

PROJECT OFFICE QUALITY ASSURANCE AUDIT REPORT
YUCCA MOUNTAIN PROJECT AUDIT OF HOLMES & NARVER, INC.

AUDIT NUMBER S89-1

CONDUCTED: NOVEMBER 1 - 4, 1988

Prepared By:

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Lead Auditor

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Margaret Brake
Lead Tech. Specialist

Date: 1-6-89

Approved By:

H. H. Caldwell
Division Manager, Audits

Date: 6 Jan 89

Approved By:

James Blaylock
James Blaylock
Project Quality Manager

Date: 1/31/89

Received w/Ltr Dated 1/31/89

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ENCLOSURE

EXECUTIVE SUMMARY

PROJECT OFFICE AUDIT REPORT NO. S89-1

HOLMES & NARVER, INC

LAS VEGAS, NEVADA

NOVEMBER 01 - 04, 1988

In the opinion of the Project Office audit team the overall H&N design control program is marginally effective for this stage of the design cycle (i.e., Title I). It is evident that essential elements of the program need to be strengthened and/or enhanced prior to start of Title II. For example:

- o Greater involvement by H&N QA in the design control process is necessary;
- o Procedures should be re-reviewed to ensure they meet the requirements of the H&N QAPP; and
- o Design procedures should be re-analyzed to assure they conform to the design process required by the H&N QAPP. For example, design personnel appear to be implementing the design control at a level above the procedural requirements. H&N design personnel are to be commended for identifying procedural weaknesses and overcoming those weaknesses via their implementation of good design practice. However, if a procedural weakness is identified, the procedures must be revised to ensure that consistency in quality of the product (design output) is maintained.

It should be pointed out that all H&N personnel interviewed were very knowledgeable of their assigned tasks and responsibilities, and were all concerned with providing a quality product.

Ten deficiencies were identified during the course of the audit. The audit team also generated fifteen observations (two of which are directed to the Project Office) and two recommendations. SDR No. 117, which was identified during Project Office Audit 88-2, has been closed and reissued as SDR No. 117, Rev. 1, because the verification of corrective action was found unacceptable during the audit.

1.0 INTRODUCTION

This report contains the results of a Quality Assurance Audit of the Holmes & Narver (H&N) support of the Yucca Mountain Project (YMP). The audit was conducted at the H&N facilities in Las Vegas, NV, on November 1 through November 4, 1988. The audit was conducted in accordance with the requirements of the Yucca Mountain Project Quality Assurance Plan (QAP), NVO-196-17, Rev. 5, and Quality Management Procedure (QMP)-18-01, Rev. 3, "Audit System For The Waste Management Project Office."

2.0 AUDIT SCOPE

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

This was a supplemental audit and as such covered only specific subjects. The scope of the audit focused primarily on design control, specifically review of the H&N ESF Title I design activities. Programmatic elements 2, 5, 6, 16, 17, and 18 were also selected because these elements are integral to the design process. In addition, problem areas identified during Audit 88-02 were added to the audit scope to determine whether H&N is effectively implementing their program in these areas. Programmatic Element 1 (Organization) was added to the audit scope during the audit. The programmatic elements that were not included (see Section 4.2 of this report) in this audit were covered in-depth during Audit 88-02.

3.0 AUDIT TEAM PERSONNEL

The audit team consisted of:

Stephen Dana	Lead Auditor	SAIC, Las Vegas, NV
William Camp	Auditor	SAIC, Las Vegas, NV
Frederick Ruth	Auditor	SAIC, Las Vegas, NV
Wendell Mansel	Auditor	YMP, Las Vegas, NV
Catherine Hampton	Auditor Candidate	YMP, Las Vegas, NV
Margaret Brake	Lead Technical Specialist	SAIC, Las Vegas, NV
John Jardine	Technical Specialist	SAIC, Las Vegas, NV
Naïem Tanious	Observer	NRC, Washington, DC
John Gilray	Observer	NRC, Las Vegas, NV
William Belke	Observer	NRC, Washington, DC
Robert Brient	Observer	NRC, Washington, DC
Robert Clark	Observer	WESTON, Washington, DC
Arthur Watkins	Observer	WESTON, Washington, DC
Susan Zimmerman	Observer	NWPO, Carson City, NV
James Grubb	Observer	NWPO, Carson City, NV

4.0 SUMMARY OF AUDIT RESULTS

4.1 Statement of Program Effectiveness

In the opinion of the Project Office audit team the overall H&N design control program is marginally effective for this stage of the design cycle (i.e., Title I). It is evident that essential elements of the program need to be strengthened and/or enhanced prior to start of Title II. For example:

- a. Greater involvement by H&N QA in the design control process is necessary;
- b. Procedures should be re-reviewed to ensure they meet the requirements of the H&N QAPP; and
- c. Design procedures should be reanalyzed to assure they conform to the design process required by the H&N QAPP. For example, design personnel appear to be implementing design control at a level above the procedural requirements.

In addition, H&N is not effectively providing timely implementation of proposed corrective action to Project Office SDRs and Observations. For example:

- a. H&N effective date for proposed corrective action to SDR 117 (Project Office Audit 88-2) was September 02, 1988 (Reference, letter YMP:TPO:88-343, Calovini to Blaylock, dated August 31, 1988). Proposed corrective action to SDR 117 was verified, during Audit S89-1, as incomplete; and
- b. Effective date for proposed corrective action to Observation No. 7 (Project Office Audit 88-2) was 06/30/88. Proposed corrective action to Observation No. 7 was verified, during audit S89-1, as incomplete.

In the opinion of the audit team the following QA program elements were determined to be effectively implemented by H&N:

- 1.0 Organization
- 2.0 QA Program
- 5.0 Instructions, Procedures, and Drawings
- 6.0 Document Control
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits

4.2 Summary

A total of ten Standard Deficiency Reports (SDRs) and fifteen observations, two of which are against the Project Office, were identified as a result of the audit. In addition, the audit team generated two recommendations for the consideration of the H&N Yucca Mountain Project staff. A synopsis of the SDRs and observations and the actual 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 the severity levels is provided in Enclosure 1.

At the time of the audit, one SDR and seven observations remained open from the previous Project Office Audit (88-2). During the audit, the audit team verified that corrective action had been satisfactorily completed for observations No. 1, 2, 3, 5, 6, and 8. SDR No. 117 was verified as incomplete, was closed and reissued as SDR 117, Rev. 1. Observation No. 7 was verified as incomplete and SDR 249 was issued to document the deficiency.

The following program elements were deemed to be in compliance with the requirements of the H&N QAPP, Rev 1, and its implementing procedures:

- 1.0 Organization
- 2.0 QA Program
- 16.0 Corrective Action

Program elements in which the audit team identified deficiencies were:

- 3.0 Design Control
- 5.0 Instructions, Procedures, and Drawings
- 6.0 Document Control
- 17.0 QA Records
- 18.0 Audits

The following programmatic elements were not within the scope of this audit:

- 4.0 Procurement Document Control
- 7.0 Control of Purchased Material, Equipment, and Supplies
- 8.0 Identification and Control of Samples and Items
- 9.0 Control of Processes
- 10.0 Inspection
- 11.0 Test Control
- 12.0 Control of Measuring and Test Equipment
- 13.0 Handling, Storage, and Shipping
- 14.0 Inspection, Test, and Operating Status
- 15.0 Nonconforming Materials, Parts, or Components

4.2 Summary (Continued)

The following technical activities were reviewed as part of this audit:

- 1.2.6.2.2.1 - Power Systems
- 1.2.6.2.2.2 - Water Systems
- 1.2.6.2.2.4 - Mine Waste Water System
- 1.2.6.2.2.5 - Communications
- 1.2.6.3.1.7 - Surface Data Building
- 1.2.6.3.1 - Subsurface Data Building
- 1.2.6.7.1.1 - Subsurface Power System
- 1.2.6.7.1.2 - Life Safety System
- 1.2.6.9.3 - Data Cabling

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 10:00 a.m. on November 1, 1988. The purpose, scope and proposed agenda for the audit were presented. A list of attendees for this meeting is provided in Enclosure 2.

5.2 Postaudit Conference

The postaudit conference was held at 10:00 a.m. on November 4, 1988. A synopsis of the preliminary SDRs and observations identified during the course of the audit was discussed with the H&N TPO and his staff. A list of attendees for this meeting is also provided in Enclosure 2.

6.0 SYNOPSIS OF SDRs, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Standard Deficiency Reports (SDRs)

1. H&N has not developed and issued a procedure covering procurement for QA level I and II activities. This deficiency was previously identified in Project Office Audit 88-2, Observation No. 7. Refer to SDR No. 249, Severity Level 3.
2. No Title I drawings have evidence of a drafting check. Refer to SDR No. 250, Severity Level 2.
3. Work Initiations (WIs) have not been revised when criteria or work scope were revised. In addition, in the same WIs, the references to the Design Basis Document (DBD), Rev 2, and the SDRD, Rev 1, are incorrect. Refer to SDR No. 251, Severity Level 2.
4. Some electrical and civil calculations audited do not contain sufficient detail such that the analysis can be understood, reviewed, and verified without the originator present. Refer to SDR No. 252, Severity Level 2.

6.1 Standard Deficiency Reports (Continued)

5. Document control activities for the H&N Design Basis Document (DBD) have not provided for the following:
 - a. A procedure that identifies assignment of responsibility for preparing, approving, and issuing the DBD.
 - b. A procedure that addresses review of the DBD for technical adequacy, completeness, and inclusion of appropriate quality requirements prior to approval and issuance. Refer to SDR No. 253, Severity Level 2.
6. Closed Corrective Action Reports (CARs) have not been transmitted to Records Management for processing. Refer to SDR No. 254, Severity Level 3.
7. Audit reports No. 87-02 and 87-10 do not address the effectiveness for each element audited. Refer to SDR No. 255, Severity Level 3.
8. H&N is not auditing Criterion 16 (Corrective Action) and Criterion 18 (Audits). Refer to SDR No. 256, Severity Level 2.
9. H&N procedures do not contain appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished. Refer to SDR No. 257, Severity Level 2.
10. Appropriate quality requirements have not been included in some H&N procedures and where omissions have been corrected, the effort to correct these omissions has not been timely. Refer to SDR No. 258, Severity Level 2.

