



Department of Energy

Nevada Operations Office

P. O. Box 98518

Las Vegas, NV 89193-8518

WBS #1.2.9.3

"QA"

MAY 24 1989

Joseph C. Calovini
Technical Project Officer for Yucca Mountain Project
Holmes & Narver, Inc.
101 Convention Center Drive
Phase II, Suite P-280
Las Vegas, NV 89109

YUCCA MOUNTAIN PROJECT OFFICE (PROJECT OFFICE) QUALITY ASSURANCE (QA) AUDIT
89-2 OF HOLMES & NARVER, INC. (H&N) (NN1-1989-2370)

Reference: Letter, Blaylock to Calovini, dtd. 5/8/89

Enclosed is the report of QA Audit 89-2, which was conducted by the Project Office at the H&N facilities in Las Vegas, Nevada, from April 24, 1989, through April 28, 1989.

During the course of the audit, the audit team generated one Standard Deficiency Report (SDR) 332, eleven observations, and three recommendations. The SDR was previously transmitted to you for response (see referenced letter). A copy of the SDR is enclosed with the audit report for your information.

Written responses to the 11 observations (Nos. 1 - 11) contained in this report are required. These responses are due within 20 working days of the transmittal date of this report. Please address your responses to me, and concurrently send a copy of each observation response to Nita J. Brogan of Science Applications International Corporation, Las Vegas, Nevada.

James Blaylock

James Blaylock

Project Quality Manager

Yucca Mountain Project Office

YMP:JB-4021

Enclosure: *in packet*
QA Audit 89-2 Report

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MAY 24 1989

Joseph C. Calovini

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cc w/encl:

Ralph Stein, HQ (RW-30) FORS
Dwight Shelor, HQ (RW-30) FORS
A. E. Gurrola, H&N, Las Vegas, NV
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J. W. Gilray, NRC, Las Vegas, NV
J. E. Kennedy, NRC, Washington, DC

PROJECT OFFICE QUALITY ASSURANCE AUDIT REPORT FOR

THE YUCCA MOUNTAIN PROJECT OFFICE AUDIT OF

HOLMES & NARVER, INC.

AUDIT NUMBER 89-2

CONDUCTED: APRIL 24-28, 1989

PREPARED BY:

Frederick J. Ruth

FREDERICK J. RUTH
LEAD AUDITOR

DATE:

5/16/89

APPROVED BY:

Henry F. Caldwell

HENRY F. CALDWELL
DIVISION MANAGER, AUDITS

DATE:

16 May 89

APPROVED BY:

James Blaylock

JAMES BLAYLOCK
PROJECT QUALITY MANAGER

DATE:

5/23/89

102#7

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ENCLOSURE

EXECUTIVE SUMMARY

PROJECT OFFICE AUDIT REPORT 89-2

HOLMES & NARVER, INC. (H&N)

LAS VEGAS, NEVADA

APRIL 24 - 28, 1989

In the opinion of the Project Office audit team, the effectiveness of the Quality Assurance (QA) program at H&N cannot be determined at this time. However, based on the results of the audit, the H&N QA program appears adequate to support the initiation of Title II design. This is based upon the fact that staffing appears adequate, training is satisfactory, most required procedures are in place, and there are no major outstanding deficiencies.

It should be noted that the H&N QA program, at this point, is not in total compliance with NNWSI QA Plan 88-9, Revision 2. The areas not in compliance are Organization and the Control of Non-Conforming Items. In addition, the 14 Observations identified should be an indication that the full program is not yet totally complete. If quality related work governed by the program had been in progress, some of the observations would have been documented as deficiencies. These Observations should be closely scrutinized and actions taken where necessary.

The effectiveness of the QA program cannot be determined until such time as the program is completed and objective evidence to demonstrate technical adequacy and program implementation can be reviewed.

1.0 Introduction

This report contains the results of a Quality Assurance (QA) audit of H&N Yucca Mountain Project (YMP) activities. The audit was conducted at the H&N facilities in Las Vegas, Nevada, April 24 - 28, 1989. The audit was conducted in accordance with the requirements of QMP-18-01, Revision 3, "Audit System for the Waste Management Project Office." The QA program requirements to be verified were taken from NNWSI/QA plan 88-9, Revision 2.

2.0 Audit Scope

The purpose of this audit was to evaluate the effectiveness of the H&N Quality Assurance Program Plan (QAPP), Revision 3, and to verify the implementation of the Quality Assurance program as it relates to the Yucca Mountain Project.

The scope of the audit focused on the 18 QA criteria with the implementation of appropriate procedures. In addition, deficiencies identified during the Project Office Audit S89-1 were added to the audit scope to verify satisfactory implementation of corrective actions. The technical portion of the audit included the review of technical procedures, readiness to start Title II design activities, and interviews with the design engineers to determine their knowledge of procedures, and their education and experience as it relates to the Holmes & Narver Position Descriptions.

