

 Holmes & Narver ENERGY SUPPORT DIVISION	YUCCA MOUNTAIN PROJECT PROCEDURE			No. YMP-1110
				Page 1 of 6
Title GENERAL TESTING PROCEDURE FOR THE MTL	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *

1.0 PURPOSE

This procedure identifies the general testing program for the Yucca Mountain Project (YMP) conducted at the Materials Testing Laboratory (MTL).

2.0 SCOPE

This procedure applies to all tests conducted by the MTL in support of the Yucca Mountain Project.

3.0 REFERENCES

- 3.1 YMP-230, Indoctrination, Training, Qualification, and Certification
- 3.2 YMP-120, Work Initiation
- 3.3 YMP-1710, Records Management
- 3.4 YMP-1210, Control of Measuring and Test Equipment
- 3.5 YMP-630, Project Records Filing System

4.0 DEFINITIONS

None

5.0 RESPONSIBILITIES

Materials Testing Laboratory personnel shall follow this and the above referenced procedures. The Chief, MTL, and the Section Supervisors are responsible for assuring implementation of all YMP procedures at the Materials Testing Laboratory.

6.0 PROCEDURE

6.1 Work Initiation and Work Request Forms

- 6.1.1 Work Initiation: All test programs shall be authorized by the Technical Project (TP) office in accordance with YMP-120, Work Initiation.

Approved:		* NW/SI-019, Rev. 1	
Department MTL	QA <i>A.R. Justhall</i>	TPO <i>Joseph C. Williams</i>	
Date <i>Thomas A. Patel July 10, 89</i>	Date <i>COW 7-17-89</i>	Date <i>7/17/89</i>	

6.1.2 Work Request: The MTL shall initiate a work request (Attachment 8.1 or 8.2), which shall be completed by the work requester or by MTL personnel prior to initiation of testing. The work request is not a substitute for the Work Initiation issued by the TP office. The work requests are used to control, organize, and schedule the test work at the Materials Testing Laboratory.

6.2 Sample Handling and Control

6.2.1 The MTL shall keep a log of all the samples received. Samples shall not be accepted without adequate identification such as hole number, locations, and depth details for traceability. A MTL sample lab number will be assigned to each sample received. The sample lab number shall be marked on the sample or the container for proper identification. The sample lab numbers, as well as the other adequate identification described above, shall be recorded on all test work documentation, including work requests and final reports.

6.2.2 Samples shall be properly identified and stored in a locked cabinet to prevent unauthorized handling. Samples shall be maintained in a predetermined physical condition commensurate with their intended purpose, as prescribed by the Client.

6.2.3 Sample Disposal: All tested and excess samples will be discarded unless otherwise specified by the Client. All transfers of samples shall be accomplished via a Transmittal Record.

6.3 Test Procedure

6.3.1 Industrial standard test methods, such as those prescribed by the American Society for Testing Materials (ASTM), American Petroleum Institute (API), etc., shall be utilized for testing unless otherwise specified.

6.3.2 Prior to the initiation of any test, the specific test procedure or method (including revision and date) shall be identified on the MTL work request form. The test method shall be established either by the work requester or the appropriate MTL Section Supervisor.

6.3.3 The test procedure/method (number and revision) shall be referenced on the test records and final report.

6.3.4 Standard test methods (e.g., ASTM/API) or special test procedures shall be available to the personnel conducting test(s).

6.3.5 Personnel conducting tests shall be trained, qualified, and certified in accordance with YMP-230, Indoctrination, Training, Qualification, and Certification.

6.3.6 Measuring Test Equipment (M&TE) used shall be calibrated in accordance with YMP-1210, Control of Measuring and Test Equipment. The equipment number and calibration expiration date of the equipment used during the test shall be recorded on the test records and final reports.

6.3.7 Test records shall identify the following:

6.3.7.1 Item tested and MTL sample lab number

6.3.7.2 Test procedure used

6.3.7.3 Date of test

6.3.7.4 Tester and/or data recorder

6.3.7.5 M&TE used and calibration due dates

6.3.7.6 Observations

6.3.7.7 Test results and the acceptability or unacceptability of the test results

6.3.7.8 Person evaluating test results

6.3.7.9 Action taken with deviations noted

6.3.8 Acceptance Criteria

6.3.8.1 All test results shall be evaluated to the acceptance criteria specified by the Client.

6.3.8.2 The final acceptance is the responsibility of the Client.

7.0 DOCUMENTATION

7.1 The following documents are generated by the procedure.

7.1.1 MTL Work Request Forms

7.1.2 Test Records

7.1.3 Final Test Report

7.1.4 MTL Sample Log

7.2 All test documentation shall be filed in accordance with YMP-630, Project Records Filing System.

7.3 The originals or copies of test documentation, suitable for micro-filming, shall be transmitted to the TP office Records Coordinator for processing into the Records Management System, in accordance with YMP-1710, Records Management.

8.0 ATTACHMENTS

8.1 Work Request for Geotechnical, Grout, Chemical, and Special Tests

8.2 Work Request for Soils, Concrete, and Asphalt Testing

ATTACHMENT 8.1
 WORK REQUEST FOR GEOTECHNICAL,
 GROUT, CHEMICALS, AND
 SPECIAL TESTS
 PAGE 1 OF 1

HOLMES & NARVER, INC.
 MATERIALS TESTING LABORATORY
 NEVADA TEST SITE

WORK REQUEST FOR GEOTECHNICAL, GROUT, CHEMICAL & SPECIAL TESTS

Project: _____ I. D. No: _____ Requested By: _____
 Phone: _____ Date Received: _____ Completion Date: _____
 Material Type: _____ Return Material After Testing? Y N
 Work Request #: _____ Sample Lab #: _____
 Work Request Filled By: _____ Samples Received By: _____
 TPO's Work Initiation #: _____ O.A. Level: _____
 WBS #: _____
 Test Procedures: _____

GEOTECHNICAL

- COMPRESSIVE STRENGTH:
 Uniaxial Triaxial
- YOUNG'S MODULUS
- BULK MODULUS
- SHEAR MODULUS
- POISSON'S RATION
- TENSILE STRENGTH:
 Direct
 Indirect
 Split
- SONIC VELOCITY
- SPECIFIC GRAVITY
- GRAIN DENSITY
- PERCENT MOISTURE
- PERMEABILITY:
 Gas Water
- POROSITY:
 Gas
 Calculated

- PERCENT SATURATION
- ULTRACENTRIFUGE:
 Capillary Pressure Curve
 Liquid Extraction
- THERMAL CONDUCTIVITY
- ELECTRICAL RESISTIVITY
- DIRECT SHEAR/COHESION
- CONSOLIDATION

GROUT/SHOTCRETE

- COMPRESSIVE STRENGTH:
 Uniaxial Triaxial
- FLEXURAL STRENGTH
- EXOTHERM
- VICAT NEEDLE
- SLURRY DENSITY
- MARSH FUNNEL VISCOSITY
- SAND CONTENT
- SONIC VELOCITY

CHEMICAL

- MgC 2 CONTENT
- METAL ANALYSIS
- IRON CONTENT
- STEEL CARBON/SULFUR
- DRILLING FLUID ANALYSIS

OTHER

- SEISMIC SURVEY
- STYROFOAM STRENGTH
- BANDING MATERIAL
- VLAVE HYDROSTATIC TEST
- WIRE ROPE PULL
- WELD PULL
- HARDNESS
- CHARPY IMPACT
- BROOKFIELD VISCOSITY
- SPECIAL PROJECTS
 (Complete REMARKS)

REMARKS: _____



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ATTACHMENT 8.2 WORK REQUEST FOR SOILS, CONCRETE, AND ASPHALT TESTING PAGE 1 OF 1

HOLMES & NARVER, INC.
MATERIALS TESTING LABORATORY
NEVADA TEST SITE

WORK REQUEST FOR SOILS, CONCRETE & ASPHALT TESTING

Project: _____ I. D. No: _____ Requested No.: _____

Requested By: _____ Filled Out By: _____ Sample Lab No.: _____

Date Requested: _____ Time: _____ Date To Be Completed: _____

Type Of Material: _____ Source Of Material: _____

Samples Received By: _____ Return Materials After Testing? Y N

TPO's Work Initiation #: _____ Q.A. Level: _____ WBS #: _____

Test Procedures: _____

SOILS

- ABSORPTION
- ANGLE OF REPOSE
- ATTERBERG LIMITS
- C.B.R.
- CONSOLIDATION
- DIRECT SHEAR
- FOAMING AGENT
- GRADATION
- GRAIN DENSITY
- HYDROMETER ANALYSIS
- L.A. ABRASION
- MOISTURE
- PERCENT POROSITY
- PERMEABILITY
- PROCTOR-MODIFIED

- PROCTOR-STANDARD
- SAND EQUIVALENT
- SHRINKAGE
- SOIL CLASSIFICATION
- SPECIFIC GRAVITY
- UNIT WEIGHT
- VISCOSITY

CONCRETE

- CONCRETE MIX DESIGN
- COMPRESSIVE STRENGTH
- FLEXURAL STRENGTH
- LENGTH CHANGE
- SAMPLING FRESH CONCRETE
- SPECIAL STUDY
- SPLITTING TENSILE

ASPHALT

- ASPHALT MIX DESIGN
- % ASPHALT
- MARSHALL

FIELD

- BATCH PLANT INSPECTION
- CORING
- DRILLING
- NUCLEAR DENSITY
- PENETROMETERS
- PERCOLATION
- PLATE LOAD BEARING
- SAND CONE DENSITY
- SEISMIC STUDY

REMARKS: _____

 Holmes & Narver ENERGY SUPPORT DIVISION	YMP INTERIM CHANGE NOTICE			No. ICN-001
				Page 1-1
Procedure Title CONTROL OF MEASURING TEST EQUIPMENT	No. YMP-1210	Rev. 0	Date 08/10/89	Effective Date 08/28/89
Description of change: Replace paragraph 6.2.4 with the following: 6.2.4 Calibration services shall be provided by approved sources.				
Approved:				
Department MTL Date B. Asha Kalra for K. Patel 8-15-89	QA <i>H.R. Tuttle</i> Date 8-15-89	TPG <i>Joseph C. Caporini</i> Date 8/15/89		

 Holmes & Narver ENERGY SUPPORT DIVISION		YUCCA MOUNTAIN PROJECT PROCEDURE			No. YMP-1210
					Page 1 of 9
Title CONTROL OF MEASURING AND TEST EQUIPMENT	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *	
<p>1.0 PURPOSE</p> <p>This procedure establishes the requirements for the control and calibration of measuring and test equipment (M&TE).</p> <p>2.0 SCOPE</p> <p>2.1 This procedure applies to all M&TE used to perform inspections or tests, to control or acquire data, to verify conformance to a specified requirement, or to establish characteristics or values not previously known.</p> <p>2.2 The requirements of this procedure do not apply to commercial devices such as rules, tape measures, levels, and other such devices if normal commercial equipment provides adequate accuracy.</p> <p>3.0 REFERENCES</p> <p>YMP-1710, Records Management</p> <p>4.0 DEFINITIONS</p> <p>None</p> <p>5.0 RESPONSIBILITIES</p> <p>5.1 The Technical Project Officer (TPO) is responsible for directing proper implementation of this procedure.</p> <p>5.2 Managers/supervisors shall ensure that the requirements of this procedure are implemented within their sphere of responsibility.</p> <p>5.3 Employees are responsible to ensure that the M&TE is properly calibrated before use.</p> <p>6.0 PROCEDURE</p> <p>6.1 Control and Identification</p> <p>6.1.1 Each piece of M&TE shall be assigned a unique control number. A Calibration History Log (Attachment 8.1) shall be established and maintained.</p>					
Approved:				* NNWSI-010, Rev. 1 ICN-001	
Department MTL <i>Sham Ch. Patel</i>	QA <i>N.R. Jull</i>	Date <i>7-12-89</i>	TPO <i>Joseph C. Calanni</i>	Date <i>7/12/89</i>	

- 6.1.2 Each piece of M&TE shall be suitably tagged or otherwise identified to indicate its status.
- 6.1.2.1 Stickers or tags shall indicate the organization which performed the calibration, the date calibrated, and the date the calibration expires
 - 6.1.2.2 Calibrate before use
 - 6.1.2.3 Indication only
 - 6.1.2.4 Segregated and the area identified as to status (i.e., not calibrated, damaged, etc.)
- 6.1.3 Storage and Maintenance
- 6.1.3.1 Each piece of M&TE shall be suitably stored to protect the equipment from physical and environmental damage.
 - 6.1.3.2 Each piece of M&TE shall be maintained as required by the manufacturer's manual or instructions.
- 6.2 Calibration
- 6.2.1 All M&TE shall be calibrated at prescribed intervals against certified equipment having known valid relationship to nationally recognized standards. If no known standards exist, the basis for calibration shall be documented.
 - 6.2.1.1 Calibrating standards shall have equal or greater accuracy than the equipment being calibrated.
 - 6.2.1.2 Calibration with standards having the same accuracy as the equipment being calibrated may be used if it can be shown to be adequate for the requirements and the basis for acceptance is documented and authorized by management responsible for the inspection or test.
 - 6.2.2 The frequency of calibration shall be based on equipment stability, manufacturer's recommendation, usage, and accuracy requirements.
 - 6.2.3 Any time the accuracy of a piece of measuring or test equipment is suspect, its accuracy shall be verified. If M&TE is found to be out of calibration consistently, it shall be repaired or replaced.
 - 6.2.4 Calibration services provided by other than REECO or EG&G shall be contracted to provide these services as prescribed by appropriate procurement procedures.

See
12/1

6.2.5 Calibration Recall

6.2.5.1 Measuring and test equipment scheduled for calibration shall be recalled for calibration at least two weeks before the calibration expires (Attachment 8.2).

6.2.5.2 A follow-up shall be made if the piece of equipment has not been returned within one week of the calibration due date.

6.2.6 The calibration laboratory shall be notified via Attachment 8.3 that the M&TE requires calibration. The request for calibration shall require copies of certification of calibration, including identifying the calibration procedure and revision used to perform the calibration.

6.2.7 Measuring and test equipment shall be recalibrated before being taken out of service, if used since the last calibration, and so noted on the Calibration History Log (Attachment 8.1).

6.3 Measuring and Test Equipment Usage

6.3.1 Selection of M&TE shall ensure the equipment is of the proper type, range, accuracy and tolerance to accomplish the function specified by the drawing, specification, or test/inspection procedure.

6.3.2 Issuance and Usage Control

6.3.2.1 A withdrawal/return record shall be maintained which identifies the individual who withdrew the piece of M&TE and the dates of withdrawal and return.

6.3.2.2 A Usage Log (Attachment 8.4) shall be maintained which will provide traceability between the M&TE and the specific test and inspection for which it was utilized.

Exception: The Usage Log is not required if the test methods or procedures require the M&TE to be calibrated or checked for accuracy before each usage.

6.3.3 Test and inspection reports shall reference the equipment control number of the M&TE used during the test or inspection.

6.3.4 If M&TE is found to be out of calibration, an evaluation shall be made and documented to determine the validity of the previous results obtained and the acceptability of the items inspected, tested, or the data gathered since the last calibration.

- 6.3.4.1 Determine the period that the M&TE was considered to be out of calibration (last known date of satisfactory calibration to date known to be out of calibration).
- 6.3.4.2 Determine which tests or inspections were conducted using the out of calibration measuring and test equipment.
- 6.3.4.3 Using the calibration report, which indicates the degree that the equipment was out of calibration and the test and inspection reports, determine the acceptability or nonacceptability of the tests or inspections performed.
- 6.3.4.4 Repeat the tests or inspections if the evaluation results are unsatisfactory. Retest until it can be determined which test or inspection results were valid. Test and/or inspection reports shall indicate "Retest" and appropriately reference the initial test or inspection report.

7.0 DOCUMENTATION

- 7.1 Files shall be established which will provide the following information as appropriate:
 - 7.1.1 Instrumentation description, name, type, and manufacturer
 - 7.1.2 Identification number and serial number
 - 7.1.3 Calibration frequency
 - 7.1.4 Dates equipment calibrated
 - 7.1.5 Identification of the organization that performed the calibration
 - 7.1.6 Certificates of calibration
 - 7.1.7 User or maintenance manual
 - 7.1.8 Maintenance records
 - 7.1.9 Calibration recall notices (retain notice until instrument is returned)
 - 7.1.10 Calibration Usage Log (Attachment 8.4)
 - 7.1.11 Evaluation of test/inspection results when M&TE found out of calibration (paragraph 6.3.4)

7.2 Records

7.2.1 The documents/information identified in paragraph 7.1 shall be maintained for a period of two years at the User location.

7.2.2 Copies or the originals of the documents/information in paragraph 7.1 (except paragraphs 7.1.7 and 7.1.9), suitable for microfilming, shall be forwarded to the Technical Project Office, Local Records Coordinator, as prescribed by YMP-1710, Records Management, on a two-year cycle.

8.0 ATTACHMENTS

8.1 Calibration History Log

8.2 Calibration Recall Notice

8.3 Calibration Request

8.4 Usage Log

ATTACHMENT 8.1
CALIBRATION HISTORY LOG
PAGE 1 OF 1

CALIBRATION HISTORY LOG

Instrument I.D. Number:

Instrument Serial Number:

Instrument Description/Manufacturer:

Calibration Frequency:

CALIBRATION DUE DATE	DATE OF CALIBRATION	CALIBRATED BY	REMARKS
TYPICAL			



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Rev. 0

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ATTACHMENT 8.2
CALIBRATION RECALL NOTICE
PAGE 1 OF 1

CALIBRATION RECALL NOTICE

TYPICAL

Date:

To:

From:

The following measuring and testing equipment is coming due for calibration. Please return the equipment identified below to the addressor no later than one week before the scheduled calibration due date.

Measuring & Test Equipment
Description and I.D. Number

Scheduled Calibration
Due Date

1.

2.

3.

4.

5.

6.

ATTACHMENT 8.3
CALIBRATION REQUEST
PAGE 1 OF 1REYNOLDS ELECTRICAL & ENGINEERING CO., INC.
POST OFFICE BOX 98521 • LAS VEGAS, NV 89193-8521**CALIBRATION SERVICES REQUEST**

WBS #:		O. A. LEVEL:	
User	Phone Number	Date of Request	
Department Number		Mail Stop	
Work Order	Type of Service CALIBRATE <input type="checkbox"/> REPAIR <input type="checkbox"/>		
Item	PTL No.		
Remarks			
Copies of Certification of Calibration Required			
TYPICAL			

DISTRIBUTION Original—CAL LAB. Copy—ORIGINATOR

RE-012 3/77

ATTACHMENT 8.4
USAGE LOG
PAGE 1 OF 1

USAGE LOG

Equipment Identification Number:

USAGE	DATE
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- Identify the inspection/test, drawing etc. that will indicate where the M&TE was utilized.

- Indicate date used.

TYPICAL

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					Page 1 of 3
Procedure Title CORRECTIVE ACTION	No. YMP-1610	Rev. 0	Date 12/19/89	Effective Date 12/27/89	
Description of change: <p style="margin-left: 40px;">Delete existing Attachment 8.1 (ESD-QA-4A-88).</p> <p style="margin-left: 40px;">Add new Attachment 8.1 (ESD-QA-4A-89).</p>					
Approved:					
Department Quality Assurance <i>N.R. Jutts</i> Date 12-11-89		QA <i>N.R. Jutts</i> Date 12-11-89		TPD <i>Joseph C. Belmonti</i> Date 12/12/89	



YMP ICN

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YMP-1610

Rev.
0

No.
ICN-3

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Description of change continued:

ATTACHMENT 8.1
CORRECTIVE ACTION REPORT
PAGE 1 OF 2

HOLMES & NARVER		PAGE <u>1</u> OF _____	1
CORRECTIVE ACTION REPORT		ISSUE DATE	2
DISCOVERED DURING	3	UNUSUAL OCCURRENCE	4
AUDIT <input type="checkbox"/>		REPORT REQUIRED?	
SURVEILLANCE <input type="checkbox"/>	OTHER <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input type="checkbox"/>
		CAR NO.	
		REVISION	
ORGANIZATION	6	PERSON CONTACTED/TITLE	7
		RESPONSE DUE DATE	8
COMPLETED BY QA ORGANIZATION	REQUIREMENT		
			9
COMPLETED BY QA ORGANIZATION	DEFICIENCY		
			10
RECOMMENDED ACTION(S) <input type="checkbox"/> REMEDIAL <input type="checkbox"/> INVESTIGATIVE <input type="checkbox"/> CORRECTIVE			11
INITIATOR	DATE	12	REVIEW AND APPROVAL
			DATE
			13
COMPLETED BY ORGANIZATION IN BLOCK 6	REMEDIAL/INVESTIGATIVE ACTION		
			14
			EFFECTIVE DATE
			15
CORRECTIVE ACTION TO PREVENT RECURRENCE			16
			EFFECTIVE DATE
			17
SIGNATURE			DATE
			18
COMPLETED BY QA ORG	ORIGINAL RESPONSE	<input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT	<input type="checkbox"/> AMENDED RESPONSE
	INITIATOR	DATE	REVIEW AND APPROVAL
			DATE
	AMENDED RESPONSE	<input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT	
	INITIATOR	DATE	REVIEW AND APPROVAL
			DATE
	VERIFICATION	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
	INITIATOR	DATE	REVIEW AND APPROVAL
			DATE
	QA CLOSURE	DATE	22

ESD-QA-66-88

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Procedure Title CORRECTIVE ACTION	No. YMP-1610	Rev. 0	Date 09/22/89	Effective Date 10/03/89
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Description of change:

Add paragraph "3.5 YMP-1620, Trend Analysis"

Delete paragraph 6.4 and substitute the following:

"6.4 Trend Analysis: Quality Assurance shall semiannually perform an evaluation of H&N/ESD initiated CAR's, in accordance with YMP-1620, Trend Analysis, to determine if any adverse quality trends exist."

Approved:

Department Quality Assurance <i>N. R. Jull</i> Date 9-20-89	QA <i>N. R. Jull</i> Date 9-20-89	TPO <i>Joseph C. ...</i> Date 9/20/89
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				Page 1 of 1
Procedure Title CORRECTIVE ACTION	No. YMP-1610	Rev. 0	Date 09/07/89	Effective Date 09/15/89
Description of change: <p>Paragraph 5.1: Change "Chief, Quality Assurance (CQA)" to "Supervisor, Quality Assurance (SQA)".</p> <p>Paragraphs 6.2.1.4, 6.2.1.5, 6.2.2.1, 6.2.2.2, 6.2.3.1, 6.2.3.2, 6.2.4.4, and 6.2.5: Change "CQA" to "SQA".</p> <p>Paragraph 6.4: Delete and substitute the following:</p> <p style="padding-left: 40px;">6.4 Trend Analysis:</p> <p style="padding-left: 80px;">Corrective Action Reports shall be reviewed at least twice each year to determine if any adverse trends exist. Results shall be reported to upper management for review and assessment.</p>				
Approved:				
Department Quality Assurance <i>A. R. Luth</i> Date 9-5-89	QA <i>A. R. Luth</i> Date 9-5-89	TPO <i>Joseph C. Colvini</i> Date 9/5/89		

Title CORRECTIVE ACTION	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *
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1.0 PURPOSE

This procedure establishes a system to identify, report, and obtain resolution of programmatic deficiencies and procedural violations which require remedial, investigative, and/or corrective action to prevent recurrence.

2.0 SCOPE

- 2.1 This procedure applies to programmatic deficiencies and procedural violations for which some degree of corrective action is deemed necessary.
- 2.2 The Corrective Action Report (CAR) is not used in lieu of a Nonconformance Report.

3.0 REFERENCES

- 3.1 YMP-1510, Nonconformance Control
- 3.2 YMP-1710, Records Management
- 3.3 DOE Order 5000.3, Unusual Occurrence Reporting System
- 3.4 H&N/ESD-1706, Notification, Investigation, and Reporting of Occurrences

4.0 DEFINITIONS

- 4.1 Corrective Action: The measures taken to rectify conditions adverse to quality and, where necessary, to preclude recurrences.
- 4.2 CAR: A preformatted form used to document nonhardware-related conditions adverse to quality and to document remedial, investigative, and corrective action and the evaluation and verification of these actions.
- 4.3 Remedial Action: The measure taken to correct the specific deficiencies identified in the CAR.
- 4.4 Investigative Action: The measures taken to examine a deficiency to determine its extent and depth and to identify all conditions similar to the examples listed in the CAR.

* NNWSI-012, Rev. 0
ECN-001 & -002

Approved:

Department QA <i>A.R. Judd</i> Date 7-7-89	QA <i>A.R. Judd</i> Date <i>CSW</i> 7-7-89	TPO <i>Joseph C. Calover</i> Date 7/11/89
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4.5 Nonconformance: A deficiency in characteristic, documentation, or procedure that renders the quality of an item unacceptable or indeterminate.

4.6 Item: Any level of unit assembly including structure, system, subsystem, subassembly, component, part, or material.

5.0 RESPONSIBILITIES

5.1 The Technical Project Officer (TPO) and the Chief, Quality Assurance (CQA), are responsible for directing proper implementation of this procedure.

5.2 Management of organizations receiving CARs is responsible for assuring timely responses and implementation of the proposed corrective action.

6.0 PROCEDURE

6.1 Each deficient condition shall be evaluated by the initiator to determine the type of deficiency, the effect on quality, and the scope of the deficiency. Based upon the evaluation, the deficiency shall be documented as follows:

6.1.1 If the deficiency is hardware-oriented and meets the criteria of a nonconformance, a Nonconformance Report shall be initiated in accordance with YMP-1510, Nonconformance Control. Where appropriate, a CAR will also be issued to document the procedural or implementation deficiency which caused the nonconforming condition or to document repetitive nonconformance.

6.1.2 If the deficiency is programmatic and constitutes a deviation from a procedure, a CAR (Attachment 8.1) shall be initiated as prescribed by this procedure. If the deficiency is minor in nature and has been corrected and verified "on-the-spot," a CAR need not be initiated.

6.1.3 In the case of a significant condition adverse to quality, the cause of the condition shall be determined and corrective action taken to preclude recurrence.

6.2 CARs shall be processed as follows:

6.2.1 Initiation

6.2.1.1 The initiator shall complete blocks 1 through 12 of the CAR per the instructions provided by Attachment 8.1. If the space provided on the CAR is not sufficient, use the CAR Continuation Sheet (Attachment 8.2), and cross-reference the applicable block number.

6.2.1.2 The CAR number, block 5, shall be the next sequential number obtained from the CAR Index (Attachment 8.3). The CAR number XX-X-XXX is identified as follows: the first two digits represent the year; the third digit (A,S,O) identifies when the deficiency was identified (A=Audit, S=Surveillance, O=Other); the last three identified digits are a sequential number i.e., 001, 002, etc.

6.2.1.3 The initiator shall identify the appropriate type of action response (remedial, investigative, corrective) required by affixing an "X" in the applicable box in block 11. If a response for "Corrective Action to Prevent Recurrence" is not required, enter "N/A" and initials in block 16.

6.2.1.4 The initiator shall obtain the approval and signature of the CQA or lead auditor, as applicable (block 13), upon completion of blocks 3 through 12 and 16 as described above.