6.2 Observations

1. It was observed during the H&N audit (S89-1) that no provisions had been made to establish design inputs for points where designs interface within the ESF. Refer to Observation No. S89-1-01.
2. H&N procedure NNWSI-029, Rev 1, requires the use of a "Design Interface Identification Sheet" (DIIS). Inquiring as to who is expected to prepare this form where H&N is not involved in a design interface, such as the case where F&S and Los Alamos/EG&G are the participants, it was learned that the DIIS was expected to be prepared by either of the two participants and then the DIIS would be forwarded to H&N for the preparation of System Interface Drawings (SIDs) and/or Component Interface Drawings (CIDs). Inquiring as to what procedure would require F&S and/or Los Alamos/EG&G to take such an action, it was learned that no procedural requirements govern this situation. Refer to Observation No. S89-1-02.

6.2 Observations (Continued)

3. No provisions are currently available within the H&N design program to establish applicable design inputs relevant to points at which design interfaces occur with external design organizations. Refer to Observation No. S89-1-03.
4. Neither H&N procedure NNWSI-014, Rev. 0, or NNWSI-005, Rev. 1, provide an effective means of identifying and controlling portions of design that have not been verified prior to release. Refer to Observation No. S89-1-04.
5. The survey work that was performed in March, 1988 was identified as a Level I activity during the last audit (88-2). The purpose of the survey work was to verify control points at the Nevada Test Site (NTS). Since there were no position descriptions for survey personnel at that time, H&N should evaluate each surveyor who performed work prior to H&N establishing position descriptions to determine whether they meet the minimum requirements. Refer to Observation No. S89-1-05.
6. Upon reviewing the indoctrination records of specific design personnel, the records indicate training was received to specific procedures but the procedure revision to which the training was conducted was not identified. In addition, indoctrination records of specific design personnel indicate training to the H&N QAPP was accomplished by the use of a project film which does not provide sufficient detail to the scope, purpose, methods of implementation, and applicability of the QAPP as it relates to the work to be accomplished. Refer to Observation No. S89-1-06.
7. No provisions are evident in H&N procedures NNWSI-003, Rev. 0, and NNWSI-005, Rev. 1, for the resolution and implementation of comments received during technical assessment reviews. Refer to Observation No. S89-1-07.
8. There is no method identified in H&N procedure NNWSI-006, Rev. 1, to define the need for analyses. The files for 1.2.6.7.1.2 (Life Safety Systems) and 1.2.6.9.3 (Data Cabling) should contain analyses to show why alternatives were selected, however, they do not. Refer to Observation No. S89-1-08.
9. H&N QA has not been involved in the review, approval and/or acceptance of design inputs used for Title I design of the ESF. The deficiency has been identified by H&N QA on CAR No. N-88-A-007. Refer to Observation No. S89-1-09.
10. H&N QA performs a review and approval of design output documents (drawings, specifications) prior to design verification; however, no review is performed subsequent to design verification. Refer to Observation No. S89-1-10.

6.2 Observations (Continued)

11. H&N procedure NNWSI-014, Rev. 0, does not address the H&N QAPP requirement that changes to previously verified designs shall require verification including evaluation of the effects of those changes on the overall design. The deficiency has been identified by H&N QA on CAR No. N-88-A-009. Refer to Observation No. S89-1-11.
12. A review of H&N Title I drawings revealed the following discrepancies:
 - a. Drawings were found that did not reference a QALAS; and
 - b. Drawings were found that reference unapproved QALAS.Refer to Observation No. S89-1-12.
13. The H&N access list to the LRC files does not list the administrative personnel who have access, no names are given to designate who the personnel are. Refer to Observation No. S89-1-13.
14. A H&N individual does not meet the position description in his file, the individual does not possess a degree which meets the position description requirements. The deficiency has been identified by H&N QA on CAR No. 88-S-005, Rev 1. Refer to Observation No. S89-1-14.
15. Title I outline specifications are not being prepared and reviewed per H&N procedure NNWSI-003. Refer to Observation No. S89-1-15.

6.3 Recommendations

Recommendation No. 1

At the present time H&N is evaluating the process by which numbers are assigned to procedures. It is recommended that H&N follow through on this effort as it is very difficult at this time to determine which procedures support the 18 criteria.

Recommendation No. 2

At this time the H&N NNWSI Procedure Manual Index does not identify procedure NNWSI-026, "Microfilming and Archival Storage Services Facility (MASSF)", as a quality affecting procedure. This was discussed with H&N personnel and will be identified as a quality affecting procedure when the next revised index is issued.

7.0 REQUIRED ACTION

A written response is required for each Standard Deficiency Report (SDR) delineated in Section 6.0 above. The original copies of the SDRs were forwarded to the H&N TPO on December 21, 1988. Responses to each SDR are due 20 working days from the date of the SDR transmittal letter.

7.0 REQUIRED ACTION (Continued)

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 the closure.

A written response is required for 13 out of the 15 observations contained in Enclosure 4 of this report. Observations S89-1-01 and S89-1-02 require response by the Project Office. Responses are due 25 working days after the transmittal letter of this audit report.

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

AUDIT REPORT S89-1
ENCLOSURE 2

<u>NAME</u>	<u>ORGANIZATION</u>	<u>TITLE</u>	<u>PREAUDIT CONFERENCE</u>	<u>DURING AUDIT</u>	<u>POSTAUDIT CONFERENCE</u>
Aiello, Carolyn	H&N	Training Coordinator	X	X	X
Bautista, Cathy	H&N	Clerk II	X	X	
Belke, Bill	NRC	QA Project Manager	X	X	X
Brake, Marge	SAIC	Systems Engineer	X	X	X
Brient, Robert	NRC	QA Group Leader	X	X	X
Brown, Don	H&N	QA Engineer	X	X	X
Caldwell, Henry	SAIC	Manager, Audits			X
Calovini, Joseph	H&N	TPO	X		X
Camp, William	SAIC	QA Engineer	X	X	X
Chappell, Jill	H&N	Clerk II	X	X	X
Clark, Bob	WESTON	QA Engineer	X	X	X
Dana, Stephen	SAIC	QA Engineer	X	X	X
DeKlever, Richard	H&N	Sr. QA Engineer	X	X	X
Gilray, John	NRC	Site Resident	X	X	X
Grubb, Jim	NWPO	Repository Engineer	X	X	
Hampton, Catherine	YMP	QA Specialist	X	X	X
Jardine, John	SAIC	QA Engineer	X	X	X
Mansel, Wendell	YMP	QA Engineer	X	X	
McGillicuddy, B.	H&N	Engineer	X	X	
Prestholt, Paul	NRC	On Site Rep.			X
Replogle, Jim	H&N	PE	X	X	X

AUDIT REPORT S89-1 (CONTINUED)
ENCLOSURE 2

<u>NAME</u>	<u>ORGANIZATION</u>	<u>TITLE</u>	<u>PREAUDIT CONFERENCE</u>	<u>DURING AUDIT</u>	<u>POSTAUDIT CONFERENCE</u>
Ruth, Frederick	SAIC	QA Engineer	X	X	X
Schreiner, Randolph	H&N	Design Section Chief	X	X	X
Sobol, Ronald	H&N	QA Engineer	X	X	X
Tanious, Naiem	NRC	Geotechnical Engineer	X	X	X
Tuthill, H.	H&N	Sr. Project Engineer	X	X	X
Verden, Jan	H&N	Admin. Section Chief	X	X	X
Voltura, Nancy	YMP	QA			X
Wanniski, T.	H&N	NVO Project Manager	X		X
Watkins, Arthur	WESTON	Mining Engineer	X	X	X
Wright, Carl	H&N	Chief, QA	X	X	X
Yelvington, T.	H&N	Mgr. Technical Services	X	X	X
Zimmerman, Susan	NWPO	QA Manager	X	X	X

YMP AUDIT REPORT NO. S89-1

ENCLOSURE 3

SDRS

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization

1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 2
3 Discovered During H&N Audit S89-01	3a Identified By W.B. Mansel	3b Branch Chief Concurrence Date		4 SDR No. 249 Rev. 0
5 Organization Holmes & Narver		6 Person(s) Contacted H. Tuthill/C. Wright/D. Brown		7 Response Due Date is 20 Working Days from Date of Transmittal
8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item 2-6) 1. Reference: WMPO letter JB-1158, dated 3/20/87, Vieth to TPOs, page 2, last paragraph, requires H&N to issue revised procedures upon receipt of WMPO				
9 Deficiency Contrary to the above, H&N has not developed and issued a procedure covering procurement of QA Level I & II activities. This deficiency was previously identified in WMPO Audit 88-1, Observation No. 7. H&N committed to producing				
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Prepare a procurement procedure for YMP QA Level I & II activities. 2. Train appropriate personnel to procedural requirements.				

Aprvl

11 QAE/Lead Auditor Date <i>James</i> 12/12/88	12 Branch Manager <i>Thompson</i> 12/12/88	13 Project Quality Mgr. Date <i>James Bleylock</i> 12/19/88
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Completed by Organization in Block 5

14 Remedial/Investigative Action(s)		15 Effective Date _____
16 Cause of the Condition & Corrective Action to Prevent Recurrence		17 Effective Date _____
18 Signature/Date		

Comp. by Orig. QA Org.

19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended Response	QAE/Lead Auditor/Date	Branch Manager/Date
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject	QAE/Lead Auditor/Date	Branch Manager/Date
21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory	QAE/Lead Auditor/Date	Branch Manager/Date
22 Remarks		
23 QA CLOSURE	QAE/Lead Auditor/Date	Branch Manager/Date PQM/Date



WMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

N-QA-038
10/86

SDR No. 249

Rev. 0

Page 2 of 2

8 Requirement (continued)

approval of the H&N QAPP.

2. Reference: WMPD Audit 88-1, Observation No. 7, "As of the date of this audit, H&N has not issued a procedure covering procurement of QA Level I and II activities".

9 Deficiency (continued)

a procurement procedure in their observation response by 06/30/88.

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization	1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2
	3 Discovered During H&N Audit S89-01		3a Identified By M. Brake		3b Branch Chief Concurrence Date
	5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		4 SDR No. 250 Rev. 0
	7 Response Due Date is 20 Working Days from Date of Transmittal				
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item T-5) H&N Procedure NNWSI-005, Rev. 1, "Design Drawing Preparation And Control", Section 6.2.1, "All drawings will be checked by personnel whose qualifications				
	9 Deficiency Contrary to the above requirement, no Title I drawings have evidence of a drafting check.				
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Perform drafting checks of drawings independent from the interdiscipline review.				
	11 QAE/Lead Auditor Date <i>S. D. 12-12-88</i>		12 Branch Manager Date <i>12/12/88</i>		13 Project Quality Mgr. Date <i>James Blaylock 12/19/88</i>
Completed by Org. QA Org.	14 Remedial/Investigative Action(s)				15 Effective Date _____
	16 Cause of the Condition & Corrective Action to Prevent Recurrence				17 Effective Date _____
	18 Signature/Date				
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date	PQM/Date

WMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

N-QA-038
10/86

SDR No. 250

Rev. 0

Page 2 of 2

8 Requirement (continued)

are sufficient to have originated the original work and did not originate the original work".

