) - Training on Design Control PP-10-02(R1) - Training on NNWSI Procedures	Issued prior to Audit Report 89-1; this SDR remains open contingent upon acceptance of FSN's software QA program.	SDR-267 (closed)
YMP-SR-89-007	QAP-1.1(N) (R4) - Organization QAP-2.1(N) (R4) - QA Program Plan	Indicates need to generate a readiness review procedure.	DR-019 (closed)
YMP-SR-89-008	PP-60-01(R1) - Personnel Selection and Indoctrination	Indoctrination not being done prior to assigning personnel to do quality related work.	DR-014 (closed)
YMP-SR-89-011	PP-50-01(R2) - Records Management PP-50-02(R1) - Records Storage PP-50-04(R1) - Microfilming DC-16(R4) - Document Control QAP-6.1(N) (R2) - Document Control	QP-50.01(R2) does not stipulate that superseded records will be retained and treated as QA records.	DR-022 (closed)
YMP-SR-89-012	QAP-2.3(N) (R3) - Qual. of Auditors QAP-16.1(N) (R4) - Corrective Action Requests QAP-18.1(R4) - Audits QAP-18.3(R1) - Surveillance QAP-16.2(R1) - Deficiency Reporting	QAP-18.3(N) (R1) does not indicate QA independence.	DR-015 (closed)
YMP-SR-89-019	DC-2.0(R5) - Project Design File System PP-10-03(R1) - Handling Correspondence and Documents	PP-10-02(R1) states that originals are stored in a one hour rated file cabinet until forwarded to Central Files.	DR-020 (closed)



**TASK FORCE SURVEILLANCES  
OF THE FSN QA PROGRAM**

SURVEILLANCE NUMBER	PROCEDURE AND SCOPE	SUMMARY RESULTS	DEFICIENCIES ISSUED
YMP-SR-89-020	DC-1(R6) - Design Inputs and Info Data to Outside Organizations DC-2(R6) - Design Methodology DC-5(R5) - External Interface Control DC-9(R6) - Interdiscipline Review DC-11(R5) External Comment Control	DC-5 does not address information transmitted across interfaces. DC-5 lists a reference now deleted. DC-5 does not address a requirement in AP-5.6Q. Purpose/applicability statement in DC-01 is not clear.	DR-017 (closed) DR-040 (closed) DR-041 (closed) DR-042 (closed)
YMP-SR-89-021	DC-7(R6) - Dev. of Tech. Specifications DC-13(R5) - Drafting Procedures and Stds. DC-14(R5) - Technical Studies QAP-3.1(N)(R3) - Engineering Dwg. QAP-3.2(N)(R3) - Tech. Specifications	This DR written against procedure DC-14 which does not address documentation requirements of design analysis.	DR-018 (closed)
YMP-SR-89-022	DC-3(R6) - Design Analysis DC-4(R7) - Design Verification	Procedure DC-4 does not address timing of verification	DR-016 (closed)
YMP-SR-89-023	QAP-3.3(N)(R0) - Design Analysis DC-15(R5) - Basis for Design DC-29(R0) - Safety/Reliability Analysis	DC-15 definition of "Basis for Design: is not consistent with AP-5.18Q.	DR-043 (closed)
YMP-SR-89-024	DC-12(R4) - Computer Program Verification	No findings or deficiencies were noted.	
YMP-SR-89-025	DC-25(R0) - Configuration Management DC-26(R0) - Configuration ID and Documentation DC-27(R0) - Configuration Status Reporting DC-28(R0) - Configuration Change Control	Documents failure of TPO to determine impact of AP-3.6Q on FSN procedures DC-25, 26, 27 and 28.	DR-038 (closed)

**TASK FORCE SURVEILLANCES  
OF THE FSN QA PROGRAM**

SURVEILLANCE NUMBER	PROCEDURE AND SCOPE	SUMMARY RESULTS	DEFICIENCIES ISSUED
YMP-SR-89-036	QAP-5.01 (N) (R2) - Prep. of QA Procedures DC-8 (R5) - Prep. of Design Control Procedures PP-10-01 (R3) - Preparation of Procedures PP-10-05 (R0) - Desk Instructions	No findings or deficiencies were noted.	N/A
YMP-SR-89-60	QAP-7.2 (N) (R1) - Surv. Insp. Requirement QAP-10.1 (N) (R2) - Source Surveillance QAP-15.2 (N) (R3) - Control of Nonconforming Items	QAP-7.2 (N) and QAP-10.1 (N) do not comply with QAP-5.1 (N)	DR-044 (closed)
YMP-SR-89-61	QAP-12.1 (N) (R1) Control of Measuring and Test Equipment	No findings or deficiencies were noted.	N/A
YMP-SR-89-62	PP-10-04 (R3) - Management Assessment PP-20-01 (R2) - Dev. of Pgms. for Drilling and Additional Work Activities. PP-20-02 (R2) - Drilling Specialist Surveillance PP-20-03 (R0) - Receipt, Review and Approval of YMP Surface Based Drilling and Additional Work PP-40-02 (R2) - Dev. of Mining Programs for NNWSI Activities at NTS.	No findings or deficiencies were noted.	N/A
YMP-SR-89-63	PP-40-01 (R2) - Receipt and Distribution of NNWSI Criteria within the FS Mining Dept. PP-30-01 (R1) - NNWSI Geology/Hydrology Organizational Interface	No findings or deficiencies were noted.	N/A
YMP-SR-89-64	PP-05-03 (R1) - Duplication of YMP Video Tapes PP-50-07 (R0) - Outside Agencies and Reproduction of YMP Records PP-50-12 (R0) - Processing of Drawings PP-50-15 (R0) - Publications Review and Approval	No findings or deficiencies were noted.	N/A