6.2.1.5 The initiator, upon receiving approval (block 13), shall complete blocks 1, 2, and 8 and initiate a memo or letter for the CQA or TPO, as appropriate, forwarding the CAR to the appropriate level of management for action.

6.2.2 CAR Response

6.2.2.1 Management of the organization identified in block 6 shall evaluate the deficiencies, determine root cause, take appropriate corrective action to resolve the problem, complete blocks 14 through 18 by the response date (block 8) per the instructions provided by Attachment 8.1, and formally return the CAR to the CQA.

6.2.2.2 Requests for extensions of the response due date or the effective dates committed by the responding organization shall be justified to Quality Assurance (QA) prior to the due date or effective date. The CAR initiator, the CQA, or lead auditor, as appropriate, shall evaluate and approve or deny the request and document the same.

6.2.2.3 If the CAR response is not received by the assigned due date, the initiator or designee shall investigate to determine if a response is in the process of being submitted. If the response is not in the process of being submitted, a letter or memo, as appropriate, shall be sent to the next higher level of management identifying the lack of a timely response and shall request that appropriate action be taken.

6.2.3 Evaluation of CAR Response

6.2.3.1 The initiator, lead auditor, or the CQA shall evaluate the response to ensure that:

6.2.3.1.1 The remedial action taken or proposed is appropriate to correct the specific deficiencies identified.

6.2.3.1.2 The investigative action taken or proposed is satisfactory to determine the depth and extent of the deficiencies.

6.2.3.1.3 The corrective action to prevent recurrence appropriately identifies the cause of the deficiency and that the action(s) taken or proposed will prevent recurrence.

6.2.3.2 Upon completion of the evaluation of the response, the initiator shall complete block 19 by checking the appropriate box, shall sign and date the CAR, and shall obtain the CQA or lead auditor's approval.

6.2.3.2.1 An amended response shall be requested if clarification of the proposed corrective action is deemed necessary. Final evaluation of the amended response shall be documented in block 20.

6.2.3.2.2 If the response is unacceptable and an amended response is not deemed appropriate, the response shall be rejected and so annotated in block 19. The original CAR shall be closed out and the CAR reissued as a revision (same CAR number plus a revision number) in accordance with the procedure, except as follows:

6.2.3.2.2.1 The deficiency block 10 shall be amended to reflect the reason for the rejection.

6.2.3.2.2.2 The assigned response due date shall be no more than fifteen days from the date of issue.

6.2.3.2.2.3 The response must address all the deficiencies, including the reason for rejection.

6.2.4 CAR Verification

6.2.4.1 When an acceptable response or amended response has been received and approved (blocks 19 and 20), verification shall be completed in a timely manner based upon the effective dates committed to by the responding organization.

6.2.4.2 Request for extensions of the effective date for completion of committed corrective actions shall be made in writing by the responsible organization and must be submitted prior to the effective date. These extension requests must contain sufficient justification for the extension.

6.2.4.3 If remedial and corrective actions are not completed by the effective date specified or are not properly or completely implemented, an evaluation shall be performed by QA to determine what action should be taken. If the CAR is to be rejected, it shall be handled in accordance with paragraph 6.2.3.2.2. If the CAR requires only minor changes and/or clarification, an amended response will be requested from the responding organization.

6.2.4.4 Results of the verification, including appropriate details of the verification performed, shall be documented in block 21. The verifier shall obtain the review and approval of the CQA or lead auditor.

6.2.5 CAR Closure

Upon satisfactory verification, the CAR shall be submitted to the CQA for review and closure (block 22).

6.2.6 A centralized log shall be maintained by QA so that the status of the open CARs can be readily determined.

6.3 CAR Distribution

6.3.1 The responsible organization shall be notified by letter or memo, as appropriate, when a CAR is officially closed.



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6.3.2 The Project QA Department Implementation Division Manager of the QA Support Contractor, Science Applications International Corporation, shall be on distribution of CARs upon issuance and closure.

6.4 Trending

Corrective action reports shall be analyzed by QA at least twice each year to show quality trends. Results shall be reported to upper management for review and assessment.

7.0 DOCUMENTATION

All records (CARs and associated documentation) required per this procedure shall be forwarded to the Records Coordinator as prescribed by YMP-1710, Records Management.

8.0 ATTACHMENTS

8.1 Corrective Action Report

8.2 Corrective Action Report Continuation Sheet

8.3 Corrective Action Report Index



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ATTACHMENT 8.1
CORRECTIVE ACTION REPORT
PAGE 1 OF 2

HOLMES & NARVER		PAGE <u>1</u> OF _____	1
CORRECTIVE ACTION REPORT		ISSUE DATE _____	2
DISCOVERED DURING	3	UNUSUAL OCCURRENCE	4
AUDIT <input type="checkbox"/>		REPORT REQUIRED?	
SURVEILLANCE <input type="checkbox"/>	OTHER <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input type="checkbox"/>
		CAR NO _____	5
		REVISION _____	
ORGANIZATION	6	PERSON CONTACTED/TITLE	7
		RESPONSE DUE DATE	8
REQUIREMENT			
DEFICIENCY			
RECOMMENDED ACTION(S) <input type="checkbox"/> REMEDIAL <input type="checkbox"/> INVESTIGATIVE <input type="checkbox"/> CORRECTIVE			
INITIATOR	DATE	12	REVIEW AND APPROVAL
			DATE
REMEDIAL/INVESTIGATIVE ACTION			
			EFFECTIVE DATE
			15
CORRECTIVE ACTION TO PREVENT RECURRENCE			
			EFFECTIVE DATE
			17
SIGNATURE			DATE
			18
ORIGINAL RESPONSE	<input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT <input type="checkbox"/> AMENDED RESPONSE	INITIATOR	DATE
AMENDED RESPONSE	<input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT	INITIATOR	DATE
VERIFICATION	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	INITIATOR	DATE
QA CLOSURE			DATE
			22

TYPICAL

**ATTACHMENT 8.1
CORRECTIVE ACTION REPORT
PAGE 2 OF 2**

INSTRUCTIONS FOR COMPLETION OF THE CAR FORM.

- BLOCK 1** PAGINATE — Self explanatory
- BLOCK 2** ISSUE DATE — Self explanatory
- BLOCK 3** DISCOVERED DURING — Check the appropriate box
- BLOCK 4** UNUSUAL OCCURRENCE REPORT REQUIRED? — Check the appropriate box based on the preliminary evaluation for potential reportability in accordance with H&N/ESD Procedure 1706.
- BLOCK 5** CAR No. — Enter number in accordance with the following guide
- | | | | |
|----|---|-----|--|
| XX | X | XXX | |
| ↑ | ↑ | ↑ | |
| | | | A three-digit sequential number: e.g., 001, 002. |
| | | | "A" for audit, "S" for surveillance, "O" for other |
| | | | Year CAR written |
- REVISION** — Self explanatory
- BLOCK 6** ORGANIZATION — Enter name of organization expected to respond to the CAR
- BLOCK 7** PERSON CONTACTED/TITLE — Enter name and title of person(s) within organization named in Block 6 who was contacted to discuss the CAR prior to issuance
- BLOCK 8** RESPONSE DUE DATE — Enter the date that the response is due (usually thirty days from date entered in Block 2)
- BLOCK 9** REQUIREMENT — Quote or paraphrase the requirement involved, noting the document number with revision and paragraph number. As a guide, use the lowest tiered document number; e.g. quote from the implementing procedure rather than NQA-1
- BLOCK 10** DEFICIENCY — Briefly state condition(s) which do not meet requirement(s) then include a discussion which supports that statement and include examples of the condition.
- BLOCK 11** RECOMMENDED ACTION(S) — Check the appropriate box and enter recommended action statements concerning methods of resolution
- BLOCK 12** INITIATOR — Sign and date.
- BLOCK 13** REVIEW & APPROVAL — COA or designee sign and date; for audits, the Lead Auditor shall sign.
- BLOCK 14** REMEDIAL/INVESTIGATIVE ACTION — Enter the actions taken/being taken to correct the examples noted in Block 10 and, when recommended, investigate to identify and correct similar conditions.
- BLOCK 15** EFFECTIVE DATE — Enter date all actions in Block 14 are expected to be completed or were completed.
- BLOCK 16** CORRECTIVE ACTION TO PREVENT RECURRENCE — Enter the cause of the deficiency entered in Block 10 and the actions taken/being taken to prevent recurrence. If procedures are being revised, enter interim plan to be used until revision is implemented
- BLOCK 17** EFFECTIVE DATE — Enter the date all actions in Block 16 are expected to be completed or were completed.
- BLOCK 18** SIGNATURE — Signature and date of the individual responsible for completion of Blocks 14 & 16.
- BLOCK 19** ORIGINAL RESPONSE — The original response is evaluated by the initiator and COA/designee or Lead Auditor, and the appropriate box is checked; and the signatures and dates are entered. Note: If "REJECT" is checked, revise the CAR and leave Blocks 20, 21, & 22 blank.
- BLOCK 20** AMENDED RESPONSE — The amended response is evaluated by the initiator and COA/designee or Lead Auditor and the appropriate box is checked; the signatures and dates are entered. Note: If "REJECT" is checked, revise the CAR and leave Blocks 20 & 21 blank.
- BLOCK 21** VERIFICATION — Check the appropriate box to reflect the results of the verification and state what verification actions were taken. Enter the signatures and dates. Note: If "UNSAT" is checked, revise the CAR and leave Block 22 blank
- BLOCK 22** QA CLOSURE — Enter the dated signature of the COA or designee to close the CAR

ESD JA-48-88 NOTE: IF ADDITIONAL SPACE IS REQUIRED, USE THE CAR CONTINUATION SHEET.



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ATTACHMENT 8.2
CORRECTIVE ACTION REPORT
CONTINUATION SHEET
PAGE 1 OF 1

HOLMES & NARVER, INC.
CORRECTIVE ACTION REPORT
CONTINUATION SHEET

PAGE _____ OF _____

CAR NO.: _____

REVISION: _____

TYPICAL

Title TREND ANALYSIS	Rev. 0	Date 09/22/89	Effective Date 10/03/89	Supersedes N/A
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1.0 PURPOSE.

This procedure establishes the requirements for performing analysis of deficiency documents to determine if adverse quality trends exist.

2.0 SCOPE.

This procedure applies to the evaluation of deficiency documents initiated by Holmes & Narver, Inc., Energy Support Division (H&N/ESD), for the Department of Energy, Nevada Operations (DOE/NV), Yucca Mountain Project (YMP).

3.0 REFERENCES.

- 3.1 YMP-1610, Corrective Action.
- 3.2 YMP-630, Project Record Filing System.
- 3.3 YMP-1710, Records Management.

4.0 DEFINITIONS.

None.

5.0 RESPONSIBILITIES.

- 5.1 The Technical Project Officer (TPO) is responsible for directing the proper implementation of this procedure.
- 5.2 The Supervisor, Quality Assurance (SQA) is responsible for directing and implementing the requirements of this procedure.
- 5.3 Quality Assurance is responsible for evaluating deficiency documents for indications of adverse quality trends.
- 5.4 Management is responsible for taking appropriate corrective action to resolve adverse quality trends.

6.0 PROCEDURE.

- 6.1 Quality Assurance shall perform semiannual analyses of deficiency documents issued by Holmes & Narver.

Approved:

Department, Quality Assurance
[Signature]
Date 9-20-89

QA *[Signature]*
Date 9-20-89

TPO *[Signature]*
Date 9/20/89

6.2 Deficiency documents, such as Corrective Action Reports and Nonconformance Reports, shall be evaluated to determine if a repetitive condition exists and whether the frequency and significance of this condition constitutes an adverse quality trend.

6.3 Adverse Trends.

6.3.1 If an adverse quality trend is determined to exist, it shall be documented via the issuance of a Corrective Action Report in accordance with YMP-1610, Corrective Action, except as identified in 6.3.2. The Corrective Action Report shall be addressed to the TPO for resolution.

6.3.2 When adverse quality trend(s) are identified and determined not to be the responsibility of Holmes & Narver, the TPO shall forward the results of the analysis to YMP Project Manager and to the YMP Director of Quality Assurance for information and action. No Corrective Action Report or follow-up action is required by Holmes & Narver.

6.4 Trend Analysis Report.

A trend analysis report shall be prepared and issued regardless of whether or not an adverse quality trend is identified.

6.4.1 The trend analysis report shall include:

6.4.1.1 A description of the scope of the analysis (time frame, number and type of deficiencies evaluated).

6.4.1.2 A summary of findings, positive or negative.

6.4.1.3 A comprehensive narrative for any adverse quality trend identified.

6.4.2 The Trend Analysis Report shall be signed by the analyst(s) and approved by the Supervisor, Quality Assurance.

6.4.3 Trend Analysis Report distribution shall include the following:

General Manager.
Manager, Nevada Operations.
Manager, Quality Assurance.
Technical Project Officer.

7.0 DOCUMENTATION.

7.1 This procedure requires the following documentation:

7.1.1 Trend Analysis Report.

7.1.2 Corrective Action Report.

7.1.3 Appropriate letters of distribution.



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YMP-1620

Rev.
0

Page
3 of 3

7.2 File the documents in accordance with YMP-630, Project Records Filing System.

7.3 The documents identified in paragraph 7.1 above shall be processed into the Automated Records System in accordance with YMP-1710, Records Management.

8.0 ATTACHMENTS.

None.

 Holmes & Narver ENERGY SUPPORT DIVISION		YMP INTERIM CHANGE NOTICE			No. ICN-001
					Page 1 of 6
Procedure Title	No.	Rev.	Date	Effective Date	
RECORDS MANAGEMENT	YMP-1710	0	02/28/90	03/08/90	
Description of change:					
<p>Paragraph 6.2.1.3</p> <p>Revise to read: Date stamp each transmittal received.</p> <p>Paragraph 6.2.1.3.1</p> <p>Revise to read: Log all LRC letter copies and transmittals received in the Receipt Control Log (Attachment 8.7). Assign each transmittal received with a sequential number. Maintain a sequential file of transmittals.</p> <p>Paragraph 6.2.2.5.2</p> <p>Revise to read: If a discrepancy cannot be resolved quickly (one to three days) through direct interaction with the record source, return the unacceptable records via the LRC Records Rejection Form (see Attachment 8.6). Record Rejection Log Number in the LRC Receipt Control Log adjacent to the applicable document or transmittal rejected. Maintain a file of Record Rejections (see Attachment 8.6) and copies of the rejected documents. If the rejected document is part of a package, place a copy of the rejection in the package until the rejection is resolved.</p> <p>Add the following paragraph:</p> <p>6.2.2.5.4 Rejection Resolution: When the rejection is resolved, record the transmittal log number from Attachment 8.4 on the original Record of Rejection (Attachment 8.6) which transmits the document or package to CRF.</p> <p>Paragraph 6.2.3.2</p> <p>Revise to read: Prepare a LRC Record Transmittal Form (Attachment 8.4) listing the records being submitted to CRF. Include any special instructions/remarks necessary for processing. Number each LRC Record Transmittal Form with a sequential number beginning with the fiscal year, i.e., 90-002. Record the log number on the original transmittal or on the Receipt Control Log, whichever is applicable. Maintain copies of the LRC Records Transmittal Form, filed by log number.</p> <p>Paragraph 6.2.4</p> <p>Renumber: 6.2.4 to 6.2.5 and 6.2.4.1 to 6.2.5.1</p>					
Approved:					
Department	<i>Janice D. Veiden</i>	QA	<i>H. R. Tubb</i>	TPO	<i>JCCabini</i>
Date	<i>February 20, 1990</i>	Date	<i>2-28-90</i>	Date	<i>2-28-90</i>

Description of change continued:

Add the following paragraph:

6.2.5.2 Record "Completed" on original transmittal or on Receipt Control Log.

Renumber: 6.2.4.2 to 6.2.5.3

Add the following paragraph:

6.2.4 Central Records Facility Rejections

6.2.4.1 Transmittal received from CRF rejecting records shall be date stamped and assigned a control number. The control number shall consist of CRR (Central Record Rejection) followed by a sequential number (e.g., CRR-001, CRR-002, etc.). Record this control number in the LRC Receipt Control Log adjacent to the transmittal the rejection applies.

6.2.4.2 Rejection Resolution: When the rejection is resolved, record the transmittal log number from Attachment 8.4 on the original record of rejection, which transmits the document or package to CRF.

Attachment 8.3

Delete: The existing page one of the Record Transmittal Form

Replace with: The revised page one of the Record Transmittal Form

Attachment 8.4

Delete: The existing page one of the LRC Record Transmittal Form

Replace with: The revised page one of the LRC Record Transmittal Form

Attachment 8.6

Delete: The existing LRC Record Rejection Form

Replace with: The revised LRC Record Rejection Form

Attachment 8.7

Add: The Receipt Control Log Form

HN**YMP ICN**

Proc. No.

YMP-1710

Rev.

0

No.

001

Page

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Description of change continued:

ATTACHMENT 8.6
LRC RECORD
REJECTION FORM
PAGE 1 OF 1LOCAL RECORDS CENTER
RECORD REJECTION FORM

LOG NUMBER _____

DATE: _____

TO: _____

FROM: _____

SUBJECT: RECEIPT INSPECTION OF THE FOLLOWING RECORD:

THE ABOVE-MENTIONED RECORD HAS BEEN INSPECTED AND WAS DETERMINED NOT ACCEPTABLE FOR FURTHER PROCESSING AND INCLUSION IN THE LOCAL RECORDS CENTER (LRC) FOR THE REASON(S) MARKED BELOW:

____ INCOMPLETE (PAGES OR ATTACHMENTS MISSING).

____ INCOMPLETE DATA AVAILABLE FOR RECORD INDEXING.

____ RECORD QUALITY IS POOR AND WILL NOT PROVIDE AN ADEQUATE MICROFILM IMAGE.

____ OTHER (SPECIFY): _____

PLEASE TAKE THE APPROPRIATE CORRECTIVE ACTION AND RETURN THE RECORD TO THE LRC ON OR BEFORE: _____

COMMENT: THE LRC STAFF IS AVAILABLE TO ASSIST YOU IN PREPARING RECORDS FOR PROCESSING. (4-7084 OR 4-7102)

RECORD SOURCE REPLY:

____ ACCEPTABLE COPY ATTACHED

____ "BEST AVAILABLE COPY;" PROCESS AS IS.

RECORD SOURCE SIGNATURE_____
DATE

12/88

HN**YMP ICN**Proc. No.
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0No.
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Description of change continued:

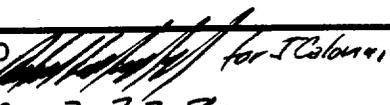
ATTACHMENT 8.7
LRC RECEIPT CONTROL LOG
PAGE 1 OF 1

LRC RECEIPT CONTROL LOG

DATE RECEIVED	DATE REVIEWED	DOC/TRANS NO.	TITLE	REMARKS	CRF TRANS NO.
---------------	---------------	---------------	-------	---------	---------------

 Holmes & Narver ENERGY SUPPORT DIVISION		YMP INTERIM CHANGE NOTICE			No. ICN-2
					Page 1 of 1
Procedure Title RECORDS MANAGEMENT	No. YMP-1710	Rev. 0	Date 5/30/90	Effective Date 6/07/90	
Description of change:					
1. Add the following new paragraph 3.5:					
3.5 National Fire Protection Association (NFPA) 232, Standard for the Protection of Records					
2. Add the following new paragraph 6.2.7:					
6.2.7 Records Storage					
6.2.7.1 Project records shall be stored as follows:					
6.2.7.1.1 Record sources shall protect records in their possession which have not been transmitted to the LRC for processing by either storing the records in one-hour fire-rated containers meeting National Fire Protection Association (NFPA) Standard 232 or by dual-storage in controlled access facilities. One-of-a-kind and special process records (such as radiographs, photographs, negatives, microfilm, and magnetic media) shall be stored to prevent damage from excessive light, stacking, electromagnetic fields, temperature, and humidity.					
6.2.7.1.2 Records and record packages submitted to the LRC for processing shall be stored in a two-hour fire-rated vault which meets NFPA Standard 232. These records shall be located in either the H&N YMP Administrative Offices or in the locked file room in the basement of the Valley Bank Center offices.					
6.2.7.1.3 Employee training records shall be stored in a two-hour fire-rated vault which meets NFPA Standard 232. These records shall be located in either the H&N YMP Training Office or in the locked file room in the basement of the Valley Bank Center offices.					
6.2.7.1.4 Project Microfilm Center QA records which have not been submitted to the LRC for processing and silver halide masters which are pending approval by the CRF shall be stored in a two-hour fire-rated vault which meets NFPA Standard 232. These records shall be located in the Project Microfilm Center.					
Approved:					
Department Administration		QA <i>R. Tuttle</i>		TPO <i>Joseph C. Corvini</i>	
Date <i>James D. Verden 5/23/90</i>		Date <i>5-24-90</i>		Date <i>5/24/90</i>	

 Holmes & Narver ENERGY SUPPORT DIVISION	YMP INTERIM CHANGE NOTICE			No. ICN-3
				Page 1 of 1
Procedure Title MICROFILMING AND ARCHIVAL STORAGE SERVICES FACILITY	No. YMP-1720	Rev. 0	Date 03/30/90	Effective Date 03/30/90
Description of change: <p>1. Delete existing Paragraph 6.4.5 and add new Paragraph 6.4.5:</p> <p>Upon receipt of the transmittal form acknowledging inspection of the filmed records, the Microfilming and Archival Storage Services Facility (MASSF) shall transmit the project hard-copy records and the silver halide masters to the Central Records Facility (CRF).</p>				
Approved:				
Department Admin./Budget	QA <i>N.R. Judd</i>	TPO <i>Joseph C. Costello</i>		
Date <i>Janice D. Versler</i> 3/30/90	Date 3-30-90	Date 3/30/90		

 Holmes & Narver ENERGY SUPPORT DIVISION	YMP INTERIM CHANGE NOTICE			No. ICN-2
				Page 1 of 1
Procedure Title MICROFILMING AND ARCHIVAL STORAGE SERVICES FACILITY AT VALLEY BANK CENTER	No. YMP-1720	Rev. 0	Date 02/28/90	Effective Date 03/08/90
Description of change: <ol style="list-style-type: none"> Delete existing paragraph 6.3.2.2. Add new paragraph 6.3.2.2: Resolution measurements shall be performed on the microfilmed target sheet images at the beginning and end of each roll of microfilm. The results of the measurement shall be recorded on the Quality Assurance Record Form (Attachment 8.11). Resolution measurements of 3.6 or greater shall be considered acceptable. 				
Approved:				
Department Administration	QA	TPO	 for J. Calanni	
Date <i>Janice D. Vanden</i> 2/23/90	Date <i>K.R. Tuttle</i> 2/23/90	Date <i>2-23-90</i>		

 Holmes & Narver ENERGY SUPPORT DIVISION	YUCCA MOUNTAIN PROJECT PROCEDURE			No. YMP-1710
				Page 1 of 30
Title RECORDS MANAGEMENT	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *

1.0 PURPOSE

This procedure establishes the requirements for processing records.

2.0 SCOPE

2.1 This procedure applies to records management performed by Holmes & Narver, Inc., Energy Support Division (H&N/ESD), for the Department of Energy (DOE), Yucca Mountain Project Office (PO), in support of the Yucca Mountain Project (YMP). Activities covered are the handling, microfilming, and storage of all project records through submittal of the record to the project Central Records Facility (CRF).

2.2 Microfilming and storage of YMP records are accomplished in accordance with YMP-1720, Microfilming and Archival Storage Services Facility at the Valley Bank Center.

3.0 REFERENCES

3.1 HN-10471-1131, Quality Assurance Program Plan (QAPP)

3.2 YMP-1720, Microfilming and Archival Storage Services Facility (MASSF) at Valley Bank Center

3.3 YMP-630, Project Records Filing System

3.4 NNWSI AP-5.90, Acceptance of Data and Data Interpretation Not Generated Under the NNWSI Project QA Plan

4.0 DEFINITIONS

4.1 Abstract: The summary record that identifies the prominent points, results, conclusions, or other subject matter that constitutes record contents.

4.2 Accession Number: A unique identifier for each indexed YMP record. It is composed of a three-character data element (followed by a period) for location, a two-character data element for year, a two-character data element for month, a two-character data element (followed by a period) for day, and a four-character data element for a sequential identification number (e.g., NNA.880601.0025).

Approved:		* YMP-008, Rev. 3 ICN-001	
Department Admin/Budget	QA <i>[Signature]</i>	TPO <i>[Signature]</i>	
Date <i>Jamie D. [Signature]</i> 7/12/89	Date <i>[Signature]</i> 7-7-89	Date <i>[Signature]</i> 7/11/89	

- 4.3 Authentication: Attesting, by initialing, stamping, or signing and dating a record, that the information contained therein is accurate and appropriate to the work accomplished. A record becomes a Quality Assurance (QA) record when authenticated.
- 4.4 Automated Record System (ARS): The Office of Civilian Radioactive Waste Management (OCRWM) program-wide computerized index, search, and retrieval system for records management. The ARS provides the means to store the index and abstracts of records at OCRWM/Headquarters (HQ) and the Project Office. The complete text of the records is on microfilm at OCRWM/HQ, the PO, and at the H&N Local Records Center (LRC). The ARS provides for on-line access to the index and abstracts.
- 4.5 Central Records Facility: The YMP CRF is an entity within the Science Applications International Corporation, Technical and Management Support Services (SAIC/T&MSS) contractor responsible for receiving, processing, storing, preserving, and retrieving YMP records, except for those records collected by the PO Mail and Records Facility (MRF). In addition, the YMP CRF is responsible for assigning an "NNA" prefix accession number to YMP records. The YMP CRF is maintained by the T&MSS contractor.
- 4.6 Document: Any written or pictorial information describing, defining, specifying, reporting, or certifying activities, requirements, procedures or results.
- 4.6.1 Draft Document: A document (other than a final document) that proposes or reflects a YMP position, policy, plan or intended purpose and that is transmitted by a supervisory official of the originating organization for formal concurrence within the YMP or formally transmitted outside the YMP for review and/or comment, or provided to the PO as a scheduled deliverable. Draft document also includes a nonfinal document circulated for concurrence or signature which did not become a final document due to objections or revisions by someone other than the original author and in which the original author or others in the concurrence process have nonconcurred.
- 4.6.2 Preliminary Draft Document: A document that is under development or preparation reflecting work in progress. The process of finalization may require iterations and revisions that may be transmitted freely among the YMP participants if the document is "Informal Input." Preliminary drafts are excluded from capture in the records system and will not be retained beyond completion of a subsequent iteration.
- 4.7 Indeterminate: A designation for record packages that have been reviewed, but a quality level (QL) could not be assigned at the time of review. A record package may be evaluated at a later date to obtain a QL designation.