3.0 Audit Team Personnel

Frederick J. Ruth	Audit Team Leader/ Lead Auditor	SAIC, Las Vegas, NV
John C. Friend	Auditor	SAIC, Las Vegas, NV
Stephen P. Hans	Auditor	SAIC, Las Vegas, NV
Sidney L. Crawford	Auditor	SAIC, Las Vegas, NV
LeRoy Savage	Auditor	SAIC, Las Vegas, NV
Neil D. Cox	Auditor-In-Training	SAIC, Las Vegas, NV
Ed Cikanek	Technical Specialist	HARZA, Las Vegas, NV
Mike Robb	Technical Specialist	LATA, Albuquerque, NM
John W. Gilray	Observer	NRC, Las Vegas, NV
Bill Belke	Observer	NRC, Washington, DC
Nailem Tanious	Observer	NRC, Washington, DC
Robert Brient	Observer	NRC, SAN Antonio, TX
Jim McConville	Observer	HARZA, Las Vegas, NV
Susan Zimmerman	Observer	State of Nevada
Francisco Cheng	Surveillant	DOE/HQ Weston
W. R. Marchant	Surveillant	DOE/HQ Weston
Wendell B. Mansel	Observer	YMP, Las Vegas, NV
Ram B. Murthy	Observer	YMP, Las Vegas, NV

4.0 Summary of Audit Results

4.1 Statement of Program Effectiveness

In the opinion of the Project Office audit team, the effectiveness of the Quality Assurance program at H&N cannot be determined at this time. Until such time as the program is completed and objective evidence to demonstrate technical adequacy and program implementation can be reviewed, the effectiveness will remain indeterminate.

However, based on the results of the audit, the H&N QA program appears to be adequate to support the initiation of Title II design. This is based upon the fact that staffing appears adequate, training is satisfactory, most required procedures are in place, and there are no major outstanding deficiencies.

4.2 Summary of Technical Evaluation

Based upon the responses to the technical questions that the technical specialists asked of Holmes & Narver, Inc. during the audit, it was concluded that the H&N Quality Assurance Program is technically adequate. The H&N design control procedures were reviewed and found to be technically adequate for the performance of Title II design. The H&N design personnel appeared to be well qualified in the specific areas for which they have been assigned design responsibility and had an adequate understanding of their design control procedures. In summation, the technical specialists found no reason to impede H&N from starting Title II design.

4.3 Summary

A total of 2 Standard Deficiency Reports (SDRs)/(Enclosure 3), and 14 Observations (Enclosure 4) were identified as a result of this audit. One SDR (No. 332) was issued to H&N, and one SDR (No. 333) was issued to the YMPO. In addition, the audit team generated 3 Recommendations for consideration by H&N. A synopsis of each SDR and Observation, and the complete Recommendations are contained in Section 6.0 of this report.

Deficiencies identified by the Project Office are qualified by Severity Level, which is related to the significance of the deficiency. A discussion of Severity Levels is provided in Enclosure 1.

At the time of the audit, SDRs No. 249, 251, and 257 remained open from the previous Project Office audit of H&N (S89-1). The corrective actions to close SDRs No. 249 and 251 have been satisfactorily implemented and a recommendation will be to close both SDRs. The corrective action required by H&N is complete for SDR 257; however, revision of NNWSI-029 is dependent upon the resolution of Observations 1 and 2, which were generated during Audit S89-1 that are the responsibility of the Project Office.

The following program elements were deemed to meet the requirements of NNWSI/88-9, Revision 2 and H&N QAPP, Revision 3.

- 2.0 QA Program
- 3.0 Design Control
- 5.0 Instructions, Procedures, and Drawings
- 6.0 Document Control
- 12.0 Control of Measuring and Test Equipment
- 16.0 Corrective Action
- 17.0 QA Records
- 18.0 Audits

Program elements or portions of elements that are not in compliance with program requirements are:

- 1.0 Organization
- 15.0 Control of Nonconforming Items

The following program elements were reviewed for compliance during the audit; however, no activities had taken place that would have provided objective evidence to verify implementation:

- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services
- 8.0 Identification and Control of Items
- 10.0 Inspection
- 11.0 Test Control
- 13.0 Handling, Storage, and Shipping
- 14.0 Inspection Test and Status

The following program element was reviewed during this audit, but is not ready to be used for Yucca Mountain Project activities:

- 9.0 Control of Process

Technical review was limited during this audit to the following:

- o Technical Qualifications of Design Personnel
- o Understanding of the Design Control Process and Procedural Requirements
- o Procedural Adequacy from a Technical Standpoint

5.0 Audit Meetings

5.1 Preaudit Conference

A preaudit conference was held with the H&N Technical Project Officer (TPO) and his staff at 10 a.m. on April 24, 1989. The purpose, scope, and proposed agenda for the audit were presented and the audit team was introduced. A list of attendees for this meeting is provided in Enclosure 2.