10 Recommended Actions (continued)

2. Develop a plan to investigate what impact the lack of a drafting check has had on the drawings. The plan should be provided with response to the SDR.

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization
Completed by Organization in Block 5
Comp. by Orig. QA Org.

1 Date NOV 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2
3 Discovered During H&N AUDIT S89-01		3a Identified By M. Brake		3b Branch Chief Concurrence Date
5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		4 SDR No. 251 Rev. 0
7 Response Due Date is 20 Working Days from Date of Transmittal				
8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item T-9) H&N Procedure NNWSI-007, Rev. 1, "Work Initiation", Sections 6.4.1 & 6.4.2, "Any revision of criteria or work scope changes from the original WI requires				
9 Deficiency 1. WIs 88-15, 88-16, 88-17, 88-19, 88-21, 88-22, 88-27, 88-31, 88-32, and 88-33 have not been revised when criteria or work scope were revised. 2. In the same WIs, the references to the Design Basis Document (DBD), Rev 2,				
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Revise the WIs to reference the latest criteria documents when revisions are received/made to the criteria documents.				
11 QAE/Lead Auditor Date <i>Stor</i> 12-12-88		12 Branch Manager <i>Adams</i> 12/13/88		13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88
14 Remedial/Investigative Action(s)				
15 Effective Date _____				
16 Cause of the Condition & Corrective Action to Prevent Recurrence				
17 Effective Date _____				
18 Signature/Date				
19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date
21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date
22 Remarks				
23 QA CLOSURE	QAE/Lead Auditor/Date		Branch Manager/Date	PQM/Date

WMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

N-QA-038
10/86

SDR No. 251

Rev. 0

Page 2 of 2

8 Requirement (continued)

that it be revised, using the same number", and "Attach or reference the approved criteria revision to the revised WI".

9 Deficiency (continued)

and the SDRD, Rev 1, are incorrect.

10 Recommended Actions (continued)

2. Provide a management control system to ensure that when design information changes, the effected documents are revised accordingly.
3. Develop a plan to investigate what impact the incorrect design information identified in block 9 has had on the quality of design output documents. The plan should be provided with response to the SDR.
4. Train appropriate personnel to revised procedural requirements.

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization	1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During H&N Audit S89-01		3a Identified By M. Brake		3b Branch Chief Concurrence Date	
	5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		4 SDR No. 252 Rev. 0	
	7 Response Due Date is 20 Working Days from Date of Transmittal					
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item T-8) H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 3, "Design Control", para. III.C.1, "Design analysis shall be planned, controlled, and documented"					
	9 Deficiency Contrary to the above requirement, electrical calculations audited do not contain sufficient detail such that the analysis can be understood, reviewed, and verified without the originator present [E-0002, E-0003 and E-0009]. In					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Verify that all calculations (design analysis) are complete and can stand alone without the originator.					
	11 QAE/Lead Auditor Date S. Deane 12-12-88		12 Branch Manager [Signature] 12/12/88		13 Project Quality Mgr. Date James Blaylock 12/19/88	
Completed by Org. QA Org.	14 Remedial/Investigative Action(s)					15 Effective Date
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					17 Effective Date
	18 Signature/Date					
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date	
Comp. by Orig. QA Org.	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
	22 Remarks					
	23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date	
				PQM/Date		



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N-QA-038
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8 Requirement (continued)

in sufficient detail...such that a technically qualified person may review, understand and verify the analysis without recourse to the originator".

9 Deficiency (continued)

addition, one civil calculation does not meet the above requirement [C-0005]. It should be noted that H&N Surveillance N88-5-0011 covered many of the items that lead up to the above deficiency, but it does not cover the above stated requirement.

The design analyses cannot be checked without the originator because they are incomplete. The analyses do not contain a definition of the objective of the analysis, a definition of design input and their sources, a listing of applicable references, results of literature searches or other background data, identification of assumptions and indication of those which require verification as the design proceeds, and major equation sources. If these items were available the analyses could stand alone and be reviewed, understood, and verified.

10 Recommended Actions (continued)

2. Develop a plan to investigate what impact the lack of sufficient detail has had on the quality of the calculations. The plan should be provided with response to the SDR.
3. Take action to assure future calculation packages are generated to meet program requirements.

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1 Date Nov 29, 1988

2 Severity Level ☐ 1 ☒ 2 ☐ 3

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3 Discovered During
H&N Audit S89-013a Identified By
S. Dana3b Branch Chief
Concurrence Date4 SDR No.
253 Rev. 05 Organization
Holmes & Narver6 Person(s) Contacted
C. Wright/R. Schreiner7 Response Due Date is
20 Working Days from
Date of Transmittal8 Requirement (Audit Checklist Reference, if Applicable)
(Audit Checklist Item 1-45)H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 6, "Document
Control", para. III.A, "The document control system shall be prescribed by

9 Deficiency

Contrary to the above requirement, document control activities for the
H&N Design Basis Document (DBD) have not provided for the following:

1. A procedure that identifies assignment of responsibility for preparing,

10 Recommended Action(s): ☒ Remedial ☒ Investigative ☒ Corrective1. Prepare a procedure that addresses the requirements of the QAPP, Section 6,
para. III.A for the DBD.

11 QAE/Lead Auditor Date

12 Branch Manager

Date

13 Project Quality Mgr. Date

S. Dana 12-12-88

Atkins for 12/12/88

James Blaylock 12/19/88

14 Remedial/Investigative Action(s)

15 Effective Date

16 Cause of the Condition & Corrective Action to Prevent Recurrence

17 Effective Date

18 Signature/Date

19 Response

☐ Accept
☐ Reject☐ Amended
Response

QAE/Lead Auditor/Date

Branch Manager/Date

20 Amended
Response☐ Accept
☐ Reject

QAE/Lead Auditor/Date

Branch Manager/Date

21 Verifi-
cation☐ Satisfactory
☐ Unsatisfactory

QAE/Lead Auditor/Date

Branch Manager/Date

22 Remarks

23
QA CLOSURE

QAE/Lead Auditor/Date

Branch Manager/Date

PQM/Date

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CONTINUATION SHEET

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8 Requirement (continued)

written procedures appropriately reviewed and concurred with by Quality Assurance. The procedure shall provide for implementation of the following:

1. Identification of documents to be controlled.
2. Identification of assignment of responsibility for preparing, reviewing, approving, and issuing documents.
3. Review of documents for technical adequacy, completeness, correctness, and inclusion of appropriate quality requirements prior to approval and issuance."

9 Deficiency (continued)

approving, and issuing the DBD.

2. A procedure that addresses review of the DBD for technical adequacy, completeness, correctness, and inclusion of appropriate quality requirements prior to approval and issuance.

10 Recommended Actions (continued)

2. Train appropriate personnel to new procedural requirements.

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Completed by Originating QA Organization
Completed by Organization in Block 5
Comp. by Orig. QA Org.

1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 2	
3 Discovered During H&N Audit S89-01		3a Identified By B. Camp/C. Hampton		3b Branch Chief Concurrence Date	
5 Organization Holmes & Narver		6 Person(s) Contacted R. Sabol		4 SDR No. 254 Rev. 0	
7 Response Due Date is 20 Working Days from Date of Transmittal					
8 Requirement (Audit Checklist Reference, if Applicable) NNWSI-SOP-17-01, Rev. 0, para. 5.4.4, "Project participants are responsible for performing the following activities in support of the QARMS: Collect QA Records as soon as possible after records completion, not to exceed 30 days."					
9 Deficiency Contrary to the above requirement, closed Corrective Action Reports (CARs 1, 5 through 10, 36, 46, and 47) have not been transmitted to Records Management processing. Reports are being stored in 2-drawer file cabinets by H&N					
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Transmit the identified completed (closed) QA Records to Records Management as required.					
11 QAE/Lead Auditor Date <i>S. Davis 12-12-88</i>		12 Branch Manager Date <i>Attens for 12/12/88</i>		13 Project Quality Mgr. Date <i>James Blaylock 12/19/88</i>	
14 Remedial/Investigative Action(s)					
15 Effective Date _____					
16 Cause of the Condition & Corrective Action to Prevent Recurrence					
17 Effective Date _____					
18 Signature/Date					
19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended Response <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
21 Veri- fication <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date	
PQM/Date					



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CONTINUATION SHEET

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8 Requirement (continued)

9 Deficiency (continued)

personnel. In addition, H&N NNWSI QAPP, Section 17, and H&N procedure NNWSI-008, Rev. 2, do not address the 30 day requirement specified in NNWSI-SOP-17-01, Rev. 0.

10 Recommended Actions (continued)

2. Revise the appropriate procedures to address the current Project Office requirements.
3. Train appropriate personnel to revised procedural requirements.

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Completed by Originating QA Organization	1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During H&N Audit S89-01		3a Identified By B. Camp/C. Hampton		3b Branch Chief Concurrence Date	
	4 SDR No. 255		Rev. 0			
	5 Organization Holmes & Narver		6 Person(s) Contacted R. Sabol		7 Response Due Date is 20 Working Days from Date of Transmittal	
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item 1-72) H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 18, "Audits", para. III.E.4, "Audit report shall contain summary of the audit results, including					
	9 Deficiency Contrary to the above requirement, audit reports No. 87-02 and 87-10 do not address the effectiveness of each element audited.					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Revise the audit report format to include a statement of effectiveness for each element audited.					
	11 QAE/Lead Auditor Date <i>SDA</i> 12-12-88		12 Branch Manager <i>Shur</i> 12/12/88		13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88	
Completed by Org. QA Org.	14 Remedial/Investigative Action(s)					
	15 Effective Date _____					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					
	17 Effective Date _____					
Comp. by Orig. QA Org.	18 Signature/Date					
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended Response <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
	22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date		
				PQM/Date		

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8 Requirement (continued)

a statement of the effectiveness of the QA program elements audited".

10 Recommended Actions (continued)

2. Train Audit personnel to the revised procedural requirements.

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Completed by Originating QA Organization in Block 5
Completed by Org. QA Org.