- 4.8 Internal Records: Records directly associated with H&N's contract work on the YMP, when distribution remains internal to H&N. Internal records include the following:
- 4.8.1 Training/seminar approvals
 - 4.8.2 Concurrence copies of letters
 - 4.8.3 Interoffice memos related to the YMP (but not copied to personnel outside H&N) unless transmitted by official letterhead as an attachment
 - 4.8.4 Unpublished reports and documents, unless transmitted to the PO for formal review
- 4.9 Information Copy: A document circulated or transmitted for information purposes.
- 4.10 Limited-Value Material: Includes those classes of documentary or other material which will not be captured by the ARS and which may be disposed of without special authority, including, but not limited to, the following:
- 4.10.1 Information copies of correspondence on which no documented administrative action is taken
 - 4.10.2 Materials documenting such fringe activities as employee welfare activities and charitable fund drives
 - 4.10.3 Reading file copies of correspondence
 - 4.10.4 Tickler, follow-up, or suspense copies of records
 - 4.10.5 Duplicate copies of all records maintained in the same file
 - 4.10.6 Extra copies of printed or processed material, official copies of which have been retained for record purposes
 - 4.10.7 Superseded manuals or other directives maintained outside the originating office
 - 4.10.8 Routing slips
 - 4.10.9 Working papers
 - 4.10.10 Transmittal sheets (bucksheets, record rejection forms)
 - 4.10.11 Blank forms
 - 4.10.12 Transcribed stenographic material

- 4.10.13 Processed or published material received from other activities or offices, which requires no action and is not required for documentary purposes (the originating office or activity is required to maintain record copies)
- 4.10.14 Catalogs, trade journals, and other publications or papers that are received from Government agencies, commercial firms, or private institutions and which require no action and are not part of a case upon which action is taken
- 4.10.15 Correspondence and other materials of short-term value that, after action has been completed, have neither programmatic nor informational value, such as requests for publications and communications on hotel reservations
- 4.10.16 Reproduction materials such as stencils and offset masters
- 4.10.17 Physical exhibits, artifacts, and material lacking documentary value
- 4.11 Local Records Center (LRC): An entity within H&N YMP group that is responsible for collecting and receiving YMP records, verifying the completeness of records, protecting QA records in accordance with HN-10471-1131, Quality Assurance Program Plan, transmitting YMP records to the CRF, and retrieving YMP records in response to requests from internal H&N sources.
- 4.12 Mail and Records Facility (MRF): The PO MRF is an entity within the PO that is responsible for collecting YMP records from the PO, verifying the completeness of YMP records, protecting QA records in accordance with NNWSI Project Quality Assurance Program (QAP), Section 17.0, processing YMP records, and retrieving YMP records for the Project Office. In addition, the MRF is responsible for assigning an "NN1" prefix accession number to the YMP records collected or received from the Project Office. The MRF is maintained by the Project Support Documentation Office (PSDO).
- 4.13 Microfilm and Archival Storage Service Facility: The group responsible for performing microfilming and storage of YMP records. MASSF functions include, but are not limited to, source document preparation, camera operations, filming, microfilm location indexing, microfilm processing, film quality verification, duplication, and storage, see YMP-1720, Microfilming and Archival Storage Services Facility at the Valley Bank Center. The MASSF is maintained by Holmes & Narver, Inc.
- 4.14 Nonprocessed Materials: Materials which will not be captured by the records system, including the following:

- 4.14.1 Preadward information and documents (i.e., information on a procurement prior to contract award, Source Evaluation Board materials, proposal information, etc.), except as required as a QA record. This material must be clearly marked "Pre-award."
- 4.14.2 Personnel records, except as required as QA records (e.g., qualification and training records).
- 4.14.3 Proprietary information and business-sensitive (financial or commercial) information, which is so marked.
- 4.14.4 Information which has been classified pursuant to an Executive Order or statute, which is so marked. Hard copies of such material, when used in the conduct of YMP business, will be stored and handled in accordance with DOE Order 5635.1.
- 4.14.5 Personal correspondence, which is so marked (unless submitted for processing).
- 4.14.6 Informal (preliminary) drafts or working papers, facsimiles, and records circulated or transmitted for information purposes, when so marked.
- 4.14.7 Circulation/direct distribution mail, subscriptions, periodicals, press releases, and news clippings.
- 4.14.8 International draft correspondence, documents, brochures, and literature. Final reports and official documents are not excluded.
- 4.16.7 Travel vouchers, travel authorizations, purchase orders, training requests, personnel actions, and similar administrative material, where a record copy is retained by another organization (e.g., the personnel department).
- 4.14.10 Contractor-generated contract progress reports and telephone logs, except when included as part of a required records turnover package.
- 4.14.11 Documents prepared by another DOE organization, not DOE/HQ-OCRWM or DOE/Project Office, and submitted to the YMP for routine concurrence or coordination, whose subject matter does not relate specifically or exclusively to the Yucca Mountain Project.

Note: To be considered nonprocessed material, the record itself and/or its transmittal envelope must be clearly marked "Informal Input," "Preliminary Draft," "Personal," etc.

- 4.15 One-of-a-Kind Records: Quality Assurance records that cannot be duplicated or microfilmed or lose their meaning when microfilmed are considered one-of-a-kind records. Such records include but are not limited to the following: radiographs, multicolored maps, and map overlays.
- 4.16 QA Record: An individual record or record package that has been executed, completed, and approved and that furnishes evidence of (1) the quality and completeness of data (including raw data, items, and activities affecting quality); (2) records prepared and maintained to demonstrate implementation of QA programs (such as audit, surveillance, and inspection reports); (3) procurement records; (4) other records such as plans, correspondence, documentation of telecons, specifications, technical data, books, maps, papers, photographs, and data sheets; (5) items such as magnetic media; and (6) other materials that provide data and record quality regardless of the physical form or characteristics. A completed record is a document or item (and documentation) that will receive no more entries, whose revisions would normally consist of a reissue of the record, and that is signed and dated by the originator and, as applicable, by approval personnel.
- 4.17 Records: All books, documents, papers, maps, photographs, machine-readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the U.S. Government or in connection with the transaction of public business and preserved, or judged appropriate for preservation, by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of the data contained therein. Library and museum materials made or acquired and preserved solely for reference or exhibition purposes, extra copies of records preserved only for convenience of reference, and stocks of publications and of processed documents are not included.
- 4.18 Record Package: A collection of records supporting one topic (subject), which are refiled as a case file (i.e., QA audit file, contract or procurement file, engineering drawing package). The file will be held by the record source until the transaction is completed. It will then be indexed and processed as one record.
- 4.19 Record Source: Any individual or organizational entity employed by H&N who is responsible for generating records or for receiving records from an entity outside the Yucca Mountain Project.
- 4.20 Special Processed Records: Records that cannot be microfilmed on 16 mm rolls of film. These records may be filmed on aperture cards (i.e., oversized maps and logs) or they may be duplicated and stored in dual storage.

- 4.21 Validation: The act of reviewing a QA record (authenticated record) to assure that it is legible, identifiable, reproducible, and microfilmable (when required).
- 4.22 Working Files: Yucca Mountain Project-related files kept or created by duties on the Yucca Mountain Project. To be designated as such, the files must be in the possession of the individual, and completely segregated from, and in addition to, the official office files.
- 4.23 Yucca Mountain Project Participant: An all-inclusive term used to describe (generically) the various organizations involved in the Yucca Mountain Project. This term includes the PO, participating organizations, and NTS support contractors.
- 4.24 Yucca Mountain Project Records: All records generated or received by H&N except those that are designated as H&N internal, nonprocessed, or limited-value material.

5.0 RESPONSIBILITIES

- 5.1 The Technical Project Officer (TPO) directs the proper implementation of this procedure.
- 5.2 The record source ensures that all applicable records are transmitted to the LRC in accordance with this procedure.
- 5.3 The LRC is responsible for the receipt, review, and transmittal of all completed YMP records to the CRF in accordance with this procedure.

6.0 PROCEDURE

6.1 Record Source Activity

6.1.1 General

- 6.1.1.1 Accept QA records generated prior to August 1980 in accordance with NNWSI AP-5.9Q, Acceptance of Data and Data Interpretation Not Generated Under the NNWSI Project QA Plan.
- 6.1.1.2 Develop and provide the LRC with a list of record types that will be developed by the use of procedures, task plans, study plans, etc. In addition, provide a list of the type of record packages that will be submitted with typical records that will be included in packages.
- 6.1.1.3 Create records as prescribed by the implementing procedures.

6.1.1.3.1 Records shall be recorded with an indelible medium, preferably black ink, against a light background. Pencil lead is not generally an acceptable means of recording information on a record.

6.1.1.3.2 The record shall not contain correction fluid of any type, and old information cannot be erased or obliterated.

6.1.1.4 Records shall be filed by each record source in accordance with YMP-630, Project Records Filing System.

6.1.1.5 Records shall not have any information scratched out or obliterated. Corrections shall be made by scribing a single line through the portion of the document to be changed, adding the new information adjacent to the line out, and initialing and dating the correction.

6.1.1.6 If new information has been added or a correction made to a record previously submitted to the LRC, it constitutes a new and separate record and must be submitted as a new document.

6.1.1.7 Turn Over of Working Files

Turn over any working files to supervisor upon completion of an activity, upon termination of employment, or as otherwise directed by the TPO.

6.1.2 Protection of Records and Record Packages

6.1.2.1 Protect records from deterioration, loss, or damage in accordance with guidance for preservation and storage of records provided in Attachments 8.1 and 8.2.

6.1.2.2 If the record is damaged or lost, complete whichever of the following actions is appropriate:

- 1) Regenerate the record and indicate that it is a replacement.
- 2) Perform the activity again, if possible, and document that it is a repeated effort.
- 3) Prepare a statement documenting the loss and conditions of loss or damage, and the inability to replace the record.

6.1.2.3 Determine if a record is to be protected from general disclosure (e.g., records that are privileged because of attorney-client privilege, executive privilege, Company proprietary privilege, etc.). If so, stamp first page of record "PRIVILEGED," with a stamp no larger than 1/2-inch high and 3-inch long.

6.1.3 Preparation for Processing

6.1.3.1 Collect records as individual documents or as a package based on the following:

6.1.3.1.1 Submit the record individually if it meets any of the following criteria:

- 1) A one-of-a-kind item
- 2) Referenced in a formally published report
- 3) Intended for individual reference or distribution
- 4) The output of a Work Breakdown Structure (WBS) sublevel task, or it is in response to an action item, or it is otherwise indicated to be an individual and discrete unit of work
- 5) One of a series of records to be submitted over a period of time

6.1.3.2.2 Submit the record as part of a package if it meets any of the following criteria:

- 1) In support of an activity for the issue of a report study, evaluation, or assessment
- 2) More meaningful and useful in the content of a collection than it would be individually
- 3) One of a collection of records that is created, filed, or referenced collectively
- 4) One of a collection of records representing raw, backup, or supporting data

- 6.1.3.2 Assign a WBS number to at least the third level (i.e., WBS: X.X.X) to all project records in accordance with the WBS element under which the activities are governed. Place the appropriate WBS number on the front of all project records in the upper right-hand corner.
- 6.1.3.3 Designate all QA records with the designation "QA" and all non-QA Records with "QA:N/A." The designation must be placed on the front of the record in the upper right-hand corner, immediately below the WBS number.
- 6.1.3.4 Ensure specified indexing parameters listed below are included on each record:
- 1) Record date
 - 2) Record title (indicate a subject line if a non-titled item, i.e., memorandum, letter, etc.)
 - 3) Record receiver name and/or organization (if correspondence, procurement item, or report requiring action)
 - 4) Record author name and/or organization (if the record is an item of correspondence or a report)
 - 5) WBS Number
 - 6) QA designation ("QA" or "QA:N/A")
 - 7) Abstract for all YMP published reports
- 6.1.3.5 List and identify, by accession number, reference material cited in all final reports except readily available references such as encyclopedias, dictionaries, engineers' handbooks, etc. If the referenced document is not in the ARS, it is the responsibility of the author of the report to input the referenced document into the ARS with the assistance of the Local Records Center.
- 6.1.3.6 All documents, not finalized, which are transmitted to organizations outside of H&N for review, comment, or approval must be stamped "DRAFT". Stamp shall be no larger than 1/2-inch high and 3-inch long.

6.1.4 Transmittal

6.1.4.1 Records Package Preparation and Processing

- 6.1.4.1.1 Identify the record packages by using the identifier "RP.X.X.X," where "X.X.X" is the first three digits of the WBS number corresponding to the subject activity.
- 6.1.4.1.2 For each record package, prepare a table of contents that lists the individual records that constitute the package, the WBS number, and the QA level ("QL I, II, or III;" or "QL:N/A"). The QA level assigned will be based on the highest QA level of any document included in the package.
- 6.1.4.2 Inspect the records to ensure the following:
- 6.1.4.2.1 The record is complete and all of its attachments or enclosures are included. All blocks on forms (including signature) are filled in or N/A (not applicable) is entered.
- 6.1.4.2.2 The records are legible, reproducible, and microfilmable in accordance with the standards for processing and microfilming outlined in Attachment 8.1 and the following standards:
- 1) The viewer must be able to read the record without guessing or magnification.
 - 2) To the extent feasible, records shall not contain stamps or other marks that intersect and obliterate recorded information.
 - 3) No portion of any page shall be missing due to tearing or folding of record edges that may obliterate recorded information.
 - 4) If a photocopy of a record is to be submitted, the generation of the copy submitted for processing must be as close to the original as possible and preferably not more than two generations from it (such as a copy of a copy of the original).

5) For records not meeting legibility, filming, reproduction requirements or torn or folded, obtain the best available copy for submittal. Identify on the record "Best Available Copy."

6) Ensure that all reports to be published as a YMP published report receive an accession number prior to publication. If the accession number is not provided by the PO when the report is approved, obtain the accession number from the YMP CRF Manager. Each YMP published report shall contain the following statement and accession number printed inside the back cover of the report:

"The following number is for Office of Civilian Radioactive Waste Management Records Management purposes only and should not be used when ordering this document:

Accession Number: _____."

7) Interact with the LRC for resolution of problems or questions.

6.1.4.3 Records Transmittal to LRC

6.1.4.3.1 Forward completed records to the LRC using transmittal form (Attachment 8.3) no later than ten working days after the completion date shown on the record. Forward completed record packages to the LRC within ten working days after the close out of the record packages.

6.1.4.3.2 Maintain a copy of records transmitted and transmittal form until record processing is complete and notification is received from the Local Records Center.

6.2 Local Records Center Records Processing

6.2.1 Collection

- 6.2.1.1 Maintain a list of the record types (including record package types), both QA and non-QA, that will be generated as a result of YMP activities and functions. Ensure that those lists are updated as changes in YMP activities occur. Transmit a copy of the records type lists to the PO Records Administrator upon list creation or revision.
- 6.2.1.2 Collect records, except those stated as H&N internal records, limited-value, or nonprocessed material, from each record source.
- 6.2.1.3 Assign a sequential number and date stamp to each transmittal received.
 - 6.2.1.3.1 Log all transmittals received in the Receipt Control Log (Attachment 8.7).
 - 6.2.1.3.2 Ensure that all records listed on the transmittal are received. For record packages, ensure that all records listed on the table of contents are contained within the records package.
 - 6.2.1.3.3 Provide storage and preservation of all records until such time as they can be transmitted to the YMP CRF for processing and transmission to the YMP Central Records Storage Facility. Protect records from deterioration, loss, or damage in accordance with guidance for preservation and storage of records provided in Attachments 8.1 and 8.2.
 - 6.2.1.3.4 Establish and maintain an access list for the LRC files. This list will designate personnel who have access to the files, and shall include the Records Administrator, Yucca Mountain Project Office.

6.2.2 Inspection

- 6.2.2.1 Maintain an authentication log of the signatures and initials of the persons authorized to authenticate records.
- 6.2.2.2 Inspect the records as follows:

- 6.2.2.2.1 Ensure records are acceptable for processing and microfilming in accordance with Attachment 8.1.
- 6.2.2.2.2 Ensure that all records are complete that they contain all pages and referenced attachments and/or enclosures, and that all cited records referenced in published reports are submitted with the final report unless they are already contained within the Automated Record System.
- 6.2.2.2.3 Verify that records are properly signed and that QA records are authenticated by comparing signatures to the required record signature authentication list.
- 6.2.2.2.4 Verify that all blocks on forms (including signature) are filled in or "NA" (not applicable) is entered in the block.
- 6.2.2.2.5 Review records to ensure that a WBS number is indicated.
- 6.2.2.2.6 Review records to ensure that a designation ("QA" or "QA:N/A") or QA level for records packages (QL I, QL II, QL III, or QA N/A) is indicated.
- 6.2.2.2.7 Resolve any problems with the responsible record source, ensuring the corrections to records are made in accordance with paragraph 6.1.1.5.

6.2.2.3 Validation of QA Records

Upon satisfactory completion of the inspection, stamp the first page of all QA records "VALIDATED" with a stamp no larger than 1/2" high and 3" long. The validation stamp must not obliterate any text on the document.

6.2.2.4 Check for Duplicates

Check all records against the ARS for duplicates by performing the following activities:

- 6.2.2.4.1 Using the ARS computer index, search for duplicate submittal of records.

6.2.2.4.2 If potential duplicates are found, use the YMP microfilm to verify that any potential duplicates are exact replicas of processed records. If exact duplicates, do not submit the record. If not an exact duplicate, submit as a new record.

6.2.2.4.3 For duplications that are exact replicas and are part of a package, record the accession number of the record on the table of contents of the appropriate record package.

Note: Records that have been previously processed should be included in and transmitted with the record package.

6.2.2.5 Corrections

6.2.2.5.1 Resolve record discrepancies directly with the record source whenever possible. The LRC personnel shall not make any corrections to records; the record source makes the actual corrections.

6.2.2.5.2 If a discrepancy cannot be resolved through direct interaction with the record source, the LRC rejects the record. Return unacceptable records with the LRC Record Rejection Form (see Attachment 8.6). If the rejected record is part of a package, place a copy of the rejection form in the package in place of the rejected document.

6.2.2.5.3 Retain a copy of the LRC Record Rejection Form and the record in a "Records Rejected" file. If a corrected copy of the record is not received within ten working days, contact the record source. If a better copy of the record is not available, stamp the record copy "Best Available Copy" with a stamp no larger than 1/2-inch high and 3-inch long, and process the record along with the LRC Record Rejection Form. The rejection form constitutes evidence that a better copy of the record was not available.

6.2.3 Transmittal to the CRF

Perform the following records transmittal activities:

- 6.2.3.1 Maintain a copy of all duplicatable records and protect the duplicates from deterioration, loss, or damage, in accordance with Attachment 8.2.
- 6.2.3.2 Prepare the LRC Record Transmittal Form (Attachment 8.4) listing the records being transmitted to the Central Records Facility. Also include any special instructions/remarks for processing.
- 6.2.3.3 Insert a LRC Special Instruction Sheet (Attachment 8.5) to describe and indicate the location of one-of-a-kind records that cannot be duplicated and are being retained and protected at the LRC until permanent central YMP record storage is available.
- 6.2.3.4 Insert a LRC Special Instruction Sheet (Attachment 8.5) to identify those special processed records that are being transmitted under separate cover.
- 6.2.3.5 Attach a copy of the LRC Special Instruction Sheet (Attachment 8.5) to the original of each special processed record that can be filmed on aperture cards (i.e., oversized maps and logs). Forward the package under separate cover to the YMP Central Records Facility.
- 6.2.3.6 Identify each special processed record that cannot be filmed (i.e., negatives, color photographs, magnetic media) and contact the CRF Manager to provide information so that the Records Administrator, PO, can determine the method required to process the records.
- 6.2.3.7 Package the records and the LRC Record Transmittal Form and transmit them within ten working days of receipt from the record source.

6.2.4 Local Records Center Maintenance

- 6.2.4.1 Maintain copies of all completed transmittal forms, both incoming and outgoing, in project files.
- 6.2.4.2 Upon receipt of microfilm, store for history and future use.

6.2.5 Record Retrieval

Upon request for a records photocopy, the LRC will access the record through the ARS and, using the microfilm number, print a hard copy from the microfilm for the requester.

7.0 DOCUMENTATION

7.1 Documents Required

- 7.1.1 Completed Transmittal Forms (Attachment 8.3)
- 7.1.2 Completed LRC Transmittal Forms (Attachment 8.4)
- 7.1.3 Completed Special Instruction Sheets (Attachment 8.5)
- 7.1.4 Record Rejection Form (Attachment 8.6)
- 7.1.5 Receipt Control Log (Attachment 8.7)

7.2 Location of Documentation

- 7.2.1 Completed Transmittal Forms, Record Source files
- 7.2.2 Completed LRC Transmittal Forms, LRC files
- 7.2.3 Completed Special Instruction Sheets, LRC files
- 7.2.4 Record Rejection Forms, LRC files
- 7.2.5 Receipt Control Logs, LRC files

8.0 ATTACHMENTS

- 8.1 Guidance for Acceptance of Source Records for Processing and Microfilming
- 8.2 Preservation and Storage of Records Requirements
- 8.3 Records Transmittal Form
- 8.4 LRC Record Transmittal Form
- 8.5 LRC Special Instruction Sheet
- 8.6 LRC Record Rejection Form
- 8.7 LRC Receipt Control Log

ATTACHMENT 8.1
GUIDANCE FOR ACCEPTANCE
OF SOURCE RECORDS FOR
PROCESSING AND
MICROFILMING
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Guidance for Acceptance of Source Records
for Processing and Microfilming

Practical criteria for acceptability of source records includes the following:

1. Record must be legible; there must be a clear and distinct image with a sharp contrast between the character or pictorial information recorded and the recording medium (paper).
2. Record must be complete; no portions of a page can be missing due to tearing or folding of record edges that obliterates recorded information.
3. Record data on drawings in pencil or black ink. Blackline drawings are preferred to blue-line or sepia copies. If blue-line or sepia drawings are the only copies available, they must not be folded but rather rolled for storage or transmittal. Store them on stick files or in flat (plan) files. Creasing the paper creates marks which can obscure data recorded on the drawing.
4. Typewritten or printed text using clean multi-strike ribbons or other high-quality methods such as laser.
5. Transmit records unbound or loose-leaf when possible.
6. If photocopies are submitted as the record copy, they must be legible. The copy image must be aligned properly; optically skewed images are not acceptable; square corners must appear at right angles.
7. No photo reductions of data are acceptable unless the image is very clear and easily legible. Letters and other characters must be spaced so that the background areas between them are approximately equal.
8. Avoid using colored paper as a recording medium. Otherwise, the contrast between the data recorded and the color of the paper may not be distinct enough to produce a microfilm image of sufficient quality.
9. NCR-type paper (no carbon required) or other paper requiring pressure from writing implement, typewriter or printer to produce a legible impression) copies are not acceptable. Only the white first page (original) of an NCR form is acceptable.

NOTE: The only exception to this rule is oversize records which are of a color than can be filmed on a 35mm planetary camera for aperture card production handling and will be considered only on a case-by-case basis. Approval by the responsible manager is required prior to submittal.

ATTACHMENT 8.1
GUIDANCE FOR ACCEPTANCE
OF SOURCE RECORDS FOR
PROCESSING AND
MICROFILMING
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10. If the original records are not available for submittal to the records center, the generation of the copy submitted for processing must be as close to the original as possible. (Each copy generation removed from the original is of poorer quality.)
11. Do not fold drawings, maps, or other "oversize" records (i.e., records with the minimum dimension greater than 14 inches). Such oversize records shall be rolled and placed in tubes for transmittal to the records center.
12. As a minimum, data on drawings must comply fully with the project standards for preparation and control of engineering and latest issue of architectural drawings.

ATTACHMENT 8.2
PRESERVATION AND STORAGE
OF RECORDS REQUIREMENTS.
PAGE 1 OF 4

Preservation and Storage of Records Requirements

All YMP records shall be managed in a manner to meet the requirements for QA Level I records. The requirements outlined in the following sections shall apply to all records.

PRESERVATION

In order to preclude deterioration of the records, the following requirements shall apply:

1. Provisions shall be made in the storage arrangement to prevent damage from moisture, temperature, and pressure. Normal room temperatures and humidity levels which prohibit condensation of moisture shall be maintained. Periodic measurements shall be recorded to ensure extremes in temperature and humidity are not occurring. Proper equipment shall be installed to prevent fluctuations in temperature and humidity.
2. Provisions shall be made to prevent damage from infestation of insects and rodents. Food shall be prohibited in, proper sealing maintained, and periodic preventative exterminations performed on the storage facility. Monthly sampling of records shall be administered to ensure no damage has occurred.
3. Records shall be firmly attached in binders or placed in folders or envelopes for storage in steel file cabinets or on shelving in containers.
4. Provisions shall be made for special processed records (e.g., radiographs, photographs, negatives, microfilm magnetic material, etc.) to prevent damage from excessive light, stacking, electromagnetic fields, temperature, and humidity.

SAFEKEEPING

Measures to Preclude Entry

Measures shall be established to preclude the entry of unauthorized personnel in the storage area. These measure shall guard against larceny and vandalism. A list of authorized personnel shall be maintained.

Replacement, Restoration, or Substitution

Measures shall be taken to provide for replacement, restoration, or substitution of lost or damaged records. These measures shall be accomplished within 90 days following determination that either a record has been lost or a record has been damaged to a degree that it is no longer complete or legible.

ATTACHMENT 8.2
PRESERVATION AND STORAGE
OF RECORDS REQUIREMENTS
PAGE 2 OF 4

Safekeeping of Documents and Records by the Record Sources

Measures shall be taken by the Record Source to ensure that documents that are to become YMP records (both QA and non-QA) are protected from deterioration, loss, larceny, or damage through preventing exposure to environmental that, whenever possible, such documents are protected through storing copies in sufficiently remote locations to prevent hazard.

In addition, measures shall be taken by the Record Source to ensure that both documents (that are to become YMP records) and YMP records, record package segments, and record packages are protected as follows:

1. No liquids shall be in the vicinity or may come in contact with YMP records.
2. Smoking materials (e.g., cigars, cigarettes, pipes) shall be placed a minimum of five (5) feet from YMP records.
3. When not in use, documents, records, record package segments, and record packages shall be locked in a secured area (e.g., locking desk drawer, locking file cabinet, office with a locking door, etc.).
4. If possible, the original of each completed record, record package segment, or record package shall be forwarded to the LRC for storage and protection immediately upon completion of that record or record package segment (the Record Source may retain a copy for reference, if necessary).

STORAGE FACILITY

The following requirements apply to both permanent and temporary record storage facilities.

Construction and Maintenance of Facility

YMP records shall be stored in facilities constructed and maintained in a manner that minimizes the risk of damage or destruction from natural disasters, such as winds, floods, or fires; environmental conditions; and infestation of insects, mold or rodents.

Methods

The two satisfactory types of storage facilities are (1) single and (2) dual; these are detailed in the following section.

