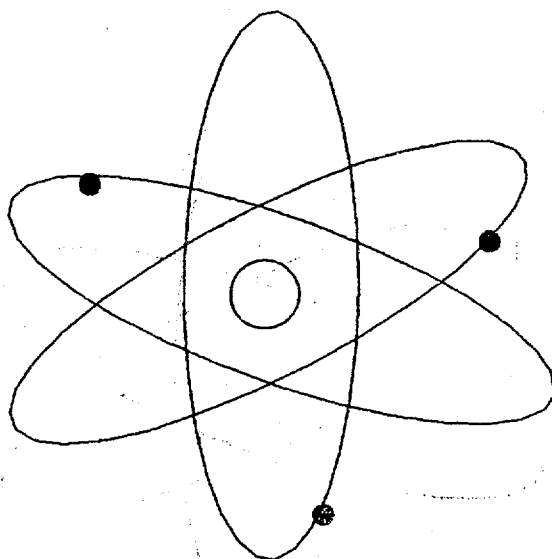


# LOS ALAMOS NATIONAL LABORATORY



## YMQAD AUDIT NO. 91-03

T.R. VERMA

220057

9201240064 920124  
PDR WASTE PDR  
WM-11

*Par + 1*

*ADD: Bill Burke*

*Encl.*

*102.11  
WM-11  
NH03*



FEB 15 1991

Richard J. Herbst

-2-

cc w/encl:

D. G. Horton, HQ (RW-3) FORS  
D. E. Shelor, HQ (RW-30) FORS  
J. W. Gilray, NRC, Las Vegas, NV  
K. R. Hooks, NRC, Washington, DC  
T. R. Verma, NRC, Washington, DC  
R. R. Loux, NWPO, Carson City, NV  
S. W. Zimmerman, NWPO, Carson City, NV  
E. V. Tiesenhausen, Clark County, Las Vegas, NV  
Steve Bradhurst, Nye County, NV  
Phillip Niedzielski-Eichner, Nye County, NV  
M. J. Regenda, RSN, Las Vegas, NV  
S. L. Bolivar, LANL, Los Alamos, NM  
J. L. Day, LATA, Los Alamos, NM  
R. K. Dann, LLNL, Livermore, CA  
M. A. Fox, REEC, Las Vegas, NV  
R. R. Richards, SNL, 6310, Albuquerque, NM  
C. H. Prater, SAIC, Las Vegas, NV, 517/T-06  
D. H. Appel, USGS, Denver, CO  
H. W. Washington, HQ (RW-3) FORS

Prepared By:

*Richard J. Herbst*

Richard J. Herbst  
Audit Team Leader

FEB 15 1991

Richard J. Herbst

-3-

bcc w/encl:

J. H. Rusk, MACTEC, Las Vegas, NV  
C. C. Warren, MACTEC, Las Vegas, NV  
D. J. Harris, Harza, Las Vegas, NV, 517/T-06  
J. S. Martin, SAIC, Las Vegas, NV, 517/T-06  
K. T. McFall, SAIC, Las Vegas, NV, 517/T-06  
J. B. Harper, SAIC, Las Vegas, NV, 517/T-38  
R. E. Powe, SAIC, Las Vegas, NV, 517/T-06  
R. L. Weeks, SAIC, Las Vegas, NV, 517/T-06  
P. L. Cloke, SAIC, Las Vegas, NV, 517/T-03  
N. D. Cox, SAIC, Las Vegas, NV, 517/T-06  
James Blaylock, YMP, NV  
A. M. Simmons, YMP, NV

bcc w/o encl:

M. B. Blanchard, YMP, NV  
D. C. Dobson, YMP, NV  
W. R. Dixon, YMP, NV  
V. F. Iorii, YMP, NV  
E. H. Petrie, YMP, NV  
W. A. Wilson, YMP, NV



OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUALITY ASSURANCE AUDIT PLAN

FOR

AUDIT NO. 91-03

OF

LOS ALAMOS NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

MARCH 25 THROUGH MARCH 29, 1991

Prepared By: Richard E. Powe  
Richard E. Powe  
Audit Team Leader Conference

Date: 2/12/91  
2:00 p.m., March 29, 1991  
Los Alamos, New Mexico

Approved By: James Blaylock Jr.  
Donald G. Horton, Acting Director  
Office of Quality Assurance

Date: 2/12/91

## 1.0 SCOPE

This audit will evaluate the Los Alamos National Laboratory (Los Alamos) Quality Assurance (QA) Program to determine whether it meets the requirements and commitments imposed by the Office of Civilian Radioactive Waste Management (OCRWM). This will be done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements.

A representative sample of discrepancies identified during previous OCRWM audits and surveillances of Los Alamos will be included in the scope of this audit to determine the effectiveness of Los Alamos corrective actions.

The programmatic elements and technical areas to be audited, as well as those programmatic elements not included in this audit, are identified in Section 4.0 of this plan.

## 2.0 AUDIT SCHEDULE

Team/Observers Badging	8:00 a.m., March 25, 1991, Los Alamos, New Mexico*
Pre-Audit Team/Observers Meeting	8:30 a.m., March 25, 1991, Los Alamos, New Mexico
Pre-Audit Conference	9:30 a.m., March 25, 1991, Los Alamos, New Mexico
Audit Activities	10:30 a.m. to 4:00 p.m., March 25, 1991**  8:00 a.m. to 4:00 p.m., March 26 - 28, 1991**  8:00 a.m. to 11:30 a.m., March 29, 1991
Post-Audit Conference	2:00 p.m., March 29, 1991 Los Alamos, New Mexico

\* Initial badging and pre-audit meeting will occur at the facilities of Los Alamos Technical Associates (LATA), 1257 40th Street, Los Alamos, New Mexico.

\*\* There will be daily debriefings starting at 4:15 p.m.

### 3.0 REQUIREMENTS TO BE AUDITED AND APPLICABLE REFERENCES

The requirements to be audited will be contained in the pre-approved programmatic and technical checklists. These checklists will be developed from the latest available revision of the following documents:

- ° Los Alamos QA Program Plan and implementing procedures.
- ° Yucca Mountain Site Characterization Project Office (YMPO) Administrative Procedures--Quality (APQs).

The conduct of the audit will be guided by the following:

- ° Quality Assurance Administrative Procedure QAAP 18.2, Revision 3, "Audit Program."
- ° QAAP 16.1, Revision 3, "Corrective Action Requests."
- ° YMP Audit Observer Inquiry.
- ° Policy for Participation of State, Tribal, and NRC Representatives as Observers on U.S. Department of Energy (DOE) Audits, dated July 14, 1987.
- ° Headquarters Observation of YMP Quality Assurance.

### 4.0 ACTIVITIES TO BE AUDITED

#### Programmatic Elements:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 3.0 Scientific Investigation Control and Design Control (including Software Control)
- 4.0 Procurement Document Control
- 5.0 Instructions, Procedures, Plans, and Drawings
- 6.0 Document Control
- 7.0 Control of Purchased Items and Services
- 8.0 Identification and Control of Items (Samples and Data)
- 12.0 Control of Measuring and Test Equipment
- 13.0 Handling, Storage and Shipping
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits

The following Programmatic Elements will not be included in the scope of the audit since Los Alamos currently has no activities to which these elements apply:

- 9.0 Control of Processes
- 10.0 Inspection
- 11.0 Test Control
- 14.0 Inspection, Test, and Operating Status

Technical Areas

Technical Specialists will review and evaluate the following technical activities:

<u>WBS Number</u>	<u>Title</u>	<u>SCP Reference</u>
1.2.3.2.1.1.1	Mineralogy, Petrology, and Rock Chemistry of Transport Pathways	8.3.1.3.2.1
1.2.3.2.1.1.2	Mineralogic and Geochemical Alteration	8.3.1.3.2.2
1.2.3.2.1.2	Stability of Minerals and Glasses	8.3.1.3.3
1.2.3.3.1.2.2	Water Movement Tracer Tests	8.3.1.2.2.2
1.2.3.4.1.1	Ground-Water Chemistry Model	8.3.1.3.1

In addition, the above technical activities will be evaluated to determine adequacy in the following areas:

1. Technical qualifications of scientific investigation personnel.
2. Understanding of procedural requirements as they pertain to scientific investigation activities.
3. Adequacy of technical procedures.
4. Development of scientific investigation planning documents, study plans, work supporting the Site Characterization Plan (SCP), and any related work products.

If the audit team identifies a need to verify additional programmatic or technical areas during the audit, they will be added to the audit checklist(s) and verified accordingly.

## 5.0 AUDIT TEAM MEMBERS

James Blaylock--Audit Manager, DOE/Yucca Mountain Quality Assurance Division (YMQAD), Las Vegas, Nevada  
Richard E. Powe--Audit Team Leader, Science Applications International Corporation (SAIC)/YMQAD, Las Vegas, Nevada  
Neil D. Cox--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Donald J. Harris--Auditor, Harza Engineering/YMQAD, Las Vegas, Nevada  
John S. Martin--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Kenneth T. McFall--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Charles C. Warren--Auditor, MAC Technical Services Company/YMQAD, Las Vegas, Nevada  
Richard L. Weeks--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Paul L. Cloke--Lead Technical Specialist, SAIC/YMQAD, Las Vegas, Nevada  
Ardyth M. Simmons--Technical Specialist, DOE/YMQAD, Las Vegas, Nevada

## 6.0 AUDIT CHECKLISTS

The following checklists will be used in conjunction with this audit:

- 91-03-1 Programmatic Checklists
- 91-03-2 Technical Checklists



**Department of Energy**

Nevada Operations Office

P. O. Box 98518

Las Vegas, NV 89193-8518

**QA RECEIVED**  
WES 1.2.9.9  
QA  
**MAY 22 1990**

**MAY 21 1990**

Richard J. Herbst  
Technical Project Officer for Yucca Mountain Project  
Los Alamos National Laboratory  
University of California  
N-5, Mail Stop J521  
P.O. Box 1663  
Los Alamos, NM 87545

**YUCCA MOUNTAIN PROJECT OFFICE (PROJECT OFFICE) QUALITY ASSURANCE (QA) AUDIT  
90-01 OF LOS ALAMOS NATIONAL LABORATORY (LOS ALAMOS)**

Enclosed is the report for QA Audit 90-01. The audit was conducted by the Project Office at the Los Alamos facilities in Los Alamos, New Mexico, March 26-30, 1990, and in Las Vegas, Nevada, April 2, 1990.

During the course of the audit, the audit team generated four Standard Deficiency Reports (SDRs) and 14 observations. Observation No. 90-1-02 was issued to the Project Office.

Responses to the SDRs (which were transmitted via separate letter) are due within 20 working days of the date of the transmittal letter. Responses to the observations directed to Los Alamos are due within 20 working days of the date of this letter. The subject audit is considered completed as of the date of this letter; however, any open SDRs will continue to be tracked until each one has been closed to the satisfaction of the Lead Auditor and the Project Office.

Please address your responses to me and, concurrently, send the original of each observation response to Nita J. Brogan, Science Applications International Corporation, Las Vegas, Nevada.

If you have any questions, please contact either James Blaylock at (702) 794-7913 or FTS 544-7913 or Stephen R. Dana at (702) 794-7176 or FTS 544-7176 of the Yucca Mountain Project QA staff.

*N. Horton for*  
Donald G. Horton, Director  
Quality Assurance  
Yucca Mountain Project Office

YMP:JB-3328

Enclosure:  
QA Audit 90-01 Report

MAY 21 1990

cc w/encl:

D. E. Shelor, HQ (RW-3) FORS

Ralph Stein, HQ (RW-30) FORS

J. W. Hines, NWQA, AL

H. E. Valencia, LAAO

A. R. Chernoff, MSD, AL

H. P. Nunes, LANL, Los Alamos, NM

J. W. Gilray, NRC, Las Vegas, NV

Ken Hooks, NRC, Washington, DC

A. E. Cocoros, MACTEC, Las Vegas, NV 402

R. L. Maudlin, MACTEC, Las Vegas, NV 402

A. I. Arceo, SAIC, Las Vegas, NV, 517/T-06

N. J. Brogan, SAIC, Las Vegas, NV, 517/T-12

S. R. Dana, SAIC, Las Vegas, NV, 517/T-06

S. L. Crawford, SAIC, Las Vegas, NV, 517/T-06

R. D. Button, SAIC, Las Vegas, NV, 517/T-24

M. J. Mitchell, SAIC, Las Vegas, NV, 517/T-06

F. D. Peters, SAIC, Las Vegas, NV, 517/T-13

C. H. Prater, SAIC, Las Vegas, NV, 517/T-06

T. W. Noland, W, Las Vegas, NV, 517/T-06

PROJECT OFFICE QUALITY ASSURANCE AUDIT REPORT FOR

THE YUCCA MOUNTAIN PROJECT OFFICE AUDIT OF

LCS ALAMOS NATIONAL LABORATORY

AUDIT NO. 90-01

CONDUCTED MARCH 26-30, 1990

AND

APRIL 2, 1990

Prepared By:

Stephen R. Dana  
Stephen R. Dana  
Audit Team Leader

Date:

5/8/90

Approved By:

Donald G. Horton  
Donald G. Horton, Director  
Quality Assurance Division  
Yucca Mountain Project Office

Date:

5/15/90



## EXECUTIVE SUMMARY

In the opinion of the Yucca Mountain Project Office (Project Office) audit team, the Los Alamos National Laboratory (Los Alamos) Quality Assurance (QA) program is adequate for the initiation of quality affecting activities. Therefore, Los Alamos should be allowed to proceed with these activities, as adequate QA controls appear to be in place (i.e., the Quality Assurance Program Plan and implementing procedures) to control their quality-affecting activities, with the following noted exception:

Software QA Program--The Software QA Program Plan has not been approved by the Project Office and Los Alamos has imposed a stop work (Stop Work Order No. SWO-LA01) on all activities involving the use or development of software for the Yucca Mountain Project.