5.2 Audit Status Meetings

Audit Status Meetings were held with the Holmes & Narver TPO and his key staff at 8:30 a.m. on April 25, 26, and 27, 1989. A status of how the audit was progressing and identification of discrepancies were discussed daily.

5.3 Postaudit Conference

The postaudit conference was held at 10 a.m. on April 28, 1989. A synopsis of the preliminary SDRs and Observations identified during the course of the audit was presented to the TPO and his staff. A list of attendees of this meeting is provided in Enclosure 2.

6.0 Synopsis of SDRs, Observations, and Complete Recommendations

6.1 Standard Deficiency Reports (SDRs)

1. H&N's QAPP does not address the organizational structure, lines of communication, authority, and duties of the NTSO organization, or the EG&G organization. SDR No. 332.
2. H&N does not have sufficient authority or organizational freedom to assure the control of nonconforming items, or unsatisfactory conditions until proper disposition has occurred. SDR No. 333.

6.2 Observations

Observation No. 89-2-01

H&N has not established channels for the resolution of disputes to progressively higher organizational levels including the YMPO, PQM.

Observation No. 89-2-02

The QA record package on the code Traverse did not include any documentation from the software supplies, nor a verification/validation report, nor a software requirements review.

Observation No. 89-2-03

H&N does not have procedures for conducting Readiness Reviews prior to starting major activity. Draft procedures were reviewed during the audit.

Observation No. 89-2-04

The H&N/QAPP allows minor changes to be processed without the same level of review and approval as the original document. Several procedures have been issued without changing revision, or date date, or indicating the reissue as a "corrected copy." As a result, it is very difficult to assure distributed procedures are, in fact, the current version.

Observation 89-2-05

Nondestructive testing is considered a special process; however, H&N has not identified in its program which NDT will be performed.

Observation 89-2-06

H&N procedures do not contain specific measures for the control of design information received and transmitted by H&N.

Observation 89-2-07

H&N's report to management, issued 4/19/89, contained a section on trending that contained combined data from YMP and the H&N weapons activities.

Observation 89-2-08

H&N NDT personnel have not been certified to H&N procedure NNWSI-022, Rev. 0, "NDT Personnel Certification."

Observation 89-2-09

H&N/QAPP, Rev. 2, Section 8, Para. 111.A.2.b, states in part, "methods shall be described and implemented to ensure that samples are mixed with like samples." NNWSI/88-9, Rev. 2, Section VIII, Part B, Para. 1.1, requires measures to "assure that samples are not mixed with like samples."

Observation 89-2-10

H&N Procedures do not clearly denote the relationship between the DBD and the DICD, or the relationship of the DBD and DICD to the "ESF Basis for Design Document," the SDRD and the Reference Information Base (RIB).

Observation 89-2-11

YMP-003 does not contain provisions for design verification of specifications. Also, YMP-006 does not provide for design verification to be accomplished per YMP-014 for design analyses to justify assumptions, or confirm the adequacy of analyses.

Observation 89-2-12

The Exploratory Shaft Facility Subsystem Design Requirements Document (SDRD) was issued 4/11/89 as "Revision 0" by YMP Change Directive 89/023. Revision 0 is the same document as the previous Benchmark 4, dtd. 1/31/89, without incorporating several resolved comments from the Benchmark 4 review cycle.

Observation 89-2-13

The H&N/QAPP excludes "Scientific Investigations" from the scope of H&N responsibility. Much of the testing performed at the H&N Material Test Lab (MTL) is done to USGS direction with USGS supplied samples. However, USGS/QAPP excludes requirements of Criteria XI

(Test Control), and conducts all test activities as "Scientific Investigations." H&N and USGS should mutually resolve the basis under which tests for ESF are/and will be conducted with project Office assistance, if necessary.

Observation 89-2-14

NNWSI project QA plan 88-9, Rev. 2, Section IX, "Quality Assurance Program," states, "Readiness reviews shall apply to major scheduled/planned activities which could affect quality. Readiness reviews used in verifying that specified prerequisites and programmatic requirements have been identified prior to starting a major activity." The State of Nevada is requesting written documentation as to how major activities are determined. If Title II ESF Design is not considered a major activity, the State would like written justification as to how this was determined.

6.3 Recommendations

Recommendation No. 1

H&N procedure YMP-036, "Ultrasonic Testing", Rev. 0 contains acceptance criteria; however, H&N/ NNWSI-028, "Magnetic Particle Testing Procedure", Rev. 0, and YMP-035, "Ultrasonic Flaw Detection", Rev. 0 do not contain acceptance criteria. It is recommended that a standard method of identifying acceptance standards be used during the next procedure revision.

Recommendation No. 2

H&N procedure NNWSI-028, "Magnetic Particle Testing Procedure", Rev. 0 contains several areas that need to be corrected during the next revision of the procedure.