Single Facility

Design and construction of a single storage facility shall meet the following criteria:

1. It shall have reinforced concrete, concrete block, masonry, or equivalent construction.

ATTACHMENT 8.2
PRESERVATION AND STORAGE
OF RECORDS REQUIREMENTS
PAGE 3 OF 4

2. It shall have a floor and roof drainage control and, if a floor drain is provided, then a check valve (or equivalent device) shall be included.
3. It shall have doors, structures and frames, and hardware designed to comply with the requirements of a minimum two hour fire rating.
4. Sealant shall be applied over walls as a moisture or condensate barrier.
5. It shall have foundation sealant and provisions for drainage.
6. It shall have forced-air circulation with a filtration system.
7. It shall have a fire protection system.
8. Only those penetrations used exclusively for fire protection, communication, lighting, or temperature and humidity control are allowed. All such penetrations shall be sealed or dampered to comply with a minimum two-hour fire protection rating.
9. The construction details shall be reviewed for adequacy of protection of contents by a person who is competent in the technical field of fire protection.
10. If the facility is located within a building or structure, then the environment and construction of that building can provide a portion or all of these criteria.

Alternate Single Facilities

The following are acceptable alternatives for a single facility:

1. Two-hour fire rated vault that meets National Fire Protection Association (NFPA) 232-1975.
2. Two-hour fire rated Class B file containers that meet the requirements of NFPA 232-1975.
3. Two-hour fire rated room that meets the requirements of NFPA 232-1975 with the following additional provisions:
 - a. An early-warning fire detection and automatic fire suppression capability with electronic supervision at a constantly attended central station.
 - b. Records storage in fully enclosed metal cabinets.
 - c. Adequate access and aisle ways.
 - d. Work that is not associated directly with record storage or retrieval shall be prohibited in the file room.

ATTACHMENT 8.2
PRESERVATION AND STORAGE
OF RECORDS REQUIREMENTS
PAGE 4 OF 4

- e. Smoking, eating, or drinking shall be prohibited in the file rooms.
- f. Two-hour fire rated dampers or doors in all boundary penetrations.

Dual Facilities

If storage at dual facilities is provided, then the facilities shall be at locations sufficiently remote from each other to eliminate the chance of exposure to a simultaneous hazard.

ATTACHMENT 8.6
 LRC RECORD
 REJECTION FORM
 PAGE 1 OF 1

LOCAL RECORDS CENTER
 RECORD REJECTION FORM

N-AD-060
 8/88

DATE: _____

TO: _____

FROM: _____

SUBJECT: RECEIPT INSPECTION OF THE FOLLOWING RECORD:

THE ABOVE-MENTIONED RECORD HAS BEEN INSPECTED AND WAS DETERMINED NOT ACCEPTABLE FOR FURTHER PROCESSING AND INCLUSION IN THE LOCAL RECORDS CENTER (LRC) FOR THE REASON(S) MARKED BELOW:

_____ INCOMPLETE (PAGES OR ATTACHMENTS MISSING).

_____ INCOMPLETE DATA AVAILABLE FOR RECORD INDEXING.

_____ RECORD QUALITY IS POOR AND WILL NOT PROVIDE AN ADEQUATE MICROFILM IMAGE.

_____ OTHER (SPECIFY): _____

TYPICAL

PLEASE TAKE THE APPROPRIATE CORRECTIVE ACTION AND RETURN THE RECORD TO THE LRC ON OR BEFORE: _____

COMMENT: THE LRC STAFF IS AVAILABLE TO ASSIST YOU IN PREPARING RECORDS FOR PROCESSING.

RECORD SOURCE REPLY:

_____ ACCEPTABLE COPY ATTACHED

_____ "BEST AVAILABLE COPY;" PROCESS AS IS.

_____ RECORD SOURCE SIGNATURE

_____ DATE

 Holmes & Narver ENERGY SUPPORT DIVISION		YMP INTERIM CHANGE NOTICE			No. ICN-1
					Page 1 of 1
Procedure Title MICROFILMING AND ARCHIVAL STORAGE SERVICES FACILITY AT VALLEY BANK CENTER		No. YMP-1720	Rev. 0	Date 12/19/89	Effective Date 12/27/89
Description of change:					
<ol style="list-style-type: none"> 1. Paragraph 6.1.3: Change to read "If the documents do not agree with the transmittal or are of insufficient quality to be microfilmed, complete the Record Rejection Form (Attachment 8.1) and return the documents to the CRF or MRF for resolution; or telephonically notify the CRF or MRF of the discrepancy. Telephone notification shall be documented on Record of Oral Information (ROI). Retain a copy of the rejection form or the ROI and a copy of the documents until the source documents are returned. Contact the CRF or MRF at least every ten days until the problems have been resolved and the documents have been returned to the Microfilm and Archival Storage Service Facility." 2. Paragraph 6.2.2.4: Change to read "Each roll of microfilm shall be visually inspected for quality and legibility. Approximately every three meters (10 feet) the film shall be carefully examined using both transmitted and reflected light. Images must be easy to read; pages must not be skewed or edges bent; and scratches on the film must be minimal so that the legibility of the images and letters is not impaired." 3. Paragraph 6.2.2.5.3: Change to read "Splice the corrected microfilm onto the end of the roll. Resolution measurements and densitometric tests shall be performed on the first and last Target Sheets on the splice and the results shall be documented on the Resolution/Densitometer Test Record, Attachment 8.11." 4. Paragraph 6.3.1.2: Change to read "Attach the strip of microfilm to the Methylene Blue Test request form and mail it to the Laboratory. The Test Request Form shall be annotated with the full five digit film identification number, i.e., 90XXX, where 90 is the Las Vegas location identifier and XXX is the unique film identifier." 5. Paragraph 6.3.2.2: Change to read "Resolution measurements shall be performed on the first and last Target Sheets on each roll of microfilm. The results of the tests shall be recorded on the Quality Assurance Record Form (Attachment 8.11)." 6. Paragraph 6.3.3.2: Change to read "Densitometric Tests shall be performed on the first and last Target Sheets on each roll of microfilm. The results of the tests shall be recorded on the Quality Assurance Record Form (Attachment 8.11)." 7. Paragraph 6.3.4: Change to read "Microfilm which does not meet both the acceptable resolution measurements and the above specified densitometric test results shall be destroyed and the documents shall be microfilmed again." 					
Approved: <i>Janice D. Vanden</i>		QA <i>A.R. Tuttle</i>		TPO <i>Joseph C. Colvin</i>	
Department Administration		Date 12/11/89		Date 12/12/89	
Date 12/16/89					

 Holmes & Narver ENERGY SUPPORT DIVISION	YUCCA MOUNTAIN PROJECT PROCEDURE			No. YMP-1720
				Page 1 of 25

Title MICROFILMING AND ARCHIVAL STORAGE SERVICES FACILITY (MASSE) AT VBC	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *
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1.0 PURPOSE

This procedure establishes the requirements for microfilming and storage of records submitted by the Yucca Mountain Project (YMP) Central Records Facility (CRF) and the Project Office Mail and Records Facility (MRF).

2.0 SCOPE

This procedure applies to the handling, microfilming, and storage of records from the time the record is received from the CRF or MRF until the microfilm has been accepted by the CRF and the archival microfilm and hard copy documents have been placed into storage in compliance with AP-1.70, DOE Records Management Procedure; NNWSI 88-15, DOE Records Management Plan (RMP) dated July 1988; 36 CFR Part 1230 (Code of Federal Regulations), 1985 -- Title 36, Parks, Forests, and Public Property, Part 1230, Micrographics, U.S. Government Printing Office, Washington, D.C. (As it applies to microfilm).

3.0 REFERENCES

- 3.1 AP-1.70, DOE Records Management Procedure
- 3.2 NNWSI 88-15, DOE Records Management Plan (RMP) dated July 1988
- 3.3 36 CFR Part 1230 (Code of Federal Regulations), 1985. Title 36, Parks, Forests, and Public Property, Part 1230, Micrographics, U.S. Government Printing Office, Washington, D.C. (As it applies to microfilm)
- 3.4 YMP-1710, Records Management
- 3.5 American National Standards Institute/Association for Information and Image Management (ANSI/AIIM) MS-23, Practice for Operational Procedures/Inspection and Quality Control of First Generation, Silver Gelatin Microfilm of Documents
- 3.6 American National Standards Institute/ASCPH4.8, for photography (chemicals) - Residual Thiosulfate and Other Chemicals in Films, Plates, and Papers - Determination and Measurement

* YMP-025, Rev. 0
ICN-001

Approved:

Department Admin/Budget	QA <i>H.R. Julliett</i>	TPO <i>Joseph C. Colanni</i>
Date <i>Janice D. Verdon</i> 7/6/89	Date <i>Edw</i> 7-7-89	Date 7/11/89

4.0 DEFINITIONS

- 4.1 Source Document: Any form intended to be reduced to microfilm for use as reference in CRF operations.
- 4.2 Microform: A term used for any form containing microimages (aperture cards, roll film, microthin jackets, microfiche, diazo duplicates, etc.).
- 4.3 Microfilm and Archival Storage Service Facility (MASSF): The group responsible for performing microfilming and storage of YMP records. MASSF functions include, but are not limited to, source document preparation, camera operations, filming, microfilm location indexing, microfilm processing, film quality verification, duplication, and storage. The MASSF is maintained by Holmes & Narver, Inc., Energy Support Division.
- 4.4 Central Records Facility (CRF): The YMP CRF is an entity within the Science Applications International Corporation Technical and Management Support Services (SAIC/T&MSS) contractor responsible for receiving, processing, storing, preserving, and retrieving YMP records, except for those records collected by the MRF. In addition, the YMP CRF is responsible for assigning an "NNA" prefix accession number to the YMP records. The YMP CRF is maintained by the T&MSS contractor.
- 4.5 Automated Record System (ARS): The Office of Civilian Radioactive Waste Management (OCRWM) program-wide computerized index, search, and retrieval system for records management. The ARS provides the means to store the index and abstracts of records at OCRWM/Headquarters (HQ) and the Project Office. The complete text of the records is on microfilm at OCRWM/HQ, the Project Office, and at the YMP participants Local Records Center (LRC). The ARS provides for on-line access to the index and abstracts.

5.0 RESPONSIBILITIES

- 5.1 The Technical Project Officer (TPO) is responsible for directing proper implementation of this procedure.
- 5.2 The Supervisor, Engineering Records Library (ERL), is responsible for ensuring compliance with this procedure.
- 5.3 The Supervisor, ERL, ensures that personnel are familiar with this procedure and utilize it to produce quality microfilm products, provide temporary records storage of hard copy, and to provide archival storage of the microfilm in accordance with AP-1-7Q, DOE Records Management Procedure.

6.0 PROCEDURE

- 6.1 Receipt of Source Documents

- 6.1.1 Receive source documents and a records shipment list at the MASSF. Verify and acknowledge receipt of all documents identified on the transmittal form. Sign and return the transmittal form to the CRF or the Project Office Mail and Records Facility.
- 6.1.2 Verify that the quality of each document is adequate for microfilming as prescribed in Appendix A of AP-1-70, DOE Records Management Procedure.
- 6.1.3 If the documents do not agree with the transmittal or are not of the quality to be microfilmed, complete the Record Rejection form (Attachment 8.1) and return the documents to the CRF or MRF for resolution. Retain a copy of the rejection form and the documents until the source documents are returned. Contact the CRF or MRF at least every ten days until the problems have been resolved and the documents have been returned to the Microfilm and Archival Storage Service Facility.
- 6.2 Microfilming Procedure
- 6.2.1 Document Preparation
- 6.2.1.1 Remove all paper clips and staples.
- 6.2.1.2 Straighten edges of paper.
- 6.2.1.3 Tape front and back of torn areas.
- 6.2.1.4 Enhance microfilming capability by duplicating (lighten/darken) documents, when necessary.
- 6.2.2 16mm Microfilm
- 6.2.2.1 Camera Maintenance
- 6.2.2.1.1 Clean microfilm equipment each day or more often as required.
- 6.2.2.1.2 Use a vacuum to remove small particles and dust.
- 6.2.2.1.3 Clean all mirrors.
- 6.2.2.1.4 Inspect belts for wear and proper alignment.
- 6.2.2.2 Format

- 6.2.2.2.1 Begin each roll with a Target Sheet (Attachment 8.2), a Certificate of Authenticity/Start Sheet (Attachment 8.3), and a Reduction Sheet (Attachment 8.4).
- 6.2.2.2.2 End each roll with an Certificate of Authenticity/End Sheet (Attachment 8.5) and a Target Sheet.
- 6.2.2.3 Microfilm: Microfilm source documents using the appropriate camera for the type of document being filmed (i.e., letter size documents require the use of a different camera than used for continuous form documents).
- 6.2.2.4 Inspection: Inspect each microfilm image for legibility and film quality. Images must be easy to read; pages must not be skewed or edges bent; and scratches on the film must be minimal so that the legibility of the images and letters is not impaired.
- 6.2.2.5 Error Correction
 - 6.2.2.5.1 Correct errors detected during micro-filming by immediately filming a Retake Sheet (Attachment 8.6) and refilming the document.
 - 6.2.2.5.2 Correct errors detected during the visual inspection of the microfilm by filming a Correction Notice (Attachment 8.7), Target Sheet, Certificate of Authenticity/Start Sheet, Reduction Sheet, document requiring microfilming, Certificate of Authenticity/End Sheet, and Target Sheet.
 - 6.2.2.5.3 Splice the corrected microfilm onto the end of the roll.
- 6.2.2.6 Load all microfilm into cartridges that meet the ANSI/AIIM MS-23 specification.
- 6.2.3 35mm Microfilm: Aperture Cards
 - 6.2.3.1 Camera Maintenance
 - 6.2.3.1.1 Perform normal office cleaning of the 35mm camera.
 - 6.2.3.1.2 Occasionally clean the lens as indicated in the equipment manual or if resolution degrades.

- 6.2.3.2 Format: Begin each roll with a roll identification number.
 - 6.2.3.3 Microfilm: Microfilm the source documents at the required reduction ratio as determined by the size of the document.
 - 6.2.3.4 Aperture Cards: Print aperture cards according to the system designed by CRF representatives.
 - 6.2.3.5 Mounting and Inspection: Mount microfilm onto aperture cards. Visually inspect each frame for legibility, film quality, and identification to ensure that the microfilm is acceptable and was mounted onto the appropriate aperture card.
 - 6.2.3.6 Error Correction: Correct errors detected during filming or mounting by refilming the documents and printing new aperture cards when necessary.
- 6.2.4 Microfiche
- 6.2.4.1 Camera Maintenance
 - 6.2.4.1.1 Perform normal office cleaning of the microfiche camera.
 - 6.2.4.1.2 Occasionally clean the lens as indicated in the equipment manual or if resolution degrades.
 - 6.2.4.2 Format: Each microfiche will contain a Reduction Sheet (Attachment 8.4) and a Target Sheet (Attachment 8.8). The last microfiche of each set will contain an End of File Sheet (Attachment 8.9).
 - 6.2.4.3 Inspection: Inspect microfiche for correct titling and overall film quality as prescribed in paragraph 6.2.2.4.
 - 6.2.4.4 Error Correction: Process a new microfiche to correct errors detected during inspection.
- 6.3 Tests Required to Measure the Quality of Microfilm and Processing Equipment Function

6.3.1 A methylene blue test, meeting the requirements of ANSI/ASCPH 4.8 for residual thiosulfate will be performed and certified weekly (Attachment 8.10). The methylene blue method measures the concentration of blue dye that is formed during the analytical procedure. The amount of dye is a function of the amount of residual thiosulfate left on the film. If problems occur with out-of-limits conditions, the test will be performed on a daily basis until the condition is corrected.

6.3.1.1 Cut a six-inch strip of microfilm from the last roll processed for the week.

6.3.1.2 Attach the strip of microfilm to the Methylene Blue Test request form and mail to the Laboratory.

6.3.1.3 The Laboratory will notify the Supervisor, ERL, by telephone if the film strip has failed the test. Test failure will require that all silver halide microfilm processed during that week be retrieved and processed through the rinse (water) cycle to remove the excess chemicals.

6.3.2 Resolution measurements are taken to determine the ability of the photographic system to record fine detail. A Target Sheet will appear on every roll of film. See ANSI/AIIM MS-23 for acceptable resolution measurements.

6.3.2.1 Read the Target Sheet with the use of a microscope.

6.3.2.2 Record the results on the Quality Assurance Record form (Attachment 8.11).

6.3.3 Densitometric tests are performed to measure the background density of documents in areas free of information. Background density of the microfilm target should read 1.0 to 1.2 for automatic microfilm cameras. Refer to ANSI/AIIM MS-23 for maximum/minimum acceptable densities for documents filmed on manual cameras.

6.3.3.1 Test each roll of microfilm using a calibrated densitometer.

6.3.3.2 Record the results on the Quality Assurance Record form (Attachment 8.11).

6.3.4 Microfilm which does not meet acceptable resolution measurements will require the roll to be destroyed and the documents to be microfilmed again.

6.4 After Microfilming Is Completed the MASSF Shall:

- 6.4.1 Enter microfilm data to the ARS Data Base. The required entries for 16mm microfilm are the roll number, and beginning and ending frame numbers for each record. The required entry for aperture cards is the aperture card number. Microfiche production is not anticipated; therefore, data entry requirements have not been determined.
- 6.4.2 Prepare duplicate microfilm.
- 6.4.3 Transmit one roll of duplicate microfilm/set of aperture cards and the original documents to the Central Records Facility. Prepare a Record Transmittal form (Attachment 8.12) for this purpose.
- 6.4.4 After the microfilm has been approved by the CRF and the original documents have been returned to the MASSF, prepare and transmit duplicate microfilm to the YMP Office, participants, the OCRWM/HQ, and others as directed by the YMP Office. Prepare a Record Transmittal form (Attachment 8.12) for this purpose.
- 6.4.5 Store two silver halide microfilm masters, temporarily, in the vault at the Engineering Records Library. Temporarily store the original documents outside the vault at the Engineering Records Library.
- 6.5 Rejection of Microfilm
- 6.5.1 Rejection of microfilm by the CRF requires that all microfilm on the transmittal be returned to the MASSF for confirmation of the reason for rejection.
- 6.5.2 Corrective action may include remicrofilming of the documents per paragraph 6.2, input of corrected data and/or preparation of duplicate microfilm per paragraph 6.4.
- 6.6 Records Retrieval
- 6.6.1 The ARS provides an index to the microforms in the archival storage facility.
- 6.6.2 The temporary archival storage facility (ERL) is described in Attachment 8.13. Microforms are filed in numerical order, permitting authorized personnel to retrieve microfilm records in an accurate and timely manner.
- 6.6.3 The archival microfilm records in this facility are not to be considered a working copy, a reference copy, or a reproduction source. A diazo duplicate set of microfilm is maintained for duplication or reproduction by authorized personnel. Microfilm temporarily removed from the files will be controlled via out cards.

6.6.4 Source documents (paper) will be stored in boxes on metal shelving. The boxes will be controlled via an out card. When a box is removed, an out card will be placed on the shelf until the box is returned.

6.7 Records Disposition

6.7.1 Permanent storage of the microfilm record copy for the Department of Energy/Nevada Operations will be in the vault in the Area 25 A&E Building and at an off-site location to be determined.

6.7.2 Permanent storage of the source documents (paper) will also be in the Area 25 facility.

6.7.3 Temporary storage of microfilm will be in an alternate single storage facility designated as the Engineering Records Library.

7.0 Documentation

7.1 This procedure requires the following documentation:

7.1.1 Methylene blue test results (Attachment 8.10)

7.1.2 Resolution measurements (Attachment 8.11)

7.1.3 Densitometric test results (Attachment 8.11)

7.1.4 Record Transmittal form (Attachment 8.12)

7.2 Transmit the above records to the H&N/LRC semiannually in accordance with YMP-1710, Records Management.

8.0 Attachments

8.1 Record Rejection Form

8.2 Target Sheet/Rotary Camera Test Chart

8.3 Certificate of Authenticity/Start Sheet

8.4 Reduction Sheet

8.5 Certificate of Authenticity/End Sheet

8.6 Retake Sheet

8.7 Correction Notice

8.8 Target Sheet/Planetary Camera

8.9 End of File Sheet



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- 8.10 Methylene Blue Test Report
- 8.11 Resolution/Densitometer Test Record
- 8.12 Record Transmittal Form
- 8.13 Engineering Records Library (ERL) Facility Description

ATTACHMENT 8.1
RECORD REJECTION FORM
PAGE 1 OF 1**MICROFILMING CENTER
RECORD REJECTION FORM**

DATE: _____

TO: _____

FROM: _____

SUBJECT: RECEIPT INSPECTION OF THE FOLLOWING RECORD:

THE ABOVE MENTIONED RECORD HAS BEEN INSPECTED AND WAS DETERMINED NOT ACCEPTABLE FOR FURTHER PROCESSING FOR THE REASON(S) MARKED BELOW:

_____ INCOMPLETE (PAGES OR ATTACHMENTS MISSING).

_____ RECORD QUALITY IS POOR AND WILL NOT PROVIDE AN ADEQUATE MICROFILM IMAGE.

_____ OTHER (SPECIFY): _____

TYPICAL

PLEASE TAKE THE APPROPRIATE CORRECTIVE ACTION AND RETURN THE RECORD TO THE MICROFILMING CENTER ON OR BEFORE: _____

REPLY:

_____ ACCEPTABLE COPY ATTACHED

_____ "BEST AVAILABLE COPY", PROCESS AS IS.

SIGNATURE_____
DATE

ATTACHMENT 8.2
TARGET SHEET/ROTARY
CAMERA TEST CHART
PAGE 1 OF 1

8 pt Geneva - a e g m 1 6 8 9 % Zenith X-Ray
8 pt Pontiac - a e g m 1 6 8 9 % Zenith X-Ray Vo
10 pt Typewriter - a e g m 1
3MM MICROFONT - A E G M

LIMIT - OF - 1 - INCH - SIZE

15 CM.
(5.91 IN) A

1.8 line pair/mm.

12 CM.
(4.72 IN) C

1.8 line pair/mm.

2.5 line pair/mm.

5 CM.
(1.97 IN) B

10 pt Typewriter - a e g m 1 6 8 9 % Zenith X-Ray Fo
3MM MICROFONT - A E G M 1 6 8 9 % ZENITH X-R

5
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10 pt Typewriter - a e g m 1 6 8 9 % Zenith X-Ray Fo
3MM MICROFONT - A E G M 1 6 8 9 % ZENITH X-R

ROTARY CAMERA
TEST CHART
AIIM X113
ANSI/AIIM MS17-1983



Association for Information
and Image Management

1100 WAYNE AVENUE
SILVER SPRING
MARYLAND 20910
(301) 587-8202

8 CM.
(3.15 IN) D



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ATTACHMENT 8.3
CERTIFICATE OF
AUTHENTICITY/START SHEET
PAGE 1 OF 1

CERTIFICATE OF AUTHENTICITY

START

ROLL NO. _____

THIS IS TO CERTIFY THAT THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM:

STARTING WITH _____

ARE COMPLETE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF:

TYPICAL

AND WERE MICROFILMED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO ESTABLISHED ROUTINE PROGRAM POLICY FOR SYSTEMS UTILIZATION AND OR FOR THE MAINTENANCE AND PRESERVATION OF SUCH RECORDS THROUGH THE STORAGE OF SUCH MICROFILM IN PROTECTED LOCATIONS.

IT IS FURTHER CERTIFIED THAT THE PHOTOGRAPHIC PROCESSES USED FOR MICROFILMING OF THE ABOVE RECORDS WERE ACCOMPLISHED IN A MANNER AND ON MICROFILM WHICH MEETS THE REQUIREMENTS OF 36CFR PART 1230 FOR PERMANENT MICROPHOTOGRAPHIC REPRODUCTIONS.

IT IS FURTHER CERTIFIED THAT ON THE DATE MENTIONED BELOW THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM WERE MADE UNDER MY DIRECTION AND CONTROL.

DATE MICROFILMED

AUTHORIZED INDIVIDUAL

LOCATION

CAMERA OPERATOR



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ATTACHMENT 8.4
REDUCTION SHEET
PAGE 1 OF 1

24X

TYPICAL

ATTACHMENT 8.5
 CERTIFICATE OF
 AUTHENTICITY/END SHEET
 PAGE 1 OF 1

CERTIFICATE OF AUTHENTICITY

END

ROLL NO. _____

THIS IS TO CERTIFY THAT THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM:

ENDING WITH _____
 ARE COMPLETE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF:

TYPICAL

AND WERE MICROFILMED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO ESTABLISHED ROUTINE PROGRAM POLICY FOR SYSTEMS UTILIZATION AND OR FOR THE MAINTENANCE AND PRESERVATION OF SUCH RECORDS THROUGH THE STORAGE OF SUCH MICROFILM IN PROTECTED LOCATIONS.

IT IS FURTHER CERTIFIED THAT THE PHOTOGRAPHIC PROCESSES USED FOR MICROFILMING OF THE ABOVE RECORDS WERE ACCOMPLISHED IN A MANNER AND ON MICROFILM WHICH MEETS THE REQUIREMENTS OF 36CFR PART 1230 FOR PERMANENT MICROPHOTOGRAPHIC REPRODUCTIONS.

IT IS FURTHER CERTIFIED THAT ON THE DATE MENTIONED BELOW THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM WERE MADE UNDER MY DIRECTION AND CONTROL.

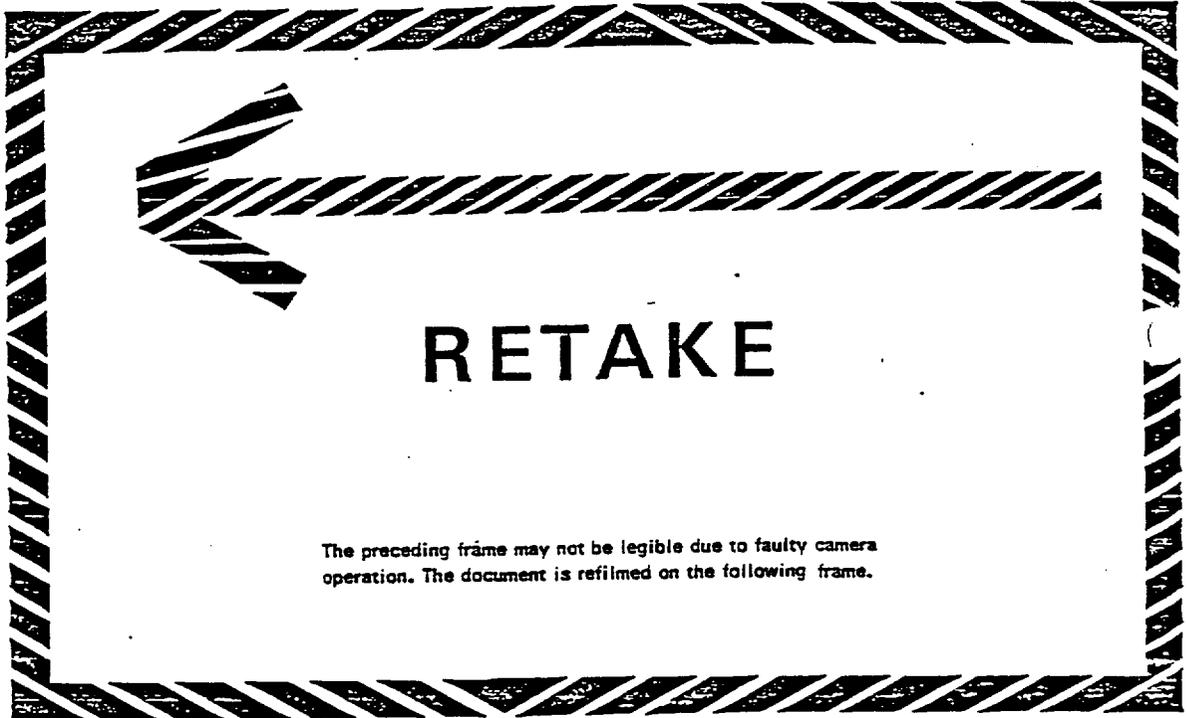
 DATE MICROFILMED

 AUTHORIZED INDIVIDUAL

 LOCATION

 CAMERA OPERATOR

ATTACHMENT 8.6
RETAKE SHEET
PAGE 1 OF 1



RE-0633 (5/75)

TYPICAL

ATTACHMENT 8.7
CORRECTION NOTICE
PAGE 1 OF 1

CORRECTION NOTICE

THE FOLLOWING DOCUMENTS WERE
MICROFILMED FOR THE EXPRESS PURPOSE
OF CORRECTING ERRORS MADE
DURING INITIAL FILMING.