The audit team reviewed actions taken by Los Alamos, as detailed in a Project Office letter, dated December 11, 1989, with the following noted results:

Item No. 1 identified some Los Alamos procedures as inadequate. The audit team determined that reviewed procedures appeared to contain adequate program guidance and controls. This would also indicate that the overall review process is capable of identifying procedural weaknesses and inconsistencies.

Item No. 2 identified that training and qualification procedures were not consistently followed, and some personnel were not aware of their training responsibilities. During the audit, no deficiencies were identified in the area of training and qualification. In addition, the audit team determined that Los Alamos is effectively implementing this area of their QA program.

Item No. 3 identified that Los Alamos did not seem to have a consistent approach as to how a technical review is defined or how the review should be documented. Since Audit No. 89-07, Los Alamos has not completely addressed this issue. In addition, there seems to be uncertainty in the minds of some Los Alamos technical staff concerning the reason for and use of procedures. This impacts the level of detail in the procedures, including points where decisions are made and documented, the continuing issue of acceptance and rejection criteria, accuracy and precision, and verification and hold points. Therefore, Standard Deficiency Report (SDR) No. 465 will remain open until appropriate actions have been taken.

Item No. 4 identified the corrective action program as inadequate. No deficiencies were identified during the audit in the area of corrective action. However, SDR No. 468 (which identified corrective action deficiencies during Project Office Audit No. 89-07) cannot be closed and will remain open until training of Los Alamos personnel has been completed and verified by the Project Office. In addition, the effectiveness of the Los Alamos QA program in the area of corrective action cannot be determined due to lack of implementation.

Item No. 5 identified the Los Alamos audit and surveillance implementation program as inadequate. The control elements appear to be in place and adequate to control this area of their QA program. However, the effectiveness of the Los Alamos QA program in the area of audits and surveillances cannot be determined due to lack of implementation.

The Project Office will revisit all areas of the Los Alamos QA program in which the audit team was unable to determine effectiveness due to lack of implementation during the next scheduled surveillance or audit of Los Alamos.

As a result of this audit, four SDRs were issued to Los Alamos. A total of 14 observations were issued: 13 to Los Alamos and 1 to the Project Office. It should be noted that during the course of the audit, Los Alamos was able to correct 12 concerns identified by the auditors. These 12 concerns and the actions taken to correct them are described in this report.

It is apparent to the audit team that a great deal of effort and time has been expended by Los Alamos to correct the previously identified QA program deficiencies and to bring the current QA program into compliance with Project Office requirements. Los Alamos personnel should be commended for the cooperation and effort necessary to bring their QA program to this level.

## 1.0 INTRODUCTION

This report contains the results of a Quality Assurance (QA) audit of the activities conducted by Los Alamos National Laboratory (Los Alamos) in support of the Yucca Mountain Project Office (Project Office). The audit was conducted at the Los Alamos facilities in Los Alamos, New Mexico (March 26-30, 1990) and Las Vegas, Nevada (April 2, 1990). The audit was conducted in accordance with the requirements of Quality Management Procedure QMP-18-01, Revision 3, "Audit System for the Waste Management Project Office." The QA program requirements to be verified were taken from the Project Office Quality Assurance Plan (NNWSI/88-9), Revision 4.

## 2.0 AUDIT SCOPE

The scope of the audit was to evaluate the Los Alamos QA program to determine whether it meets the requirements and commitments imposed by the Project Office. This was done by verifying implementation and effectiveness of the systems in place, as well as verifying compliance with requirements.

The following program elements were audited to assess compliance with NNWSI/88-9, Revision 4, and the Los Alamos Quality Assurance Program Plan (QAPP), Revision 4.4:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 3.0 Scientific Investigation Control and Design Control
- 4.0 Procurement Document Control
- 5.0 Instructions, Procedures, Plans, and Drawings
- 6.0 Document Control
- 7.0 Control of Purchased Items, and Services
- 8.0 Identification and Control of Items, Samples, and Data
- 12.0 Control of Measuring and Test Equipment
- 13.0 Handling, Shipping, and Storage
- 15.0 Control of Nonconformances
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits

The following program elements, described in the Los Alamos QAPP, Revision 4.4, were reviewed prior to the audit and were deemed to be not applicable to activities currently assigned to Los Alamos:

- 9.0 Control of Processes
- 10.0 Inspection
- 11.0 Test Control
- 12.0 Inspection, Test, and Operating Status

4  
11/7/90

The audit scope included a review and evaluation of the following technical activities:

<u>WBS Number</u>	<u>SCP Reference</u>	<u>Title</u>
1.2.3.2.5	8.3.1.8	Postclosure Tectonics
1.2.3.2.1.1.1	8.3.1.3.2.1	Mineralogy, Petrology, and Rock Chemistry of Transport Pathways
1.2.3.4.1.3	8.3.1.3.5	Radionuclide Retardation by Precipitation Processes
1.2.3.4.1.5.2	8.3.1.3.7.2	Demonstration of Applicability of Laboratory Data

In addition, the above technical activities were evaluated to determine adequacy in the following areas:

1. Technical qualification of scientific investigation personnel.
2. Understanding of procedural requirements as they pertain to scientific investigation activities.
3. Adequacy of technical procedures.
4. Development of Study Plans, work supporting the Site Characterization Plan, and any related work products.

### 3.0 AUDIT TEAM PERSONNEL AND OBSERVERS

<u>Individual</u>	<u>Responsibility</u>
Stephen R. Dana	Audit Team Leader
James Blaylock	Audit Manager
Sidney L. Crawford	Auditor
Amelia I. Arceo	Auditor
Anthony E. Cocoros	Auditor
Richard L. Maudlin	Auditor

<u>Individual</u>	<u>Responsibility</u>
Mario R. Diaz	Auditor
Terry W. Noland	Auditor-In-Training
Martha J. Mitchell	Lead Technical Specialist
Forrest D. Peters	Technical Specialist
Christopher J. Fridrich	Technical Specialist
John Marchand	Observer, DOE/HQ
William Haslebacher	Observer, DOE/HQ
Kenneth Hooks	Lead Observer, NRC
John Bradbury	Observer, NRC
John Trapp	Observer, NRC
Michael Gonzalez	Observer, NRC
Susan Zimmerman	Observer, State of Nevada
Joe Caldwell	Observer, MACTEC

#### 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 overall Los Alamos QA program cannot be currently determined. Until such time as sufficient objective evidence is available to demonstrate program implementation in the areas of (1) corrective action, (2) surveillances, and (3) audits, the effectiveness of the program will remain indeterminate.

However, based on the results of the audit, the Los Alamos QA program appears to be adequate for the initiation of quality-affecting activities, with the following noted exception:

Software QA Program--the Software Quality Assurance Program Plan has not been approved by the Project Office.

#### 4.2 Summary of Technical Activities

In the opinion of the Technical Specialists assigned to the audit, Los Alamos technical staff are competent, capable, and appropriately dedicated to plan and carry out activities for this project. Technical training appears to be sufficient to initiate new work or to work under a qualified QA program.

In the areas relating to good scientific practice, the following were observed by the technical audit team:

1. The quality of the technical laboratory notebooks demonstrates significant improvement over the time periods covered by recent audits. The amount of referencing is increasing and in general, the notebooks are more easily interpreted and of more technical value to the Project.
2. Samples that were evaluated during the audit are managed in an appropriate manner. Numerous sample management systems are in use, all of which meet the necessary requirements. However, none of the systems has a large number of samples to date. In the future, when there are large numbers of samples in some of the systems, tracking problems may arise. The samples derived from the United States Geological Survey (USGS) core are internally controlled at Los Alamos. The fact remains that traceability of the core samples outside Los Alamos is in question and that this open issue impacts the use of data collected on these samples.
3. Some Los Alamos technical staff still have questions concerning the reason for and use of procedures. This uncertainty impacts the level of detail in the procedures, including points where decisions are made and documented; the continuing issue over acceptance and rejection criteria, accuracy, and precision; and verification and hold points. Verification and hold points are also discussed in Item 4, below, and Observation No. 90-1-13 (regarding scientific practice).
4. More attention needs to be given to internal verification by laboratory staff and hold points identified in procedures. In many cases, staff are checking data and calculations. These checks are often not identified as such in laboratory notebooks and are not required by the procedures. The scientific practice is better and more complete than described in the controlling work documents. Credit should be taken for good practices and these good practices should be included in the procedures and passed on to other Project staff. In many cases, the procedures appear to be written with the intent of meeting minimum QA requirements. Many of the reviews of the implementing procedures appear to be very brief; this type of review may not be sufficient to identify procedural weakness.

For the individual project areas sampled during the audit, the Technical audit team has the following comments:

WBS 1.2.3.4.1.5.2--Although the preliminary work has been conducted by subcontractors as non-quality affecting, the activity is sufficiently mature for the staff to recognize the potential problems associated with the expected interfaces with other activities and with schedule and data availability.

WBS 1.2.3.1.1.1--Much of the petrographic analysis is subjective and attempts to delineate features of internal stratigraphy that are subtle and difficult to defend. Currently, the sample control system in this area is adequate to control this activity.

WBS 1.2.3.4.1.3--Laboratory work is proceeding in the areas of solubility determinations and colloidal studies. The quality achievement/quality control system for this work appears to be adequate, but documentation of quality control (quality verification) activities appears to be somewhat weak.

WBS 1.2.3.2.5--Field and laboratory work is proceeding in the area of volcanics. The quality achievement/quality control system for this work appears to be adequate, but documentation of quality control (quality verification) activities appears to be somewhat weak.

#### 4.3 Summary of Findings

A total of four Standard Deficiency Reports (SDRs) were generated during the course of this audit. Information copies of the SDRs are attached as Enclosure 3. Thirteen Observations were issued to Los Alamos and one (No. 90-1-02) to the Project Office; these are attached as Enclosure 2. A synopsis of SDRs and observations is presented in Section 6 of this report. Additionally, this synopsis includes 12 concerns that were corrected during the course of the audit.

### 5.0 AUDIT MEETINGS

#### 5.1 Pre-audit Conference

A pre-audit conference was held with the Los Alamos Technical Project Officer (TPO) and his staff at 10:30 a.m. on March 26, 1990. The purpose, scope, and proposed agenda for the audit were presented and the audit team was introduced. A list of those attending is attached as Enclosure 1.

## 5.2 Persons Contacted During the Audit

See Enclosure 1.

## 5.3 Post-audit Conference

The post-audit conference was held at 2:00 p.m. on March 30, 1990, at the Los Alamos office in Los Alamos, New Mexico. A synopsis of the preliminary SDRs and observations identified during the course of the audit was presented to the TPO and his staff. The audit for technical activity WBS No. 1.2.3.2.5, "Postclosure Tectonics," was not completed prior to the post-audit conference. This audit element was completed in Las Vegas, Nevada, on April 2, 1990. A close-out meeting was held with the Los Alamos Principal Investigator (PI) in Las Vegas to discuss results of this element. A list of those attending the post-audit conference is attached as Enclosure 1.

## 5.4 Audit Status Meetings

Audit status meetings were held with the Los Alamos TPO and his key staff at 8:45 a.m. on each day of the audit. A status of how the audit was progressing and identification of discrepancies were discussed.

# 6.0 SYNOPSIS OF STANDARD DEFICIENCY REPORTS, OBSERVATIONS, AND CONCERNS CORRECTED DURING THE AUDIT

## 6.1 Standard Deficiency Reports

- SDR No. 511 An implementing procedure that clearly describes the authority and responsibility of each position in the QA organization does not exist.
- SDR No. 512 Non-Los Alamos or subcontractor YMP personnel have performed technical reviews of documents in accordance with Los Alamos procedures without documentation or certification of qualification or indoctrination to applicable Los Alamos procedures for the reviews and for the activities being reviewed.
- SDR No. 513 Internal and external audits of all phases of the application of Los Alamos QAPP for all activities affecting quality during 1989 were not conducted.
- SDR No. 515 No modification has been made to the existing Lawrence Berkeley Laboratory (LBL) contract to describe rights of access by DOE, pass-through of QA requirements to sub-tier contractors, and control of supplier-issued nonconformances.