1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
3 Discovered During H&N Audit S89-01		3a Identified By W. Mansel		3b Branch Chief Concurrence Date	
				4 SDR No. 256 Rev. 0	
5 Organization Holmes & Narver		6 Person(s) Contacted C. Wright/R. Sabol		7 Response Due Date is 20 Working Days from Date of Transmittal	
8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item 1-64) 1. H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 18, "Audits", para. III.A.3, "Internal and external audits shall be scheduled in a manner					
9 Deficiency Contrary to the above requirement, H&N is not auditing criteria 18 (Audits) and criteria 16 (Corrective Action).					
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Develop a plan which describes how H&N will provide coverage of criteria 16 and 18. The plan should be provided with response to the SDR.					
11 QAE/Lead Auditor Date <i>SD</i> 12-12-88		12 Branch Manager <i>Wright</i> 12/12/88		13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88	
14 Remedial/Investigative Action(s)					
15 Effective Date _____					
16 Cause of the Condition & Corrective Action to Prevent Recurrence					
17 Effective Date _____					
18 Signature/Date					
19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date	
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date	
				PQM/Date	



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10/86

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Rev. 0

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8 Requirement (continued)

to provide coverage of all applicable elements of this QAPP or the organizations's QA Manual, as appropriate, commensurate with ongoing activities...."

2. H&N Procedure NNWSI-031, Rev. 0, "Audits", para. 6.1.2, "Audits shall be scheduled in a manner to provide coverage of all applicable elements of the QAPP or the organization's QA Manual commensurate with ongoing activities."

10 Recommended Actions (continued)

2. Revise the current audit schedule to include criteria 16 and 18.

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3/87

Completed by Originating QA Organization	1 Date November 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 3	
	3 Discovered During H&N Audit S89-01		3a Identified By J. Jardine		3b Branch Chief Concurrence Date	
	5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		4 SDR No. 257 Rev. 0	
	7 Response Due Date is 20 Working Days from Date of Transmittal					
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Items 1-10, 1-11, 1-12, 1-14, 1-19, 1-20 and 1-22) H&N QAPP, Rev. 1, Section 5, Paragraph III.B.1 states:					
	9 Deficiency Contrary to the cited requirement, H&N procedures do not contain appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished. The following					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Revise procedures to correct cited deficiencies.					
	11 QAE/Lead Auditor Date 12-12-88					
Comp. by Orig. QA Org.	12 Branch Manager Date		13 Project Quality Mgr. Date			
	14 Remedial/Investigative Action(s)		15 Effective Date			
	16 Cause of the Condition & Corrective Action to Prevent Recurrence		17 Effective Date			
	18 Signature/Date					
Comp. by Orig. QA Org.	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended Response <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	21 Verification <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
	22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date		
				PQM/Date		

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8 Requirement (continued)

"Instructions, plans, procedures, etc., shall:
Include or reference appropriate quantitative or qualitative acceptance
criteria for determining that prescribed activities have been
satisfactorily accomplished."

9 Deficiency (continued)

examples indicate the areas in which H&N procedures fail to provide a sufficient
level of detail or guidance to those responsible for implementation.

1. H&N NNWSI-007, Rev. 0, with ICN-002, Rev. 0, "Work Initiation, Criteria Gathering, and Reporting," and NNWSI-015, Rev. 0, "Design Input Control", do not instruct those responsible for implementation with regard to what aspects of design input must be reviewed in order to arrive at acceptance of the input. Instructions directing such a review should, at a minimum, include the following:
 - 1) a comparison of subject input with known values, standard tables, information, and codes;
 - 2) a check to determine if the input is complete such as a reference to Attachment 8.1 of NNWSI-015;
 - 3) a check to confirm accuracy of the input;
 - 4) a check to determine if the input requires a change to established input and an assessment of related input that requires a change and;
 - 5) an assessment of whether the input will result in the use of standard available technology and equipment or some arrangement that is beyond the state of the art.
2. H&N NNWSI-006, Rev. 1, "Design Analysis," does not impart the message that an analysis is more than a set of calculations. This procedure concentrates heavily on who prepares, where the analyses are sent to next, etc...but fails to convey the fundamental purpose of an analysis. That is, an analysis must prove through use of progressive and orderly logic that the design of the item will serve safely and effectively under the established design conditions. The designer must postulate what the design conditions are, including worse case conditions, and prove or disprove that design objectives of safety and effectiveness can be met.
3. H&N NNWSI-029, Rev. 1, "Design Interface Control," does not contain provisions to assure that traceability is achieved between Design Interface



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9 Deficiency (continued)

Identification Sheets, Component Interface Drawings, System Interface Drawings and the Design Output Drawings used for procurement and construction.

4. H&N NNWSI-015, Rev. 0, does not provide instructions on how comments are documented, see Para. 6.3.2.
5. H&N NNWSI-014, Rev. 0, does not provide instructions on how those responsible are expected to assess whether design inputs have been selected correctly, whether assumptions are valid, whether a proper design method was used etc....The procedure does not explain how these questions are to be incorporated into the Design Verification Report nor how those responsible indicate their satisfaction or dissatisfaction with what they have learned of the design. Further, the procedure does not provide instructions regarding resolutions of comments made by the verifier that indicate dissatisfaction with the design.
6. H&N NNWSI-005, Rev. 1, does not contain instructions regarding which engineering disciplines are required to review a drawing. No instructions are provided to indicate how review comments are resolved.

10 Recommended Actions (continued)

2. Perform and document QA review to determine extent and depth of similar deficiencies.
3. Determine the adequacy of past QA reviews of subject procedures. Revise procedures to reinforce requirements for QA reviews including documentation of comments and resolutions.
4. Train appropriate personnel to revised procedural requirements.

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization
Completed by Organization in Block 5
Comp. by Orig. QA Org.

1 Date November 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 3	
3 Discovered During H&N Audit S89-01		3a Identified By J. Jardine		3b Branch Chief Concurrence Date	
				4 SDR No. 258 Rev. 0	
5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner, D. Brown		7 Response Due Date is 20 Working Days from Date of Transmittal	
8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Items 1-10, 1-12, 1-13 and 1-34) H&N QAPP, Rev. 1, Section 5, Para. III.C. states:					
9 Deficiency Contrary to the cited requirements, appropriate quality requirements have not been included in H&N procedures and where omissions have been corrected, the effort to correct these omissions has not been timely. The following examples					
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective See SDR No. 257					
11 QAE/Lead Auditor Date <i>S. Davis 12-12-88</i>		12 Branch Manager Date <i>Starr 12/12/88</i>		13 Project Quality Mgr. Date <i>Jane Blaylock 12/19/88</i>	
14 Remedial/Investigative Action(s)					
15 Effective Date					
16 Cause of the Condition & Corrective Action to Prevent Recurrence					
17 Effective Date					
18 Signature/Date					
19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended Response <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
21 Veri- fication <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date	
				PQM/Date	

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8 Requirement (continued)

"A review of all instructions, procedures, plans and drawings shall be made to assure technical adequacy and inclusion of appropriate quality requirements."

H&N QAPP Rev. 1, Section 6, Para. III.A.3 states:

"The [document control] procedure shall provide for implementation of the following:

Review of documents for technical adequacy, completeness, correctness, and inclusion of appropriate quality requirements prior to approval and issuance."

9 Deficiency (continued)

indicate the areas where H&N procedural reviews have failed to assure proper and timely translation of QA requirements from the H&N QAPP into procedures.

1. Rev. 0 of the H&N QAPP, approved for use by the Project Office on 2/29/88, contained a requirement in Section 3, Para. III.B.1. directing the review and approval by the responsible design organization and the QA organization regarding the selection of design inputs. This requirement did not appear in Rev. 0 of H&N NNWSI-007 "Work Initiation, Criteria Gathering, and Reporting," (effective date, 4/3/87). Approximately, 115 days after the requirement appeared in Rev. 0 of the H&N QAPP, ICN-001, Rev. 0 to NNWSI-007, Rev. 0, corrected the omission. In the interim period, several Work Initiation Forms were generated that did not require such a review.
2. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. III.D.5.a(6), directing design reviews to consideration of "necessary design inputs and verification requirements for interfacing organizations [to be] specified in design documents or in supporting procedures or instructions ." This requirement appears in Para. 6.3.1.4 of H&N NNWSI-014, Rev. 0 as, "Have the design interface requirements been satisfied?" This translation eliminated the emphasis on the necessity to identify and verify design inputs that establish a common basis for the design of systems, structures and components for which more than one design organization has responsibility for verification of the interfacing design.
3. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. C.1., directing that calculations shall be identifiable by subject (including structure, system, or component). Rev. 1 of H&N NNWSI-006, "Design Analysis" does not contain provisions for implementation of this requirement.

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9 Deficiency (continued)

4. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. C.1.a., directing design analysis to contain a definition of the objective of the analysis. This requirement did not appear in H&N NNWSI-006, "Design Analysis", until ICN-001, Rev. 0, was issued approximately seven months later in September, 1988. In the interim period, analysis was being performed to support the Title I design effort that did not benefit from this requirement.
5. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. C.2.g., directing a QA review be performed on design analyses. NNWSI-006, Rev. 1, does not contain provisions to implement this requirement.
6. Rev. 0 and Rev. 1 of the H&N QAPP contains a requirement in Section 3, Para. D.5.a.(6), directing design verification efforts to assure that the necessary design input and verification requirements were specified for interfacing organizations. H&N NNWSI-029, "Design Interface Control," does not contain provisions to implement this requirement. Hence, no common design input has been established for areas in the ESF design where responsible design organizations interface.
7. Rev. 0 and Rev. 1 of H&N QAPP, Section 3, Para. C.2.g., contains a requirement that signatures and dates of review and approval shall be provided by appropriate personnel on design analysis documents. NNWSI-006, Rev. 1, refers only to "concurrence" by the Design Section Chief.

YMP AUDIT REPORT NO. S89-1

ENCLOSURE 4

OBSERVATIONS

WMPO OBSERVATION NO. S89-1-01

N-QA-012

8/88

Noted During:

QA Audit S89-1

Identified By:

J. Jardine

Date:

11/4/88

Organization:

Yucca Mountain Project Office

Person(s) Contacted:

C. Ward/P. Gehner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

It was observed during the H&N audit (S89-1) that no provisions had been made to establish design inputs for points where designs interface within the ESF. This will be a significant obstacle to the verification of those portions of the ESF design where interfaces occur. This situation also has relevance to the points at which the ESF design interfaces with the design of the Repository. It is not clear whether provisions have been made to account for this need where

QAE/Lead Auditor

Date

Branch Manager

Date

S. Hara

1-6-89

AA Adwell

18 Jan 89

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Observation No. 1 (continued)

the ESF design and the Repository design interface. It is recommended that the Project Office initiate a revision to AP5.6Q that establishes requirements for documenting and therefore controlling change to design inputs unique to each point at which the Repository and ESF interface. A description of the common design input is necessary to verify interfacing designs.