TYPICAL

ALL IMAGES FOLLOWING THIS FRAME
ARE ACCURATE REPRODUCTIONS OF THE
ORIGINAL RECORDS AND WERE
MICROFILMED IN ACCORDANCE WITH
APPROVED AIIM/ANSI REQUIREMENTS.



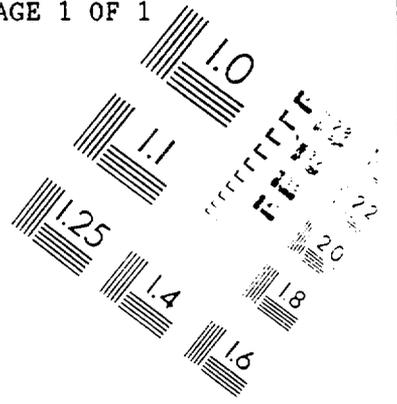
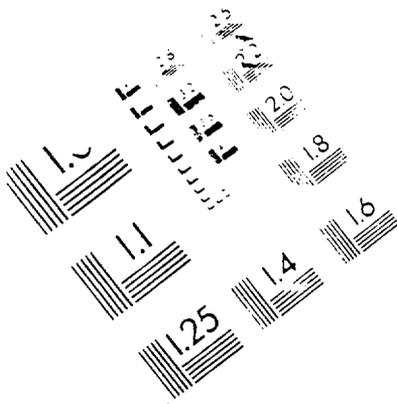
ENGINEERING RECORDS LIBRARY

ATTACHMENT 8.8
TARGET SHEET/
PLANETARY CAMERA
PAGE 1 OF 1



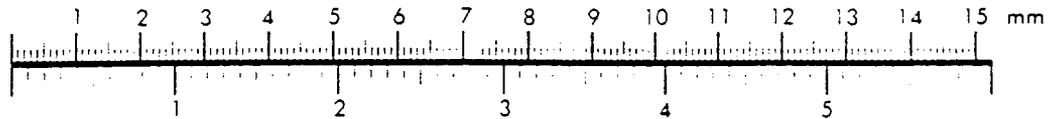
NATIONAL
MICROGRAPHICS
ASSOCIATION

MS303-1980

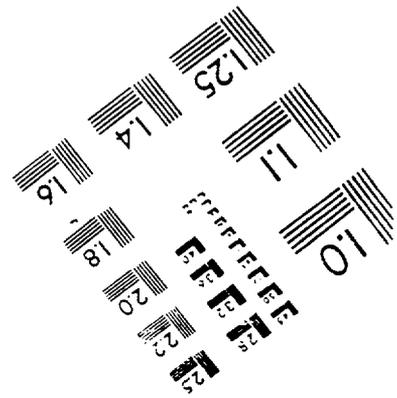
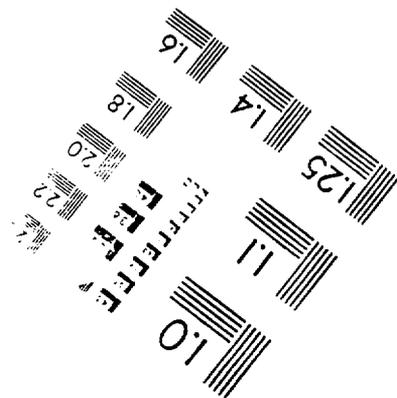
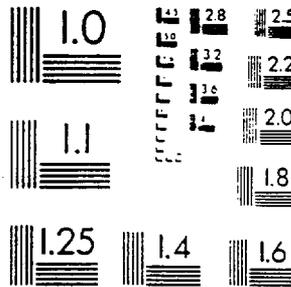


TYPICAL

Centimeter



Inches



ATTACHMENT 8.9
END OF FILE SHEET
PAGE 1 OF 1

**END
OF
TYPICAL
FILE**

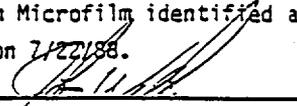
ATTACHMENT 8.10
METHYLENE BLUE
TEST REPORT
PAGE 1 OF 1

CERTIFICATE OF FINDINGS

THE METHYLENE BLUE SILVER DENSITOMETRIC* TEST WAS PERFORMED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE STD. PH4.8 - 1985 THE RESIDUAL THIOSULFATE CONTENT EQUIVALENT* WAS MEASURED TO BE
Less than 0.1 MICROGRAMS PER SQUARE CENTIMETER OF FILM

*Film whose thiosulfate content (or equivalent) exceeds 0.7µg/cm² is not considered by ANSI to be of archival quality. * PH4.8-1985 states "The silver densitometric method...is not sensitive...below about 0.9µg/cm²"*

FILM IDENTIFICATION: HOLMES & NARVER, INC. 16mm Microfilm identified as ROLL #LL*10010 NNWSI ERL said to be processed on 7/22/88.

DATE CERTIFIED 25 JULY 1988 BY 

MICROD INTERNATIONAL
15000 COUNTY ROAD FIVE
BURNSVILLE, MN 55337
(612) 435 - 7667

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TYPICAL

ATTACHMENT 8.11
RESOLUTION/DENSITOMETER
TEST RECORD
PAGE 1 OF 1

PROJECT	INSTRUMENT	CAMERA	FILM	PROCESSED	EXPOSURE		RESOLUTION							TESTED BY	
					START	END	L	C	R	L	C	R			
"	10/27/86	KODAK 2000		10/27/86	1.14	1.17	6.3	5.6	5.0	5.6	6.3	5.6	6.3	5.6	Jepson
"	10/27/86	"		10/27/86	1.13	1.15	6.3	6.3	6.3	5.6	5.6	6.3	6.3	" JE "	
"	10/27/86	"		10/27/86	1.15	1.20	5.6	5.6	5.6	6.3	6.3	5.6	5.6	" JE "	
"	10/27/86	"		10/27/86	1.14	1.17	6.3	5.0	5.6	5.6	6.3	5.6	5.6	" JE "	
"	10/28/86	"		10/28/86	1.17	1.19	7.1	6.3	6.3	6.3	6.3	5.6	5.6	" JE "	
"	10/28/86	"		10/28/86	1.07	1.12	6.3	5.6	5.6	7.1	6.3	6.3	6.3	" JE "	
"	10/29/86	"		10/29/86	1.18	1.21	5.6	6.3	6.3	6.3	5.6	5.6	6.3	" JE "	
"	10/29/86	"		10/29/86	1.17	1.20	5.6	5.6	6.3	6.3	6.3	6.3	6.3	" JE "	
"		"				1.22	6.3	5.6	6.3	5.6	5.6	6.3	6.3	" JE "	
"		"				1.23	6.3	6.3	6.3	6.3	5.6	6.3	6.3	" JE "	
"		"				1.21	6.3	6.3	5.6	5.6	5.6	5.6	5.6	" JE "	
"		"				1.4	5.6	6.3	6.3	6.3	5.6	5.6	5.6	" JE "	
"		"				2.0	6.3	5.6	6.3	5.6	6.3	5.6	5.6	" JE "	
"		"				1.7	6.3	6.3	5.6	5.6	6.3	6.3	6.3	" JE "	
"		"				0	6.3	5.6	5.6	5.6	6.3	5.6	5.6	" JE "	
"		"				1.20	6.3	6.3	6.3	6.3	6.3	6.3	6.3	" JE "	
"		"				1.09	5.6	5.6	6.3	6.3	5.6	6.3	6.3	" JE "	
"		"				1.06	6.3	6.3	6.3	6.3	6.3	5.6	5.6	" JE "	
"		"				1.12	5.6	6.3	6.3	6.3	6.3	6.3	6.3	" JE "	
"		"				1.10	6.3	6.3	6.3	6.3	6.3	6.3	6.3	" JE "	
"		"				1.14	5.6	6.3	5.6	5.6	5.6	5.6	5.6	" JE "	
"		"				1.1	6.3	5.6	5.6	6.3	6.3	5.6	5.6	" JE "	

TYPICAL

ATTACHMENT 8.12
 RECORD TRANSMITTAL FORM
 PAGE 1 OF 1

**WMPO MAIL AND RECORDS FACILITY
 RECORD TRANSMITTAL FORM**

Y-AD-063
 8/88

PART A

DATE: _____ PAGE ____ OF ____
 TO: MICROFILMING AND ARCHIVAL STORAGE SERVICE FACILITY (MASSF)
 FROM: WMPO MAIL AND RECORDS FACILITY (MRF)

THE FOLLOWING LIST REPRESENTS THE RECORDS BEING TRANSMITTED BY THIS MEMO TO MASSF

RECORD DATE	ACCESSION NUMBER	TITLE	PAGES
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(USE CONTINUATION SHEET IF NECESSARY)

TRANSMITTED TO THE MICROFILM AND ARCHIVAL STORAGE SERVICE FACILITY (MASSF) BY:

 MRF PERSONNEL SIGNATURE

 DATE

MASSF RECEIPT ACKNOWLEDGEMENT (RETURN TO NNWSI PROJECT CRF AND WMPO MRF (1 EACH) AS INFORMAL INPUT:

 MASSF PERSONNEL SIGNATURE

 DATE

TYPICAL

PART B

DATE: _____
 TO: NNWSI PROJECT CENTRAL RECORDS FACILITY (CRF)
 FROM: MICROFILMING AND ARCHIVAL STORAGE SERVICE FACILITY (MASSF)

THE ATTACHED LIST OF RECORDS HAVE BEEN FILMED, THE FILM HAS BEEN QUALITY CHECKED, AND THE MICROFILM ADDRESSES HAVE BEEN ENTERED INTO THE ARS. THE HARDCOPY RECORDS ARE ENCLOSED.

 MASSF PERSONNEL SIGNATURE

 DATE

NNWSI PROJECT CRF ACKNOWLEDGEMENT OF RECEIPT AND INSPECTION OF FILMED RECORDS (RETURN SIGNED COPY AND HARD COPY OF RECORDS TO MASSF):

 CRF PERSONNEL SIGNATURE

 DATE

ATTACHMENT 8.13
ENGINEERING RECORDS
LIBRARY (ERL)
FACILITY DESCRIPTION
PAGE 1 OF 4

ENGINEERING RECORDS LIBRARY (ERL) BUILDING 310

I. FACILITY DESCRIPTION - NQA-1 Requirements

A. General Description

1. The building is an unfenced, one-story, basementless, concrete block-type building (floor plan attached).
2. The area having an archival interest is a four-hour fire-resistant file room meeting the requirements of NFPA 232 with a metal vault door equipped with a built-in three-position combination lock.
3. The file room encompasses 450 square feet of floor space and the walls of the file room are constructed of 8-inch concrete. All wall penetrations of the file room are of minimum size and are to accommodate fire alarm circuits, HALON 1301 discharge nozzles, and electrical circuits for lighting and air conditioning,. All wall penetrations are packed with lead wool or grouted with cement. The temperature is controlled at 50-70 degrees and the humidity and temperature are recorded on a humidigraph.
4. Fire protection is afforded by an automatic Halon 1301 system and a wet pipe sprinkler system.

B. Roof

The roof of the building is open web trusses and steel decking on concrete block exterior walls.

C. Floor

The floor of the building is a concrete slab with floor drains in the vault and bathrooms.

D. Internal Construction

Internal walls, excluding the walls of the vault, are of steel stud and drywall construction.

E. Entrances/Exits

1. There are four perimeter entrances/exits to the building.
2. The south perimeter entrance/exit is a double glass door equipped with a "Best" cored lock.
3. The north perimeter exit is a metal-clad door equipped with a "Best" cored lock and panic hardware.

ATTACHMENT 8.13
ENGINEERING RECORDS
LIBRARY (ERL.)
FACILITY DESCRIPTION
PAGE 2 OF 4

4. There are two exits on the west perimeter of the building. One of the exits consists of metal clad double doors and the other is a single metal clad door. The doors are equipped with "Best" cored locks and panic hardware.

F. Windows

There are no windows in the building.

II. PHYSICAL SECURITY

A. Alarm System

The facility is protected by a fire alarm system but an intrusion alarm system is not considered necessary.

B. Lighting

1. Exterior

Exterior lighting is furnished by a standard street lamp in the surrounding area, lights over all doors and an extra light at the front and rear of the building.

2. Interior

There is protective lighting within the building.

3. Emergency Lighting

Emergency lighting is provided by five battery powered emergency lamps which permit safe movement of personnel in the vent of line power failure.

III. SYSTEM GOVERNING ACCESS TO THE FACILITY-VANDALISM & LARCENY PROTECTION

A. Guard Patrol

The doors are locked at the close of business daily and the building and vault are checked by the contract guard force (WSI) charged with the physical security of the NTS. Persons remaining in the building after working hours notify WSI when they leave the building (phone: 5-6255).

B. Watch Clock (Detex) Stations

Detex Watch Clock Stations are not utilized within the facility. The guard force uses a log system for noting date, location, and time of repository checks.

ATTACHMENT 8.13
ENGINEERING RECORDS
LIBRARY (ERL)
FACILITY DESCRIPTION
PAGE 3 OF 4

C. Key Control

Keys to the ERL are controlled by the Supervisor, Engineering Records Library who maintains a list of all keys and persons to whom assigned.

IV. SYSTEM PROVIDING ACCESS TO FACILITY-AUDIT/INSPECTION

A. Personnel Access Control

1. The ERL supervisor and employees exercise access control by checking for proper clearance and "need to know" of personnel requesting access to the area and information.

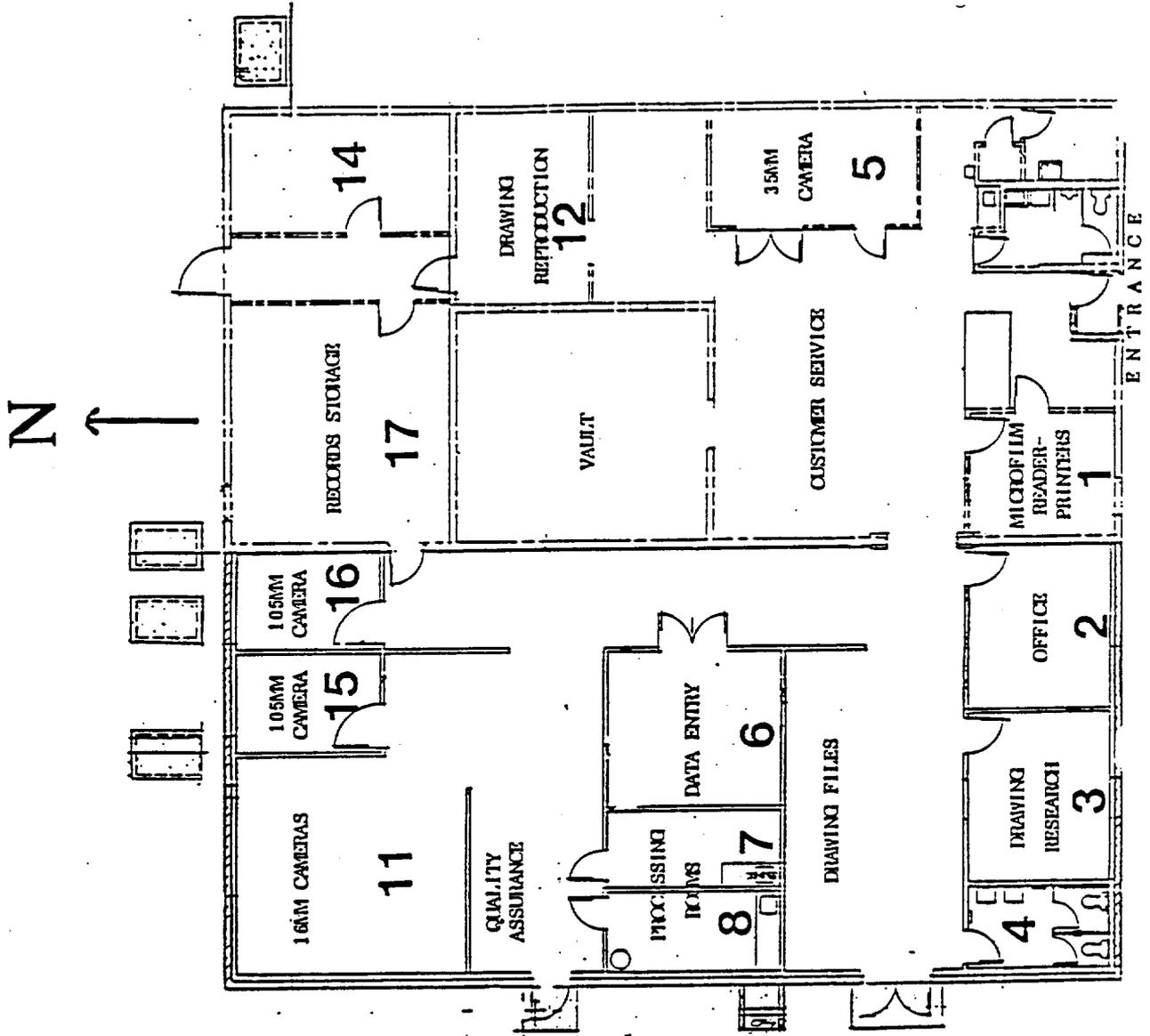
V. PERSONS AUTHORIZED TO REQUEST/RELEASE COPIES OF RECORDS

This responsibility has been assigned to the DOE/WMPO NNWSI Records Administrator. No copies or information disclosure will be allowed without prior authorization from the Records Administrator.

VI. DESCRIPTION OF MICROFILM FILING SYSTEM

Rolls of microfilm, aperture cards and microfiche are filed in micro-film file cabinets in the vault. Each participating organization has been assigned an individual drawer in the same lockable filing cabinet. Each type of microform is filed independently in numerical order.

ATTACHMENT 8.13
 ENGINEERING RECORDS
 LIBRARY (ERL)
 FACILITY DESCRIPTION
 PAGE 4 OF 4



ROOM NUMBER LEGEND

- 1. Microfilm Research
- 2. Office
- 3. Drawing Research
- 4. Quality Assurance
- 5. 35mm Camera Room
- 6. Data Entry
- 7. Microfilm Processing
- 8. Processing Room #2
- 9.
- 10.
- 11. 16mm Camera Area
- 12. Drawing Reproduction
- 13.
- 14. Equipment Storage
- 15. Microfilm Preparation
- 16. Microfilm
- 17. Records Storage

 Holmes & Narver ENERGY SUPPORT DIVISION	YUCCA MOUNTAIN PROJECT PROCEDURE			No. YMP-1730
				Page 1 of 21
Title MICROFILMING AND ARCHIVAL STORAGE SERVICES FACILITY	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *

1.0 PURPOSE

This procedure establishes the requirements for microfilming documents submitted by the Yucca Mountain Project (YMP) Local Records Center (LRC).

2.0 SCOPE

This procedure applies to the handling, microfilming, and storage of YMP documents from the time the document is received from the LRC until the Project Record Center (PRC) determines the final destination of the hard copy documents and the microfilm.

3.0 REFERENCES

- 3.1 DOE/NNWSI Quality Assurance Records Management System (QARMS) Database Operations User's Guide, Section 8.0
- 3.2 DOE/NNWSI Quality Assurance Records Management System (QARMS) Implementing Procedure #3 dated, September 15, 1986
- 3.3 American National Standards Institute (ANSI) PH 4.8
- 3.4 American National Standards Institute/Association for Information and Image Management (ANSI/AIIM) MS-23 "Practice for Operational Procedures/Inspection and Quality Control of First Generation, Silver-Gelatin Microfilm of Documents
- 3.5 YMP-1710, Records Management

4.0 DEFINITIONS

- 4.1 Hard Copy: Any paper, cloth, metal plate, Mylar, or other document which has not been produced or reproduced by the process of photography.
- 4.2 Source Document: Any form intended to be reduced to microfilm for use as reference in PRC operations.
- 4.3 Microform: Any finished product in which microfilm is contained (aperture cards, roll film, microthin jackets, microfiche, diazo duplicates, etc.).
- 4.4 Process: Development of exposed film.

Approved:

* NNWSI-026, Rev. 0

Department Admin/Budget	QA <i>A.R. Jutthala</i>	TPC <i>Joseph C. Colonna</i>
Date <i>Janis D. McLean 7/6/89</i>	Date <i>f COW 7-7-89</i>	Date <i>7/11/89</i>

5.0 RESPONSIBILITIES

- 5.1 The Technical Project Officer (TPO) is responsible for directing proper implementation of this procedure.
- 5.2 The Technical Project (TP) Office shall ensure compliance with this procedure.
- 5.3 The Supervisor, Engineering Records Library (ERL) shall ensure that personnel are familiar with this procedure and utilize it to produce quality microfilm products and to provide temporary records storage of hard copy and storage of the microfilm.

6.0 PROCEDURE

6.1 Receipt of Source Documents

- 6.1.1 Source documents accompanied by a Records Shipment List and diskette are received at the MASSF. The documents are compared with the list to verify that the list correctly identifies all records submitted, and the the quality of each record is adequate for microfilming.
- 6.1.2 In the event that the source documents do not agree with the Records Shipment List, or quality of submitted records is not adequate, the LRC will be notified of the discrepancy and arrangements will made to rectify the situation.
- 6.1.3 The source documents will be retained in boxes until ready for microfilming. Microfilming will be accomplished as soon as possible after receipt and verification of documents.

6.2 Microfilming Procedure

The MASSF will perform all required microfilm services in accordance with ANSI/AIIM microfilm standards.

6.2.1 16mm Microfilm

- 6.2.1.1 Microfilm equipment shall be cleaned each day. A vacuum will be used to remove small particles and dust, all mirrors will be cleaned, and all belts will be inspected for wear and proper alignment.
- 6.2.1.2 The beginning of each roll shall contain a Target Sheet (Attachment 8.1), a Start Sheet/Certificate of Authenticity (Attachment 8.2) and a Reduction Sheet (Attachment 8.3). The end of each roll shall contain an End Sheet (Attachment 8.4) and a Target Sheet.

- 6.2.1.3 Each microfilm image will be inspected for legibility and film quality.
- 6.2.1.4 Errors detected during microfilming will be corrected by filming a microfilm Retake Sheet (Attachment 8.5) and refilming the document. Errors discovered during the visual inspection of the microfilm, that were not detected and corrected during microfilming, will require that the original documents be refilmed and spliced onto the front of the roll. The corrected microfilm shall contain a Correction Notice (Attachment 8.9) Target Sheet, Start Sheet/Certificate of Authenticity, Reduction Sheet, document(s) requiring microfilming, End Sheet, and a Target Sheet.
- 6.2.1.5 All microfilm will be loaded into M cartridges.
- 6.2.2 35mm Microfilm - Aperture Cards
- 6.2.2.1 35mm cameras require normal office cleanliness and occasional cleaning of the lenses as indicated in the equipment manual or by resolution degradation.
- 6.2.2.2 The beginning of each roll shall contain a roll number for identification purposes.
- 6.2.2.3 Aperture cards will be printed according to the system designed by PRC representatives.
- 6.2.2.4 Microfilm will be mounted onto the aperture cards and each frame will be visually inspected for legibility, identification, and proper matching to the aperture card.
- 6.2.2.5 Problems detected during filming or mounting will necessitate refilming.
- 6.2.3 Microfiche
- 6.2.3.1 Microfiche cameras require normal office cleanliness and occasional cleaning of the lenses as indicated in the equipment manual or by the resolution degradation.
- 6.2.3.2 Each microfiche will contain a Reduction sheet and a Target Sheet (Attachment 8.10). The last microfiche of each set will contain an End of File Sheet (Attachment 8.7).

6.2.3.3 The microfiche will be inspected for legibility and overall film quality. Each microimage will be viewed individually to ensure legibility.

6.2.3.4 Errors detected during inspection necessitate processing of a new microfiche.

6.3 Tests Required to Measure the Quality of Microfilm Processing Equipment Function

6.3.1 A Methylene Blue Test for Residual Thiosulfate will be performed and certified weekly in accordance with ANSI PH4.8. The methylene blue method measures the concentration of blue dye that is formed during the analytical procedure. The amount of dye is a function of the amount of residual thiosulfate left on the film. If problems occur with out-of-limits condition, the test will be performed on a daily basis until the condition is corrected.

6.3.2 Resolution measurements are taken, in accordance with ANSI/AIIM MS 23, to determine the ability of the photographic system to record fine detail. A Target Sheet will appear on every roll of film. This Target Sheet will be read, with the use of a microscope, and the results noted during visual inspection of the microfilm.

6.3.3 Densitometric tests are performed in accordance with ANSI/AIIM MS 23, to measure the background density of documents in areas free of information. Each roll of microfilm shall be tested, using a calibrated densitometer, and the results shall be noted during the visual inspection of the microfilm. The contrast and density of all information can be reproduced continuously with such fidelity that its use will not be impaired. The following scale is to be used for guidance:

- a. Background density of microfilm should read 1.0 to 1.2.
- b. High quality documents permit raising density aim up to 1.5.
- c. Originals on dark-colored paper may require background densities to fall below 1.0.

6.4 After microfilming is completed, the MASSF shall:

6.4.1 Input the blip encoded data to the data base.

6.4.2 Prepare diskettes and duplicate microfilm.

6.4.3 Transmit diskettes and duplicate microfilm to the PRC and LRC. The microfilm Transmittal/Acceptance Form (Attachment 8.6) shall be utilized for this purpose.

6.4.4 Update the QARMS Database in accordance with the User's guide.

6.5.4 Store the microfilm in the vault and the hard copy record boxes outside of the vault.

6.5 Rejection of Microfilm or Diskette

6.5.1 Rejection of microfilm or diskette by the PRC or LRC will require that all diskettes and microfilm on the transmittal be returned to the MASSF for confirmation of the reason for rejection.

6.5.2 Corrective action may include re-microfilming of the documents (reference paragraph 6.2), input of corrected blip data and/or preparation of new diskettes and duplicate microfilm (reference paragraph 6.4).

6.6 Records Retrieval Procedure

6.6.1 The QARMS Database provides the records retention index to locate record copies in the archival storage facility.

6.6.2 The archival storage facility is described in Attachment 8.8. Microfilm is stored in a manner that permits authorized personnel to retrieve microfilm records within two working days.