## 6.2 Observations

1. The new QA organization has recognized the need to revise several procedures to reflect new Los Alamos organizational changes. However, a plan is needed to determine: (1) how many of these procedures should be revised, and (2) the period of time or schedule by which this task should be finished.
2. The Project Office requested that a Readiness Review of Study Plan 8.3.1.3.2.1 be conducted per Administrative Procedure AP-5.13Q. Los Alamos responded by suggesting a Los Alamos person as the Readiness Review board chairman. The Readiness Review has not been performed to-date, pending resolution and verification of Audit 89-7, Observation Nos. 89-7-01 and 89-7-02, and revision of Los Alamos procedure QP-02.4. Based on the correspondence, it is not clear who is responsible for the Readiness Review (the Project Office or Los Alamos) or which procedure governs. In addition, the chairman suggested by Los Alamos is the author from the subject study plan and does not appear to have sufficient independence from the activity to be reviewed.
3. Los Alamos Detailed Technical Procedures (DPs) and Quality Assurance Procedures (QPs) referenced or identified in a study plan are incorrect or have not been prepared.
4. A QA review of a study plan was conducted following the issuance of AP-1.10Q. The QA review identified conflicting QA program criteria between two tables in the study plan, but did not identify numerous unissued and superseded QPs in one of the Tables.
5. Los Alamos DPs reference obsolete QPs. Although action is being taken to cross reference on procedure tables-of-content obsolete and superseded QPs to the equivalent current procedures, Los Alamos should establish measures to review DPs on a periodic basis for changes, updates, and corrections.
6. LBL procedures for Project activities are prepared, reviewed, and approved under the Los Alamos QAPP and QP-05.2. The TWS-LBL-DP-XX procedures, although issued in their own controlled binder set, were not issued to various "reference" set QA binder assignees who have a need for the LBL procedures for reference purposes.
7. The purchase requisition and associated "Statement of Work" for the University of Colorado does not define which Los Alamos implementing procedures are required to perform the scope of work described by the statement.

8. Los Alamos procedure QP-05.2 states that the purpose of the QP is to "describe the writing, reviewing, approving...of technical procedures (DPs) used by Los Alamos and any of its contractors." Throughout the rest of the procedure, there is no further reference to the subcontractor's effort.
9. The Los Alamos QAPP for the Project provides instructions to apply the QA requirements to the technical activities conducted by Los Alamos in support of the Project. Los Alamos does not have a mechanism (procedure) for making changes to their QAPP.
10. AP-6.3Q identifies the Project Sample Management Facility (SMF) provisions for control of samples. Los Alamos procedure QP-08.1 identified AP-6.3Q provisions and requirements to certify field sample collection personnel per AP-6.3Q. Detailed technical procedures for sample collection and identification didn't fully address or reference AP-6.3Q and/or QP-8.1.
11. Laboratory analytical Measuring and Test Equipment (M&TE), to be used by Isotope and Nuclear Chemistry (INC), and LBL for Project activities, and identified in study plans and detailed technical procedures (DPs), have not been added to the "List of Calibrated Measuring and Test Equipment (M&TE)" by initiation of an M&TE calibration record per QP-12.1.
12. Los Alamos procedure QP-17.3 does not address all of the record review criteria specified in AP-1.7Q.
13. During the audit, it was noted by the technical auditors that, as part of good scientific practice, calculations or other actions were internally verified by Los Alamos technical staff. These actions were not identified as having been checked in laboratory notebooks and these checks were not identified as mandatory verification points in the controlling procedures.
14. Letter reports were found attached to monthly activity reports for the Project. These letter reports were identified as Level III milestones and contain a considerable amount of data in some cases. These reports are viewed as internal, informal, and preliminary by the authoring staff. Some of these letter reports originate at subcontract organizations. It appears that these reports are intended for administrative purposes only and for that reason do not receive technical review. Data included in activity reports that have not been technically reviewed should be identified as preliminary and a mechanism needs to be established that can exclude such reports from the technical review cycle.

### 6.3 Concerns Corrected During the Audit

1. No documented evidence existed to substantiate that a reviewer's comments had either been incorporated into or resolved for Study Plan 8.3.1.8.5.1, "Characterization of Volcanic Features." Los Alamos corrected this deficiency per memorandum TWS-EES-1-3-90-27, dated March 29, 1990, addressing the reviewers comments and reviewers acceptance of the present version of the study plan.
2. During review of the publication entitled "Basaltic Volcanic Episodes of the Yucca Mountain Region," a completed Attachment 3, "Technical Review Criteria," (per Los Alamos procedure QP-03.2) was not included in the review package. All reviews had been signed off by the responsible PI. Los Alamos corrected this deficiency by having the reviewer complete Attachment 3 for the previously referenced publication. The attachment was included as part of the review package per memorandum, TWS-EES-13-03-90-113, dated March 30, 1990.
3. The University of New Mexico was identified as a qualified supplier of QA Level I services; however, they are not listed on the Approved Vendors List (AVL). Los Alamos corrected this deficiency per memorandum, TWS-EES-13-LV-03-90-09, dated March 29, 1990, by adding the University of New Mexico to the AVL for Volcanism Studies. [Reference the Los Alamos/Project AVL, Page 1, dated March 30, 1990.]
4. The approved purchase requisition (8482Y) for the University of Colorado did not include provisions for the application of appropriate QA requirements to be passed on to its subcontractors. Los Alamos corrected this deficiency by revising Appendix B, "Statement of Work, University of Colorado purchase requisition (8482Y)," to include flow-down of any appropriate QA requirements to subcontractors.
5. The USGS is writing a report for Los Alamos relative to potassium-argon age determination for samples taken from Lathrop Wells, which is a QA Level I activity. No documented evidence was available to substantiate that the Quality Assurance Project Leader (QAPL) advised the Project Office regarding the activity so that an audit and/or surveillance could be performed. Los Alamos corrected this deficiency per letter, TWS-EES--13-03-90-109, dated March 29, 1990, requesting that the Project Office take the necessary steps to perform an audit or survey of the USGS relative to QA Level I work in the "Characterization of Volcanic Features" task.

6. Purchase requisition H-7123, dated March 15, 1990, was approved for the purchase of QA Level I calibration services from Troemner, Inc. The purchase requisition was marked "QA Level I, Commercial Grade Acceptable." Los Alamos corrected this deficiency per the following:
  - a. Memorandum, TWS-EES-15-03-90-024, dated March 30, 1990, clarified that the purchase requisition for No. H-7123 should have originated as a procurement for a QA Level I service, which requires vendor qualification. Attached to the letter is the purchase requisition, which has been revised to reflect the new QA level assignment.
  - b. Memorandum, TWS-EES-15-03-90-025, dated March 30, 1990, details that the method "evidence of prior acceptance" was used to qualify Troemner, Inc. for weight set calibration. Attached to the letter is a survey performed of Troemner, Inc. by General Instrument Corporation.
  - c. Troemner, Inc. was added to the Los Alamos/Project AVL, Page 1, dated March 30, 1990.
7. With regard to activities for which a stop work order had been issued, Los Alamos did not identify the method used to monitor the "stop work" to ensure that work related to the affected activity did not continue. Los Alamos corrected this deficiency per memorandum, TWS-EES-13-03-90-106, dated March 29, 1990, which identifies the method of verification for Stop Work Order SWO-LA01.
8. Los Alamos procedure QP-15.2, Revision 0, did not address the requirements stated in NNWSI/88-9, Revision 4, Section XV, Paragraph 1.4.5. Los Alamos corrected this deficiency by adding the above Project requirement to procedure QP-15.2, Revision 1, Paragraph 6.5.2.1.
9. Changes were made to Los Alamos procedure QP-18.2, Revision 1 after the effective date of March 12, 1990. Los Alamos corrected this deficiency by issuing Change Request (CR) No. 136 to procedure QP-18.2, to formally document the changes.
10. Los Alamos procedure QP-12.1, Revision 4, Paragraph 4.6, contradicted the requirement stated in NNWSI/88-9, Revision 4, Section XII, Paragraph 2.2, which states in part, "Calibrating standards shall have equal or greater accuracy than the equipment being calibrated." Los Alamos corrected this deficiency by issuing Change Request (CR) No. 140 to procedure QP 12.1, to revise the procedure to meet the above stated Project requirement.

11. An auditor certification was missing. Los Alamos corrected this deficiency by producing a new certification for the auditor in question.
12. Los Alamos procedure DP-07, Revision 3, "Electron Microprobe," omitted establishment or selection of the electron gun operating voltage. Los Alamos corrected this deficiency by issuing CR No. 138 to procedure DP-07.

#### 7.0 RECOMMENDED ACTION

Responses to each SDR (delineated in Section 6.0) are due within 20 working days from the date of the SDR transmittal letter. Upon response, and satisfactory verification of all remedial and corrective actions, the SDRs will be closed and Los Alamos will be notified (by letter) of the closure.

A written response is required for the observations contained in Enclosure 2 of this report. Responses are due within 20 working days from the date of the transmittal letter of this report.

ENCLOSURE 1

LOS ALAMOS NATIONAL LABORATORY  
90-01 AUDIT ROSTER

<u>NAME</u>	<u>ORGANIZATION</u>	<u>TITLE</u>	<u>PRE-AUDIT</u>	<u>CONTACTED DURING AUDIT</u>	<u>POST AUDIT</u>
Arceo, Amelia I.	SAIC	Auditor	X		X
Bish, David	Los Alamos			X	
Blaylock, James	DOE/YMP	Audit Manager	X		X
Bolivar, Stephen L.	Los Alamos	QA Liaison	X	X	
Bradbury, John	NRC	Observer	X		
Broxton, Dave	Los Alamos	Technical Coordinator	X	X	X
Caldwell, J. R.	MACTEC	Observer			X
Campbell, Katherine	Los Alamos			X	
Canepa, Julie A.	Los Alamos	Project Leader	X	X	
Carpenter, Scott A.	LBL	Designated QA Liaison		X	X
Chavez, C.	Los Alamos				X
Clevenger, Michael S.	Los Alamos	QA Liaison	X	X	X
Cole, Eric M.	LATA	QA Specialist	X	X	X
Collins, Ron	DOE	Observer	X		X
Cocoros, A. Edward	MACTEC	Auditor	X		X
Crawford, Sidney L.	SAIC	Auditor	X		X
Crowe, Bruce	Los Alamos	Principal Investigator		X	
Curtis, David	Los Alamos	Group Leader	X		X
Dana, Stephen R.	SAIC	Audit Team Leader	X		X
Daniels, William R.	Los Alamos	Group Leader	X		X
Day, John L.	LATA	QAS Verif. Coordinator	X	X	X
Diaz, Mario R.	DOE/YMP	Auditor	X		X
Essington, Edward H.	Los Alamos	Staff			X
Foster, Karen L.	LATA	QAS - Records	X	X	X
Friedrich, Chris	DOE/YMP	Technical Specialist	X		
Gainer, Gabriela M.	LATA	QA Engineer	X	X	X
Gancarz, Alex	Los Alamos	Dep. Div. Leader	X		X
Gonzalez, Michael R.	NRC	Observer	X		
Goulding, Patricia F.	LATA	QA Specialist	X	X	
Guthals, P.	AOD	QAO	X		
Harrington, Charles	Los Alamos	Staff	X		X
Haslebacher, W.	Weston/DOE	Observer	X		
Herbst, Richard J.	Los Alamos	Tech. Proj. Officer	X	X	X
Hersman, Larry	Los Alamos	Principal Investigator	X	X	
Hessman, Larry E.	Los Alamos	Principal Investigator			X
Hooks, Kenneth R.	NRC	Observer	X		X
Horton, Donald G.	DOE/YMP	Director, QA			X
Humes, H.	Los Alamos			X	
Hutton, Richard D.	SAIC	Resident Integrator	X		
Jones, Marcia	Los Alamos	REC	X		

LOS ALAMOS NATIONAL LABORATORY  
90-01 AUDIT ROSTER

<u>NAME</u>	<u>ORGANIZATION</u>	<u>TITLE</u>	<u>PRE-AUDIT</u>	<u>CONTACTED DURING AUDIT</u>	<u>POST AUDIT</u>
Kalia, Hemendra N.	Los Alamos	Leader - ESP Testing	X		
Maasser, Larry	Los Alamos	QA Project Leader			X
Marchand, W. R.	Weston/DOE	Observer	X		X
Maudlin, Richard L.	MACTEC	Auditor	X		
Mitchell, Alan	Los Alamos	INC			X
Mitchell, Martha J.	SAIC	Lead Technical Spec.	X		
Morgan, Terry	Los Alamos	QA Liaison	X	X	
Morley, Richard	Los Alamos	QA Liaison	X	X	X
Morris, Wayne A.	Los Alamos	Group Leader			X
Myers, C. W.	Los Alamos	EES-DC	X		
Nettles, Ed	Los Alamos	Spec. Project Officer	X		
Newman, Brent D.	Los Alamos	Resident Technician	X		X
Noland, Terry W.	Westinghouse	Auditor-In-Training	X		X
Nunes, Henry P.	Los Alamos	QA Project Leader	X	X	X
Patera, Edward S.	Los Alamos	Technical Coordinator	X		X
Peters, Forrest D.	SAIC	Technical Specialist	X		X
Polzer, Wilfred L.	Los Alamos	EES-15	X		X
Robinson, Bruce	Los Alamos	Principal Investigator	X		
Sebring, Sue R.	Los Alamos	QA Liaison	X	X	X
Schempp, Lloyd W.	Los Alamos	Proj. Dev. Coordinator	X	X	X
Simundson, Dan	LATA	Training Coordinator			X
Springer, Everett P.	Los Alamos	Principal Investigator		X	X
Sprouse, Bill	Los Alamos	Security Specialist	X		
Trap, John S.	NRC	Observer	X		
Triay, Ines	Los Alamos	INC			X
Vaniman, Dave	Los Alamos	EES-1	X	X	X
West, Karen A.	Los Alamos	Project Leader	X	X	X
Whetten, John	Los Alamos	Associate Director			X
Williams, Donna	Los Alamos			X	
Zimmerman, Susan	St. of NV	Observer	X		X