**TASK FORCE SURVEILLANCES  
OF THE FSN QA PROGRAM**

SURVEILLANCE NUMBER	PROCEDURE AND SCOPE	SUMMARY RESULTS	DEFICIENCIES ISSUED
YMP-SR-89-65	PP-50-09(R0) - Litigation Discovery Process of FSN YMP Records PP-50-14 - Writing Historical Reports of Drilling and Mining Operations QAP-16.3(N) (R1) - Trend Analysis	No findings or deficiencies were noted.	N/A
YMP-SR-89-66	QAP-7.1(N) (R1) - Supplier Survey QAP-4.1(N) (R4) - Procurement Documents QAP-4.2(N) (R1) - Procurement Authorization Form PP-60-02(R2) - Purchasing	Format of QAP-7.1(N) and QAP-4.2(N) does not comply with QAP-5.1(N) and the requirements of 88-9, R2.	DR-044 (closed)

FSN OPEN QA DEFICIENCIES

DEFICIENCY NO.	ISSUED BY	DESCRIPTION OF DEFICIENCY	COMMENTS
051-SR(N)-90-005	FSN (Surveillance)	Approved criteria documents received from DOE were not reviewed and approved by FSN YMP Drilling Engineers nor forwarded to FSN Records Center.	Response due by 2/26/90; No impact to Title II work as the deficiency identified was not severe in nature but rather an isolated occurrence which does not affect the integrity of the end results. Controls were in place for the criteria to be incorporated into written drilling programs which are approved by the FSN Drilling Engineer, FSN QA, Requesting Organization, T&MSS, and DOE. This deficiency was reviewed against the SDR Severity Level checklist and determined to be Level 3.

Enclosure 2  
Page 1 of 1

# YUCCA MOUNTAIN PROJECT OFFICE QUALITY MANAGEMENT PROCEDURE

N-QA-016  
6/88

Title  
STANDARD DEFICIENCY REPORTING SYSTEM

No. QMP-16-03 Rev. 1  
Effective Date 6/5/89  
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FIGURE 5

## SDR SEVERITY LEVEL CHECKLIST

N-QA-037  
4/89

### I. ASSIGN A SEVERITY LEVEL OF 1 IF ONE OR MORE OF THE FOLLOWING IS TRUE.

- |  | Yes | No |
|--|-----|----|
| 1. Did the deficiency result in significant damage to natural barriers, structures, systems, or components that will require extensive evaluation, extensive redesign, or extensive repair in order to assure public health and safety?  | —   | —  |
| 2. Does the deficiency involve loss of essential data or information needed for licensing?   | —   | —  |
| 3. Does the deficiency constitute a significant deficiency in design, construction, testing, or performance assessment that were detected subsequent to formal quality verification and acceptance?  | —   | —  |
| 4. Does the deficiency constitute a significant deficiency in design as approved for construction such that the design deviates extensively from design criteria and bases?  | —   | —  |
| 5. Does the deficiency constitute a significant deviation from performance objectives or specifications that will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of a natural barrier, structure, system, or component to meet design criteria and bases? | —   | —  |
| 6. Does the deficiency constitute a significant error detected in a computer program after it has been released for use?   | —   | —  |
| 7. Does the deficiency constitute a significant breakdown in a participant's QA program and/or repetitive, programmatic and hardware deficiencies for which previous corrective action has not been reasonably prompt or effective?  | —   | —  |

### II. ASSIGN A SEVERITY LEVEL OF 2 IF THE ANSWERS TO ALL QUESTIONS IN PART I ARE NO AND ONE OR MORE OF THE FOLLOWING IS TRUE:

- |  | Yes | No |
|--|-----|----|
| 1. Could failure to correct deficiency have a potentially adverse impact on the health or safety of operations personnel?  | —   | —  |
| 2. Does the deficiency constitute operating outside the scope of the quality program or approved quality procedures where both remedial and corrective actions are required? | —   | —  |
| 3. Does the deficiency constitute a repetitive hardware deficiency for which no previous corrective action measures exist?   | —   | —  |

### III. ASSIGN A SEVERITY LEVEL OF 3 IF THE ANSWERS TO ALL QUESTIONS TO PARTS I AND II ARE NO.

QAE/Lead Auditor

QA Division Manager

PCM

\_\_\_\_\_  
Signature/Date\_\_\_\_\_  
Signature/Date\_\_\_\_\_  
Signature/Date