WMPO OBSERVATION NO. S89-1-02

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

Completed By Originating QA Organization

Noted During: QA Audit S89-1	Identified By: J. Jardine	Date: 11/4/88
Organization: Yucca Mountain Project Office	Person(s) Contacted: C. Ward/P. Gehner	Response Due Date is 20 Days from Date of Transmittal

Discussion: H&N procedure NWSI-029, Rev. 1, "Interface Control," with ICN-001 of 6/9/88, requires the use of a "Design Interface Identification Sheet" (DIIS), Attachment 8.4 of the ICN. Inquiring as to who is expected to prepare this form where H&N is not involved in a design interface, such as the case where F&S and Los Alamos/EG&G are the sole participants, it was learned that the Sheet was expected to be prepared by either of the two participants and then the sheet would be forwarded to H&N for the preparation of SIDs and/or CIDs. Inquiring as to what procedure would require F&S and/or Los Alamos/EG&G to take such an action, it was learned that no procedural requirements govern this situation.

QAE/Lead Auditor <i>[Signature]</i>	Date 1-6-89	Branch Manager <i>[Signature]</i>	Date 18 Jan 89
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Response:

Completed By Respondee

Signature:	Date:
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Response Receipt Verified/Closed <input type="checkbox"/>				
<table border="1"> <tr> <td>QAE/Lead Auditor</td> <td>Date</td> <td>Branch Manager</td> <td>Date</td> </tr> </table>	QAE/Lead Auditor	Date	Branch Manager	Date
QAE/Lead Auditor	Date	Branch Manager	Date	

Remarks:

Completed By QA Org.

Observation No. 2 (continued)

The responsible design organization simply "agreed" that the Sheet would be the vehicle to identify interfaces among responsible design organizations. The DIIS is the only document that exists at this time, (SIDs and CIDs are in preparation, ETA first draft at 30% Title II Design) by which the Project may substantiate that interface control is being implemented among responsible ESF design organizations. This is a compelling reason for the Project Office to require its systematic use by all ESF responsible design organizations by way of Administrative Procedure (AP) 5.6Q, "Exploratory Shaft Facility Technical Elements Baseline and Interface Control Procedure."

WMPO OBSERVATION NO. S89-1-03

N-QA-012
8/88

Noted During:

QA Audit S89-1

Identified By:

J. Jardine

Date:

11/4/88

Organization:

Holmes & Narver (H&N)

Person(s) Contacted:

C. Ward/P. Gehner

Response Due Date is
20 Days from Date of
Transmittal

Discussion: No provisions (and therefore no means) are currently available within the H&N design program to establish applicable design inputs relevant to points at which design interfaces occur with external design organizations. The H&N interface control program regarding external interfaces appears to be focused primarily on developing a description of the physical characteristics of an interface and thereby fails to account for the need to establish a common base of design input that serve both interfacing design organizations. Without such a base, it will be very difficult, if not impossible, to verify designs where interfaces occur. This in an important aspect of design control where H&N as the agent of the ESF ICWG, can contribute significantly.

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. S89-1-04

N-QA-012
8/88

Noted During:

QA Audit S89-1

Identified By:

J. Jardine

Date:

11/4/88

Organization:

Holmes & Narver (H&N)

Person(s) Contacted:

R. Schriener

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

Neither H&N NNWSI-014, Rev. 0, "Design Control," nor NNWSI-005, Rev. 1, "Design Input Control," provide an effective means of identifying and controlling portions of design that have not been verified prior to release. The procedure requires that a Design Verification Report (DVR) be prepared to identify portions of design that have not been verified, however, the DVR is expected to be filed at H&N and not accompany the portions of design released. By implementing this procedural step, the user of the released design will not be aware of

QAE/Lead Auditor

Date

[Signature]

1-6-89

Branch Manager

Date

[Signature] 18 Jan 89

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Observation No. 4 (Continued)

the verification status of the design he/she has received. In the event the DVR does accompany the released design documents, a real possibility exists that the DVR will become separated from the design documents and the verification status will be lost. I suggest NNWSI-014, Rev. 0, and NNWSI-005, Rev. 1, be revised to establish a check of the design verification status prior to release and to indicate on the design documents that are to be released, what the verification status is as well as what the intended purpose for release is.

WMPO OBSERVATION NO. S89-1-05

N-QA-012
8/88

Noted During:

QA Audit S89-1

Identified By:

F. J. Ruth

Date:

11/4/88

Organization:

Holmes & Narver

Person(s) Contacted:

C. Aiello/R. Deklever

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

The survey work that was performed in March, 1988 was identified as a level 1 activity during the last audit (88-2). The purpose of the survey work was to verify control points at the Nevada Test Site (NTS). Since there were no position descriptions for survey personnel at that time, H&N should evaluate each surveyor who performed work (as identified above) prior to H&N establishing position descriptions (for union survey personnel) to determine whether they meet the minimum requirements. If the survey personnel do not meet the minimum requirements, H&N should address what actions will be taken to reassess the survey work performed at the NTS.

QAE/Lead Auditor

Date

S. Davis

1-6-89

Branch Manager

Date

AA Caldwell

18 Jan 89

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

WMPO OBSERVATION NO. S89-1-06N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

QA Audit S89-1

Identified By:

F. J. Ruth

Date:

11/4/88

Organization:

Holmes & Narver

Person(s) Contacted:

C. Aiello/R. Deklever

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

1. Upon reviewing the indoctrination records of specific design personnel, the records indicate training was received to specific procedures but the procedure revision to which the training was conducted was not identified.

The latest revision to the procedures should be identified on the training record to indicate individuals have received the necessary training to the latest revision to the procedures.

QAE/Lead Auditor

S. J. Davis

Date

1-6-89

Branch Manager

John C. Hall

Date

18 Jan 89

Completed By Responsees

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

Observation No. 6 (continued)

2. Indoctrination records of specific design personnel indicate training to the H&N QAPP was accomplished by the use of a project film which does not provide design personnel sufficient detail, as a minimum, to the purpose, scope, methods of implementation, and applicability of the QAPP as it relates to the work to be accomplished.

WMPO OBSERVATION NO. S89-1-07N-QA-012
8/88

Completed by Originating QA Organization

Noted During:
QA Audit S89-1Identified By:
M. BrakeDate:
11/4/88Organization:
Holmes & NarverPerson(s) Contacted:
R. SchreinerResponse Due Date is
20 Days from Date of
Transmittal

Discussion:

No provisions are evident in H&N procedures NWSI-003, Rev 0, "Specification Preparation and Control" and NWSI-005, Rev 1, "Drawing Preparation and Control", for the resolution and implementation of comments received during technical assessment reviews. Even though there is no Project level procedure to cover this, the activity is being performed and should be covered.

Response to this observation should include what actions will be taken by H&N to address the above stated program weakness.

QAE/Lead Auditor

Date

Branch Manager

Date

S. J. Dug

1-6-89

W. A. Caldwell

19 Jan 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. S89-1-08

N-QA-012
8/88

Completed By Originating QA Organization

Noted During:

QA Audit S89-1

Identified By:

M. Brake

Date:

11/4/88

Organization:

Holmes & Narver

Person(s) Contacted:

R. Schreiner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

There is no method identified in H&N procedure NWWSI-006, Rev 1, "Design Analysis", to define the need for analyses. The files for 1.2.6.7.1.2 (Life Safety Systems) and 1.2.6.9.3 (Data Cabling) should contain analyses to show why alternatives were selected, however, they do not.

Response to this observation should include what actions will be taken by H&N to address the above stated program weakness.

QAE/Lead Auditor

Date

Branch Manager

Date

S. F. H. H.

1-6-89

W. H. Caldwell

18 Jan 89

Response:

Completed By Responses

Signature:

Date:

Response Receipt Verified/Closed

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QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Completed By QA Org.

WMPO OBSERVATION NO. S89-1-09N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

QA Audit S89-1

Identified By:

S. Dana

Date:

11/4/88

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright/R. Schreiner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

H&N QAPP, Rev 1, Section 3, para. III.B.1, "Applicable design input, such as criteria letters, design bases, performance and regulatory requirements, codes, standards, manufacturer's design data, and quality standards shall be identified, documented, and their selection reviewed, approved, and/or accepted by the responsible design organization and the responsible QA organization..."

H&N QA has not been involved in the review, approval and/or acceptance of design inputs used for Title I design of the ESF. With the issuance of H&N

QAE/Lead Auditor

Date



1-6-89

Branch Manager

Date

 18 Jan 89

Completed By Responsee

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

Observation No. 9 (continued)

procedure NWSI-015, Rev 0 (effective date 9/13/88), H&N QA is procedurally involved in the review and approval of design inputs. The approval will be documented on the Design Input Control Document (DICD); however, initial issuance of the DICD had not occurred at the time of the audit.

The above deficiency has been identified by H&N QA on Corrective Action Report (CAR) No. N88-A-007 (dated 11/04/88). Therefore, this observation will serve to track corrective action of CAR N88-A-007.

Response to this observation should include the following actions taken by H&N relative to CAR N88-A-007:

1. Remedial,
2. Investigative, and
3. Corrective.

WMPO OBSERVATION NO. S89-1-10

N-QA-012
8/88

Completed By Originating QA Organization

Noted During:
QA Audit S89-1

Identified By:
S. Dana

Date:
11/4/88

Organization:
Holmes & Narver

Person(s) Contacted:
C. Wright/R. Schreiner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

H&N QAPP, Rev 1, Section 3, para. III.G.3, "Show evidence that the required review and approval cycle has been achieved prior to release for procurement, construction, or release to another organization for use in other design activities. As a minimum, the review and approval cycle shall include the participation of technical and QA elements of both the responsible design organization and the WMPO..."

H&N QA performs a review and approval of design output documents (drawings, specifications) prior to design verification; however, no review is performed

QAE/Lead Auditor

Date

Branch Manager

Date

S. Dana

1-6-89

HAZ Caldwell

89

Completed By Responsee

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

Observation No. 10 (continued)

subsequent to design verification. The QA review should be performed after design verification to assure that the documents are prepared, reviewed, and approved in accordance with documented procedures (e.g., NWSI-014, Design Verification) and applicable QA requirements. It should be noted that no design verification has taken place, therefore, the above deficiency is a program weakness at this time.

The response to this observation should include what actions will be taken by H&N to address the above stated program weakness.

WMPO OBSERVATION NO. S89-1-11

N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

QA Audit S89-1

Identified By:

S. Dana

Date:

11/4/88

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright/R. Schreiner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

H&N QAPP, Rev 1, Section 3, para. III.D.4, "Changes to previously verified designs shall require verification including evaluation of the effects of those changes on the overall design."