ORIGINAL

THIS IS A RED STAMP

## YMPO STANDARD DEFICIENCY REPORT

N-QA-038  
4/89

Completed by Originating QA Organization	1 Date 03/30/90		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 28
	3 Discovered During YMP Audit 90-1		3a Identified By M. R. Diaz, T. W. Noland		4 SDR No. 511 Rev. 0
	5 Organization Los Alamos		6 Person(s) Contacted H. Nunes		7 Response Due Date is 20 Working Days from Date of Transmittal
	8 Requirement (Audit Checklist Reference, if Applicable) QAP/88-9, Rev. 4, Sect. 1, Para. 1.0 states in part, "The organizational structure, lines of communication, authority and duties of persons and organizations performing activities affecting quality shall be clearly				
Completed by Organization in Block 5	9 Deficiency An implementing procedure that clearly describes the authority and responsibility of each position in the Quality Assurance organization, in effect as of March 27, 1990, does not exist.				
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective Identify the remedial action(s) to be taken to correct the deficiencies noted in Block 9. Identify the cause of the condition and the planned				
	11 QAE/Lead Auditor/Date Mario Diaz 4/9/90		12 Division Manager/Date N/A on 4-10-90		13 Project Quality Mgr./Date C. H. H. 4-10-90
	14 Remedial/Investigative Action(s)  Refer to Page 3 of 3				
Completed by Organization in Block 5	16 Cause of the Condition & Corrective Action to Prevent Recurrence  Refer to Page 3 of 3				
	18 Signature/Date H. Nunes 5/18/90				
	19 Response Accepted QAE/Lead Auditor/Date: Mario Diaz 5/25/90 Division Manager/Date: N/A Project Quality Mgr./Date: C. H. H. 5-25-90				
Comp. by Orig. QA Org.	20 Corrective Action Verif. Satisfactory QAE/Lead Auditor/Date: N. Harris 1/16/91 Division Manager/Date: N/A Project Quality Mgr./Date: C. H. H. 1/17/91				
	21 Remarks RESPONSE 5/17/90 TWS-EES-13-05790-066 Accept Response, YMP: CEH-3552, 6-5-90 Extension Request 7/10/90 - TWS-EES-13-07-90-038 - Accepted 8/6/90 - YMP: CEH-4414 Extension Request 10/3/90 - TWS-EES-13-10-90-035 - Accepted 11/7/90 - QA: CEH-693 Extension Request 12/10/90 - TWS-EES-13-12-90-030 - Accepted 1/8/91 - YMAAD: CEH-1573 Block 20 Corrective Action Verification Statement attached 8/14/91 Closure 1/29/91 - YMAAD: CEH-1805				
	22 QA CLOSURE QAE/Lead Auditor/Date: N. Harris 1/16/91 Division Manager/Date: N/A PQM/Date: C. H. H. 1/17/90				

YMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
2/89

*Handwritten signature*  
*ADY*

SDR No. 511

Page 2 of 235

8 Requirement ( continued )

established and delineated in writing." Para. 2.3 states in part, "The QA responsibilities of all organizational elements depicted on organization charts shall be described."

10 Recommended Actions ( continued )

action to prevent recurrence.

**14. Remedial/Investigative Action(s)**

**Remedial Actions:** LANL management will revise the Quality Assurance Program Plan to describe the organizational structure with reporting authorities, lines of responsibility, and duties properly described in the revision.

**Investigative Actions:** None required.

**16. Cause of the Condition and Corrective Action to Prevent Recurrence**

**Cause of the Condition:** LANL organization was changed before the audit, and no steps were taken to formally record this change in either the LANL Quality Assurance Program Plan or a new implementing procedure.

**Corrective Action to Prevent Recurrence:** A revision to the LANL Quality Assurance Program Plan will be prepared describing the LANL Yucca Mountain organizational structure and submitted to the Yucca Mountain Project Office for approval.

SDR 511 VERIFICATION

Page 4 of 5

BLOCK 20 - Corrective Action Verification

1. Verified the revised Section 1, Organization, and Section 2, Quality Assurance Program, to the LANL. Quality Assurance Plan was submitted to the Project Office for review and acceptance via LANL letter R. J. Herbst to Donald Horton, dated 11/26/90, Subject: Corrective Action Completion on SDR 511, Action Item NN1-1990-3132.
2. Verified Project Office, Quality Assurance Division's Program Control group, reviewed revisions to Section 1 and 2 to the LANL Quality Assurance Plan on 12/21/90. One comment on obsolete title was generated.
3. Verified that a revision was made to Section 2 to incorporate the Project Office review comment via LANL letter R. J. Herbst to Donald Horton, dated 1/3/91, Subject: Corrective Action Completion on SDR 511, Action Item NN1-1990-3132.
4. Verified the Project Office, Quality Assurance Division's Program Control Group, reviewed the revision to Section 2, which incorporated their comment and signed off the acceptance of the proposed changes to Sections 1 and 2 of LANL's Quality Assurance Plan on 1/15/91.

*J. Harris*  
1/16/91

# DOCUMENT REVIEW SHEET (DRS)

N-QA-041  
10/90

Page 5 of 5

Document ID No.:

Proposed QAPP Changes

If "NO" checked in acceptance column, see  
attached CDRS  
(\* Denotes Major Comment)

Page 1 of 1

## REVIEW COMMENTS

## RESPONSE

## ACCEPTANCE

YES NO INITIAL/DATE

Reference: Letter, Herbert  
to Horton, dated 11/26/90  
#TWS-EES-13-11-90-057

SECTION 2.1: References to  
Obsolete title of "PQM"  
should be changed  
to "QADD".

Changed SECTION 2.1  
as requested (i.e.,  
"PQM" to "QADD".

✓

N. Horton  
1/15/91

REVIEWED BY:

*N. Valdivia*  
Signature

12/21/90  
Date

RESPONSE BY:

*R. K. [Signature]*  
Signature

1/14/91  
Date

# SDR SEVERITY LEVEL CHECKLIST

SDR-511

N-QA-037

4/89

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

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

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

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

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

QA/Lead Auditor

Mavis Lau 4/9/90  
Signature/Date

QA Division Manager

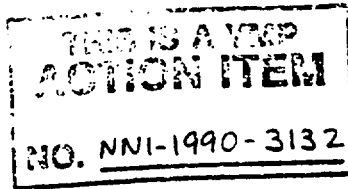
N/A Ctb 4-10-90  
Signature/Date

POB

[Signature]  
Signature/Date 4-16-90

# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545



WBS 1.2.9.3  
QA  
**QA RECEIVED**

DEC 04 1990

November 26, 1990

TWS-EES-13-11-90-057

Mr. Donald Horton  
Yucca Mountain Site Characterization  
Project Office  
U. S. Department of Energy  
P. O. Box 98608  
Las Vegas, NV 89193-8608

Dear Mr. Horton:

**SUBJECT: CORRECTIVE ACTION COMPLETION ON STANDARD DEFICIENCY  
REPORT NO. 511, ACTION ITEM NNI-1990-3132**

The revised Section 1, Organization, to the LANL Quality Program Plan is attached for your review and approval. This submittal completes the corrective action required for the referenced SDR 511.

Revisions to Section 2, Quality Assurance Program, are also attached for your review and approval. These revisions reflect the deletion of QA Levels and the introduction of QA Grading, plus a method by which revisions to the QAPP are to be made.

Upon receipt of your approval or comments, the QAPP revisions will be formatted into the QAPP format and issued through the LANL controlled distribution system to the QA Manual holders. If you have any questions, please contact Henry Nunes at (FTS) 843-8039.

Sincerely,

Richard J. Herbst

HPN/kb

Attachment: a/s

Cy w/o attach. (Limited Value Material):

N. R. Arendt, MAT-3, MS P274  
S. L. Bolivar, EES-1, MS D462  
K. E. Brackhahn, EES-13, MS J521  
J. J. Brogan, SAIC, Las Vegas, NV  
J. A. Canepa, EES-13, MS J521  
M. J. Clevenger, EES-15, MS J495  
E. M. Cole, LATA, MS M321  
G. P. Cort, EES-13, MS J521  
J. L. Day, LATA, MS M321  
R. J. Herbst, EES-13, MS J521  
H. N. Kalia, EES-1/LV, MS J900/527

T. L. Morgan, INC-7, MS J514  
R. A. Morley, EES-13/LV, MS J900/527  
H. P. Nunes, EES-13, MS J521  
K. A. West, EES-13, MS J521  
RPC file (2), LATA, MS M321  
TWS-EES-13 file, MS J521  
QA Files, LATA, MS M321  
CRM-4, MS A150

## **1.0 ORGANIZATION**

### **1.1 Management**

Management responsibility for the Yucca Mountain Project (YMP) at Los Alamos is assigned to group EES-13. The Project Office uses a Work Breakdown Structure (WBS) to describe and relate the work of the Project. Individual WBS elements are assigned to the Project participants which include Los Alamos. EES-13 plans and manages the Los Alamos efforts required to support work assignments made by the Project Office. The EES-13 Group Leader shall be YMP Technical Project Officer (TPO). Any delegation of this responsibility by the EES-13 Group Leader shall be in writing.

### **1.2 Quality Assurance Program**

A quality assurance program shall be established. The quality assurance program shall be described in a Quality Assurance Program Plan (QAPP). Major changes may be made to the QAPP. However, these changes shall be subject to the Project Office's approval. Implementation of the requirements of the QAPP shall be accomplished through Quality Implementing Procedures (QP). The QPs shall assure that standard practice and objective evidence (records) attesting to compliance with the requirements results from their use.

### **1.3 Quality Assurance Organization**

The overall LANL YMP organization is described in Figure 1-1. Duties and responsibilities of all personnel shall be described in Position Descriptions prepared by supervisors. The Position Description shall also document the minimum education and experience required for each position. QA responsibilities follow.

#### **1.3.1 Technical Project Officer**

The TPO shall be responsible for the development of the overall quality program. The TPO shall approve the QAPP, QPs, implementing technical and administrative procedures, and technical information products.

#### **1.3.2 Project Leaders**

The PLs are responsible for understanding and implementing the LANL YMP QA Program in their areas of responsibility, as applicable, on a day to day basis. This shall include developing quality and technical or administrative procedures as appropriate; participating in audits and surveillances; reviewing and approving technical information products in accordance with the appropriate procedures; and assuring that support staff is trained to the appropriate QP and technical or administrative procedures.



# YUCCA MOUNTAIN PROJECT ORGANIZATION

LOS ALAMOS NATIONAL LABORATORY

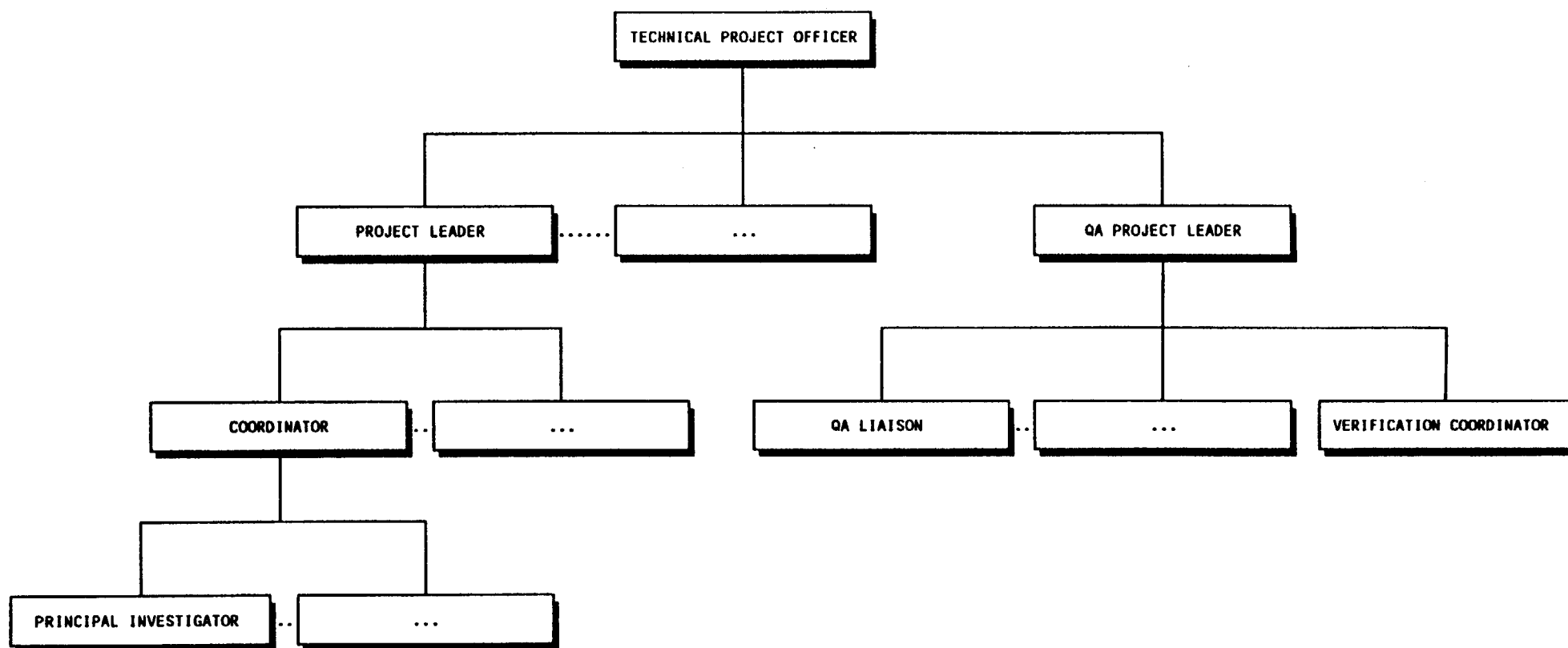


Figure 1-1. YMP Organization at Los Alamos National Laboratory.