- o Section 3.2, SNT-TC-1A (latest edition) should be SNT-TC-1A (1980 edition)
- o Section 4.1, ASTM Standard E265 should be ASTM Standard E269
- o Section 6.2.8, does not address what actions are to be taken if damage is done to the examined item during the use of the prod method.
- o Section 6.3.9.f, Para. 6.6 should be Para. 6.7.

Recommendation No. 3

H&N plans to have auditors from the weapons program perform the independent audit of Criteria 18 each year. The use of personnel from outside of the YMP should be explained in H&N procedure NNWSI-031, Rev. 0, "Audits."

7.0 Required Action

A written response is required for each SDR delineated in Section 6.0. Responses to each SDR are due 20 working days from the date of the SDR transmittal letter. Upon response, acceptance, and satisfactory verification of all remedial and corrective actions, the SDRs will be closed and H&N will be notified by letter of closure.

A written response is required for the 14 Observations contained in Enclosure 4 of this report. Responses are due 20 working days after the transmittal letter of this report.

Written responses are not required for the recommendations contained in this report. The recommendations were generated by the audit team for the H&N staff to consider during implementation of its QA program.

ENCLOSURE 1

Severity Levels

Severity Level 1

Significant deficiencies considered of major importance. These deficiencies require remedial, investigative, and corrective actions to prevent recurrence.

Severity Level 2

A deficiency which is not of major importance, but may also require remedial, investigative, and/or corrective action to prevent recurrence.

Severity Level 3

A minor deficiency in that only remedial action is required. These deficiencies are generally isolated in nature or have a very limited scope. In addition, the integrity of the end result of the activity is not affected nor does the deficiency affect the ability to achieve those results.

ENCLOSURE 2

ATTENDEES

AUDIT REPORT 89-2

ENCLOSURE 2

<u>NAME</u>	<u>TITLE</u>	<u>ORGANIZATION</u>	<u>PREAUDIT</u>	<u>CONTACTED DURING AUDIT</u>	<u>POSTAUDIT</u>
Belke, Bill	QA Project Manager	NRC	X		X
Blaylock, James	Project Quality Manager	DOE/YMP			X
Brake, Margaret	Sr. Engineer	H&N	X	X	X
Brient, Robert	Group Leader	NRC/CNWRA	X		X
Brown, Don	Sr. QA Engineer	H&N	X	X	X
Burns, Allan	Observer	SAIC	X		
Caldwell, Henry	Manager, QA Audits	SAIC	X		X
Calovini, Joseph C.	Technical Project Officer	H&N	X	X	X
Cheng, Francisco	Nuclear Engineer	Weston/HQ	X		X
Cikanek, Edward	Lead Tech. Specialist	T&MSS/HARZA	X		X
Cox, Neil D.	Auditor-in-Training	SAIC	X		X
Crawford, Sidney	Auditor	SAIC	X		X
DeKlever, Richard	Sr. QA Engineer	H&N	X	X	X
Donnelly, James	QA Engineer	DOE			X
Friend, John	Auditor	SAIC	X		X
Gilray, John	Observer	NRC	X		X
Hall, Helen	Sr. Engineer	H&N	X		X
Hans, Stephen	Auditor	SAIC	X		X
Kratzinger, Frank	QA Engineer	SAIC			X
Mansel, Wendell	QA Engineer	DOE/YMP	X		X
Marchand, W. R.	QA Engineer	Weston/HQ	X		X
McConville, Jim	Observer	HARZA	X		X
McNeely, John E.	Sr. Engineer	H&N	X		
Metta, Stephen	Rep. Director, QA	T&MSS			X
Murthy, Ram	Observer	DOE	X		
Musick, Ralph	Project Engineer	H&N	X		
Narron, J. R.	QA Engineer	SAIC			X
Replogle, Jim	Project Engineer	H&N	X	X	X
Robb, R. M.	Technical Specialist	LATA	X		X
Ruth, Frederick J.	Audit Team Leader	SAIC	X		X
Sabol, Ron	QA Engineer	H&N	X	X	X
Savage, LeRoy	Auditor	SAIC	X		X
Schreiner, Randolph	Design Section Chief	H&N	X	X	X
Tanious, Naïem	Mining Engineer	NRC	X		X
Thumala, V.	Sr. Engineer	H&N			X
Tuthill, H. R.	Sr. Project Engineer	H&N	X	X	X

AUDIT REPORT 89-2

ENCLOSURE 2

(Continued)

<u>NAME</u>	<u>TITLE</u>	<u>ORGANIZATION</u>	<u>PREAUDIT</u>	<u>DURING AUDIT</u>	<u>POSTAUDIT</u>
Verden, Janice	Admin. Section Chief	H&N	X	X	X
Wanniski, Terry	Manager, NV Operations	H&N			X
Wilmot, Ed	Department Manager	YMPO			X
Wright, Carl O.	Chief, QA	H&N	X	X	X
Yelvington, Tom	Manager, Tech. Services	H&N	X		
Zimmerman, S. W.	QA Manager	State of NV	x		x