H&N procedure NNWSI-014, "Design Verification", Rev 0, does not address the above requirement.

The above deficiency has been identified by H&N on Corrective Action Report

QAE/Lead Auditor

Date

S. Dana

1-6-89

Branch Manager

Date

W. A. Caldwell

18 Jan 89

Response:

Completed By Responses

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Completed By QA Org.

Observation No. 11 (continued)

(CAR) N88-A-009 (dated 11/03/88). Therefore, this observation will serve to track corrective action of CAR N88-A-009.

Response to this observation should include the following actions taken by H&N relative to CAR N88-A-009:

1. Remedial.

WMPO OBSERVATION NO. S89-1-12

N-QA-012
6/88Noted During:
QA Audit S89-1Identified By:
S. DanaDate:
11/4/88Organization:
Holmes & NarverPerson(s) Contacted:
C. Wright/R. SchreinerResponse Due Date is
20 Days from Date of
Transmittal

Discussion:

A review of H&N Title I drawings revealed the following discrepancies:

1. Drawings were found that did not reference a QALAS; and
2. Drawings were found that reference unapproved QALASSs.

H&N has identified the above discrepancies on a "Comment Review Sheet", however, no resolution was provided on the review sheet at the time of the audit.

Response to this observation should include those actions taken by H&N to resolve the discrepancies identified above.

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. S89-1-13

N-QA-012
8/88

Completed by Originating QA Organization

Noted During: QA Audit S89-1	Identified By: W. B. Mansel	Date: 11/4/88
Organization: Holmes & Narver	Person(s) Contacted: D. Brown	Response Due Date is 20 Days from Date of Transmittal

Discussion:

H&N procedure NWSI-008, Rev 2, "Quality Assurance Records Management", para. 6.1.5.3, "Access to the LRC files shall be controlled to preclude unauthorized entry. A controlled access list shall be maintained designating personnel that have access to the files."

The H&N access list to the LRC files does not list the administrative personnel who have access, no names are given to designate who the personnel are.

Response to this observation should include what actions will be taken by H&N to address the above stated program weakness.

QAE/Lead Auditor <i>S. Davis</i>	Date 1-6-89	Branch Manager <i>R. A. [Signature]</i>	Date 18 Jan 89
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Completed By Responsee

Response:

Signature:	Date:
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Response Receipt Verified/Closed ☐

QAE/Lead Auditor	Date	Branch Manager	Date
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Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. S89-1-14N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

QA Audit S89-1

Identified By:

F. Ruth

Date:

11/4/88

Organization:

Holmes & Narver

Person(s) Contacted:

C. Aiello/R. DeKlever

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 2, "Quality Assurance Program", para. III.D.2, "Personnel selected shall have education and experience commensurate with the minimum requirements specified in position descriptions."

Upon reviewing personnel files for H&N design personnel it was determined that a H&N design individual does not meet the position description in his file, the individual does not possess a degree which meets the position description requirements.

QAE/Lead Auditor

S. J. Jura

Date

1-6-89

Branch Manager

A. J. Caldwell

Date

18 Jan 89

Completed By Responses

Response:

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

Observation No. 14 (continued)

The above deficiency has been identified by H&N QA on Corrective Action Report (CAR) No. 88-S-005, Rev. 1 (dated 11/15/88). Therefore, this observation will serve to track corrective action of the CAR.

Response to this observation should include the following actions taken by H&N relative to CAR 88-S-005:

1. Remedial;
2. Investigative; and
3. Corrective.

WMPO OBSERVATION NO. S89-1-15N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

QA Audit S89-1

Identified By:

M. Brake

Date:

11/4/88

Organization:

Holmes & Narver

Person(s) Contacted:

R. Schreiner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

Title I outline specifications are not being prepared and reviewed in accordance with H&N procedure NNWSI-003, Rev. 0, "Specification Preparation And Control". If outline specifications are to be excluded from the requirements of a formal specification, NNWSI-003 should be revised to include the exclusion.

QAE/Lead Auditor

Date

Branch Manager

Date

S. J. Blue

1-6-89

A. J. Caldwell

18 Jan 89

Response:

Completed By Responder

Signature:

Date:

Response Receipt Verified/Closed



QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Completed By QA Org.



Department of Energy

Nevada Operations Office
P. O. Box 98518
Las Vegas, NV 89193-8518

WBS 1.2.9.3
"QA"

NN1.881221.0009

DEC 21 1988

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) STANDARD DEFICIENCY REPORTS (SDRS) RESULTING FROM AUDIT S89-01 OF HOLMES & NARVER, INC. (H&N), SUPPORT OF THE YUCCA MOUNTAIN PROJECT (NN1-1989-0679)

Enclosed are 10 SDRs, Nos. 249 through 258, which were generated during the course of Project Office QA Audit S89-01 of the H&N Yucca Mountain Project QA Program Plan and technical activities. Please note that you are required to provide responses to each SDR by completing blocks 14 through 18 as appropriate on the first page of each SDR. Be advised that the audit checklist references provided on each SDR are for Project Office internal use and should have no bearing on your ability to respond to the cited deficiencies.

A copy of your response is due back to this office 20 working days from the date of this letter. You are asked to concurrently send the original of each SDR response to Nita J. Brogan of Science Applications International Corporation (SAIC), Las Vegas, Nevada.

If you have any questions, please contact Wendell B. Mansel of my staff at 794-7945 or Stephen R. Dana of SAIC at 794-7176.

James Blaylock
James Blaylock
Project Quality Manager
Yucca Mountain Project Office

YMP:JB-1113

Enclosures:
SDRs 249-258

DEC 21 1988

cc w/encis:

Ralph Stein, HQ (RW-30) FORS
L. H. Barrett, HQ (RW-3) FORS
A. E. Gurrola, H&N, Las Vegas, NV
R. M. Ivy, H&N, Las Vegas, NV
C. O. Wright, H&N, Las Vegas, NV
S. H. Klein, SAIC, Las Vegas, NV
H. H. Caldwell, SAIC, Las Vegas, NV
E. P. Ripley, SAIC, Las Vegas, NV
O. D. Smith, SAIC, Las Vegas, NV
J. W. Estella, SAIC, Las Vegas, NV
S. R. Dana, SAIC, Las Vegas, NV
F. J. Ruth, SAIC, Las Vegas, NV
W. H. Camp, SAIC, Las Vegas, NV
M. C. Brake, SAIC, Las Vegas, NV
J. A. Jardine, SAIC, Las Vegas, NV
B. A. Tabaka, SAIC, Las Vegas, NV
N. J. Brogan, SAIC, Las Vegas, NV
J. J. Holonich, NRC, Washington, D.C.
John Gilray, NRC, Las Vegas, NV
P. T. Prestholt, NRC, Las Vegas, NV
Robert Clark, W, Washington, D.C.
S. W. Zimmerman, NWPO, Carson City, NV
R. W. Gray, MED, NV
V. F. Witherill, NTSO
A. R. Veloso, NTSO
C. P. Gertz, YMP, NV
M. B. Blanchard, YMP, NV
W. R. Dixon, YMP, NV
L. P. Skousen, YMP, NV
N. A. Voltura, YMP, NV
W. B. Mansel, YMP, NV
A. C. Williams, YMP, NV
C. E. Hampton, YMP, NV
E. L. Wilmot, YMP, NV

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization in Block 5
Comp. by Orig. QA Org.

1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 2	
3 Discovered During H&N Audit S89-01		3a Identified By W.B. Mansel		3b Branch Chief Concurrence Date	
5 Organization Holmes & Narver		6 Person(s) Contacted H. Tuthill/C. Wright/D. Brown		4 SDR No. 249 Rev. 0	
7 Response Due Date is 20 Working Days from Date of Transmittal					
8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item 2-6) 1. Reference: WMPO letter JB-1158, dated 3/20/87, Vieth to TPOs, page 2, last paragraph, requires H&N to issue revised procedures upon receipt of WMPO					
9 Deficiency Contrary to the above, H&N has not developed and issued a procedure covering procurement of QA Level I & II activities. This deficiency was previously identified in WMPO Audit 88-1, Observation No. 7. H&N committed to producing					
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Prepare a procurement procedure for YMP QA Level I & II activities. 2. Train appropriate personnel to procedural requirements.					
11 QAE/Lead Auditor Date <i>Stane</i> 12/12/88		12 Branch Manager <i>Thompson</i>		13 Project Quality Mgr. Date <i>James Blumlock</i> 12/19/88	
14 Remedial/Investigative Action(s)					
15 Effective Date _____					
16 Cause of the Condition & Corrective Action to Prevent Recurrence					
17 Effective Date _____					
18 Signature/Date					
19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended Response		QAE/Lead Auditor/Date		Branch Manager/Date	
<input type="checkbox"/> Reject					
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date	
				PQM/Date	



WMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

N-QA-038
10/86

SDR No. 249

Rev. 0

Page 2 of 2

8 Requirement (continued)

approval of the H&N QAPP.

2. Reference: WMPO Audit 88-1, Observation No. 7, "As of the date of this audit, H&N has not issued a procedure covering procurement of QA Level I and II activities".

9 Deficiency (continued)

a procurement procedure in their observation response by 06/30/88.

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization	1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During H&N Audit S89-01		3a Identified By M. Brake		3b Branch Chief Concurrence Date	
	4 SDR No. 250		Rev. 0			
	5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		7 Response Due Date is 20 Working Days from Date of Transmittal	
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item T-5) H&N Procedure NNWSI-005, Rev. 1, "Design Drawing Preparation And Control", Section 6.2.1, "All drawings will be checked by personnel whose qualifications					
	9 Deficiency Contrary to the above requirement, no Title I drawings have evidence of a drafting check.					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Perform drafting checks of drawings independent from the interdisciplinary review.					
	11 QAE/Lead Auditor Date S. D. 12-12-88		12 Branch Manager 12/12/88		13 Project Quality Mgr. Date James Blaylock 12/19/88	
Completed by Org. QA Org.	14 Remedial/Investigative Action(s)					
	15 Effective Date					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					
	17 Effective Date					
Comp. by Orig. QA Org.	18 Signature/Date					
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date	
	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
	22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date		PQM/Date

WMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

N-QA-038
10/86

SDR No. 250

Rev. 0

Page 2 of 2

8 Requirement (continued)

are sufficient to have originated the original work and did not originate the original work".

10 Recommended Actions (continued)

2. Develop a plan to investigate what impact the lack of a drafting check has had on the drawings. The plan should be provided with response to the SDR.

WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization	1 Date NOV 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2
	3 Discovered During H&N AUDIT S89-01		3a Identified By M. Brake		3b Branch Chief Concurrence Date
	4 SDR No. 251		Rev. 0		
	5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		7 Response Due Date is 20 Working Days from Date of Transmittal
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item T-9) H&N Procedure NNWSI-007, Rev. 1, "Work Initiation", Sections 6.4.1 & 6.4.2, "Any revision of criteria or work scope changes from the original WI requires				
	9 Deficiency 1. WIs 88-15, 88-16, 88-17, 88-19, 88-21, 88-22, 88-27, 88-31, 88-32, and 88-33 have not been revised when criteria or work scope were revised. 2. In the same WIs, the references to the Design Basis Document (DBD), Rev 2,				
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Revise the WIs to reference the latest criteria documents when revisions are received/made to the criteria documents.				
	11 QAE/Lead Auditor Date <i>12-12-88</i>		12 Branch Manager <i>Adams</i>		13 Project Quality Mgr. Date <i>12/19/88</i>
Completed by Org. QA Org.	14 Remedial/Investigative Action(s)				
	15 Effective Date				
	16 Cause of the Condition & Corrective Action to Prevent Recurrence				
	17 Effective Date				
Comp. by Orig. QA Org.	18 Signature/Date				
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date
	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date
	21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date
	22 Remarks				
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date	PQM/Date



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CONTINUATION SHEET

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10/86

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Page 2 of 2

8 Requirement (continued)

that it be revised, using the same number", and "Attach or reference the approved criteria revision to the revised WI".

9 Deficiency (continued)

and the SDRD, Rev 1, are incorrect.

10 Recommended Actions (continued)

2. Provide a management control system to ensure that when design information changes, the effected documents are revised accordingly.
3. Develop a plan to investigate what impact the incorrect design information identified in block 9 has had on the quality of design output documents. The plan should be provided with response to the SDR.
4. Train appropriate personnel to revised procedural requirements.

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Completed by Originating QA Organization

1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2
3 Discovered During H&N Audit S89-01	3a Identified By M. Brake	3b Branch Chief Concurrence Date		4 SDR No. 252 Rev. 0
5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		7 Response Due Date is 20 Working Days from Date of Transmittal
8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item T-8) H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 3, "Design Control", para. III.C.1, "Design analysis shall be planned, controlled, and documented"				
9 Deficiency Contrary to the above requirement, electrical calculations audited do not contain sufficient detail such that the analysis can be understood, reviewed, and verified without the originator present [E-0002, E-0020, and E-0009]. In				
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Verify that all calculations (design analysis) are complete and can stand alone without the originator.				

Apr 11

11 QAE/Lead Auditor Date <i>S. J. Doe 12-12-88</i>	12 Branch Manager <i>John Doe</i>	Date <i>12/12/88</i>	13 Project Quality Mgr. Date <i>James B. Laylock 12/19/88</i>
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Completed by Organization in Block 5

14 Remedial/Investigative Action(s)		15 Effective Date
16 Cause of the Condition & Corrective Action to Prevent Recurrence		17 Effective Date
18 Signature/Date		

Comp. by Orig. QA Org.

19 Response	<input type="checkbox"/> Accept <input type="checkbox"/> Reject	<input type="checkbox"/> Amended <input type="checkbox"/> Response	QAE/Lead Auditor/Date	Branch Manager/Date
20 Amended Response	<input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date	Branch Manager/Date
21 Verifi- cation	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date	Branch Manager/Date
22 Remarks				
23 QA CLOSURE	QAE/Lead Auditor/Date	Branch Manager/Date	PQM/Date	



WMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

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8 Requirement (continued)

in sufficient detail...such that a technically qualified person may review, understand and verify the analysis without recourse to the originator".

9 Deficiency (continued)

addition, one civil calculation does not meet the above requirement [C-0005]. It should be noted that H&N Surveillance N88-5-0011 covered many of the items that lead up to the above deficiency, but it does not cover the above stated requirement.

The design analyses cannot be checked without the originator because they are incomplete. The analyses do not contain a definition of the objective of the analysis, a definition of design input and their sources, a listing of applicable references, results of literature searches or other background data, identification of assumptions and indication of those which require verification as the design proceeds, and major equation sources. If these items were available the analyses could stand alone and be reviewed, understood, and verified.

10 Recommended Actions (continued)

2. Develop a plan to investigate what impact the lack of sufficient detail has had on the quality of the calculations. The plan should be provided with response to the SDR.
3. Take action to assure future calculation packages are generated to meet program requirements.

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Completed by Originating QA Organization	1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During H&N Audit S89-01		3a Identified By S. Dana		3b Branch Chief Concurrence Date	
	4 SDR No. 253		Rev. 0			
	5 Organization Holmes & Narver		6 Person(s) Contacted C. Wright/R. Schreiner		7 Response Due Date is 20 Working Days from Date of Transmittal	
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item 1-45) H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 6, "Document Control", para. III.A, "The document control system shall be prescribed by					
	9 Deficiency Contrary to the above requirement, document control activities for the H&N Design Basis Document (DBD) have not provided for the following: 1. A procedure that identifies assignment of responsibility for preparing,					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Prepare a procedure that addresses the requirements of the QAPP, Section 6, para. III.A for the DBD.					
	11 QAE/Lead Auditor Date S. Dana 12-12-88		12 Branch Manager Date Stanger 12/14/88		13 Project Quality Mgr. Date James Blaylock 12/19/88	
Comp. by Orig. QA Org.	14 Remedial/Investigative Action(s)					15 Effective Date
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					17 Effective Date
	18 Signature/Date					
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended Response <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date		
21 Veri- fication <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date		
22 Remarks						
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date		
				PQM/Date		



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8 Requirement (continued)

written procedures appropriately reviewed and concurred with by Quality Assurance. The procedure shall provide for implementation of the following:

1. Identification of documents to be controlled.
2. Identification of assignment of responsibility for preparing, reviewing, approving, and issuing documents.
3. Review of documents for technical adequacy, completeness, correctness, and inclusion of appropriate quality requirements prior to approval and issuance."

9 Deficiency (continued)

- approving, and issuing the DBD.
2. A procedure that addresses review of the DBD for technical adequacy, completeness, correctness, and inclusion of appropriate quality requirements prior to approval and issuance.

10 Recommended Actions (continued)

2. Train appropriate personnel to new procedural requirements.

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Completed by Originating QA Organization

1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 2
3 Discovered During H&N Audit S89-01		3a Identified By B. Camp/C. Hampton		3b Branch Chief Concurrence Date
5 Organization Holmes & Narver		6 Person(s) Contacted R. Sabol		4 SDR No. 254 Rev. 0
7 Response Due Date is 20 Working Days from Date of Transmittal				
8 Requirement (Audit Checklist Reference, if Applicable) NNWSI-SOP-17-01, Rev. 0, para. 5.4.4, "Project participants are responsible for performing the following activities in support of the QARMS: Collect QA Records as soon as possible after records completion, not to exceed 30 days."				
9 Deficiency Contrary to the above requirement, closed Corrective Action Reports (CARs 1, 5 through 10, 36, 46, and 47) have not been transmitted to Records Management processing. Reports are being stored in 2-drawer file cabinets by H&N				
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Transmit the identified completed (closed) QA Records to Records Management as required.				

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11 QAE/Lead Auditor Date <i>S. Jones</i> 12-12-88	12 Branch Manager Date <i>Steno for</i> 12/12/88	13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88
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Completed by Organization in Block 5

14 Remedial/Investigative Action(s)		15 Effective Date _____
16 Cause of the Condition & Corrective Action to Prevent Recurrence		17 Effective Date _____
18 Signature/Date		

Comp. by Orig. QA Org.

19 Response	<input type="checkbox"/> Accept <input type="checkbox"/> Reject	<input type="checkbox"/> Amended Response	QAE/Lead Auditor/Date	Branch Manager/Date
20 Amended Response	<input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date	Branch Manager/Date
21 Verifi- cation	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date	Branch Manager/Date
22 Remarks				
23 QA CLOSURE	QAE/Lead Auditor/Date	Branch Manager/Date	PQM/Date	



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8 Requirement (continued)

9 Deficiency (continued)

personnel. In addition, H&N NNWSI QAPP, Section 17, and H&N procedure NNWSI-008, Rev. 2, do not address the 30 day requirement specified in NNWSI-SOP-17-01, Rev. 0.

10 Recommended Actions (continued)

2. Revise the appropriate procedures to address the current Project Office requirements.
3. Train appropriate personnel to revised procedural requirements.

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Completed by Originating QA Organization	1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During H&N Audit S89-01		3a Identified By B. Camp/C. Hampton		3b Branch Chief Concurrence Date	
	5 Organization Holmes & Narver		6 Person(s) Contacted R. Sabol		4 SDR No. 255 Rev. 0	
	7 Response Due Date is 20 Working Days from Date of Transmittal		8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item 1-72) H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 18, "Audits", para. III.E.4, "Audit report shall contain summary of the audit results, including		9 Deficiency Contrary to the above requirement, audit reports No. 87-02 and 87-10 do not address the effectiveness of each element audited.	
Completed by Organization in Block 5	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Revise the audit report format to include a statement of effectiveness for each element audited.					
	11 QAE/Lead Auditor Date <i>S. Don</i> 12-12-88		12 Branch Manager <i>Shen</i> 12/12/88		13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88	
	14 Remedial/Investigative Action(s)					15 Effective Date _____
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					17 Effective Date _____
Comp. by Orig. QA Org.	18 Signature/Date					
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date	
	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
	22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date		PQM/Date

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Rev. 0

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8 Requirement (continued)

a statement of the effectiveness of the QA program elements audited".

10 Recommended Actions (continued)

2. Train Audit personnel to the revised procedural requirements.

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Completed by Originating QA Organization	1 Date Nov 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During H&N Audit S89-01		3a Identified By W. Mansel		3b Branch Chief Concurrence Date	
	4 SDR No. 256		Rev. 0			
	5 Organization Holmes & Narver		6 Person(s) Contacted C. Wright/R. Sabol		7 Response Due Date is 20 Working Days from Date of Transmittal	
Completed by Organization in Block 5	8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Item 1-64) 1. H&N NNWSI Quality Assurance Program Plan, Rev. 1, Section 18, "Audits", para. III.A.3, "Internal and external audits shall be scheduled in a manner					
	9 Deficiency Contrary to the above requirement, H&N is not auditing criteria 18 (Audits) and criteria 16 (Corrective Action).					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Develop a plan which describes how H&N will provide coverage of criteria 16 and 18. The plan should be provided with response to the SDR.					
	11 QAE/Lead Auditor Date <i>S. J. Don</i> 12-17-88		12 Branch Manager Date <i>W. Mansel</i> 12/12/88		13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88	
Completed by Org. QA Org.	14 Remedial/Investigative Action(s)					
	15 Effective Date _____					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence					
	17 Effective Date _____					
Comp. by Orig. QA Org.	18 Signature/Date					
	19 Response <input type="checkbox"/> Accept <input type="checkbox"/> Amended <input type="checkbox"/> Reject <input type="checkbox"/> Response		QAE/Lead Auditor/Date		Branch Manager/Date	
	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date		Branch Manager/Date	
	21 Verifi- cation <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date		Branch Manager/Date	
	22 Remarks					
23 QA CLOSURE		QAE/Lead Auditor/Date		Branch Manager/Date		
				PQM/Date		



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8 Requirement (continued)

to provide coverage of all applicable elements of this QAPP or the organizations's QA Manual, as appropriate, commensurate with ongoing activities..."