### 1.3.3 Coordinators

Coordinators are responsible for understanding and implementing the LANL YMP QA Program in their areas of responsibility, as applicable, on a day to day basis. This shall include developing quality and technical or administrative procedures as appropriate; participating in audits and surveillances; and assuring that support staff is trained to the appropriate QP and technical or administrative procedures.

### 1.3.4 Principal Investigators

Principal Investigators (PI) are responsible for understanding and implementing the LANL YMP QA Program for scientific investigation activities, as applicable, on a day to day basis. This shall include developing quality and technical procedures; participating in audits and surveillances; and assuring that support staff is trained to the appropriate QPs and technical procedures..

### 1.3.5 Dedicated QA Positions

The following positions are assigned QA responsibilities only.

#### 1.3.5.1 Quality Assurance Project Leader

Responsibility for the development of a Quality Assurance Program Plan (QAPP) and implementation of the QAPP shall be assigned to an EES-13 staff member who shall be titled QA Project Leader. The QA Project Leader shall approve the QAPP and the quality implementing procedures. The QA Project Leader shall report administratively to the TPO. Verification of the overall quality program shall be assigned to a subcontractor. The verification subcontractor shall report to the QA Project Leader. The verification subcontractor shall survey and audit the YMP work at Los Alamos. The verification subcontractor shall review the quality implementing procedures proposed by Los Alamos. Additional duties in connection with administration of the quality assurance program may be assigned to a subcontractor at the discretion of the QA Project Leader. Such assignments shall be documented.

The QA Project Leader is authorized to resolve disputes regarding the interpretation of quality requirements or their applicability. Disputes which cannot be satisfactorily resolved by the QA Project leader shall be decided by the TPO. Decisions by the TPO may be appealed by the QAPL to the Los Alamos Quality

Assurance Officer (QAO) or the YMP QA Division Director (QADD). QA related decisions by the LANL QAO or the YMP QADD are final.

#### **1.3.5.2 Quality Assurance Liaison**

Laboratory organizational units (Divisions or Groups) and subcontractors with twelve or more full-time-equivalent employees assigned to the YMP shall employ a Quality Assurance Liaison (QAL). Group EES-13 shall employ a QAL at-large who shall serve all smaller units. The QAL shall facilitate implementation of the quality assurance program within the unit. The QAL shall report programmatically to the QA Project Leader. Personnel assigned as QALs shall not have other duties or responsibilities that prevent or conflict with those in connection with their QAL assignment. Additional duties and responsibilities as well as the education and experience required of personnel assigned as QALs shall be described in Position Descriptions prepared by the QA Project Leader.

#### **1.3.5.3 Verification Coordinator**

The Verification Coordinator shall report directly to the QAPL. The Coordinator shall be part of the subcontractor verification organization and be fully responsible for directing the internal audit and survey program, assuring that the assigned audit staff is trained to the appropriate LANL implementing procedures.

### **1.4 Achievement, Maintenance, and Verification of Quality**

Quality shall be achieved and maintained by those performing the actual work, i.e. the line organizations. Quality achievement shall be verified by persons not directly responsible for performing the work, i.e. the QA Verification staff. Allegations of inadequate quality or disputes over quality requirement conformance shall be resolved in accordance with a LANL implementing procedure for quality conflict resolution.

### **1.5 Interface Between Participant Organizations**

Interfaces are defined as exchanges or shared technical requirements of work and organizational liaison with ongoing work. When more than one Participant organization is involved in activities affecting quality, the responsible line organization shall clearly define the interface in accordance with the LANL implementing procedure. This interface between LANL and other Participants shall be through the TPO. All interfaces between LANL and the Project Office are through the TPO as defined in the implementing procedures.

For internal interfaces at LANL, this document describes the various duties and responsibilities of the overall LANL Yucca Mountain Organization to effectively manage the LANL Yucca Mountain program. No further action or implementation procedures are necessary. Interfaces between LANL and its subcontractors shall be defined in procurement documents resulting from the use of the procurement implementation procedures.

## Proposed changes to Section 2

(Delete Section 2.1, first paragraph, and substitute the following:)

### **2.1 Basic Requirements of the Los Alamos National Laboratory Yucca Mountain Project Quality Assurance Program**

LANL's QA program consists of the LANL QAPP and QPs. The LANL QAPP and QPs will be prepared by the LANL YMP QA and technical staff to comply with the most current revision of the YMP Quality Assurance Plan (QAP). The QAPP will be submitted to the QADD for review prior to implementation. When the LANL QAPP is submitted to the Project Office for review, a checklist based on the YMP QAP is included. After the QAPP is reviewed by the PQM and after comments and revisions are resolved, the documents will be approved by the PQM; the approved QAPP will be issued. After internal LANL review, comment, and approval (pursuant to Section 6 of this QAPP); QPs will be issued for use.

Changes to the LANL YMP QAPP may be proposed by any LANL YMP staff by submitting the proposal, in writing, to the LANL YMP QAPL. Proposed changes will be evaluated by the QAPL, to assure compliance with YMP Quality requirements, and will either be approved or disapproved. Approved changes will be submitted to the TPO for their review and either be approved or disapproved. Disapproved changes will be returned to the originator with a description of why the proposed change was disapproved. If the TPO approves the proposed change, the change will be submitted to the Project Office QADD for review. If the QADD approves the change then the QAPP will be revised and redistributed.

Revisions to any portion of a section requires redistribution of that entire section, including the signature page indicating approval of the revision, the title page indicating the revision of the document and the table of contents indicating the revision of the section.

## Proposed changes to Section 2

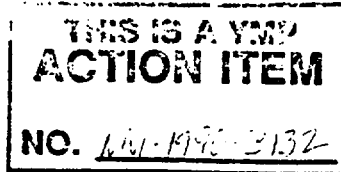
(Delete Section 2.2 and all subsections, substituting the following:)

### **2.2 Application of Graded Quality Assurance**

LANL YMP Program activities will be graded in accordance with the Project Office guidance and the resulting grading reports will be submitted to the Project Office for their review and approval. Graded activities will be those defined in the Yucca Mountain Project controlled documents YMP/90-55, Q-List; YMP/90-56, Quality Activities List; and YMP-90-57, Project Requirements List. Grading for activities at lower WBS levels will be conducted in accordance with a LANL QP. The resulting grading report will be submitted to the Project Office for their information.

# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545



WBS 1.2.9.3  
QA

December 10, 1990

TWS-EES-13-12-90-030

**QA RECEIVED**

DEC 14 1990

Mr. Donald Horton  
Yucca Mountain Site Characterization  
Project Office  
U. S. Department of Energy  
P. O. Box 98608  
Las Vegas, NV 89193-8608

Dear Mr. Horton:

**SUBJECT: EXTENSION REQUEST FOR STANDARD DEFICIENCY REPORT NO. 511,  
ACTION ITEM NN1-1990-3132**

**Reference: Letter, Herbst to Horton, dated 11/26/90**

Pursuant to the referenced letter submitting the required revisions to the LANL QAM, Criteria 1 and 2, a conversation with S. Dana of your staff indicated that further actions were still required to properly close the SDR. Specifically, the Project Office needed to review and resolve any differences with us regarding the revisions and we needed to distribute the revision to the controlled QA Manual holders. Therefore, we request an extension to March 15, 1991, to allow for these actions to occur. LANL's referenced letter submitted the completed corrective action commitment as previously approved by the Project Office.

If you have any questions, please contact Steve Bolivar at (FTS) 843-1868.

Sincerely,

A handwritten signature in black ink, appearing to read "R. J. Herbst".

Richard J. Herbst

HPN/kb

Cy:

N. R. Arendt, MAT-3, MS P274  
S. L. Bolivar, EES-13, MS J521  
K. E. Brackhahn, EES-13, MS J521  
J. J. Brogan, SAIC, Las Vegas, NV  
J. A. Canepa, EES-13, MS J521  
M. J. Clevenger, EES-15, MS J495  
E. M. Cole, LATA, MS M321  
G. P. Cort, EES-13, MS J521  
J. L. Day, LATA, MS M321  
R. J. Herbst, EES-13, MS J521  
T. L. Morgan, INC-7, MS J514

R. A. Morley, EES-13/LV, MS J900/527  
E. P. Springer, EES-13, MS J521  
K. A. West, EES-13, MS J521  
RPC file (2), LATA, MS M321  
TWS-EES-13 file, MS J521  
QA Files, LATA, MS M321  
CRM-4, MS A150

**YMPO STANDARD DEFICIENCY REPORT**

N-QA-038  
4/89

Completed by Originating QA Organization	1 Date 03/30/90		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2
	3 Discovered During YMP Audit 90-1		3a Identified By F.D. Peters		4 SDR No. 512 Rev. 0
	5 Organization Los Alamos		6 Person(s) Contacted D. Hobart, B.M. Crowe		7 Response Due Date is 20 Working Days from Date of Transmittal
	8 Requirement (Audit Checklist Reference, if Applicable) (T-67, T-112, T-116) Los Alamos procedure TWS-QAS-QP-03.2, Rev. 0, Para. 6.2.1, requires reviewers to be technically qualified and certified per QP-02.1 (for Los Alamos YMP and Los Alamos YMP subcontractor personnel) or				
Completed by Organization in Block	9 Deficiency Non-Los Alamos or subcontractor YMP personnel have performed technical reviews of documents in accordance with QP-03.2 and QP-03.5 without documentation or certification of qualification or indoctrination to				
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective Identify the remedial actions to be taken to correct the deficiencies noted in Block 9. Investigate the program, process, activities, or documentation to				
	11 QAE/Lead Auditor/Date <i>S. Dune 4/9/90</i>		12 Division Manager/Date <i>N/A 4-12-90</i>		13 Project Quality Mgr./Date <i>4-12-90</i>
	14 Remedial/Investigative Action(s)  <i>Refer to Page 3 of 3</i>				
Comp. by Org. QA Org.	15 Effective Date <i>June 29, 1990</i>				
	16 Cause of the Condition & Corrective Action to Prevent Recurrence  <i>Refer to Page 3 of 3</i>				
	17 Effective Date <i>July 31, 1990</i>				
	18 Signature/Date <i>HPMunes 5/18/90</i>				
Comp. by Org. QA Org.	19 Response Accepted		QAE/Lead Auditor/Date <i>S. Dune 5/3/90</i>	Division Manager/Date <i>N/A</i>	Project Quality Mgr./Date <i>5/3/90</i>
	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date <i>5/17/90</i>	Division Manager/Date <i>N/A</i>	Project Quality Mgr./Date <i>5/17/90</i>
	21 Remarks <i>Response 5/17/90 - TWS-EE5-13-05-90-066</i> Accept Response, YMP: CEH-3552, 6-5-90 COPIES OF CHANGE REQUESTS ATTACHED. RBC. 10/17/90				
	22 QA CLOSURE <i>Closure 10/22/90 - QA:CEH-441</i>				

ENCLOSURE



YMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
2/89

SDR No. 512

Page 2 of 136

CHM

8 Requirement ( continued )

authorized by a Los Alamos Group Leader on a Reviewer Qualification form (for persons "not associated with the Project").

Los Alamos procedure TWS-QAS-QP-03.5, Rev. 0, Para. 4.8, provides for technical reviewers of laboratory notebooks, field notebooks, and logbooks to have the training and experience to understand and repeat the work being reviewed, but does not specifically require documentation or certification of the reviewer's qualification basis.

9 Deficiency ( continued )

applicable Los Alamos procedures for the reviews and for the activities being reviewed.

1. Report LBL-27173A, "Solubility Studies of Transuranic Elements for Nuclear Waste Disposal: Principles and Overview" was technically reviewed by a Lawrence Livermore National Laboratory (LLNL) employee.
2. Paper, "Basaltic Volcanic Episode of the Yucca Mountain Region" for the 1990 International High Level Waste Management conference was technically reviewed by a DOE/YMP employee.
3. Field notebooks for volcanism studies (WBS 1.2.3.2.5; SP 8.3.1.8.1.1, 8.3.1.8.5.1) were technically reviewed by a DOE/YMO employee.

COMMENTS:

QP-02.1, referenced by QP-03.2, has been superseded by TWS-QAS-QP-02.5, Rev. 0, TWS-QAS-QP-02.6, Rev. 0, and TWS-QAS-QP-02.9, Rev. 0. QP-02.5, QP-02.6, and QP-02.9 apply only to Los Alamos YMP Personnel (Los Alamos employees) and Los Alamos subcontractors working under the Los Alamos YMP QA program. The procedures do not apply to DOE/YMP personnel or employees of other project participants.

A similar condition was previously identified during YMP Audit 89-07 by Observation No. 89-07-04. The Los Alamos response clarification to that observation stated "Training files for non-employees who have performed quality related work will be updated in accordance with approved changes to the program."