ENCLOSURE 3
SDRs

YMPO STANDARD DEFICIENCY REPORT

N-QA-038
4/89

Completed by Originating QA Organization	1 Date 4-27-89		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During Audit 89-2		3a Identified By S. Hans		4 SDR No. 332 Rev. _____	
	5 Organization Holmes & Narver		6 Person(s) Contacted C. Wright		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) NNWSI/88-9, Rev. 2, Sec. 1, Para. 1.0, Organization, Audit Checklist Reference 1-1, states in part: The organizational structure, lines of communication, authority, and duties of persons or organizations performing activi-					
	9 Deficiency Contrary to the above requirement, H&N's QAPP does not address the organizational structure, lines of communication, and authority and duties of the NTSO organization or the EGG organization. Both organizations perform QA					
Completed by Organization In Block 5	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective Develop a method of identifying and defining the NTSO and EG&G functions.					
	11 QAE/Lead Auditor/Date <i>Frederick J. Ruth 4/27/89</i>		12 Division Manager/Date <i>W. A. D. D. 2 May 89</i>		13 Project Quality Mgr./Date <i>William D. McManis 05/02/89</i>	
	14 Remedial/Investigative Action(s)					
	15 Effective Date _____					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					
Comp. by Orig. QA Org.	17 Effective Date _____					
	18 Signature/Date					
	19 Response Accepted	QAE/Lead Auditor/Date	Division Manager/Date	Project Quality Mgr./Date		
	20 Corrective Action Verif. Satisfactory	QAE/Lead Auditor/Date	Division Manager/Date	Project Quality Mgr./Date		
	21 Remarks					
22 QA CLOSURE		QAE/Lead Auditor/Date	Division Manager/Date	PQM/Date		

**YMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET**

**N-QA-038
12/88**

SDR No. 332

Rev.

Page 2 of 2

8 Requirement (continued)

ties affecting quality shall be clearly established and delineated in writing.

9 Deficiency (continued)

functions on the Project, and both are referenced in H&N implementing procedures.

YMPO STANDARD DEFICIENCY REPORT

N-QA-038
4/89

Completed by Originating QA Organization	1 Date 4-27-89		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During Audit 89-2		3a Identified By S. Hans		4 SDR No. 333 Rev. _____	
	5 Organization YMP		6 Person(s) Contacted W. B. Mansel/J. Blaylock		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, If Applicable) Audit checklist, Ref. 1-2, NNWSI/QAP, Rev. 2, Sec. II, Para. 2.0, QA Functions states in part, The persons and organizations performing QA functions shall have sufficient authority...and organizational freedom to...assure that fur-					
Completed by Organization In Block 5	9 Deficiency Contrary to the above requirement, H&N (the inspection organization) does not have sufficient authority or organizational freedom to assure the control of nonconforming or unsatisfactory conditions until proper					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective The Project Office should provide a method to control the further processing of nonconforming items in accordance with the requirements of NNWSI/					
	11 QAE/Lead Auditor/Date <i>Fredrick J. Ruth 5/2/89</i>		12 Division Manager/Date <i>Star Caldwell 2 May 89</i>		13 Project Quality Mgr./Date <i>Wendell E. Mansel 05/02/89</i>	
Completed by Org. QA Org.	14 Remedial/Investigative Action(s)					
	15 Effective Date _____					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					
Comp. by Orig. QA Org.	17 Effective Date _____					
	18 Signature/Date					
	19 Response Accepted		QAE/Lead Auditor/Date		Division Manager/Date	
	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date		Division Manager/Date	
Comp. by Orig. QA Org.	21 Remarks					
	22 QA CLOSURE		QAE/Lead Auditor/Date		Division Manager/Date	
				PQM/Date		

**YMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET**

**N-QA-038
12/88**

SDR No. 333

Rev.

Page 2 of 2

8 Requirement (continued)

ther processing, delivery, installation, or use is controlled until proper disposition of a nonconformance, deficiency, or unsatisfactory condition has occurred. This includes the ability to stop (or cause to be stopped) unsatisfactory work through established channels.

9 Deficiency (continued)

disposition has occurred. Additionally, no other organization or person that performs QA functions have been identified or documented as controlling the further processing of nonconforming items.

10 Recommended Actions (continued)

88-9, Rev. 2.

ENCLOSURE 4
OBSERVATIONS

WMPO OBSERVATION NO. 89-2-01

N-QA-312
8/88

Completed by Originating QA Organization

Noted During:

Audit 89-2

Identified By:

S. Hans

Date:

4-27-89

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

H&N has not established channels for the resolution of disputes to progressively higher organization levels including the WMPO, PQM. A draft procedure covering this area was reviewed during the audit.