6.6.3 The YMP microfilm records in this facility are not to be considered a working copy, a reference copy, or a reproduction source. A duplicate set of microfilm is maintained for duplication or reproduction by the authorized personnel. The YMP microfilm record copy never leaves the custody of personnel authorized by the YMP to handle it.

6.7 Records Disposition Procedure

6.7.1 The MASSF maintains the microfilm record copy for the DOE/NV (PO).

6.7.2 Formal turnover of the record paper copy to the National Archives and Records Administration, will be accomplished in accordance with DOE instructions.



YMP PROCEDURE

No. YMP-1730

Rev. 0

Page 6 of 21

7.0 DOCUMENTATION

7.1 The following documentation is required of this procedure:

7.1.1 Methylene Blue Test results (Attachment 8.11)

7.1.2 Resolution measurements (Attachment 8.12)

7.1.3 Densitometric test results (Attachment 8.12).

7.1.4 Microfilm/Diskette Transmittal (Attachment 8.6)

7.2 The above records should be transmitted to the LRC in accordance with YMP-1710, Record Management, except that they will be transmitted on a semiannual basis.

8.0 ATTACHMENTS

8.1 Target Sheet/Rotary Camera Test Chart

8.2 Start Sheet/Certificate of Authenticity

8.3 Reduction Sheet

8.4 End Sheet

8.5 Retake Sheet

8.6 Microfilm Transmittal/Acceptance Form

8.7 End of File

8.8 Facility Description

8.9 Correction Notice

8.10 Target Sheet/Planetary Camera

8.11 Methylene Blue Test Report

8.12 Resolution/Densitometer Test Record

ATTACHMENT 8.2
 START SHEET/CERTIFICATE
 OF AUTHENTICITY
 SHEET 1 OF 1

CERTIFICATE OF AUTHENTICITY

START

ROLL NO. _____

THIS IS TO CERTIFY THAT THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM:

STARTING WITH _____

ARE COMPLETE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF:

TYPICAL

AND WERE MICROFILMED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO ESTABLISHED ROUTINE PROGRAM POLICY FOR SYSTEMS UTILIZATION AND OR FOR THE MAINTENANCE AND PRESERVATION OF SUCH RECORDS THROUGH THE STORAGE OF SUCH MICROFILM IN PROTECTED LOCATIONS.

IT IS FURTHER CERTIFIED THAT THE PHOTOGRAPHIC PROCESSES USED FOR MICROFILMING OF THE ABOVE RECORDS WERE ACCOMPLISHED IN A MANNER AND ON MICROFILM WHICH MEETS THE REQUIREMENTS OF 36CFR PART 1230 FOR PERMANENT MICROPHOTOGRAPHIC REPRODUCTIONS.

IT IS FURTHER CERTIFIED THAT ON THE DATE MENTIONED BELOW THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM WERE MADE UNDER MY DIRECTION AND CONTROL.

 DATE MICROFILMED

 AUTHORIZED INDIVIDUAL

 LOCATION

 CAMERA OPERATOR



YMP PROCEDURE

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ATTACHMENT 8.3
REDUCTION SHEET
SHEET 1 OF 1

24X

TYPICAL

ATTACHMENT 8.4
 END SHEET
 SHEET 1 OF 1

CERTIFICATE OF AUTHENTICITY

END

ROLL NO. _____

THIS IS TO CERTIFY THAT THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM:

ENDING WITH _____

ARE COMPLETE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF:

TYPICAL

AND WERE MICROFILMED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO ESTABLISHED ROUTINE PROGRAM POLICY FOR SYSTEMS UTILIZATION AND OR FOR THE MAINTENANCE AND PRESERVATION OF SUCH RECORDS THROUGH THE STORAGE OF SUCH MICROFILM IN PROTECTED LOCATIONS.

IT IS FURTHER CERTIFIED THAT THE PHOTOGRAPHIC PROCESSES USED FOR MICROFILMING OF THE ABOVE RECORDS WERE ACCOMPLISHED IN A MANNER AND ON MICROFILM WHICH MEETS THE REQUIREMENTS OF 36CFR PART 1230 FOR PERMANENT MICROPHOTOGRAPHIC REPRODUCTIONS.

IT IS FURTHER CERTIFIED THAT ON THE DATE MENTIONED BELOW THE MICROPHOTOGRAPHIC IMAGES APPEARING ON THIS ROLL OF MICROFILM WERE MADE UNDER MY DIRECTION AND CONTROL.

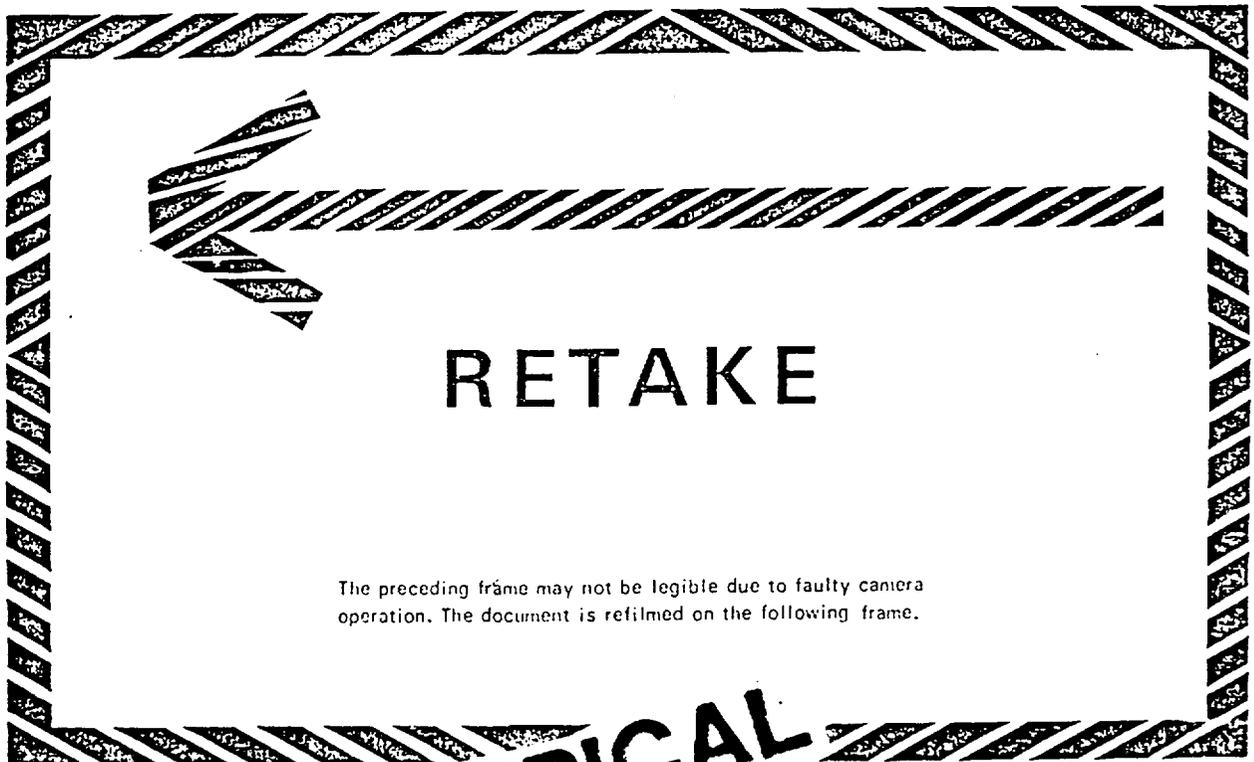
 DATE MICROFILMED

 AUTHORIZED INDIVIDUAL

 LOCATION

 CAMERA OPERATOR

ATTACHMENT 8.5
RETAKE SHEET
SHEET 1 OF 1



TYPICAL

ATTACHMENT 8.6
 MICROFILM TRANSMITTAL/
 ACCEPTANCE FORM
 SHEET 1 OF 1

	MICROFILM TRANSMITTAL	N-QA-037 8/86
Microfilm Transmittal Number _____ Page ____ of ____		
Date _____		
From: MASSF		
To:		
TRANSMITTAL CONTENTS		
<u>FILM FORMAT</u> Cartridge Microfiche Aperture Cards QARMS Diskette	<u>MICROFILM IDENTIFICATION</u>	
<div style="font-size: 4em; opacity: 0.5; transform: rotate(-15deg); position: absolute; top: 50%; left: 50%; pointer-events: none;">TYPICAL</div> Microfilm Acceptance Certificate		
<input type="checkbox"/> I have reviewed the microfilm listed above and accept the microfilm images as true reproduction of the QA records this organization transmitted to the MASSF for microfilming. My signature releases the hard copy records for further appropriate disposition by the MASSF.		
<input type="checkbox"/> I have reviewed the microfilm listed above and the following discrepancies are noted:		
Name	Title	Date
cc: NNWSI Project Records Administrator NNWSI Project Records Coordinator		

ATTACHMENT 8.7
END OF FILE
SHEET 1 OF 1

**END
OF
TYPICAL
FILE**

ATTACHMENT 8.8
FACILITY DESCRIPTION
SHEET 1 OF 4MICROFILMING AND ARCHIVAL STORAGE FACILITY (MASSF)/ENGINEERING
RECORDS LIBRARY (ERL), BUILDING 310

I. FACILITY DESCRIPTION - NQA-1 Requirements

A. General Description

1. The building is an unfenced, one-story, basementless, concrete block-type building (floor plan attached).
2. The area having an archival interest is a fire-resistant file room with a metal vault door equipped with a built-in three-position combination lock.
3. The file room encompasses 450 square feet of floor space and the walls of the file room are constructed of 8-inch concrete. All wall penetrations of the file room are of minimum size and located on the inside walls. They are to accommodate fire alarm circuits, Halon 1301 discharge nozzles, and ventilation ducts with fire dampers and security screens. All wall penetrations are packed with lead wool or grouted with cement.
4. Fire protection is afforded by an automatic Halon 1301 system and a wet pipe sprinkler system.

B. Roof

The roof of the building is open web trusses and steel decking on steel and concrete block walls. The openings in the roof are to accommodate the air ventilation units. Their size, weight, and method of installation are such that they provide protection commensurate with that provided by the roof itself.

C. Floor

The floor of the building is a concrete slab.

D. Internal Construction

Internal walls are of steel stud and drywall construction.

ATTACHMENT 8.8
FACILITY DESCRIPTION
SHEET 2 OF 4

E. Entrances

1. There are two perimeter entrances to the building.
2. The south perimeter entrance is a double glass door equipped with a "Best" cored lock.
3. The north perimeter entrance is a metal-clad door equipped with a "Best" cored lock and panic hardware.

F. Windows

There are no windows in the building.

II. PHYSICAL SECURITY

A. Alarm System

The facility is protected by a fire alarm system but an intrusion alarm system is not considered necessary.

B. Lighting

1. Exterior

Exterior lighting is furnished by a standard street lamp in the surrounding area and lights over the front and rear doors.

2. Interior

There is protective lighting within the building.

3. Emergency Lighting

Emergency lighting is provided by two wet cell battery, 110-volt emergency lamps, which permit safe movement of personnel in the event of line power failure.

III. SYSTEM GOVERNING ACCESS TO THE FACILITY - VANDALISM & LARCENY PROTECTION

A. Guard Patrol

The entrances are locked at the close of business daily and the building and vault are checked by the contract guard force (WSI) charged with the physical security of the NTS. Persons remaining in the building after working hours notify WSI when they leave the building (phone: 5-6255).

ATTACHMENT 8.8
FACILITY DESCRIPTION
SHEET 3 OF 4

B. Watch Clock (Detex) Stations

Detex Watch Clock Stations are not utilized within the facility. The guard force uses a log system formoting date, location, and time of repository checks.

C. Key Control

Keys to the ERL are controlled by the NTS Security Representative, who maintains a list of all keys and persons to whom assigned.

IV. SYSTEM PROVIDING ACCESS TO FACILITY - AUDIT/INSPECTION

A. Personnel Access Control

1. The ERL supervisor and employees exercise access control by checking for proper clearance and "need to know" of personnel requiring access to the area and information.

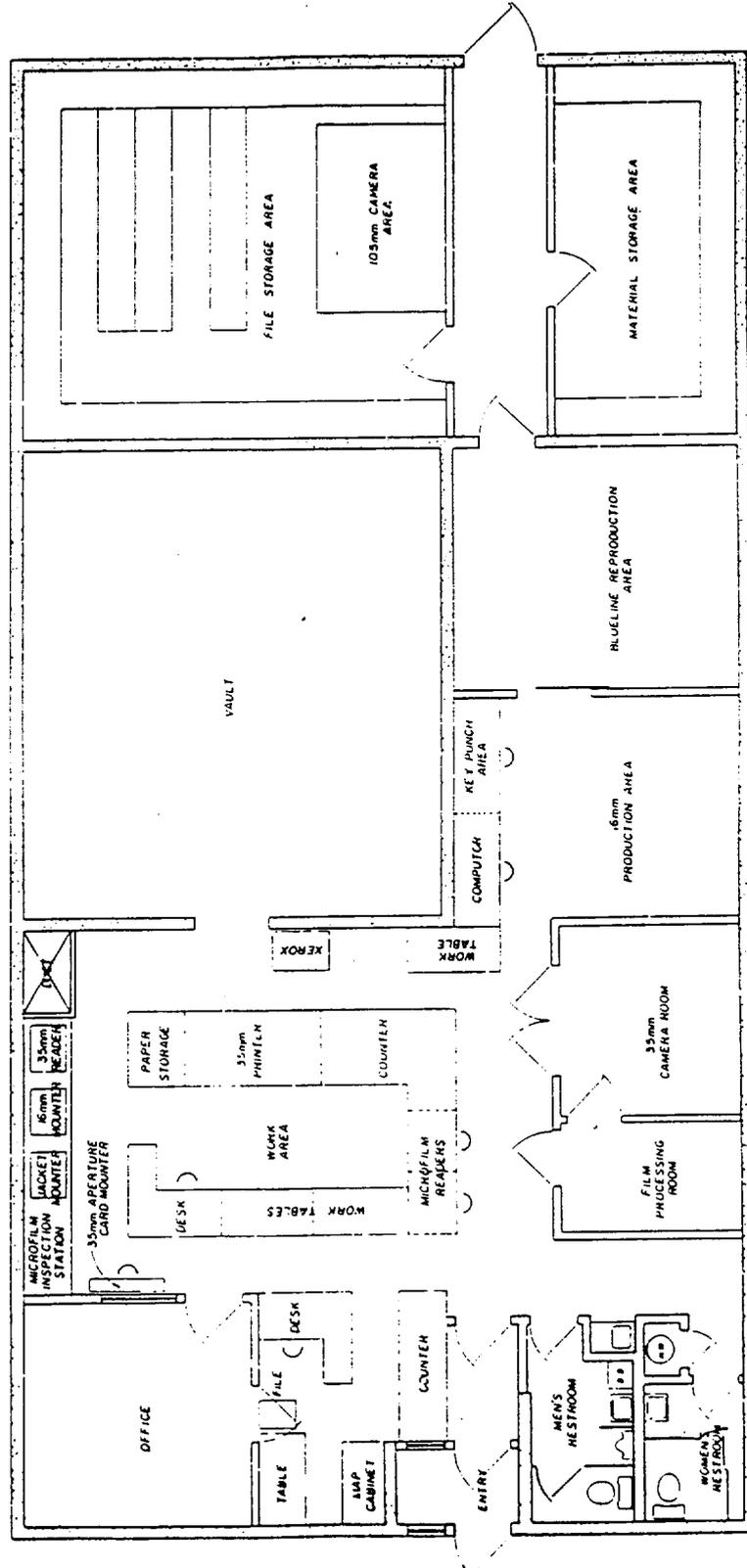
V. PERSONS AUTHORIZED TO REQUEST/RELEASE COPIES OF RECORDS

This responsibility has been assigned to the Project Records Center (PRC). No copies or information disclosure will be allowed without authorization from the PRC.

VI. DESCRIPTION OF MICROFILM FILING SYSTEM

Rolls of microfilm, aperture cards and microfiche are filed in microfilm file cabinets in the vault. Each participating organization has been assigned an individual drawer in the same lockable filing cabinet. Each type of microform is filed independently in numerical order.

ATTACHMENT 8.8
FACILITY DESCRIPTION
SHEET 4 OF 4



EXISTING FLOOR PLAN
SCALE 1/4" = 1'-0"

ATTACHMENT 8.9
CORRECTION NOTICE
SHEET 1 OF 1

CORRECTION NOTICE

THE FOLLOWING DOCUMENTS WERE
MICROFILMED FOR THE EXPRESS PURPOSE
OF CORRECTING ERRORS MADE
DURING INITIAL FILMING.

ALL IMAGES **TYPICAL** FOLLOWING THIS FRAME
ARE ACCURATE REPRODUCTIONS OF THE
ORIGINAL RECORDS AND WERE
MICROFILMED IN ACCORDANCE WITH
APPROVED AIIM/ANSI REQUIREMENTS.

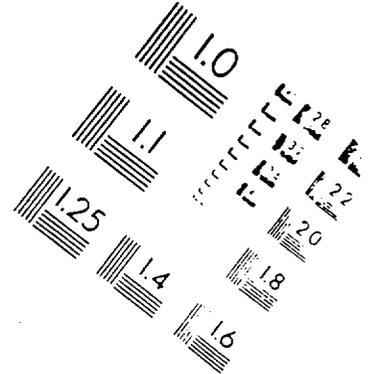
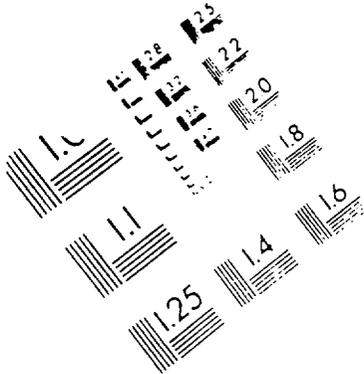


ENGINEERING RECORDS LIBRARY

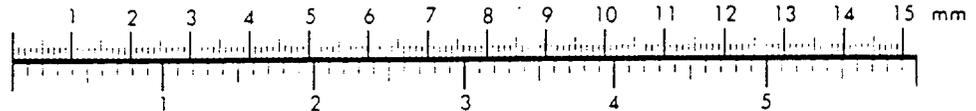
ATTACHMENT 8.10
TARGET SHEET/
PLANETARY CAMERA
SHEET 1 OF 1



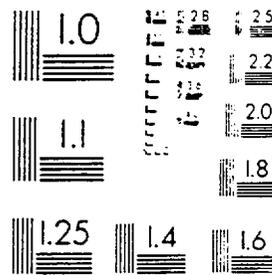
MS303-1980



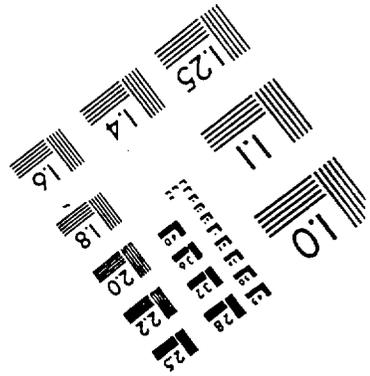
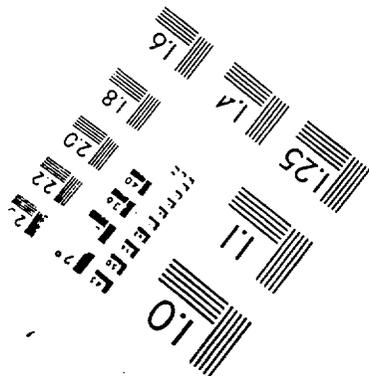
Centimeter



Inches



TYPICAL



ATTACHMENT 8.11
METHYLENE BLUE
TEST REPORT
SHEET 1 OF 1

CERTIFICATE OF FINDINGS

THE METHYLENE BLUE SILVER DENSITOMETRIC* TEST WAS PERFORMED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE STD. PH4.8 - 1985 THE RESIDUAL THIOSULFATE CONTENT EQUIVALENT* WAS MEASURED TO BE Less than 0.1 MICROGRAMS PER SQUARE CENTIMETER OF FILM

*Film whose thiosulfate content (or equivalent) exceeds $0.7\mu\text{g}/\text{cm}^2$ is not considered by ANSI to be of archival quality. * PH4.8-1985 states "The silver densitometric method...is not sensitive...below about $0.9\mu\text{g}/\text{cm}^2$ "*

FILM IDENTIFICATION: HOLMES & NARVER, INC. 16mm Microfilm identified as ROLL #0009 said to be processed on 7/17/87.

DATE CERTIFIED 20 JULY 1987 BY _____

MICROD INTERNATIONAL
15000 COUNTY ROAD FIVE
BURNSVILLE, MN 55337
(612) 435 - 7667

© Copyright by Neoteric Arts, Inc. 1980

TYPICAL

 Holmes & Narver ENERGY SUPPORT DIVISION	YMP INTERIM CHANGE NOTICE			No. ICN 1
				Page 1 of 1
Procedure Title AUDITS	No. YMP-1810	Rev. 0	Date 09/07/89	Effective Date 09/15/89
Description of change: <p>Paragraph 5.1: Change "Chief, Quality Assurance (CQA)" to "Supervisor, Quality Assurance (SQA)".</p> <p>Paragraph 5.2: Change "CQA" to "Manager, Quality Assurance (MQA)".</p> <p>Paragraphs 6.1.1, 6.1.4, 6.2, 6.3.5, 6.5.7.5, and 6.6.2: Change "CQA" to "SQA".</p> <p>Paragraph 6.6.3: Delete and substitute the following:</p> <p style="padding-left: 40px;">6.6.3 Minimum distribution of audit reports is as follows:</p> <p style="padding-left: 80px;">6.6.3.1 Manager, Nevada Operations.</p> <p style="padding-left: 80px;">6.6.3.2 Manager, Quality Assurance.</p> <p style="padding-left: 80px;">6.6.3.3 Technical Project Officer.</p> <p style="padding-left: 80px;">6.6.3.4 Responsible management of audited organization.</p> <p style="padding-left: 80px;">6.6.3.5 Audit team members.</p> <p style="padding-left: 80px;">6.6.3.6 Chief Auditor, LVO.</p> <p style="padding-left: 80px;">6.6.3.7 QA Audit File.</p> <p style="padding-left: 80px;">6.6.3.8 Project File.</p> <p style="padding-left: 80px;">6.6.3.9 Local Records Center.</p>				
Approved:				
Department Quality Assurance <i>[Signature]</i> Date 9-5-89	QA <i>[Signature]</i> Date 9-5-89	TPC <i>[Signature]</i> Date 9/5/89		

 Holmes & Narver ENERGY SUPPORT DIVISION		YUCCA MOUNTAIN PROJECT PROCEDURE			No. YMP-1810
					Page 1 of 13
Title AUDITS	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *	
<p>1.0 PURPOSE</p> <p>This procedure established the requirements for planning, scheduling, performing, documenting, and tracking Quality Assurance (QA) audit activities for the purpose of evaluating the adequacy, implementation, and/or effectiveness of the Holmes & Narver, Inc./Energy Support Division (H&N/ESD), Yucca Mountain Project (YMP) Quality Assurance Program Plan (QAPP).</p> <p>2.0 SCOPE</p> <p>This procedure applies to the conduct of QA audits of all quality-affecting activities applicable to the project.</p> <p>3.0 REFERENCES</p> <p>3.1 YMP-210, Qualifications of Audit Personnel</p> <p>3.2 YMP-1510, Nonconformance Control</p> <p>3.3 YMP-1610, Corrective Action</p> <p>3.4 YMP-130, Stop Work Order</p> <p>3.5 H&N/ESD-1706, Notification, Investigation, and Reporting of Occurrences</p> <p>3.6 YMP-1710, Records Management</p> <p>3.7 DOE Order 5000.3, Unusual Occurrence Reporting System</p> <p>4.0 DEFINITIONS</p> <p>4.1 Auditor: A qualified individual who performs any portion of an audit.</p> <p>4.2 Corrective Action Report (CAR): A preformatted form used to document nonhardware-related deficiencies; remedial, investigative, and corrective actions; and the evaluation and verification of these actions.</p> <p>4.3 Item: Any level of assembly, including structure, system, subsystem, subassembly, component, part, or material.</p>					
Approved:				* NNWSI-031, Rev. 0 ICN-001, -002, & -003	
Department QA Date A.R. Tuttle 7-7-89	QA Date A.R. Tuttle COW 7-7-89	TPO Date Joseph C. Calomine 7/11/89			

- 4.4 Lead Auditor: A qualified and certified individual who organizes and directs the audit, prepares the audit report, and evaluates the corrective action.
- 4.5 Nonconformance: A deficiency in characteristic, documentation, or procedure which renders the quality of an item unacceptable or indeterminate.
- 4.6 Observation: The identification of a weakness in the QA program that, if left uncorrected, could result in a deficiency.

5.0 RESPONSIBILITIES

- 5.1 The Technical Project Officer (TPO) and Chief, Quality Assurance (CQA), are responsible for directing and implementing the requirements of this procedure.
- 5.2 The CQA is responsible for certifying lead auditors.
- 5.3 Management of the audited organization shall provide written responses to the CARs and observations as directed by the audit report.

6.0 PROCEDURE

6.1 Audit Schedules

- 6.1.1 The CQA shall establish an audit schedule (Attachment 8.1). The schedule shall include dates of the audit, the activities to be audited, and the requirements to which the activities are to be audited.
- 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. All applicable elements shall be audited at least annually or once during the life of the activity, whichever is shorter.
- 6.1.3 The audit schedule shall be evaluated at least twice per year and revised as necessary to provide coverage and coordination with ongoing QA program activities. The evaluation shall take into account, as applicable, the results of previous audits, the nature and frequency of identified deficiencies, and any significant changes in personnel, organization, or in the QA program.
- 6.1.4 External audits of activities whose duration is less than four months need not be audited unless considered necessary due to the complexity or importance of the activity. However, justification for not performing the audit shall be documented and approved by the CQA prior to implementation of the activity. A copy of the documented approval shall be provided to the YMP Quality Assurance Manager.