10 Recommended Actions ( continued )

determine the extent and depth of similar deficient conditions to those listed on the SDR. Identify these deficiencies and provide the measures required to correct them. Identify the cause of the condition and the planned corrective action to prevent recurrence.

VERIFICATION REMARKS: CHANGE REQUESTS N<sup>o</sup> 130, 131 & 160 GENERATED AND ISSUED BY LTR NS 10/10/90. THIS WAS THE RESULT OF INVESTIGATIVE ACTIONS. REVIEWER FILES WERE UPDATED AS

REQUIRED TO INCLUDE QUAL. & TRAIN. INFO.

RB 10/16/90

#### **14. Remedial/Investigative Actions**

**Remedial Actions:** R. Morley will review the documentation files for Report LBL-27173A, "Basaltic Volcanic Episode of the Yucca Mountain Region," and Volcanism field notebooks for compliance with the appropriate implementing procedural requirements. The reviewer documentation files will be updated to include qualification and training information on the reviewers involved with the above listed items.

**Investigative Actions:** LANL QALs will review the documentation for internal technical reviews for fiscal years 1989 and 1990 to ascertain if any non-LANL YMP personnel performed technical reviews. Those personnel will be cross checked against the qualification files to ensure that they are qualified and trained for this function. The appropriate files will be updated based on the results of this review, and each QAL will send a written report of actions, if any, to the QAPL.

#### **16. Cause of the Condition and Corrective Action to Prevent Recurrence**

**Cause of the Condition:** The LANL QA procedural requirements were unclear for non-LANL reviewers conducting technical reviews.

**Corrective Action to Prevent Recurrence:** The appropriate procedures will be revised to clearly define reviewer qualifications and training for both LANL and non-LANL personnel.

LOS ALAMOS NATIONAL LABORATORY  
YUCCA MOUNTAIN PROJECT  
CHANGE REQUEST

CHANGE REQUEST No. 130  
DATE June 7, 1990

Page <sup>4</sup>~~1~~ of <sup>6</sup>~~3~~ nh 10/25/90

PROCEDURE No. TWS-QAS-QP-03.2, R0

CHANGE REQUESTED:

1. Add the following definitions to Section 4.0:

Technical review: A documented traceable review performed by qualified personnel who are independent of those who performed the work but who have technical expertise at least equivalent to those who performed the original work. Technical reviews are in-depth, critical reviews, analyses and evaluation of documents, material or data that require technical verification and/or validation for applicability, correctness, adequacy and completeness.

Traceability: The ability to track the history, application or location of an item and like items or activities by means of recorded information.

(Continued on page 2 of 3)

REASON FOR CHANGE:

1. The definitions are added for clarity.

(Continued on page 2 of 3)

CHANGE REQUESTED BY Lloyd W. Schenck DATE 6-8-90  
REVIEWED BY John A. Perry DATE 10/3/90  
QAPL APPROVAL HPK DATE 10/3/90  
TPO APPROVAL Sam A. West DATE 10/3/90  
EFFECTIVE DATE 10/4/90

BEST AVAILABLE COPY

LOS ALAMOS NATIONAL LABORATORY  
YUCCA MOUNTAIN PROJECT  
CHANGE REQUEST

CHANGE REQUEST No. 131

DATE June 7, 1990

Page <sup>5</sup> of <sup>6</sup> ml 10/25/90

PROCEDURE No. TWS-QAS-QP-03.5, RO

CHANGE REQUESTED:

1. Section 6.9, add paragraph prior to Section 6.9.1:

This section refers to the technical review of the notebooks, field notebooks, or log books. These items are not considered to be Technical Information Products; therefore, implementation of QP 03.2 is not appropriate.

2. Section 6.9.1: add the following text after the second sentence:

"If the reviewer is not LANL YMP qualified, the PI fills out the Reviewer Qualification form (Attachment 2 of QP-03.2), and has the form signed, to indicate approval, by the PI's YMP Supervisor. The reviewer completes the training needed for this procedure, and completes the appropriate documentation, i.e., a reading acknowledgment or formal training form. The qualification and training forms are filed as described in section 7.1." (Continued on page 2 of 2)

REASON FOR CHANGE:

1. The statement provides clarity since the phrase technical review is used. Readers may have been confused about the use of QP-03.2.

2. A method is needed to accommodate reviews by non-LANL-YMP personnel. This method supplies an appropriate level of control.

CHANGE REQUESTED BY Lloyd W. Schenck DATE 6-6-90

REVIEWED BY J. Canepa / Julie A. Canepa DATE 10/3/90

QAPL APPROVAL [Signature] DATE 10/3/90

TPO APPROVAL [Signature] DATE 10/3/90

EFFECTIVE DATE 10/4/90

LOS ALAMOS NATIONAL LABORATORY  
YUCCA MOUNTAIN PROJECT  
CHANGE REQUEST

CHANGE REQUEST No. 160  
DATE June 18, 1990

Page 6 of 6

PROCEDURE No. TWS-QAS-QP-03.2, RO

CHANGE REQUESTED:

- (1) Section 6.2.3, first paragraph, insert after third sentence:  
"The author may attach a list of additional or alternate review criteria, if they are more appropriate for the TIP being reviewed. The list should contain a brief justification for applying the criteria listed."
- (2) Technical Review Criteria form, section 6.0: in first sentence, insert "applicable" before "criteria"; delete "and" in fourth bullet; replace period in fifth bullet with "; and"; and add sixth bullet "additional or alternate criteria (if attached)."

REASON FOR CHANGE:

The criteria currently listed are not appropriate for all of the documents that will be technically reviewed under this procedure. The added flexibility will make the procedure easier to apply.

CHANGE REQUESTED BY R. MORLEY / [Signature] DATE 6/18/90  
REVIEWED BY [Signature] / [Signature] DATE 10/3/90  
QAPL APPROVAL [Signature] DATE 10/3/90  
TPO APPROVAL [Signature] DATE 10/3/90  
EFFECTIVE DATE 10/4/90

BEST AVAILABLE COPY

YMPO STANDARD DEFICIENCY REPORT

N-QA-038  
4/89

Completed by Originating QA Organization	1 Date 03/30/90		2 Severity Level <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 3431	
	3 Discovered During YMP Audit 90-1		3a Identified By M.R. Diaz		4 SDR No. 513 Rev. 0	
	5 Organization Los Alamos		6 Person(s) Contacted H. Nunes		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) Los Alamos YMP QAPP, Rev. 4.3, Sect. 2, para. 2.1.1 states in part, "The QAPL or his appointee shall conduct internal audits of all phases of the application of this QAPP for all Los Alamos YMP activities affecting					
Completed by Organization in Block 5	9 Deficiency Contrary to the above requirements:  1. Internal and external audits of all phases of the application of Los					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective Identify the remedial actions to be taken to correct the deficiencies noted in Block 9. Investigate the program, process, activities, or documentation to					
	11 QAE/Lead Auditor/Date Mario San 4/9/90		12 Division Manager/Date N/A 4-10-90		13 Project Quality Mgr./Date Catherine Hunter 4-10-90	
	14 Remedial/Investigative Action(s)  Refer to Page 4 of 4					
Completed by Organization in Block 5	15 Effective Date MAY 31, 1990					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence  Refer to Page 4 of 4					
	17 Effective Date June 29, 1990					
	18 Signature/Date H. Nunes 5/18/90					
Comp. by Orig. QA Org.	19 Response Accepted		QAE/Lead Auditor/Date Mario San 5/25/90		Division Manager/Date N/A	
	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date Mario San 9/19/90		Division Manager/Date N/A	
	21 Remarks RESPONSE 5/17/90 TWS-EES-13-05-90-066 Accept Response, YMP: CEH-3552, 6-5-90 Unsat. Verification - YMP: CEH-4234 Amended Response, TWS-EES-13-08-90-061, 8-17-90 Amended Response 9/4/90 - TWS-EES-13-09-90-030 ACCEPT RESPONSE Mario San 9/10/90 Catherine Hunter 9/21/90  SEE PAGE 3 OF 4					
	22 QA CLOSURE		QAE/Lead Auditor/Date Mario San 9/20/90		Division Manager/Date N/A	

PQM/Date  
Catherine Hunter 9/20/90

**YMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET**

N-QA-038  
2/89

SDR No. 513

Page 2 of 31

CHM

6 Persons contacted ( continued )

8 Requirement ( continued )  
quality."

Section 18, para. 18.2.1, 18.2.2, and 18.2.3 state in part, "Internal and external QA audits shall be scheduled annually to provide complete coverage of QA program activities. The audit schedule shall be prepared annually and evaluated periodically and revised as necessary to ensure that coverage is maintained current. Los Alamos shall perform or arrange for annual evaluations of suppliers. The audit schedule, including dates and any revisions thereof, shall be sent to the PQM."

All applicable elements of Los Alamos' internal QA program shall be audited at least annually or at least once during the life of the activity, whichever is shorter.

Applicable elements of an external organization's QA program shall be audited at least annually or once during the activity, whichever is the shorter period.

The justification for not performing audits of vendors whose activities are less than four months in duration shall be documented, approved by the QAPL and sent to the PQM."

9 Deficiency ( continued )

Alamos QAPP for all YMP activities affecting quality during 1989 were not conducted. Consequently, it was not possible to verify the adequacy of the following evaluations performed by Los Alamos during internal/external audits:

- a) Compliance of the QA program.
- b) Adequacy of the QA program.
- c) Effectiveness of the QA program.
- d) Continuing implementation of the QA program.

2. The following specific notation to the audit program requirements were found:

- a) The audit schedule was rescinded during May 1989. It was never formally reissued. Documented evidence of the event was not sent to the PQM.
- b) Audit commitments were reinstated to start on June 1989. However, only two of the audits were conducted and portions of the QA documentation of those audits was found inadequate as previously identified on SDR 470.
- c) With the disruption of the audit schedule, there was no evaluation of the remainder of the schedule to assure complete coverage of QA program activities. The emphasis of the two audits focused on

YMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
2/89

SDR No. 513

Page 3 of 31

9 Deficiency ( continued )

implementation of activities without consideration that the development and approval process of procedures fall within QA program purview.

- d) Two subcontractors, EG&G and University of Texas, El Paso were not audited in accordance with program requirements; furthermore, neither is a subcontractor at the present time to Los Alamos. No documentation exists to justify cancellation of these audits.
- e) Applicable elements of all external organization's QA program were not audited.
- f) The conditions described above are indicative that the audit schedule needed to be revised; however, this action never took place.

10 Recommended Actions ( continued )

determine the extent and depth of similar deficient conditions to those listed on the SDR. Identify these deficiencies and provide the measures required to correct them. Identify the cause of the condition and the planned corrective action to prevent recurrence.

21.- AUDIT REPORT LANL-AR-90-001 DATED 8/17/90  
PERFORMED 6/4-6/90.

AUDIT REPORT LANL-AR-90-002 DATED 8/17/90  
PERFORMED 6/6-8/90.

AUDIT REPORT LANL-AR-90-003 DATED 8/17/90  
PERFORMED 6/25-29/90.

AUDIT REPORT LANL-AR-90-004 DATED 8/2/90  
PERFORMED 7/9-13/90.

SURVEILLANCE LANL-SR-90-003 PERFORMED 4/18-5/22/90  
REPORT DATED 8/2/90.

SURVEILLANCE LANL-SR-90-004 PERFORMED 6/18-9/7/90  
REPORT DATED 9/12/90.

SURVEILLANCE LANL-SR-90-005 PERFORMED 7/2-9/7/90  
REPORT DATED 9/12/90



#### **14. Remedial/Investigative Actions**

**Remedial Actions:** Issue a new audit and survey schedule.

**Investigative Actions:** The Verification Manager will review the revised audit and survey schedules to ensure that the appropriate criteria and activities are covered-- complete audit coverage of the LANL program (full criteria coverage), complete coverage of the LANL subcontractors (applicable criteria), and ongoing surveys for program implementation. The Verification Manager will issue a written report to the QAPL for review and action. These immediate actions are documented in LANL Deficiency Report No. LANL - 0017, which has been judged to be a significant condition adverse to quality. The first audit in the new schedule is set for June 4-8, 1990, at the LANL Test Manager's Office in Las Vegas and will include TMO functions and Volcanism studies.

#### **16. Cause of the Condition and Corrective Action to Prevent Recurrence**

**Cause of the Condition:** LANL activities to achieve a fully qualified program conflicted with the execution of the audit and survey program. The LANL QAPL directed QA staff efforts towards achieving program qualification not executing the internal audit and survey program. The LANL TPO notified the PQM, letter TWS-EES-13-90-088, Herbst to Horton, that the LANL audit and survey program was not implemented:

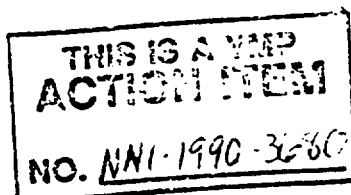
"The Los Alamos audit and survey program has not been fully implemented because our resources were fully committed to finishing the QA program and obtaining the Project Office approval of the program. We will now start the annual cycle of audit and survey March 1990. A new schedule will be transmitted to you. Project Office personnel are welcome to observe any audit or survey. Completion of the proposed procedural revisions and subsequent internal audits of the completed program will allow Los Alamos audit staff to assess the effectiveness of the quality program."

This action was prompted by the YMP No. 89-7, SDR No. 469 and SDR No. 470. Because these two SDRs defaulted the LANL internal audit program, the QAPL decided to redirect efforts towards correcting the audit procedure, including additional staff training to the revised procedure, instead of continuing with an unacceptable audit program. This action was extended to the survey program at the verbal direction of the QAPL.