QAE/Lead Auditor

Frederick J. Roth

Date

5/5/89

Branch Manager

A. A. Caldwell

Date

5 May 89

Completed By Responsee

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. 89-02-02N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

H&N-Audit 89-2

Identified By:

N. D. Cox

Date:

4-25-89

Organization:

Holmes & Narver

Person(s) Contacted:

Randolph Schreiner
Twyla SmithResponse Due Date is
20 Days from Date of
Transmittal

Discussion:

The QA record package on the code Traverse was examined prior to its submittal to RIS (records storage). This package did not include any documentation from the software supplier, nor a verification/validation report, nor a software requirements review. NNWSI/88-9 requires these (Appendix H). Also, there was no H&N work initiation form for approval activity per YMP-013, Para. 6.2.2. If a software Quality Assurance Plan were in effect, any one of the above omissions would have resulted in a finding.

QAE/Lead Auditor

Frederick J. Kitch

Date

5/5/89

Branch Manager

AAA Caldwell

Date

5 May 89

Completed By Responsee

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. 89-2-03

N-QA-012
6/88Noted During:
Audit 89-2Identified By:
S. HansDate:
4-27-89Organization:
Holmes & NarverPerson(s) Contacted:
C. WrightResponse Due Date is
20 Days from Date of
Transmittal

Discussion:

H&N does not have procedures for conducting Readiness Reviews prior to starting major activity. Draft procedures were reviewed during the audit.

QAE/Lead Auditor

Date

Branch Manager

Date

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

WMPO OBSERVATION NO. 89-02-04

**N-QA-012
8/88**

Completed by Originating QA Organization

Noted During:

Audit-89-2

Identified By:

S. Crawford

Date:

5/4/89

Organization:

Holmes & Narver

Person(s) Contacted:

Jan Verden

**Response Due Date is
20 Days from Date of
Transmittal**

On

The H&N QAPP, Rev. 2, Section 6, Para. III.B.2, allows minor changes to be processed without the same level of review and approval as the original document. H&N procedure YMP-001, Rev. 2, Para. 6.5.3 provides for issuance of minor changes without changing revision level of procedures. H&N procedure transmittal 41 issued four (4) procedures, fully in accordance with YMP-001, without changing revision or date or indicating the reissue as a "corrected copy". As a result, it is very difficult to assure distributed procedures are, in fact, the current version. Minor procedure changes should be identified on the first page as "corrected copy, issued xx/xx/xx".

QAE/Lead Auditor

Frederick J. Ruth

Date

5/5/89

Branch Manager

AA Caldwell

Date

5 May 89

Response:

Completed By Responsee

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Completed By QA Org.

WMPO OBSERVATION NO. 89-02-05N-QA-012
8/88

Completed By Originating QA Organization

Noted During:
Audit 89-2Identified By:
J. C. FriendDate:
5/4/89Organization:
Holmes & NarverPerson(s) Contacted:
Ron SabolResponse Due Date is
28 Days from Date of
Inspection

Discussion:

NWWSI/QAP 88-9, Rev. 2, Section IX, Para. 2.2.1, "Responsibility", states, "It is the responsibility of the Participating Organization and Nevada Test Site (NTS) Support Contractor that is performing the work to identify which portions of its activities involve the use of special processes. A special process is a process in which the results are highly dependent on either the control of the process or the operator's skill, or both, and in which the specified quality cannot be readily determined by inspection or testing of the item." H&N performs nondestructive testing services for the YMP. These services require H&N to develop NDT procedures and to have qualified/

QAE/Lead Auditor

Date

Frederick J. Roth

5/5/89

Branch Manager

Date

J. H. Caldwell

5 May 89

Completed By Responsee

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

certified NDT personnel. Nondestructive testing is considered a special process; however, H&N has not identified in its program which NDT will be performed. H&N's contention is that NDT services do not apply to the reference section.

WMPO OBSERVATION NO. 89-02-06		N-QA-012 6/88	
Completed by Originating QA Organization	Noted During: Audit 89-2	Identified By: S. Crawford	Date: 5/4/89
	Organization: Holmes & Narver	Person(s) Contacted: R. Schreiner	Response Due Date is 20 Days from Date of Transmittal
	Discussion: NNWSI/88-9, Revision 2, Section III, Para. 2.6.2 requires "Design information transmitted across interfaces shall be documented and controlled." H&N procedures do not contain specific measures for the control of design information received and transmitted by H&N. Previous SDR 293, 3/13/89, identifies a related deficiency of noncompliance with NNWSI/88-9, Section III, Para. 2.6.1. Observation S89-1-03 is also related to this area. The H&N response to SDR 293 should also address compliance with Para. 2.6.2 of NNWSI/88-9, Section III.		
	QAE/Lead Auditor <i>Fredrick J. Ruth</i>	Date <i>5/5/89</i>	Branch Manager <i>W. A. L. Dwell</i>
Completed By Responsee	Response:		
	Signature: _____ Date: _____		
Completed By QA Org.	Response Receipt Verified/Closed <input type="checkbox"/>		
	QAE/Lead Auditor Date	Branch Manager Date	
Remarks:			

WMPO OBSERVATION NO. 89-02-07N-QA-012
8/88

Completed By Originating QA Organization

Noted During:

Audit 89-2

Identified By:

J. Friend

Date:

5/4/89

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright/R. Sabol

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

A review of H&N's report to management issued 4/19/89 contained a section on trending that contained combined data from YMP and the weapons activities. It could not be determined from this data what applied to which project.