2. H&N Procedure NNWSI-031, Rev. 0, "Audits", para. 6.1.2, "Audits shall be scheduled in a manner to provide coverage of all applicable elements of the QAPP or the organization's QA Manual commensurate with ongoing activities."

10 Recommended Actions (continued)

2. Revise the current audit schedule to include criteria 16 and 18.

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Completed by Originating QA Organization

1 Date November 29, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 3
3 Discovered During H&N Audit S89-01		3a Identified By J. Jardine		3b Branch Chief Concurrence Date
5 Organization Holmes & Narver		6 Person(s) Contacted R. Schreiner/D. Brown		7 Response Due Date is 20 Working Days from Date of Transmittal
8 Requirement (Audit Checklist Reference, if Applicable) (Audit Checklist Items 1-10, 1-11, 1-12, 1-14, 1-19, 1-20 and 1-22) H&N QAPP, Rev. 1, Section 5, Paragraph III.B.1 states:				
9 Deficiency Contrary to the cited requirement, H&N procedures do not contain appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished. The following				
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Revise procedures to correct cited deficiencies.				

Completed by Organization in Block 5

11 QAE/Lead Auditor Date <i>James 12-12-88</i>	12 Branch Manager Date <i>James for 12/12/88</i>	13 Project Quality Mgr. Date <i>James Blaylock 12/19/88</i>
14 Remedial/Investigative Action(s)		15 Effective Date
16 Cause of the Condition & Corrective Action to Prevent Recurrence		17 Effective Date
18 Signature/Date		

Comp. by Orig. QA Org.

19 Response	<input type="checkbox"/> Accept <input type="checkbox"/> Reject	<input type="checkbox"/> Amended Response	QAE/Lead Auditor/Date	Branch Manager/Date
20 Amended Response	<input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date	Branch Manager/Date
21 Verification	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date	Branch Manager/Date
22 Remarks				
23 QA CLOSURE	QAE/Lead Auditor/Date	Branch Manager/Date	PQM/Date	

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8 Requirement (continued)

"Instructions, plans, procedures, etc., shall:
Include or reference appropriate quantitative or qualitative acceptance
criteria for determining that prescribed activities have been
satisfactorily accomplished."

9 Deficiency (continued)

examples indicate the areas in which H&N procedures fail to provide a sufficient
level of detail or guidance to those responsible for implementation.

1. H&N NNWSI-007, Rev. 0, with ICN-002, Rev. 0, "Work Initiation, Criteria Gathering, and Reporting," and NNWSI-015, Rev. 0, "Design Input Control", do not instruct those responsible for implementation with regard to what aspects of design input must be reviewed in order to arrive at acceptance of the input. Instructions directing such a review should, at a minimum, include the following:
 - 1) a comparison of subject input with known values, standard tables, information, and codes;
 - 2) a check to determine if the input is complete such as a reference to Attachment 8.1 of NNWSI-015;
 - 3) a check to confirm accuracy of the input;
 - 4) a check to determine if the input requires a change to established input and an assessment of related input that requires a change and;
 - 5) an assessment of whether the input will result in the use of standard available technology and equipment or some arrangement that is beyond the state of the art.
2. H&N NNWSI-006, Rev. 1, "Design Analysis," does not impart the message that an analysis is more than a set of calculations. This procedure concentrates heavily on who prepares, where the analyses are sent to next, etc...but fails to convey the fundamental purpose of an analysis. That is, an analysis must prove through use of progressive and orderly logic that the design of the item will serve safely and effectively under the established design conditions. The designer must postulate what the design conditions are, including worse case conditions, and prove or disprove that design objectives of safety and effectiveness can be met.
3. H&N NNWSI-029, Rev. 1, "Design Interface Control," does not contain provisions to assure that traceability is achieved between Design Interface



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9 Deficiency (continued)

Identification Sheets, Component Interface Drawings, System Interface Drawings and the Design Output Drawings used for procurement and construction.

4. H&N NNWSI-015, Rev. 0, does not provide instructions on how comments are documented, see Para. 6.3.2.
5. H&N NNWSI-014, Rev. 0, does not provide instructions on how those responsible are expected to assess whether design inputs have been selected correctly, whether assumptions are valid, whether a proper design method was used etc....The procedure does not explain how these questions are to be incorporated into the Design Verification Report nor how those responsible indicate their satisfaction or dissatisfaction with what they have learned of the design. Further, the procedure does not provide instructions regarding resolutions of comments made by the verifier that indicate dissatisfaction with the design.
6. H&N NNWSI-005, Rev. 1, does not contain instructions regarding which engineering disciplines are required to review a drawing. No instructions are provided to indicate how review comments are resolved.

10 Recommended Actions (continued)

2. Perform and document QA review to determine extent and depth of similar deficiencies.
3. Determine the adequacy of past QA reviews of subject procedures. Revise procedures to reinforce requirements for QA reviews including documentation of comments and resolutions.
4. Train appropriate personnel to revised procedural requirements.

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N-QA-038
3/87Date November 29, 1988 2 Severity Level ☐ 1 ☒ 2 ☐ 3 Page 1 of 33 Discovered During
H&N Audit S89-013a Identified By
J. Jardine3b Branch Chief
Concurrence Date4 SDR No.
258 Rev. 05 Organization
Holmes & Narver6 Person(s) Contacted
R. Schreiner, D. Brown7 Response Due Date is
20 Working Days from
Date of Transmittal8 Requirement (Audit Checklist Reference, if Applicable)
(Audit Checklist Items 1-10, 1-12, 1-13 and 1-34)
H&N QAPP, Rev. 1, Section 5, Para. III.C. states:9 Deficiency
Contrary to the cited requirements, appropriate quality requirements have not been included in H&N procedures and where omissions have been corrected, the effort to correct these omissions has not been timely. The following examples10 Recommended Action(s): ☒ Remedial ☒ Investigative ☒ Corrective
See SDR No. 257

11 QAE/Lead Auditor Date

12 Branch Manager Date

13 Project Quality Mgr. Date

S. Davis 12-12-88

R. Schreiner 12/12/88

Jane Blaylock 12/19/88

14 Remedial/Investigative Action(s)

15 Effective Date

16 Cause of the Condition & Corrective Action to Prevent Recurrence

17 Effective Date

18 Signature/Date

19 Response ☐ Accept ☐ Amended
☐ Reject Response

QAE/Lead Auditor/Date

Branch Manager/Date

20 Amended Response ☐ Accept
☐ Reject

QAE/Lead Auditor/Date

Branch Manager/Date

21 Verifi- ☐ Satisfactory
cation ☐ Unsatisfactory

QAE/Lead Auditor/Date

Branch Manager/Date

22 Remarks

23
QA CLOSURE

QAE/Lead Auditor/Date

Branch Manager/Date

PQM/Date



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8 Requirement (continued)

"A review of all instructions, procedures, plans and drawings shall be made to assure technical adequacy and inclusion of appropriate quality requirements."

H&N QAPP Rev. 1, Section 6, Para. III.A.3 states:

"The [document control] procedure shall provide for implementation of the following:

Review of documents for technical adequacy, completeness, correctness, and inclusion of appropriate quality requirements prior to approval and issuance."

9 Deficiency (continued)

indicate the areas where H&N procedural reviews have failed to assure proper and timely translation of QA requirements from the H&N QAPP into procedures.

1. Rev. 0 of the H&N QAPP, approved for use by the Project Office on 2/29/88, contained a requirement in Section 3, Para. III.B.1. directing the review and approval by the responsible design organization and the QA organization regarding the selection of design inputs. This requirement did not appear in Rev. 0 of H&N NNWSI-007 "Work Initiation, Criteria Gathering, and Reporting," (effective date, 4/3/87). Approximately, 115 days after the requirement appeared in Rev. 0 of the H&N QAPP, ICN-001, Rev. 0 to NNWSI-007, Rev. 0, corrected the omission. In the interim period, several Work Initiation Forms were generated that did not require such a review.
2. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. III.D.5.a(6), directing design reviews to consideration of "necessary design inputs and verification requirements for interfacing organizations [to be] specified in design documents or in supporting procedures or instructions ." This requirement appears in Para. 6.3.1.4 of H&N NNWSI-014, Rev. 0 as, "Have the design interface requirements been satisfied?" This translation eliminated the emphasis on the necessity to identify and verify design inputs that establish a common basis for the design of systems, structures and components for which more than one design organization has responsibility for verification of the interfacing design.
3. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. C.1., directing that calculations shall be identifiable by subject (including structure, system, or component). Rev. 1 of H&N NNWSI-006, "Design Analysis" does not contain provisions for implementation of this requirement.



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9 Deficiency (continued)

4. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. C.1.a., directing design analysis to contain a definition of the objective of the analysis. This requirement did not appear in H&N NNWSI-006, "Design Analysis", until ICN-001, Rev. 0, was issued approximately seven months later in September, 1988. In the interim period, analysis was being performed to support the Title I design effort that did not benefit from this requirement.
5. Rev. 0 and Rev. 1 of the H&N QAPP contained a requirement in Section 3, Para. C.2.g., directing a QA review be performed on design analyses. NNWSI-006, Rev. 1, does not contain provisions to implement this requirement.
6. Rev. 0 and Rev. 1 of the H&N QAPP contains a requirement in Section 3, Para. D.5.a.(6), directing design verification efforts to assure that the necessary design input and verification requirements were specified for interfacing organizations. H&N NNWSI-029, "Design Interface Control," does not contain provisions to implement this requirement. Hence, no common design input has been established for areas in the ESF design where responsible design organizations interface.
7. Rev. 0 and Rev. 1 of H&N QAPP, Section 3, Para. C.2.g., contains a requirement that signatures and dates of review and approval shall be provided by appropriate personnel on design analysis documents. NNWSI-006, Rev. 1, refers only to "concurrence" by the Design Section Chief.