**Corrective Action to Prevent Recurrence:** Establish a separate verification organization to maintain the required implementing procedures (QP-18.1, QP-18.2, and QP-18.3) and to execute the audit and survey schedules. This organization will not be charged with any program development or training responsibilities except those directly related to audits or surveys. This group will commence audits as required by LANL Deficiency Report No. LANL - 0017.

# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545



Page 5 of 31

WBS 1.2.9.3

QA

August 17, 1990

TWS-EES-13-08-90-061

**QA RECEIVED**

AUG 20 1990

Mr. Donald Horton  
Yucca Mountain Project Office  
U. S. Department of Energy  
P. O. Box 98608  
Las Vegas, NV 89193-8608

Dear Mr. Horton:

**SUBJECT: REVISED RESPONSE, STANDARD DEFICIENCY REPORT NO. 513, ACTION ITEM NO. NN1-1990-3680**

**Reference: Letter, Horton to Herbst, dated July 30, 1990**

For your review is our revised response to the subject standard deficiency report.

**Block 16 - Cause of Condition & Corrective Action to Prevent Recurrence**

Additional response to state: Cause - These are the initial reports within our revised audit system. The delay in issuance occurred because the verification staff needed additional time to correlate the completed checklists to the final report while planning and conducting additional audits.

Corrective Action to Prevent Recurrence: None required, the subject audit reports, LANL No. 90-01, LANL No. 90-02, and LANL No. 90-03, are completed and attached for your review. LANL audit report No. 90-04 was issued within a 30 calendar day time period as recommended.

**Block 17 - Effective date August 17, 1990**

If you have any questions, please contact Henry Nunes at (FTS) 843-8039, for information regarding this standard deficiency report response.

Sincerely,

R. J. Herbst

HPN/kb

Attachment: a/s

Mr. Donald Horton  
TWS-EES-13-08-90-061  
August 17, 1990  
Page 2

Cy:

J. Brogan, DOE/YMP, Las Vegas, NV  
C. Hampton, DOE/YMP, Las Vegas, NV  
S. Dana, SAIC, Las Vegas, NV

Cy w/o attachment (Limited Value Material):

S. L. Bolivar, EES-1, MS D462  
K. E. Brackhahn, EES-13, MS J521  
D. E. Broxton, EES-1, MS D462  
K. Campbell, A-1, MS F600  
J. A. Canepa, EES-13, MS J521  
B. A. Carlos, EES-1, MS D462  
M. J. Clevenger, EES-15, MS J495  
E. M. Cole, LATA, MS M321  
G. P. Cort, EES-13, MS J521  
B. M. Crowe, EES-13/LV, MS J900/527  
J. L. Day, LATA, MS M321  
C. J. Duffy, INC-7, MS J514  
M. H. Ebinger, EES-15, MS J495  
K. G. Eggert, EES-5, MS F665  
C. D. Harrington, EES-1, MS D462  
L. E. Hersman, LS-2, MS M880  
D. E. Hobart, INC-11, MS G739  
H. N. Kalia, EES-1/LV, MS J900/527  
S. S. Levy, EES-1, MS D462  
A. Meijer, INC-7, MS J514  
T. L. Morgan, INC-7, MS J519  
D. E. Morris, INC-11, MS G739  
R. A. Morley, EES-1/LV, MS J900/527  
J. T. Fabryka-Martin, INC-7, MS J514  
H. P. Nunes, EES-13, MS J521  
E. S. Patera, INC-DO, MS J514  
B. A. Robinson, EES-4, MS D443  
R. S. Rundberg, INC-11, MS J514  
L. W. Schempp, MEE-9, MS J521  
E. P. Springer, EES-15, MS J495  
S. R. Sebring, MAT-3, MS P274  
D. N. Simundson, LATA, MS M321  
K. W. Thomas, INC-11, MS J514  
I. R. Triay, INC-11, MS J514  
D. T. Vaniman, EES-1, MS D462  
K. A. West, EES-13, MS J521  
D. L. Williams, LATA, MS M321  
RPC File (2), LATA, MS M321  
TWS-EES-13 File, MS J521  
QAS File, LATA, M321  
CRM-4, MS A150

LOS ALAMOS NATIONAL LABORATORY

YUCCA MOUNTAIN PROJECT

AUDIT REPORT NO. LANL-AR-90-002

JUNE 6-8, 1990

Prepared By: John L. Day  
Audit Team Leader

Date: 8/17/90

Approved By: John L. Day  
QAS Verification Coordinator

Date: 8/17/90

Approved By: H. H. James  
QAPL

Date: 8/17/90

# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

Page 8 of 31  
WBS 1.2.9.3  
QA

## memorandum

TO: Distribution

DATE: August 2, 1990

FROM: Henry P. Nunes, QAPL *HPN*

MAIL STOP/TELEPHONE: J521/7-8039

SYMBOL: TWS-EES-13-08-90-038

SUBJECT: AUDIT REPORT, LOS ALAMOS NATIONAL LABORATORY AUDIT LANL-90-004

Attached for your review and information is the completed audit report from the subject internal audit. If you have any questions, please call me at 7-8039.

Distribution:

S. L. Bolivar, EES-1, MS D462  
D. E. Broxton, EES-1, MS D462  
K. Campbell, A-1, MS F600  
J. A. Canepa, EES-13, MS J521  
M. J. Clevenger, EES-15, MS J495  
J. Day, LATA, MS M321  
M. H. Ebinger, EES-15, MS J495  
K. G. Eggert, EES-5, MS F665  
R. J. Herbst, EES-13, MS J521  
T. L. Morgan, INC-7, MS J519  
R. A. Morley, EES-1/LV, MS J900/527  
H. P. Nunes, EES-13, MS J521  
E. S. Patera, INC-DO, MS J514  
B. A. Robinson, EES-4, MS D443  
L. W. Schempp, MEE-9, MS J521  
E. P. Springer, EES-15, MS J495  
S. R. Sebring, MAT-3, MS P274  
K. A. West, EES-13, MS J521

Cy:

RPC File (2), LATA, MS M321  
TWS-EES-13 File, MS J521  
QAS File, LATA, M321

LOS ALAMOS NATIONAL LABORATORY

YUCCA MOUNTAIN PROJECT

AUDIT REPORT NO. LANL-AR-90-004

JULY 9-13, 1990

Prepared By: Lloyd W. Schenpp Date: 7-30-90  
Audit Team Leader

Approved By: John L. Day Date: 7/31/90  
QAS Verification Coordinator

Approved By: Henry Paul Jones Date: 8/2/90  
QABL

LANL YMP AUDIT REPORT

AUDIT NO. LANL-AR-90-004

EXECUTIVE SUMMARY

AUDIT SCOPE:

The Audit evaluated the effectiveness of implementation of LANL Quality Assurance Program Plan (QAPP) requirements in Criteria 5 (Instructions, Procedures, and Drawings), Criteria 6 (Document Control), Criteria 13 (Handling, Storage, and Shipping), and Criteria 17 (Records).

AUDIT RESULTS:

Four observations and ten Deficiency Reports were identified during the audit. Three of the observations were comments made about existing procedures and how they might be improved. The fourth observation related to storage of record packages. Of the Deficiency Reports, six were related to Criteria 17, and two each were related to Criteria 5 and 6.

CONCLUSIONS:

Based on the documentation reviewed during the course of this audit, Criteria 5, 6, and 13 are being implemented satisfactorily, although two minor deficiencies were issued in Criteria 5 and 6. Criteria 17 had six Deficiency Reports issued, and work needs to be done before it can be rated as acceptable.

LANL YMP AUDIT REPORT  
AUDIT NO. LANL-AR-90-004  
Page 1 of 4

## 1.0 INTRODUCTION

The audit was conducted for all LANL groups in Los Alamos, New Mexico, who are performing activities affecting quality on the Yucca Mountain Project.

## 2.0 INDIVIDUALS CONTACTED

- Kirsten Brackhahn, EES-13
- Kathy Campbell, A-1
- Barbara Carlos, EES-1
- Chris Chavez, LATA
- Mike Clevenger, MEE-9
- John Day, LATA
- Ken Eggert, EES-5
- Ed Essington, EES-15
- June Fabryka-Martin, INC-7
- Gabriela Gainer, LATA
- Betty Gutierrez, LATA
- Larry Hersman, LS-2
- Terry Morgan, INC-7
- Brent Newman, EES-15
- Henry Nunes, EES-13
- Ned Patera, INC-DO
- Jane Poths, INC-7
- Bruce Robinson, EES-4
- Pamela Rogers, INC-7
- Sue Sebring, MAT-3
- Inez Triay, INC-11

## 3.0 AUDIT TEAM MEMBERS

- Lloyd Schempp, Audit Team Leader
- Mike Clevenger, Auditor-in-Training
- Gabriela Gainer, Auditor
- Rich Morley, Auditor
- Dan Simundson, Auditor
- Donna Williams, Auditor

## 4.0 AUDIT SCOPE

The audit evaluated the effectiveness of implementation of LANL Quality Assurance Program Plan (QAPP) requirements in Criteria 5 (Instructions, Procedures, and Drawings), Criteria 6 (Document Control), Criteria 13 (Handling, Storage, and Shipping), and Criteria 17 (Records).



## 5.0 OBSERVATIONS

TWS-QAS-QP-5.1, R3: The procedure refers to the form in procedure TWS-QAS-QP-03.2, R0, for review. Because the form is not being filled out properly, it may need to be changed or guidance on how to fill out the form is needed in procedure 5.1.

TWS-QAS-QP-5.2, R2: The procedure provides no guidance on transmitting the completed records packages to the Records Processing Center.

TWS-QAS-QP-6.1, R1: The procedure states in section 4.1 that the QAPP will have a program index. The index was not in any of the controlled manuals that were reviewed, and no change request was issued to delete the requirement.

TWS-QAS-QP-17.3, R0: Group EES-15 was storing record package travelers in a folder separate from the record. It is felt that the record package traveler should be stored with the contents of that package.

## 6.0 DEFICIENCIES

Ten deficiencies were identified during the audit. The Deficiency Report numbers and a brief description of each deficiency are given below:

DR-LANL-0041	Record packages did not contain the cover memo for return of review comments.
DR-LANL-0042	Project records in EES-13's resident file were stored in file shelves that do not comply with storage requirements.
DR-LANL-0043	The EES-13 resident file was left unlocked and unattended.
DR-LANL-0044	The INC-7/11 resident file was not using the "out-card" system to remove records.
DR-LANL-0045	Manual #008 contained QAPP pages Rev. 4.3 that should have been Rev. 4.4, and the Administrative Procedures in the manual should also have been removed.

LANL YMP AUDIT REPORT  
AUDIT NO. LANL-AR-90-004  
Page 3 of 4

DR-LANL-0046            Manuals #005 and #015 contained obsolete material that was not marked "obsolete." Corrections to these manuals were made during the audit.

DR-LANL-0047            Mandatory comments were marked as accepted on review of TWS-QAS-QP-1.1, R2, but were not incorporated into the procedure, and the resolution of the mandatory comments was not documented on the review sheet. This was corrected during the audit by a letter to file as these were considered to be editorial comments.

DR-LANL-0048            In record package TWS-EES-13-05-90-009, the revision number was corrected on memo TWS-EES-13-02-90-042, but the correction was not dated. Also, the revisions on the review comment sheets were corrected without being dated and some were not initialed.

DR-LANL-0049            Record package TWS-EES-13-05-90-009 contained review sheets that were marked review of Rev. 1, but memo TWS-EES-13-02-90-042 stated the review was to Rev. 2.

DR-LANL-0050            In the review of TWS-EES-13-05-90-009, the review comments sheets dated 3/09/90 have blank lines.

## 7.0 AREAS OF ACCEPTABILITY

Based on the documentation reviewed during the course of this audit, Criteria 5, 6, and 13 are being implemented satisfactorily, although two minor deficiencies were issued in Criteria 5 and 6.

Criteria 17 had six Deficiency Reports issued, and work needs to be done in this area before it can be rated as acceptable.

#### 8.0 AUDIT MEETINGS

A preaudit meeting was held on July 9, 1990, at 9:30 A.M. at the Mesa School Complex to discuss the purpose, scope, and criteria of the audit.

A postaudit meeting was held on July 13, 1990, at 1:15 P.M. at the Mesa School Complex to present the findings and results of the audit.

The Audit Attendee Record for these meetings is attached as part of this report.

#### 9.0 REQUIRED ACTION

Copies of Deficiency Reports LANL-0041 through LANL-0050 will be forwarded under separate cover memo to the responsible individuals for action, pursuant to TWS-QAS-QP-15.2.

#### 10.0 ATTACHMENTS

The Audit Attendee Record for the preaudit and postaudit meetings is listed as Attachment 1 to this report.