QAE/Lead Auditor

Frederick J. Ruth

Date

5/5/89

Branch Manager

John C. Dwell

Date

5 May 89

Completed By Respondee

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. 89-02-08N-QA-012
6/89

Noted During:

Audit 89-2

Identified By:

J. C. Friend

Date:

5/4/89

Organization:

Holmes & Narver

Person(s) Contacted:

R. Sabol/W. Cotter

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

H&N NDT personnel have not been certified to H&N procedure MNWSI-022, Rev. 0, "NDT Personnel Certification". A review of NDT personnel files that H&N maintains for weapons programs do not currently contain sufficient documentation to support certification to SNT-TC-1A (1980).

QAE/Lead Auditor

Date

*Frederick J. Kunt**5/5/89*

Branch Manager

Date

*W. A. Caldwell**5 May 89*

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

WMPO OBSERVATION NO. 89-02-09

N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

Audit 89-2

Identified By:

S. Crawford

Date:

5-4-89

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright/R. Sabol

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

The H&N QAPP, Rev. 2, Section 8, Para. III.A.2.b, provides, "If it is impractical to place the identification on the sample, methods shall be described and implemented to ensure that samples are mixed with like samples...". This is in contradiction to NNWSI/88-9, Rev. 2, Section VIII, Part B, Para. 1.1, which requires measures to "assure that samples are not mixed with like samples". Although this may have been an inadvertent omission in the QAPP, the result is that the QAPP is in direct conflict with NNWSI/88-9 in this area.

QAE/Lead Auditor

Date

Frederick J. Ruth

5/5/89

Branch Manager

Date

W. H. Caldwell

5 May 89

Completed By Responsee

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

YUCCA MOUNTAIN PROJECT OFFICE
1 YMPO OBSERVATION NO. 89-02-10

N-QA-012
4/89

Completed by Originating Organization	2 Noted During: Audit 89-2	3 Identified By: S. Crawford	4 Date: May 11, 1989
	5 Organization: Holmes & Narver	6 Person(s) Contacted: R. Schreiner	7 Response Due Date is 20 Days from Date of Transmittal
	8 Discussion: H&N Procedures YMP-018, Rev. 0 and NNWSI-015, Rev. 0 (with ICN-001) identify measures for the development and control of a Design Basis Document (DBD) and Design Input Control Document (DICD), respectively. Both the DBD and DICD are derived from the ESF Subsystem Design Requirements Document (SDRD), but the H&N procedures do not clearly denote the relationship between the DBD and the DICD, or the relationship of DBD and DICD to the "ESF Basis for Design Document" (AP-5.18Q), the SDRD, and the Reference Information Base (RIB).		
Completed by Respondee	9 QAE/Lead Auditor <i>Fredrick J. Ruth</i>	Date <i>5/11/89</i>	10 Branch Manager <i>J. G. [Signature]</i>
	11 Response:		
	12 Signature: _____ Date: _____		
Completed by QA Org.	13 Response Receipt Acceptable <input type="checkbox"/>		
	Initiator _____ Date _____	QA/Lead Auditor _____ Date _____	
14 Remarks:			
			Page <u>1</u> of <u>2</u>

YMPO OBSERVATION NO. 89-02-10
CONTINUATION PAGE

N-QA-012
1/89

8 Discussion: (continued)

NNWSI-015 was revised during the audit (as YMP-015) to cross reference YMP-018, and add clarification of design input sources.

Page

2 of 2

YUCCA MOUNTAIN PROJECT OFFICE
1 YMPO OBSERVATION NO. 89-02-11

N-QA-012
4/89

Completed by Originating Organization

2 Noted During: Audit 89-2

3 Identified By: S. Crawford

4 Date:
May 11, 1989

5 Organization: Holmes & Narver

6 Person(s) Contacted: R. Schreiner

7 Response Due Date
is 20 Days from Date
of Transmittal

8 Discussion:

H&N Procedure YMP-014, Rev. 2 provides for design verification of specifications (YMP-003) and drawings (YMP-005). Although YMP-005, Para. 6.4.1.2 requires design verification of drawings prior to QA and TPO approval, YMP-003 does not contain similar provisions for design verification of specifications. Also, YMP-006 does not provide for design verification to be accomplished per YMP-014 for design analyses to justify assumptions, or confirm the adequacy of analyses.