- 6.1.5 The approved audit schedule and revisions thereto shall be submitted to the organizations scheduled to be audited and to the Science Applications, International Corporation Technical & Management Support Services (SAIC/T&MSS) Project QA Department (QA Verification Division Manager).
- 6.2 The audit personnel selected by the COA shall be independent of any direct responsibility for the performance of any activity they audit. Audit personnel shall be qualified and the lead auditor qualified and certified in accordance with the requirements of YMP-210, Qualifications of Audit Personnel.
- 6.3 Audit Planning
- The lead auditor is responsible for planning the audit and the initiation of the Audit Checklist Cover Sheet (Attachment 8.2). Planning shall include:
- 6.3.1 Review of applicable documents (e.g., QAPP, procedures, codes, standards, drawings, and previous audits and surveillances).
- 6.3.2 Selection of the activities to be audited.
- 6.3.3 Orientation and/or training of audit team members, as appropriate.
- 6.3.4 Auditor assignments.
- 6.3.5 Preparation of a letter or memo notifying the organization to be audited of the scope of the audit, the dates of the audit, and the team members. External audit notification shall be by letter signed by the Technical Project Officer (TPO). Internal audit notification shall be by memo signed by the COA. The notification shall be transmitted at least two weeks prior to the audit.
- 6.4 Audit Team Preparation
- The lead auditor shall ensure that:
- 6.4.1 The audit team is prepared and each team member is familiar with the scope of the audit and is cognizant of the specific activities he/she is to audit.
- 6.4.2 Each auditor shall prepare an Audit Checklist (Attachment 8.3), which will thoroughly examine the activities to be audited. The checklist shall be reviewed by the lead auditor. The checklist shall be based upon applicable:
- 6.4.2.1 Sections of the QAPP

6.4.2.2 Implementing procedures, specifications, drawings, codes, and standards

6.4.2.3 Problems identified by previous audits and/or surveillances

6.4.2.4 Contract requirements

6.5 Audit Performance

6.5.1 Prior to commencing the audit, the lead auditor shall conduct a brief preaudit conference with appropriate management of the audited organization to introduce team members, arrange to meet the counterparts of the audited organization, explain the plan and scope of the audit, discuss the sequence of the audit, establish channels of communication, and schedule an estimated date and time for the postaudit conference.

6.5.2 The previously prepared checklist shall be used by the auditors as the basis for conducting the audit. The checklist is not intended to limit the scope of the audit. Additional items may be added if warranted.

6.5.3 Auditors shall identify the personnel contacted during the audit on Attachment 8.4.

6.5.4 When an item on the checklist cannot be audited, justification for its omission shall be recorded in the objective evidence section of the checklist.

6.5.5 Auditors shall examine objective evidence in sufficient depth to determine if the activity being audited is being conducted satisfactorily. The pertinent objective evidence reviewed shall be recorded in the objective evidence section on the checklist. The Checklist Continuation Page (Attachment 8.5) shall be utilized when additional space is needed to record the objective evidence or if additional items are added.

6.5.6 Auditors shall record the results of their review of each item audited, "S" satisfactory, "U" Unsatisfactory, or "N" Not audited, in the Result section on the checklist. If the result was unsatisfactory, "U," the CAR or NCR issued for that deficiency shall also be identified (U/CAR-87-xxx). If the result was satisfactory, "S", and an observation made, the result should be identified "S/0."

6.5.7 When conditions adverse to quality are identified, the auditor shall notify the audited organization and the lead auditor, and:

- 6.5.7.1 If the condition adverse to quality is a hardware deficiency, ensure that a Nonconformance Report is initiated in accordance with YMP-1510, Nonconformance Control, or the audited organization's Nonconformance Program.
- 6.5.7.2 If the condition adverse to quality is a programmatic or procedural deficiency, a CAR shall be initiated in accordance with YMP-1610, Corrective Action.
- 6.5.7.3 If the condition is not a deficiency but if left uncorrected could result in a deficiency, it shall be recorded as an observation in the audit report.
- 6.5.7.4 If the conditions identified in paragraph 6.5.7.2 are corrected during the audit and the auditor is satisfied that appropriate corrective action has been taken by the audited organization, the CAR need not be issued. However, the condition and corrective action taken shall be duly noted on the checklist and in the audit report (e.g., corrected on-the-spot).
- 6.5.7.5 When determined by the auditors and CQA that a condition adverse to quality is of such significance as to warrant stop work action, a Stop Work Order shall be initiated in accordance with YMP-130, Stop Work Order.

6.5.8 Postaudit Conference

- 6.5.8.1 The audit team should meet to review the results of the audit; to discuss the deficiencies, observations, and recommendations; to improve the effectiveness of the audited organization or audit process, prior to conducting the postaudit conference with the audited organization.
- 6.5.8.2 The lead auditor shall chair the postaudit conference which is intended to provide the audited organization with a verbal summary of the results of the audit, to discuss and obtain an understanding of the deficiencies and observations identified, to identify the way in which the findings will be officially transmitted (draft CARs/NCRs may be provided), and to identify when the audit report will be issued.

6.6 Audit Report

- 6.6.1 The lead auditor shall prepare and sign an audit report utilizing the standard format provided by Attachment 8.6.

6.6.2 The lead auditor shall prepare a transmittal memo for the COA for the internal audits or a letter for the TPO for external audits. The audit report shall be issued within 30 days of the postaudit conference.

6.6.2.1 The transmittal letter or memo shall require that the audited organization provide written responses to the CARs as required by YMP-1610, Corrective Action, and to the observations requiring written responses within 30 days of the issue date of the audit report.

6.6.3 The minimum distribution of audit reports is as follows:

6.6.3.1 Manager, Nevada Operations

6.6.3.2 YMP-TPO

6.6.3.3 Chief Auditor, LVO

6.6.3.4 Responsible manager of the audited organization

6.6.3.5 QA Audit File

6.6.3.6 YMP Project File

6.6.3.7 Audit team members

6.7 Audit Response

6.7.1 Management of the audit organization shall investigate the CARs and observations, schedule corrective action including measures to prevent recurrence, where appropriate, and shall notify the auditing organization, in writing, of the actions taken or planned within 30 calendar days, unless otherwise specified in the audit report.

6.7.2 The lead auditor shall evaluate and track the response, ensure that follow-up action, including verification of corrective action, has been performed and that any adverse trends are identified.

6.7.2.1 CARs issued as a result of the audit shall be evaluated and processed as prescribed by YMP-1610, Corrective Action.

6.7.2.2 Observation responses shall be evaluated. The auditor or lead auditor, as applicable, shall annotate his/her acceptance on the audit record copy of the response.

6.7.2.3 The lead auditor shall evaluate the results of the audit to determine if any condition warrants further processing as an unusual occurrence, DOE/NV Order 5000.3, as required by H&N/ESD-1706, Notification, Investigation, and Reporting of Occurrences.

6.8 Audit Closure

When all the CARs have been closed and the responses to the observations have been accepted, the lead auditor shall prepare an audit closure letter or memo, as appropriate. The approval and distribution of the closure memo or letter shall be the same as required for the distribution of the audit report.

7.0 DOCUMENTATION

7.1 The following records shall be maintained for audits:

7.1.1 Audit Schedules and Revisions

7.1.2 Audit Notification

7.1.3 Audit Checklists

7.1.4 Audit Report

7.1.5 Audit Responses

7.1.6 Audit Closure Notification

7.2 The records identified in paragraph 7.1 shall be processed in accordance with YMP-1710, Records Management.

8.0 ATTACHMENTS

8.1 Audit Schedule

8.2 Audit Checklist Cover Sheet

8.3 Checklist

8.4 Personnel Contacted

8.5 Checklist Continuation Page

8.6 Audit Report Format

ATTACHMENT 8.1
AUDIT SCHEDULE
PAGE 1 OF 1

HOLMES & MARYER, INC.
NEVADA OPERATIONS
CY87 QUALITY ASSURANCE PROGRAM AUDITS
EFFECTIVE 08/31/87

SECTION	AUDIT #	AUDITORS	SCHEDULE	ACTUAL	TOTAL FINDINGS	FINDINGS REMAIN OPEN	AUDIT CLOSED
CABLE	87-01	VLA/ROB	2/10-12/87	2/11-13/87	2	0	4/16/87
N.N.W.S.I. (Criterion 1-3, 5-6, 12, 16-17)	87-02	RPS	3/16-20/87	3/16-20/87	7	0	8/21/87
PROJECT SERVICES/ ENGINEERING SERVICES	87-03	LNT/KGS/JMP	4/21-23/87	4/21-23/87	10	8	
V.O.R.R.P.	87-04	COX/KDW	5/4-7/87	5/	13	5	
TTR (RANGE)	87-05	JPD/DMM	5/12-19/87	/87	7	5	
AREA 2	87-06	VLA/DRH/JD	6/23-25/87	6/	1	0	8/18/87
HONOLULU/JOHNSTON ATOLL	87-07	COX/VLA/KGS	7/1	-17/87	(Report publication scheduled for Sept. 1)		
* TTR (LYSD)	87-08	JPD/DMM/JAT		8/10-13/87	(Report publication scheduled for Sept. 18)		
FIELD SURVEYS	87-09	LNT		8/23-28/87	(Report publication scheduled for Oct. 2)		
* SAFETY		JPD		November 1987			
* N.N.W.S.I. (Criterion 4, 7, 9-10, 13-15, 17)		RPS/L		October 1987			
AREA 6		Tbd		October 1987			
SYSTEMS		Tbd		October 1987			
CONSTRUCTION SERVICES/ MATERIALS TESTING LAB/ NONDESTRUCTIVE TESTING		Tbd		November 1987			

TYPICAL

Calendar for 1987

<p>JANUARY</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>	<p>FEBRUARY</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28</p>	<p>MARCH</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>	<p>APRIL</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p>	<p>MAY</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>	<p>JUNE</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p>
<p>JULY</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>	<p>AUGUST</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>	<p>SEPTEMBER</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p>	<p>OCTOBER</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>	<p>NOVEMBER</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p>	<p>DECEMBER</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>

LEGEND

VLA—V. L. ANGELL
 JPD—J. P. DE MARRE
 DRH—E. R. MOUSER
 RPS—R. P. SABOL
 LNT—L. N. TRUSSELL
 COX—C. O. WRIGHT
 Tbd—to be determined

* CHANGES TO SCHEDULE
 SINCE LAST ISSUE
 FOR INFORMATION ONLY
 QA APPROVAL:
 FOR INFORMATION ONLY



YMP PROCEDURE

No.
YMP-1810

Rev.
0

Page
9 of 13

ATTACHMENT 8.2
AUDIT CHECKLIST
COVER SHEET
PAGE 1 OF 1

HOLMES & NARVER, INC. AUDIT CHECKLIST COVERSHEET

AUDIT No. _____

PAGE 1 OF _____

AUDIT ACTIVITY _____ DATE(S) SCHEDULED _____

AUDITED ORGANIZATION _____ PERFORMED _____

AUDIT TEAM _____

PURPOSE/SCOPE _____

TYPICAL

PREVIEWS OF PREVIOUS AUDITS/SURVEILLANCES/CONCERNS _____

PREPARATION OF CHECKLIST
REVIEWED BY _____
LEAD AUDITOR _____ DATE _____

COMPLETION OF AUDIT
REVIEWED BY _____
LEAD AUDITOR _____ DATE _____

ESD-QA-4



YMP PROCEDURE

No. YMP-1810

Rev. 0

Page 12 of 13

ATTACHMENT 8.5
CHECKLIST
CONTINUATION PAGE
PAGE 1 OF 1

HOLMES & NARVER, INC.
QUALITY ASSURANCE
CHECKLIST CONTINUATION PAGE

PAGE _____ OF _____

REPORT NO: _____

TYPICAL

F50 0A 1

ATTACHMENT 8.6
AUDIT REPORT FORMAT
PAGE 1 OF 1

AUDIT REPORT

AUDIT NUMBER:

AUDIT DATES: (Month, Day(s), Year)

AUDITED ORGANIZATION:

AUDIT TEAM:

Department

Name: Lead Auditor

Name: Auditor

Name: Auditor

Lead Auditor (signature)_____
Date

PURPOSE/SCOPE OF THE AUDIT

(Identify the purpose and scope of the audit.)

AUDIT SUMMARY

(Provide a summary of the audit and an evaluation of the effectiveness of implementation of the QAPP requirements.)

DEFICIENCIES

1. (Provide a brief description of each deficiency and identify the CAR or NCR issued to cover the specific deficiency.)
CAR XXX-XXX issued.
2. (In addition to 1. above, identify those deficiencies corrected during the audit.)
Corrected during the audit.
3. _____

OBSERVATIONS

Provide a brief description of each observation and identify if a written response is required.

A response to this observation is required. (Or no response required)

RECOMMENDATIONS

Identify any recommendations made to improve the implementation of the program or policies of the audited organization.

ATTACHMENTS

Personnel Contacted
CARsNWS150(2):jem
10/13/87

Page 1 of 1

 Holmes & Narver ENERGY SUPPORT DIVISION		YMP INTERIM CHANGE NOTICE			No. ICN 1
					Page 1 of 1
Procedure Title SURVEILLANCE ACTIVITIES	No. YMP-1820	Rev. 0	Date 09/07/89	Effective Date 09/15/89	
Description of change: <p>Paragraph 5.1: Change "Chief, Quality Assurance (CQA)" to "Supervisor, Quality Assurance (SQA)".</p> <p>Paragraph 6.3.3: Delete and substitute the following:</p> <p>6.3.3 Minimum distribution of Surveillance Reports is as follows:</p> <p>6.3.3.1 Manager, Nevada Operations.</p> <p>6.3.3.2 Manager, Quality Assurance.</p> <p>6.3.3.3 Technical Project Officer.</p> <p>6.3.3.4 Responsible management of surveilled organization.</p> <p>6.3.3.5 QA surveillance file.</p> <p>6.3.3.6 Local Records Center.</p> <p>6.3.3.7 Project File.</p> <p>Attachment 8.3, line (10): Change "CQA" to "SQA".</p> <p>Attachment 8.3, Signature Block (10): Change "Chief, Quality Assurance" to "Supervisor, Quality Assurance".</p>					
Approved:					
Department Quality Assurance <i>[Signature]</i> Date 9-5-89		QA <i>[Signature]</i> Date 9-5-89		TPO <i>[Signature]</i> Date 9/5/89	

 Holmes & Narver ENERGY SUPPORT DIVISION	YUCCA MOUNTAIN PROJECT PROCEDURE			No. YMP-1820
				Page 1 of 7
Title SURVEILLANCE ACTIVITIES	Rev. 0	Date 6/30/89	Effective Date 7/31/89	Supersedes *

1.0 PURPOSE

This procedure establishes the requirements for planning, conducting, and documenting the results of the surveillance of specific items or activities to verify conformance to specified requirements.

2.0 SCOPE

Surveillances are intended to supplement the Audit program and may be conducted on any quality-affecting item or activity pertinent to the Holmes & Narver, Inc., Energy Support Division (H&N/ESD), Yucca Mountain Project (YMP).

3.0 REFERENCES

- 3.1 YMP-230, Indoctrination, Training, Certification, and Qualification
- 3.2 YMP-1510, Nonconformance Control
- 3.3 YMP-1610, Corrective Action
- 3.4 H&N/ESD-1706, Notification, Investigation, and Reporting of Occurrences
- 3.5 YMP-1710, Records Management

4.0 DEFINITIONS

- 4.1 Corrective Action Report (CAR): A preformatted form used to document nonhardware-related deficiencies; remedial, investigative, and corrective actions; and the evaluation and verification of these actions.
- 4.2 Item: Any level of assembly, including structure, system, subsystem, subassembly, component, part, or material.
- 4.3 Nonconformance: A deficiency in characteristic, documentation, or procedure which renders the quality of an item unacceptable or indeterminate.
- 4.4 Observation: The identification of weakness in the Quality Assurance program which, if left uncorrected, could result in a deficiency.

Approved:

* NNWSI-033, Rev. 0
ICN-001 & -002

Department QA <i>A.R. Jutthell</i>	QA <i>A.R. Jutthell</i>	TPO <i>Jay C. Calver</i>
Date <i>7-7-89</i>	Date <i>7-7-89</i>	Date <i>7/11/89</i>

4.5 Surveillance: A process of monitoring or observing an item or activity to verify conformance to specified requirements.

5.0 RESPONSIBILITIES

5.1 The Technical Project Officer (TPO) and Chief, Quality Assurance (COA), are responsible for directing and implementing the requirements of this procedure.

5.2 Management of the surveilled organizations shall provide written response to the CAR and observations as directed by the Surveillance Report.

6.0 PROCEDURE

6.1 Planning

6.1.1 Surveillances may be scheduled or implemented on a random basis. The selection of items or activities to be surveilled shall be based upon relative impact or importance to the project.

6.1.2 Whenever practical, a planning document (checklist, Attachments 8.1 and 8.2, or another suitable document) shall be prepared based upon applicable sections of the Quality Assurance Program Plan, procedures, drawings, specifications, etc., which will thoroughly examine the items or activity to be surveilled. The planning document is not intended to restrict the individual or the scope of the surveillance, and it may be amended or revised as conditions warrant.

6.1.3 Surveillance personnel shall be qualified as prescribed by YMP-230, Indoctrination, Training, Certification, and Qualification.

6.1.4 Surveillance personnel shall be independent of any direct responsibility for the item or activity they surveil.

6.2 Surveillance Performance

6.2.1 The individual conducting the surveillance shall examine objective evidence in sufficient depth to determine if the item or activity surveilled meets specified requirements. The characteristics, methods, acceptance criteria, and objective evidence reviewed shall be recorded on the planning document or the Surveillance Report (Attachment 8.3).

6.2.2 The results of the surveillance shall be recorded on the planning document or the Surveillance Report. "S" shall be used for Satisfactory, "U" for Unsatisfactory, and "N" for Not Surveilled.

- 6.2.2.1 If the results of the surveillance are unsatisfactory, the CAR or Nonconformance Report (NCR) issued shall also be identified (e.g., U/CAR-87-S-XX).
- 6.2.2.2 If an item was not surveilled, justification for its omission shall be recorded on the planning document.
- 6.2.3 When conditions adverse to quality are identified, the individual or organization responsible for the item or activity being surveilled shall be notified, and:
- 6.2.3.1 If the condition adverse to quality is a hardware-related deficiency, an NCR shall be initiated in accordance with YMP-1510, Nonconformance Control.
- 6.2.3.2 If the condition adverse to quality is programmatic or is a procedural violation, a CAR shall be initiated in accordance with YMP-1610, Corrective Action.
- 6.2.3.3 If the condition is not a deficiency but if left uncorrected could result in a deficiency, it shall be identified to the organization as an observation.
- 6.2.3.4 If identified conditions are corrected to the satisfaction of the individual conducting the surveillance during the surveillance, the CAR or observation need not be issued. However, the condition and corrective action taken shall be duly noted.
- 6.3 Post-surveillance Activities
- 6.3.1 A Surveillance Report (Attachment 8.3) shall be prepared.
- 6.3.2 A memo noting the results of the surveillance and any deficiencies on observations shall be transmitted to appropriate management of the organization surveilled. If any deficiencies or observations are identified, the transmittal notification shall request written responses within 30 days unless otherwise specified.
- 6.3.3 Minimum distribution of the Surveillance Report is as follows:
- 6.3.3.1 Manager, Nevada Operations
- 6.3.3.2 YMP-TPO
- 6.3.3.3 Responsible management of the surveilled organization

6.3.3.4 QA Surveillance File

6.3.3.5 YMP Project File

6.4 Surveillance Response Evaluation

6.4.1 CARs issued as a result of the surveillance will be processed and evaluated as prescribed by YMP-1610, Corrective Action.

6.4.2 NCRs issued as a result of the surveillance will be processed and evaluated as prescribed by YMP-1510, Nonconformance Control.

6.4.3 Observations identified as a result of the surveillance, which require written responses, shall be evaluated and accepted by the individual who conducted the surveillance. Acceptance shall be annotated on the record copy of the response.

6.4.4 All deficiencies identified shall be evaluated to determine if any condition warrants further processing as an unusual occurrence, DOE/NV Order 5000.3, as required by H&N/ESD-1706, Notification, Investigation, and Reporting of Occurrences.

6.4.5 The surveillance shall be considered closed when the memo (paragraph 6.3.2) identifying the results has been issued to the organization surveilled. Resulting CARs, NCRs, and observations shall be tracked.

7.0 DOCUMENTATION

7.1 The following records shall be maintained for surveillances:

7.1.1 Surveillance Planning Document

7.1.2 Surveillance Reports

7.1.3 Surveillance Responses

7.1.4 Transmittal Notices

7.2 The records identified in paragraph 7.1 shall be processed in accordance with YMP-1710, Records Management.

8.0 ATTACHMENTS

8.1 Checklist

8.2 Checklist Continuation Page

8.3 Quality Assurance Surveillance Report



YMP PROCEDURE

No.
YMP- 1820

Rev.
0

Page
6 of 7

ATTACHMENT 8.2
CHECKLIST
CONTINUATION PAGE
PAGE 1 OF 1

HOLMES & NARVER, INC.
QUALITY ASSURANCE
CHECKLIST CONTINUATION PAGE

REPORT NO: _____
PAGE _____ OF _____

TYPICAL

150 04 1

ATTACHMENT 8.3
 QUALITY ASSURANCE
 SURVEILLANCE REPORT
 PAGE 1 OF 1

HOLMES & NARVER, INC.
QUALITY ASSURANCE SURVEILLANCE REPORT

REPORT NO.: S (1) PAGE _____ OF _____

DATE STARTED _____ (2) SURVEILLANCE ACTIVITY _____ (4)

DATE COMPLETED _____ (3) ORGANIZATION SURVEILLED _____ (5)

SURVEILLANCE DETAILS _____ (6)

(1) Next sequential number from Surveillance Control Log (Year-S-XXXX) _____

(2) Self explanatory _____

(3) Self explanatory _____

(4) Brief description of the activity surveilled (e.g., Nonconformance Control) _____

(5) Self explanatory _____

(6) a. Personnel contacted _____

b. Brief statement regarding overall results of the surveillance _____

c. Brief description of the specific attributes/results of the item/
 activity surveilled _____

d. Summary of condition(s) requiring responses from the surveilled
 organization _____

(7) Circle the appropriate results _____

(8) Identify any CAR/NCR issued _____

Note: Surveillance report should not be closed until the CAR/NCR are issued
 for the deficiencies and responses to observation, if any, are reviewed and
 accepted. _____

(9) Self explanatory _____

(10) Self explanatory--Signature signifies CQA review/acceptance of report and
 action taken. _____

TYPICAL

RESULTS: SAT/UNSAT (7) CLOSED BY: CAR/NCR/OTHER (8)

_____ (9) _____ (10)

PERFORMED BY _____ DATE _____ CHIEF, QUALITY ASSURANCE _____ DATE _____

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12/88

(1) Organization **HOLMES & NARVER, INC.**

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
1-1	YMP/88-9, Rev. 4, Sect. I, Para. 1.0	<p>The Yucca Mountain Project Participants shall be responsible for the establishment and execution of a Quality Assurance Program Plan (QAPP). The participants may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the Quality Assurance (QA) program, or any part thereto, but shall retain the responsibility therefore. The delegation of execution of the QA Program Plan requirements shall be documented. The organizational structure, lines of communication, authority and duties of persons and organizations performing activities affecting quality shall be clearly established and delineated in writing. These activities affecting quality include both the performing functions of attaining quality objectives and the QA functions. While the line organization is responsible for performing these activities properly, the QA organization shall verify the proper performance of work through implementation of appropriate QA controls.</p>			
	H&N/YMP QAPP, Rev. 3 Sect. I, II, III and IV	<p>1. Verify that the organizational structure, lines of communication, authority, and duties of persons and organizations affecting quality are clearly established and delineated in writing.</p>			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
1-2	YMP/88-9, Rev. 4, Sec. I, Para. 2.0 H&N/YMP QAPP, Rev. 3 Sect. III and IV H&N/YMP-130 Sects. 1-8	<p>The persons and organizations performing QA functions shall have sufficient authority, access to work areas and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions through designated channels; to verify implementation of the solutions; and to assure that further processing, delegate delivery, installation, or use is controlled until proper disposition of a nonconformance, deficiency or unsatisfactory condition has occurred. This includes the to stop (or cause to be stopped) unsatisfactory work through established channels. Such persons or organizations shall have direct access to responsible management at a level where appropriate action can be effected and shall report to a management level at which this required authority and organizational freedom are provided, including sufficient independence from cost and schedule.</p> <p>1. Verify any Stop Work action, that has been initiated by QA, was performed in accordance with the requirements cited at the left.</p> <p>2. Verify through objective evidence, on interviews of personnel, of personnel that are familiar with and trained in the requirements and able to identify potential Stop Work conditions.</p>			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
1-3	YMP/88-9, Rev. 4, Sec. I, Para. 2.1	<p>The person responsible for directing and managing the overall YMP Participant QA program shall be identified and have appropriate organizational position, responsibilities, and authority to exercise proper control over the QA program. This person shall have appropriate management and QA knowledge and experience and shall be at the same or higher organizational level as the highest line manager responsible for performing activities affecting quality and sufficiently independent from cost and schedule.</p> <p>Personnel in this position shall have responsibility for approval of (1) QAPPs, changes thereto, and interpretations thereof and (2) implementing procedures and all changes thereto. This position shall have effective communication channels with other senior management positions. Personnel in this position shall have the responsibility and authority to verify the adequacy and effectiveness of QA plans, requirements, and QA program implementation by that organization and its subordinate organizations.</p> <p>1. Verify, by review of individual records, and by interviews that the above requirements and those at left were followed.</p>			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
2-2	YMP/88-9, Rev. 4, Sec. II, Para. 5.1 H&N/YMP QAPP, Rev. 3 Sect. 2, III-D-1 YMP-230, Rev. 0 YMP-230, Rev. 0 Para. 6.1.1 YMP-230, Rev. 0 Para. 6.2.7	<p>All NNWSI Project participants shall establish requirements for the selection, indoctrination, and training of personnel performing or verifying activities that affect quality. The requirements shall establish position descriptions that set forth minimum personnel qualifications and provide for appropriate indoctrination or training or both, prior to initiation of activities that affect quality. In addition to the following requirements for indoctrination and training, personnel performing activities that specifically require certification by applicable codes and standards (e.g., lead auditors, inspectors, testers, nondestructive examiners, etc.) shall be certified in accordance with the detailed requirements specified in Appendix C, D, or F, as applicable.</p> <ol style="list-style-type: none"> 1. Verify the requirements have been established for the selection, indoctrination, and training of personnel performing or verifying activities that affect quality. 2. Verify that requirements establish position descriptions that identify personnel qualifications and provide for indoctrination and training, prior to performing activities that affect quality. 3. Verify that personnel requiring certification have been certified in accordance with: <ol style="list-style-type: none"> a. YMP-240, Nondestructive Testing Personnel Certification b. YMP-230, Qualification and Certification of Quality Control Inspection Personnel c. YMP-210, Qualification of Audit Personnel 			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
2-8	YMP/88-9, Rev. 4, Sec. II, Para. 5.1.3, 5.1.6.2 H&N/YMP QAPP, Rev. 3 Sect. 2, III-3, III-6-B YMP-230, Rev. 0, Para. 6.1.3 YMP-230, Rev. 0	Prior to assigning personnel to perform activities affecting quality, they shall be indoctrinated as to the purpose, scope, method of implementation, and applicability of the following documents (including changes thereto), as a minimum, as they relate to the work to be accomplished. Indoctrination may be accomplished by the use of a mandatory reading list, by group classroom presentations, by video presentation, or other instructional methods. <ul style="list-style-type: none"> o QAPPs o Implementing Procedures and Work Instructions (applicable to the individual's responsibilities). o Regulations o Project Level Documents Records of indoctrination which include the objective and content of the indoctrination, date or dates of indoctrination, and other applicable information. <ol style="list-style-type: none"> 1. Verify that the Managers/Supervisors identify the training required on Attachment 8.3, Training Memo that employees must complete prior to performing any quality affecting activity. Review the Training Memo to verify inclusion of requirements listed in Para. 6.1.3. 2. Verify that indoctrination/training is accomplished as stated in Para. 6.2. 			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
2-7	YMP/88-9, Rev. 4, Sec. II, Para. 5.1.4, 5.1.6.3 H&N/YMP QAPP Sect. 2, III-4, III-6-C YMP-230, Rev. 0 Para. 5.2 Para. 6.1.4 Para. 6.3	<p>Prior to assigning personnel to perform quality affecting activities, training, if needed, shall be conducted to gain the required proficiency. The training (in-depth instruction) shall include the principles, techniques, and requirements of the activity. Such in-depth instruction may be internal or external classroom sessions, classroom sessions supplemented by hands-on workshops, on-the-job training, other instructional methods, or combinations thereof.</p> <p>Records of training which include the objective(s) and content of the training, name of the instructor, attendees, dates of attendance, and result of proficiency evaluations (where applicable), and other applicable information.</p> <ol style="list-style-type: none"> 1. Verify that the Managers/Supervisors ensure that personnel under their supervision are provided training to gain the required proficiency to perform their intended function. 2. Verify that training includes the principles, techniques, and requirements of specific activities. 3. Verify that maintenance of training is accomplished per Para. 6.3. 			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
8-1	YMP/88-9, Rev. 4, Sec. VIII, Part A, Para. 1.1.1 YMP-1110, Rev. 0, Para. 6.2.2	IDENTIFICATION AND CONTROL OF ITEMS, SAMPLES AND DATA PART A - IDENTIFICATION AND CONTROL OF ITEMS Physical identification shall be used to the maximum extent possible. Where physical identification on the item is either impracticable or insufficient, physical separation, procedural control, or other appropriate means shall be employed. Samples shall be properly identified and stored in a locked cabinet to prevent unauthorized handling. Samples shall be maintained in a predetermined physical condition commensurate with their intended purpose, as prescribed by the Client. 1. Verify that samples are properly marked. 2. Verify that samples are stored in locked cabinets.			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
8-4	YMP/88-9, Rev. 4, Sec. VIII, Part A, Para. 1.1.4	Where specified, items having limited calendar or operating life or cycles shall be identified and controlled to preclude use of items whose shelf life or operating life has expired. 1. How does H&N meet this requirement?			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
8-10	YMP/88-9, Rev. 4, Sec. VIII, Part B, Para. 1.1.4	Controls shall be developed and implemented to assure that sample identification is verified and maintained when handled, transported or transferred from one organization's responsibility to another.			
	YMP-1110, Rev. 0, Para. 6.2.3	Sample Disposal: All tested and excess samples will be discarded unless otherwise specified by the Client. All transfers of samples shall be accomplished via a Transmittal Record.			
		1. How does H&N meet this requirement?			
		2. Is the Transmittal Record a QA record?			
(9) Auditor Signature		(10) Date			

