



**Department of Energy**

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

WBS 1.2.9.3  
"QA"

NM1.881221.0009

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 (NM1-1989-0679)

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

8812290071 881221  
PDR WASTE  
WM-11 PDC

NH03  
WM-11 102.7

cc w/encls:

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

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>Stans</i> 12/12/88	12 Branch Manager <i>Hausgr</i>	Date 12/12/88	13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88
---	------------------------------------	------------------	--

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 <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

ENCLOSURE



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
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.				

Aprvl.

11 QAE/Lead Auditor Date <i>J. Doe</i> 12-12-88		12 Branch Manager Date <i>A. Smith</i> 12/12/88		13 Project Quality Mgr. Date <i>James Blaylock</i> 12/19/88	
--	--	--	--	--	--

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 <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	

## 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	
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.					

Aprvl.

11 QAE/Lead Auditor Date <i>S. Jones 12-12-88</i>		12 Branch Manager Date <i>Schreiner 12/12/88</i>		13 Project Quality Mgr. Date <i>James Blaylock 12/19/88</i>	
--	--	---	--	--	--

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 <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	



WPMO 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		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.				

11 QAE/Lead Auditor Date <i>S. Jones 12-12-88</i>	12 Branch Manager Date <i>Blaine Jr 12/12/88</i>	13 Project Quality Mgr. Date <i>James Bleylock 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 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
---------------	-----------------------	---------------------	----------

Completed by Organization in Block 5

Comp. by Orig. QA Org.



WMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
10/86

SDR No. 252

Rev. 0

Page 2 of 2

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.

# 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 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
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.				

Aprvl.

11 QAE/Lead Auditor Date <i>S. Dana 12-12-88</i>	12 Branch Manager Date <i>Atkinson 12/12/88</i>	13 Project Quality Mgr. Date <i>James Blylock 12/19/88</i>
---	--	---

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

N-QA-038  
10/86

SDR No. 253

Rev. 0

Page 2 of 2

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.

# 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 B. Camp/C. Hampton	3b Branch Chief Concurrence Date	4 SDR No. 254 Rev. 0
5 Organization Holmes & Narver	6 Person(s) Contacted R. Sabol	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.			

Aprvl.

11 QAE/Lead Auditor Date <i>S. Jones 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>
--	--	--

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 <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



WMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
10/86

SDR No. 254

Rev. 0

Page 2 of 2

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.

# 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 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		
	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.						
	Aprvl. 5 Completed by Organization in Block	11 QAE/Lead Auditor Date <i>S. Jones 12-12-88</i>		12 Branch Manager Date <i>Adkins 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 _____	
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			

OCF  
10/86

WMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
10/86

SDR No. 255

Rev. 0

Page 2 of 2

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.



# WMPO STANDARD DEFICIENCY REPORT

N-QA-038  
3/87

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>S. Jones 12-10-88</i>		12 Branch Manager Date <i>Mansel 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 <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. 256

Rev. 0

Page 2 of 2

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.

# WMPO STANDARD DEFICIENCY REPORT

N-QA-038  
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
		4 SDR No. 257 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, 1-11, 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.		

Aprvl.

11 QAE/Lead Auditor Date <i>James 12-12-88</i>	12 Branch Manager <i>Alanus for</i>	Date <i>12/12/88</i>	13 Project Quality Mgr. Date <i>James Blaylock 12/19/88</i>
---	--	-------------------------	--

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 <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. 257

Rev. 0

Page 2 of 3

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



WMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
10/86

SDR No. 257

Rev. 0

Page 3 of 3

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: will result in the use of standard
4. Train appropriate personnel to revised procedural requirements.

# WMPO STANDARD DEFICIENCY REPORT

N-QA-038  
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		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					

Aprvl.

11 QAE/Lead Auditor Date <i>S. Davis 12-12-88</i>		12 Branch Manager Date <i>Stans 12/12/88</i>		13 Project Quality Mgr. Date <i>James Blaylock 12/19/88</i>	
--	--	---	--	--	--

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 <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	

WMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
10/86

SDR No. 258

Rev. 0

Page 2 of 3

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.



WMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
10/86

SDR No. 258

Rev. 0

Page 3 of 3

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.