9 QAE/Lead Auditor

Date

Richard J. Roth

5/11/89

10 Branch Manager

Date

John H. Carlwell

5/11/89

Completed by Respondee

11 Response:

12 Signature:

Date:

Completed by QA Org.

13 Response Receipt Acceptable ☐

Initiator

Date

QA/Lead Auditor

Date

14 Remarks:

Page

1 of 1

WMPO OBSERVATION NO. <u>89-2-12</u>		N-QA-012 6/88	
Completed By Originating QA Organization	Noted During: Audit 89-2	Identified By: S. Crawford	Date: 5/4/89
	Organization: Project Office	Person(s) Contacted: R. Schreiner	Response Due Date is 20 Days from Date of Transmittal
	Discussion: The ESF Subsystem Design Requirements Document (SDRD) was issued 4/11/89 as Revision 0, by YMP Change Directive 89/023. Rev. 0 is the same document as previous Benchmark 4, 1/31/89, without incorporating several hundred resolved comments from the Benchmark 4 review cycle. As a result, H&N is preparing the Design Basis Document (DSD), and Design Input Control Document (DICD), using incomplete or incorrect design requirements. H&N should not release the DBD or DICD for final review and approval until receipt of the revised SDRD and incorporation of the changes and clarification into the DBD and DICD.		
Completed By Respondee	QAE/Lead Auditor <i>Frederick J. Ruth</i>	Date <i>5/5/89</i>	Branch Manager <i>W. A. Schreiner</i>
	Date <i>5 May 89</i>		
Completed By QA Org.	Response:		
	Signature: _____ Date: _____		
	Response Receipt Verified/Closed <input type="checkbox"/> QAE/Lead Auditor _____ Date _____ Branch Manager _____ Date _____		
Remarks:			

WMPO OBSERVATION NO. 89-2-13N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

Audit 89-2

Identified By:

S. Crawford

Date:

5-4-89

Organization:

Project Office

Person(s) Contacted:

Carl Wright

Response Due Date is
30 Days from Date of
Transmittal

Discussion:

H&N QAPP, Rev. 2, Section 3, Para. II.B, excludes "Scientific Investigations" (Criterion III) from the scope of H&N responsibility, testing is conducted under "Test Control, Section 11 (Criterion XI). Much of the testing performed at the H&N Material Test Lab (MTL)/(Prototype testing to date) is done to USGS direction with USGS supplied samples. However, the USGS QAPP-01, Rev. 5, excludes the requirements of Criterion XI (Para. 11.2) and conducts all test activities as "Scientific Investigations" per Criterion III. H&N and USGS should mutually resolve the basis under which tests for the ESF are conducted, with Project Office assistance if necessary.

QAE/Lead Auditor

Date

Fredrick J. Roth 5/5/89

Branch Manager

Date

Don A. Dwell 5 May 89

Completed By Responder

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. 89-2-14
**N-QA-012
8/88**

Completed by Originating QA Organization

Noted During:
H&N Audit 89-2

Identified By:
F. J. Ruth

Date:
5/4/89

Organization:
Yucca Mountain Project Office

Person(s) Contacted:
Ed Wilmot

**Response Due Date is
20 Days from Date of
Transmittal**
Discussion:

NNWSI Project QA Plan, Revision 2, Section 11, "Quality Assurance Program," Paragraph 1.0, "Extent of the Quality Assurance Program," states, "Readiness reviews shall apply to major scheduled/planned activities, which could affect quality. Readiness reviews shall be used in verifying that specified prerequisites and programmatic requirements have been identified prior to starting a major activity. Susan Zimmerman, from the State of Nevada, has written an Audit Observer Inquiry (see attached) requesting written documentation that Title II ESF design is considered a major activity. If Title II is not considered a major activity, the State would like written justification as to why not."

QAE/Lead Auditor
Fredrick J. Ruth
Date
5/5/89
Branch Manager
W. J. Caldwell
Date
5 May 89
Response:

Completed By Respondee

Signature:
Date:
Response Receipt Verified/Closed

QAE/Lead Auditor
Date
Branch Manager
Date
Remarks:

Completed By QA Org.

YUCCA MOUNTAIN PROJECT
AUDIT OBSERVER INQUIRY

N-QA-084
4/89

Audit No. 89-2

Log No. 12

Name Susan Zimmerman Organization State of Nevada

YMP Requirement Reference _____

Question/Concern The State would like written documentation of the
determination if, according to 88-9, Rev 2 and the HAN QAPP, Rev 2
ESF
Title II design is considered a major activity. If Title II
is not considered a major activity, the State would like written
justification of why not

Response _____

Observer's Acknowledgement

Cleared for Submittal to YMP Participant



Incorporated in YMP Audit Checklist...Ref

22. Page 10 of 123

Frederick J. Ruth
Lead Auditor / Lead Technical Specialist

Frederick J. Ruth
Audit Team Leader