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
8-14	YMP/88-9, Rev. 4, Sec. VIII, Part C, Para. 1.1.1	Control measures shall be established and implemented to assure that NNWSI Project data are properly identified. These measurements shall include verification of the identification of such data prior to release for use. 1. How does H&N meet this requirement?			
			(9) Auditor Signature	(10) Date	

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
12-1	YMP/88-9, Rev. 4, Sec. XII, Para. 2.1	<p>CONTROL OF MEASURING AND TEST EQUIPMENT</p> <p>Selection of measuring and test equipment shall be controlled to as sure that such equipment is of proper type, range, and accuracy, to accomplish the function of determining conformance to specified tolerance requirements. The type, range, and accuracy of a measuring device shall be documented in test and inspection documents. Each device shall have a unique identification number. This number shall be recorded on the data sheet, log, etc., along with the measurement taken, to ensure traceability to the measurement of the device that was used to take the measurement.</p>			
	YMP-1210, Rev. 0, Para. 6.3.1	<p>Selection of M&TE shall ensure the equipment is of the proper type, range, accuracy and tolerance to accomplish the function specified by drawing, specification, or test/inspection procedure.</p>			
	YMP-1210, Rev. 0, Para. 6.1.1	<p>Each piece of M&TE shall be assigned a unique control number. A Calibration History Log (Attachment 8.1) shall be established and maintained.</p>			
	<p>1. Verify that test and inspection documents exist for determining type, range and accuracy of each measuring device.</p>				
	<p>2. Verify that each device has a unique identification number.</p>				
	<p>3. Verify that a Calibration History Log has been established and maintained.</p>				
					(9) Auditor Signature

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
12-2 (cont)		1. Verify that M&TE is calibrated against certified equipment having known valid relationship to NIST or other nationally recognized standards. 2. Verify that calibration is conducted at prescribed intervals. 3. Verify that standards have equal or greater accuracy than the equipment being calibrated.			
(9) Auditor Signature				(10) Date	

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
17-3	YMP/88-9, Rev. 4, Sect. XVII, Para. 1.3 AP 1.7Q, Rev. 2 Sect. 5.5.4.1 & 5.7.3.7 H&N/YMP QAPP, Rev. 2 Sect. 17, III-A H&N/YMP-1710, Rev. 0 Para. 6.1.2 Para. 6.1.4.3.1 Para. 6.2.3.7	The procedure that defines the implementation of the record system for each organization shall identify measures to be implemented for the preservation and safe-keeping of the records before storage and for the prevention of delays between record completion and storage at the Project Record Center. 1. Verify that records are protected from deterioration, loss or damage in accordance with guidance for preservation and storage of records provided in Attachments 8.1 and 8.2. 2. Verify that completed individual records are forwarded to the LRC no later than 10 working days after the date of completion or receipt. 3. Verify that the LRC packages the records and transmittal forms and transmits them to the CRF within 10 working days of receipt.			

Signature

(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
17-4	YMP/88-9, Rev. 4, Sec. XVII, Para. 3.1 H&N/YMP QAPP, Rev. 2 Sect. 17, III-F AP-1.7Q, Rev. 2 Sect. 4.4.2, 5.1.3 H&N/YMP-1710, Rev. 0 Para. 6.2.2.2.3 and 6.2.2.3 Para. 6.2.2.1	<p>Documents shall be considered valid records only if stamped, initialed or signed, and dated by authorized personnel or otherwise authenticated in accordance with approved procedures. These records may be originals or reproduced copies. Authentication may take the form of a statement by the responsible individual or organization. Handwritten signatures are not required if the document is clearly identified as a statement by the reporting individual or organization.</p> <p>Each organization shall maintain a list which contain the signatures and initials of the personnel authorized to authenticate records.</p> <p>1. Verify that records are properly signed and that QA records are authenticated by comparing signatures to the required record signature and authentication list.</p> <p>2. Verify that an authentication log of signatures and initials of the persons authorized to authenticate records is maintained.</p>			
				(9) Auditor Signature	(10) Date

(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
17-5	<p>YMP/88-9, Rev. 4, Sect. XVII, Para. 4.1</p> <p>AP-1.7Q, Rev. 2 Sect. 5.1.2, 5.1.4, 5.5.7.1, 5.5.4.1, 5.5.4.2, 5.7.1, 5.7.2, and 5.7.3</p> <p>H&N/YMP QAPP, Rev. 2, Sect. 17, III-D and III-G</p> <p>H&N/YMP-1710 Para. 6.1.1.2, 6.2.2.1, 6.2, and 6.2.1.3.3</p>	<p>Each organization that is responsible for the receipt of records shall designate a person or organization to be responsible for receiving the records. The designee shall be responsible for organizing and implementing a system of receipt control of records for permanent and temporary storage in accordance with approved procedures. Each receipt control system shall be structured to permit a current and accurate assessment of the status of records during the receiving process. As a minimum, the receipt control system shall include the following:</p> <ul style="list-style-type: none"> o A method for designating the required records. o A method for identifying the records received. o Procedures for receipt and inspection of incoming records. o A method for submittal of completed records to the storage facility without unnecessary delay. <p>1. Verify that the receipt control system includes the above requirements.</p>			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
17-9	NNWSI/88-9, Rev. 4 Sect. XVII, Para. 10.1, 10.2.3 10.2.2 AP-1.7Q, Rev. 2, Sect. 5.9.1.1 H&N/YMP QAPP, Rev. 2, Sect. 17 J-1, 17 J-2, and 17 J-4	<p>Records shall be stored in facilities constructed and maintained in a manner that minimizes the risk of damage or destruction from natural disasters, such as winds, or fires; environmental conditions such as high and low temperatures and humidity; and infestation of insects, mold, or rodents.</p> <p>If storage at dual facilities for each record is provided, then the facilities shall be at locations sufficiently remote from each other to eliminate the change of exposure to a simultaneous hazard.</p> <p>The following are acceptable alternatives to the criteria for a single facility:</p> <ul style="list-style-type: none"> o Two-hour fire rated vault that meets National Fire Protection Association (NFPA) 232-1975. <p>1. Verify that the above requirements are met. Look for evidence of dual-filing in both locations by the LRC.</p>			
				(9) Auditor Signature	(10) Date

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
18-6	YMP/88-9, Rev. 4, Sec. XVIII, Para. 1.3.3 H&N/YMP-1810, Rev. 0 Para. 6.4	<p>An audit team shall be identified before the beginning of each audit. This team shall contain one or more auditors and shall have an individual qualified as a lead auditor who organizes and directs the audit, coordinates the preparation and issuance of the audit report, and evaluates the responses. The audit team leader shall identify the technical specialists, if any, who will participate in the audit and include this information in the audit plan. Audit team members selected to participate in audits for technical consideration purposes shall have appropriate technical expertise or experience in the work being audited. Multidisciplinary audit teams shall be employed when activities to be audited involve more than a single technical area. The audit team leader shall ensure that the audit team is prepared before the audit begins.</p> <p>1. Verify that checklists were utilized during the performance of audits and that the checklists were reviewed by the Lead Auditor.</p>			
(9) Auditor Signature				(10) Date	

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(3) AUDIT ITEM NO.	(4) QUALITY ELEMENT & REFERENCE	(5) STANDARD QUALITY REQUIREMENTS AUDIT GUIDELINES	(6) RESULTS S, X, N/A	(7) SUMMARY OF INVESTIGATION	(8) PERSON CONTACTED
18-9	YMP/88-9, Rev. 4, Sec. XVIII, Para. 1.6	Management of the audited organization or activity shall investigate adverse audit findings; determine root cause; schedule corrective action, including measures to prevent recurrence; and, within 30 calendar days of receipt of the audit report, notify the appropriate organization in writing of action taken or planned. The adequacy of audit responses shall be evaluated by or for the auditing organization.			
	H&N/YMP-1810, Rev. 0 Para. 6.7	1. Verify that audit responses to identified deficiencies are returned to QA within 30 days.			
		2. Verify that the response(s) address the cited deficiencies.			
		3. Verify that the lead auditor evaluates the results of the audit to determine if any conditions warrant further processing.			
(9) Auditor Signature		(10) Date			

YMPO STANDARD DEFICIENCY REPORT

N-QA-038
4/89

Completed by Originating QA Organization	1 Date _____		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3		Page _____ of _____	
	3 Discovered During _____		3a Identified By _____		4 SDR No. _____ Rev. _____	
	5 Organization _____		6 Person(s) Contacted _____		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) _____					
9 Deficiency _____						
10 Recommended Action(s): <input type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective						
Completed by Organization in Block 5	11 QAE/Lead Auditor/Date _____		12 Division 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 Accepted		QAE/Lead Auditor/Date _____		Division Manager/Date _____	
	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date _____		Division Manager/Date _____	
	21 Remarks _____					
	22 QA CLOSURE		QAE/Lead Auditor/Date _____		Division Manager/Date _____	
PQM/Date _____						

YMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

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2/89

SDR No.

Page of

YUCCA MOUNTAIN PROJECT OFFICE
1 YMPO OBSERVATION NO. _____

N-QA-012
4/89

Completed by Originating Organization	2 Noted During:	3 Identified By:	4 Date:
	5 Organization:	6 Person(s) Contacted:	7 Response Due Date is 20 Days from Date of Transmittal
	8 Discussion:		
	9 QAE/Lead Auditor	Date	10 Branch Manager

Completed by Respondee	11 Response:
	12 Signature: _____ Date: _____

Completed by QA Org.	13 Response Receipt Acceptable <input type="checkbox"/>			
	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 35%; padding: 5px;">Initiator</td> <td style="width: 15%; padding: 5px;">Date</td> <td style="width: 35%; padding: 5px;">QA/Lead Auditor</td> <td style="width: 15%; padding: 5px;">Date</td> </tr> </table>	Initiator	Date	QA/Lead Auditor
Initiator	Date	QA/Lead Auditor	Date	
14 Remarks:				

YMPO OBSERVATION NO. _____
CONTINUATION PAGE

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1/89

Page

____ of ____

**YUCCA MOUNTAIN PROJECT
AUDIT OBSERVER INQUIRY**

N-QA-084
4/89

Audit No. _____

Log No. _____

Name _____ Organization _____

YMP Requirement Reference _____

Question/Concern _____

Response _____

Observer's Acknowledgement

Cleared for Submittal to YMP Participant

Lead Auditor / Lead Technical Specialist

Incorporated in YMP Audit Checklist...Ref

Audit Team Leader

**YUCCA MOUNTAIN PROJECT
AUDIT OBSERVER INQUIRY**

**N-QA-084
4/89**

Audit No. _____

Log No. _____

Name _____ Organization _____

YMP Requirement Reference _____

Question/Concern _____

Response _____

Observer's Acknowledgement

Cleared for Submittal to YMP Participant

Lead Auditor / Lead Technical Specialist

Incorporated in YMP Audit Checklist...Ref

Audit Team Leader

**YUCCA MOUNTAIN PROJECT
AUDIT OBSERVER INQUIRY**

**N-QA-084
4/89**

Audit No. _____

Log No. _____

Name _____ Organization _____

YMP Requirement Reference _____

Question/Concern _____

Response _____

Observer's Acknowledgement

Cleared for Submittal to YMP Participant

Lead Auditor / Lead Technical Specialist

Incorporated in YMP Audit Checklist...Ref

Audit Team Leader



Department of Energy

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

WBS #1.2.9.3
"QA"

MAY 24 1989

QA RECEIVED

MAY 26 1989

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

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

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

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

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

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

James Blaylock
James Blaylock
Project Quality Manager
Yucca Mountain Project Office

YMP:JB-4021

Enclosure:
QA Audit 89-2 Report

MAY 24 1989

Joseph C. Calovini

-2-

cc w/encl:

Ralph Stein, HQ (RW-30) FORS
Dwight Shelor, HQ (RW-30) FORS
A. E. Gurrola, H&N, Las Vegas, NV
Richard Ivy, H&N, Las Vegas, NV
C. O. Wright, H&N, Las Vegas, NV
S. W. Zimmerman, NWPO, Carson City, NV
Stephen Metta, SAIC, Las Vegas, NV
H. H. Caldwell, SAIC, Las Vegas, NV
E. P. Ripley, SAIC, Las Vegas, NV
F. J. Ruth, SAIC, Las Vegas, NV
L. G. Scherr, SAIC, Las Vegas, NV
N. J. Brogan, SAIC, Las Vegas, NV
T. W. Noland, W, Las Vegas, NV
J. W. Gilray, NRC, Las Vegas, NV
J. E. Kennedy, NRC, Washington, DC

PROJECT OFFICE QUALITY ASSURANCE AUDIT REPORT FOR

THE YUCCA MOUNTAIN PROJECT OFFICE AUDIT OF

HOLMES & NARVER, INC.

AUDIT NUMBER 89-2

CONDUCTED: APRIL 24-28, 1989

PREPARED BY: Frederick G. Ruth
FREDERICK G. RUTH
LEAD AUDITOR

DATE: 5/16/89

APPROVED BY: Henry F. Caldwell
HENRY F. CALDWELL
DIVISION MANAGER, AUDITS

DATE: 16 May 89

APPROVED BY: James Blaylock
JAMES BLAYLOCK
PROJECT QUALITY MANAGER

DATE: 5/23/89

ENCLOSURE

EXECUTIVE SUMMARY

PROJECT OFFICE AUDIT REPORT 89-2

HOLMES & NARVER, INC. (H&N)

LAS VEGAS, NEVADA

APRIL 24 - 28, 1989

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

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

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

1.0 Introduction

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

2.0 Audit Scope

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

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

3.0 Audit Team Personnel

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

4.0 Summary of Audit Results

4.1 Statement of Program Effectiveness

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

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

4.2 Summary of Technical Evaluation

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

4.3 Summary

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

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

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

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

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

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

- 1.0 Organization
- 15.0 Control of Nonconforming Items

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

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

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

- 9.0 Control of Process

Technical review was limited during this audit to the following:

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

5.0 Audit Meetings

5.1 Preaudit Conference

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

5.2 Audit Status Meetings

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

5.3 Postaudit Conference

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

6.0 Synopsis of SDRs, Observations, and Complete Recommendations

6.1 Standard Deficiency Reports (SDRs)

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

6.2 Observations

Observation No. 89-2-01

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

Observation No. 89-2-02

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

Observation No. 89-2-03

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

Observation No. 89-2-04

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

Observation 89-2-05

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

Observation 89-2-06

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

Observation 89-2-07

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

Observation 89-2-08

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

Observation 89-2-09

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

Observation 89-2-10

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

Observation 89-2-11

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

Observation 89-2-12

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

Observation 89-2-13

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

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

Observation 89-2-14

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

6.3 Recommendations

Recommendation No. 1

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

Recommendation No. 2

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

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

Recommendation No. 3

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

7.0 Required Action

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

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

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

ENCLOSURE 1

Severity Levels

Severity Level 1

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

Severity Level 2

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

Severity Level 3

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

ENCLOSURE 2

ATTENDEES

AUDIT REPORT 89-2

ENCLOSURE 2

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

AUDIT REPORT 89-2

ENCLOSURE 2

(Continued)

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

ENCLOSURE 3
SDRs

YMPO STANDARD DEFICIENCY REPORT

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4/89

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

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CONTINUATION SHEET

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8 Requirement (continued)

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

9 Deficiency (continued)

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

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

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Page 2 of 2

8 Requirement (continued)

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

9 Deficiency (continued)

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

10 Recommended Actions (continued)

88-9, Rev. 2.

ENCLOSURE 4
OBSERVATIONS

WMPO OBSERVATION NO. 89-2-01

N-QA-312
8/88

Completed by Originating OA Organization

Noted During:

Audit 89-2

Identified By:

S. Hans

Date:

4-27-89

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

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

QAE/Lead Auditor

Fredrick J. Roth

Date

5/5/89

Branch Manager

R.A. Caldwell

Date

5 May 89

Completed By Responses

Response:

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Completed By OA Org.

Remarks:

WMPO OBSERVATION NO. 89-02-02

N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

H&N-Audit 89-2

Identified By:

N. D. Cox

Date:

4-25-89

Organization:

Holmes & Narver

Person(s) Contacted:

Randolph Schreiner
Twyla Smith

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

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

QAE/Lead Auditor

Frederick J. Keith

Date

5/5/89

Branch Manager

AAA Caldwell

Date

5 May 89

Completed By Responder

Response:

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. 89-2-03

N-QA-012
6/88

Completed by Originating OA Organization

Noted During:
Audit 89-2

Identified By:
S. Hans

Date:
4-27-89

Organization:
Holmes & Narver

Person(s) Contacted:
C. Wright

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

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

OAE/Lead Auditor

Fredrick J. Rittch

Date

5/5/89

Branch Manager

AAA Caldwell

Date

5 May 89

Completed By Responder

Response:

Signature:

Date:

Response Receipt Verified/Closed

OAE/Lead Auditor

Date

Branch Manager

Date

Completed By OA Org.

Remarks:

WMPO OBSERVATION NO. 89-02-04

N-QA-012
8/88

Completed by Originating QA Organization

Noted During: Audit-89-2	Identified By: S. Crawford	Date: 5/4/89
Organization: Holmes & Narver	Person(s) Contacted: Jan Verden	Response Due Date is 30 Days from Date of Transmittal

Di

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

QAE/Lead Auditor <i>Frederick J. Ruth</i>	Date 5/5/89	Branch Manager <i>AA Caldwell</i>	Date 5 May 89
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Response:

Completed by Responder

Signature: _____ **Date:** _____

Response Receipt Verified/Closed

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

Remarks:

WMPO OBSERVATION NO. 89-02-05

N-QA-012
8/88

Completed By Originating QA Organization

Noted During:
Audit 89-2

Identified By:
J. C. Friend

Date:
5/4/89

Organization:
Holmes & Narver

Person(s) Contacted:
Ron Sabol

Response Due Date is
28 Days from Date of
Transmittal

Discussion:

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

QAE/Lead Auditor
Fredrick J. Keith

Date
5/5/89

Branch Manager
J. A. Caldwell

Date
5 May 89

Response:

Completed By Responder

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor Date

Branch Manager Date

Completed by QA Org.

Remarks:

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

WMPO OBSERVATION NO. 89-02-06

N-QA-012
8/88

Completed By Originating QA Organization

Noted During:
Audit 89-2

Identified By:
S. Crawford

Date:
5/4/89

Organization:
Holmes & Narver

Person(s) Contacted:
R. Schreiner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

NNWSI/88-9, Revision 2, Section III, Para. 2.6.2 requires "Design information transmitted across interfaces shall be documented and controlled." H&N procedures do not contain specific measures for the control of design information received and transmitted by H&N. Previous SDR 293, 3/13/89, identifies a related deficiency of noncompliance with NNWSI/88-9, Section III, Para. 2.6.1. Observation S89-1-03 is also related to this area. The H&N response to SDR 293 should also address compliance with Para. 2.6.2 of NNWSI/88-9, Section III.

QAE/Lead Auditor

Frederick J. Rust

Date

5/5/89

Branch Manager

AA Caldwell

Date

5 May 89

Completed By Responder

Response:

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. 89-02-07

N-QA-012
8/88

Completed by Organizing QA Organization

Noted During:

Audit 89-2

Identified By:

J. Friend

Date:

5/4/89

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright/R. Sabol

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

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

QAE/Lead Auditor

Fredrick G Ruth

Date

5/5/89

Branch Manager

W. C. Howell

Date

5 May 89

Completed By Responder

Response:

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

WMPO OBSERVATION NO. 89-02-08

N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

Audit 89-2

Identified By:

J. C. Friend

Date:

5/4/89

Organization:

Holmes & Narver

Person(s) Contacted:

R. Sabol/W. Cotter

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

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

QAE/Lead Auditor

Frederick J. Rott

Date

5/5/89

Branch Manager

R. A. Caldwell

Date

5 May 89

Response:

Completed by Responding

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Completed by QA Org.

WMPO OBSERVATION NO. 89-02-09

N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

Audit 89-2

Identified By:

S. Crawford

Date:

5-4-89

Organization:

Holmes & Narver

Person(s) Contacted:

C. Wright/R. Sabol

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

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

QAE/Lead Auditor

Frederick J. Ruth

Date

5/5/89

Branch Manager

A. H. Caldwell

Date

5 May 89

Completed By Responder

Response:

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

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

N-QA-012
4/89

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

8 Discussion: (continued)

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

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

N-QA-012
4/89

Completed by Originating Organization	2 Noted During: Audit 89-2	3 Identified By: S. Crawford	4 Date: May 11, 1989
	5 Organization: Holmes & Narver	6 Person(s) Contacted: R. Schreiner	7 Response Due Date is 20 Days from Date of Transmittal
	8 Discussion: H&N Procedure YMP-014, Rev. 2 provides for design verification of specifications (YMP-003) and drawings (YMP-005). Although YMP-005, Para. 6.4.1.2 requires design verification of drawings prior to QA and TPO approval, YMP-003 does not contain similar provisions for design verification of specifications. Also, YMP-006 does not provide for design verification to be accomplished per YMP-014 for design analyses to justify assumptions, or confirm the adequacy of analyses.		
	9 OAE/Lead Auditor <i>Frederick J. Ruth</i>	Date <i>5/11/89</i>	10 Branch Manager <i>John J. H. Caldwell</i>
Completed by Respondee	11 Response:		
	12 Signature: _____ Date: _____		
Completed by QA Org.	13 Response Receipt Acceptable <input type="checkbox"/>		
	Initiator _____	Date _____	QA/Lead Auditor _____
14 Remarks:			

WMPO OBSERVATION NO. 89-2-12

N-QA-012
8/88

Noted During:
Audit 89-2

Identified By:
S. Crawford

Date:
5/4/89

Organization:
Project Office

Person(s) Contacted:
R. Schreiner

Response Due Date is
20 Days from Date of
Transmittal

Discussion:

The ESF Subsystem Design Requirements Document (SDRD) was issued 4/11/89 as Revision 0, by YMP Change Directive 89/023. Rev. 0 is the same document as previous Benchmark 4, 1/31/89, without incorporating several hundred resolved comments from the Benchmark 4 review cycle. As a result, H&N is preparing the Design Basis Document (DSD), and Design Input Control Document (DICD), using incomplete or incorrect design requirements. H&N should not release the DBD or DICD for final review and approval until receipt of the revised SDRD and incorporation of the changes and clarification into the DBD and DICD.

QAE/Lead Auditor

Date

Branch Manager

Date

Frederick J. Ruth

5/5/89

W.A. Caldwell *5 May 89*

Response:

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Completed by Originating QA Organization

Completed By Responsee

Completed By QA Org.

WMPO OBSERVATION NO. 89-2-13

N-QA-012
8/88

Completed by Originating QA Organization

Noted During:

Audit 89-2

Identified By:

S. Crawford

Date:

5-4-89

Organization:

Project Office

Person(s) Contacted:

Carl Wright

Response Due Date is
20 Days from Date of
Transmittal:

Discussion:

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

OAE/Lead Auditor

Fredrick J. Rutch 5/5/89

Date

Branch Manager

W.A. Quinn 5 May 89

Date

Response:

Completed By Responding

Signature:

Date:

Response Receipt Verified/Closed

OAE/Lead Auditor

Date

Branch Manager

Date

Remarks:

Completed By QA Org.

WMPO OBSERVATION NO. 89-2-14

N-QA-012
8/88

Completed by Originating QA Organization

Noted During:
H&N Audit 89-2

Identified By:
F. J. Ruth

Date:
5/4/89

Organization:
Yucca Mountain Project Office

Person(s) Contacted:
Ed Wilmot

Response Due Date is
20 Days from Date of
Transmittal

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

QAE/Lead Auditor

Fredrick J. Ruth

Date

5/5/89

Branch Manager

W. A. Caldwell

Date

5 May 89

Completed By Responses

Response:

Signature:

Date:

Response Receipt Verified/Closed

QAE/Lead Auditor

Date

Branch Manager

Date

Completed By QA Org.

Remarks:

YUCCA MOUNTAIN PROJECT
AUDIT OBSERVER INQUIRY

N-QA-084
4/89

Audit No. 89-2

Log No. 12

Name SUSAN ZIMMERMAN Organization State of Nevada

YMP Requirement Reference _____

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

Response _____

Observer's Acknowledgement

Cleared for Submittal to YMP Participant

Frederick J. Ruth
Lead Auditor / Lead Technical Specialist

Incorporated in YMP Audit Checklist...Ref

2-2 Page 10 of 123

Frederick J. Ruth
Audit Team Leader