Page 15 of 31

LANL YMP AUDIT REPORT  
AUDIT NO. LANL-AR-90-004  
ATTACHMENT 1  
Page 1 of 2

Page 1 of 2

## POSTAUDIT MEETING

[illegible]

**LOS ALAMOS NATIONAL LABORATORY  
YUCCA MOUNTAIN PROJECT  
AUDIT ATTENDEE RECORD**

Page 16 of 31

AUDIT NO.: LANL-AR-90-004

AUDIT DATE: July 9-13, 1990

LANL YMP AUDIT REPORT  
AUDIT NO. LANL-AR-90-004  
ATTACHMENT 1  
Page 2 of 2

       PREAUDIT MEETING

  X   POSTAUDIT MEETING

PRINT NAME	SIGNATURE	ORGANIZATION	PHONE
Lloyd Schempp	<i>Lloyd W. Schempp</i>	MEE-9	665-1426
DONNA L. Williams	<i>Donna L. Williams</i>	LATA	662-1873
MICHAEL J. CLEVENGER	<i>Michael J. Clevenger</i>	MEE-9	7-9163
Embrichia M. Grainer	<i>Embrichia M. Grainer</i>	LATA	2-1818
Terry Morgan	<i>Terry Morgan</i>	INC-7	7-0837
HENRY PAUL NUNES	<i>Henry P. Nunes</i>	EES-13	7-8039
Everett P. Springer	<i>Everett P. Springer</i>	EES-15	7-9836
Brent D. Newman	<i>Brent D. Newman</i>	EES-15	7-3021
Larry E. Stearns	<i>Larry E. Stearns</i>	LS-2	7-2779
Sue R. Sebring	<i>Sue R. Sebring</i>	MAT-3	7-4052
John Day	<i>John Day</i>	LATA	662-9050
Barbara Carlos	<i>Barbara Carlos</i>	EES-1	662-6879
Don Simundson	<i>Don Simundson</i>	LATA	662-1822
Clarence Daffy	<i>Clarence Daffy</i>	INC-7	667-5154
Edward Patera	<i>Edward Patera</i>	INC-DO	665-3465
	BEST AVAILABLE COPY		

LOS ALAMOS NATIONAL LABORATORY  
YUCCA MOUNTAIN PROJECT  
AUDIT REPORT NO. LANL-AR-90-001  
JUNE 4-6, 1990

Prepared By: John L. Day  
Audit Team Leader

Date: 8/17/90

Approved By: John L. Day  
QAS Verification Coordinator

Date: 8/17/90

Approved By: DD James  
QAPE

Date: 8/17/90

LOS ALAMOS NATIONAL LABORATORY  
YUCCA MOUNTAIN PROJECT  
AUDIT REPORT NO. LANL-AR-90-003  
JUNE 25-29, 1990

Prepared By: John L. Day  
Audit Team Leader

Date: 8/17/90

Approved By: John L. Day  
QAS Verification Coordinator

Date: 8/17/90

Approved By: H. R. Ames  
QAPL

Date: 8/17/90

LANL YMP AUDIT REPORT

AUDIT NO. LANL-AR-90-003

EXECUTIVE SUMMARY

AUDIT SCOPE:

This audit was performed to evaluate the effectiveness of implementation of LANL QAPP requirements by the LANL groups in Los Alamos, New Mexico, in the following QAPP criteria:

- 3 - Scientific Investigation Control and Design Control
- 4 - Procurement Document Control
- 7 - Control of Purchased Items and Services
- 17 - Records

AUDIT RESULTS:

There were thirty three Deficiency Reports and eleven observations identified during this audit. Of the deficiencies, two were in criterion 2, thirteen were in criterion 3, seven were in criterion 4, one was in criterion 12, and ten were in criterion 17. The observations addressed notebook entries, timely submittal of records to the RPC, unnecessary submittal of procurement documents to the QAS, quality of records in files, no guidance for making changes to TIPs, inconsistency in the forms used to document receiving reports, and inconsistent information on procurement documents.

CONCLUSIONS:

Although none of the deficiencies or observations identified during this audit are significant in nature, the quantities identified indicate a lack of attention to procedural details by most LANL YMP personnel performing quality affecting activities. Steps should be taken to ensure that all personnel are very knowledgeable of and comply with procedural requirements for activities affecting quality that they perform.



## **1.0 INTRODUCTION**

This audit was conducted of the LANL EES-13 group in Las Vegas.

## **2.0 INDIVIDUALS CONTACTED**

The following individuals were contacted during the audit:

Kay Birdsell, EES-5  
Stephen Bolivar, EES-1  
Kathy Campbell, A-1  
Julie Canepa, EES-13  
Mike Clevenger, MEE-9  
Clarence Duffy, INC-7  
Michael Ebinger, EES-15  
Edward Essington, EES-15  
June Fabryka-Martin, INC-7  
Larry Hersman, LS-2  
David Hobart, INC-11  
Marcia Jones, EES-1  
Schon Levy, EES-1  
Arend Meijer, INC-7  
Terry Morgan, INC-7  
Henry Nunes, EES-13  
Martin Ott, INC-11  
Phillip Palmer, INC-11  
Jane Poths, INC-7  
Bruce Robinson, EES-4  
Pamela Rogers, INC-7  
Sue Sebring, MAT-3  
Everett Springer, EES-15  
Ines Triay, INC-11  
David Vaniman, EES-1  
Rachael Vigil, EES-13  
Karen West, EES-13  
George Zyvoloski, EES-5

## **3.0 AUDIT TEAM MEMBERS**

The following were audit team members:

J. L. Day, Audit Team Leader  
L. W. Schempp, Auditor  
G. M. Gainer, Auditor  
S. L. Bolivar, Auditor  
T. L. Morgan, Auditor  
R. A. Morley, Auditor

D. L. Williams, Auditor  
M. E. Gutierrez, Auditor-in-Training

#### 4.0 AUDIT SCOPE

This audit was performed to evaluate the effectiveness of implementation of LANL QAPP requirements by the LANL groups in Los Alamos, New Mexico, in the following QAPP criteria:

- 3 - Scientific Investigation Control and Design Control
- 4 - Procurement Document Control
- 7 - Control of Purchased Items and Services
- 17 - Records

#### 5.0 OBSERVATIONS

Observation 1: Several people who order procurements, or who are involved in procurements, do not pay attention to detail. Minor errors were found in every PR examined (e.g., PR H6190 has QA = NA, therefore this PR should not have been in the procurement files). Some PRs do not have the "date requested" block filled (e.g., 8461Y, 8499Y). The QA Level Assignment check list is not always signed (e.g., PR H6177, PR H6178). When multiple items are ordered, the items are not individually checked (e.g., for PR H6178, 23 items were ordered). Either 19 or 20 items arrived but there is no mention of the missing items. The package for PR 8485Y has three original QA Level Checklists, all dated the same, all originals, yet all different. All of the above are for "completed" PR records packages. This suggests a refresher training course is needed that stresses the duties and particulars required to comply with TWS-QAS-QP-04.1.

Observation 2: EES-13 employs a Resident File Custodian (RFC) who was recently hired from an employment agency. Several PR record packages were complete but have not been submitted to the Records Processing Center. Submittal of these packages is usually the responsibility of the RFC. Either the above person is not trained or not aware of these duties. Possibly this is not the RFC responsibility (the QAPL was unavailable for interview). If the RFC is temporary, then it is possible that this person will leave before the position's holder can fully understand the way YMP work is conducted. If this person is long term, then this observation does not apply.

Observation 3: In some notebooks (e.g., TWS-INC11-6/88-6, TWS-INC11-5-89-28) - would be beneficial to state that the following work R&D and that the header information, listed in the front of the notebook, applies. These notebooks are well written; stating the above, however, may help future examiners identify the work involved.

Observation 4: It would be useful to list reviews in the front of the notebooks. Most notebooks have this feature, although, TWS-INC7-8/88-07 does not. This review list is not required but is good practice. It also would be useful to enter dates and page numbers when notebooks are copied.

Observation 5: One notebook, TWS-INC-7-04-90-01, was missing some initial entry header information. Pls should be more attentive to detail.

Observation 6: Section 7.1.1 requires that a copy of the procurement documents be sent to the QAS. I believe this is an over requirement because it serves no purpose.

Observation 7: The statement in the paper "Preliminary Integrated Calculation of Radionuclide Cation and Anion Transport at Y. M. Using a Geochemical Model" is not in strict conformance to required statement in QP-03.2. The paper's statement may be considered vague.

Observation 8: There should be a table of contents for all attachments at the front of a notebook.

Observation 9: Copies of many documents in the files are of poor quality.

Observation 10: Updating of TIPs, replacing pages of the document with other pages, has no method to assure changes are made. Replacement pages are not identified as being different from the originals.

Observation 11: Written comments made on some documents are lost when they are photocopied.

Observation 12: Issuance of a document (Study Plan) as a Revision 0 by the Project Office has Revision 2 documents throughout the document.

Observation 13: There appears to be an unusual number of "Best Available Copies" in the files. One package of 49 pages had 28 that were marked "best available copy."

Observation 14: Purchasing Documents: Receiving Inspection Reports contain item identifications that are incomplete or different than those identified on the Purchase Request. RIRs used to accept the product.

Observation 15: Purchasing Documents: Several different methods of receiving reports are used, and they are not consistent with each other.

Observation 16: Purchasing Documents: Part ordered had one number on the Purchase Request. The Purchase Order had been changed with liquid paper and typed with a different number, and the Receiving Report had a different number for the part. Three different pieces of documentation for this PR had three different part numbers.

## 6.0 DEFICIENCIES

LANL-0057 REQUIREMENT: TWS-QAS-QP-12.1, R4 section 6.7, states, in part, "If the instrument was out of tolerance before calibration, the QAS returns a copy of the M&TE record to the PI....the PI must prepare a deficiency report...."

DEFICIENCY: Mettler balance PN 645140 was found to be out of the specified tolerance when recalibrated on 7/5/90 and no deficiency report was issued.

LANL-0058 REQUIREMENT: TWS-QAS-QP-03.5, R0 section 6.1, 6.2, and 6.3 state, in part, "notebook pages must be consecutively numbered"....experimenter signs and dates the entries...."entries are made in ink...."

DEFICIENCY: Notebook TWS-A-1-11/89-23 contain an attachment that was not consecutively numbered, was not signed and dated, and was written in pencil.

LANL-0059 REQUIREMENT: TWS-QAS-QP-03.5, R0 section 6.1, states, in part, "loose-leaf pages must be consecutively numbered...."

DEFICIENCY: Loose-leaf notebook TWS-HSE12-2/87-7 is a collection of attachments referenced in other notebooks. Pages of the attachments are not numbered.

LANL-0060 REQUIREMENT: TWS-QAS-QP-17.3, R0, section 6.3.3, states, in part, "LANL personnel authorized to authenticate records are listed on an authentication list...."

DEFICIENCY: An authentication list was not available in the EES-13 resident file.

LANL-0061 REQUIREMENT: TWS-QAS-QP-17.3, R0 section 6.3.2 states, in part, "records must have a WBS number and QA designation...."

DEFICIENCY: The following memos in the EES-13 resident file do not have the WBS number or QA designation:

TWS-N5-04-89-138  
TWS-N5-03-89-046  
TWS-N5-02-89-031  
TWS-N5-02-89-37  
TWS-N5-02-89-38  
TWS-N5-02-89-39

LANL-0062 REQUIREMENT: TWS-QAS-QP-04.1, R2 section 7.1.7 states, in part, "completed procurement records package...are sent to the RPC...."

DEFICIENCY: Completed records packages from EES-13 procurement files have not been sent to the RPC.

LANL-0063 REQUIREMENT: TWS-QAS-QP-04.1, R2 section 6.11.2 states, in part, "The requestor signs and initials and dates the receiving report...."

DEFICIENCY: EES-13 receiving reports from PRs H6178, 8486, H6210 and H6226 were not signed. The receiving report for PR 8476Y was not found.

LANL-0064 REQUIREMENT: TWS-QAS-QP-03.5, R0 section 6.2 states, in part, "The experimenter notes daily or as appropriate: Activity objective...."

DEFICIENCY: The following notebooks did not contain activity objective descriptions or other R&D initial entry information: Siderophore Notebooks VIII, X, XI, and IX.

LANL-0065 REQUIREMENT: TWS-QAS-QP-04.1, R2 section 7.1.7 states, in part, "The completed procurement records package, including receiving or delivery report or acceptance of procured service documentation: and... are sent to the RPC, where it becomes part ...."

DEFICIENCY: Records package TWS-EES-5-4-90-09, dated 4/6/90 for PR 0482, did not contain a receiving inspection report for the PR. The PR receiving inspection report attached to this package was for PR D0510.

LANL YMP AUDIT REPORT  
AUDIT NO. LANL-AR-90-003  
Page 7 of 12

LANL-0066 REQUIREMENT: TWS-QAS-QP-4.1, R2 section 7.1.5 states, in part, "The requester checks each order of items received to ascertain correctness...The requestor completes as necessary, signs, and dates...."

DEFICIENCY: The Receiving Inspection Report, filed at the RPC and Resident Files for purchase request 0495 was incomplete and did not have acceptance or rejection blocks checked.

LANL-0067 REQUIREMENT: QP-03.2, R0, section 2.0, states, in part, that the "procedure applies to the preparation and review of TIPs ...."

DEFICIENCY: EES-13 staff continued to use an obsolete procedure, QP-07, R2, rather than the current procedure, QP-03.2, R0. An example is Publications Traveler from QP-07, R2 for Milestone T427 (TWS-LS2-04-89-02), signed by the EES-13 editor on 1/17/89 and TPO on 10/30/89. QP-07, R2 was superceded by QP-03.2, R0 on 5/9/89. A new traveler should have been started at that point to track the remaining steps in the new procedure.

LANL-0068 REQUIREMENT: QP-02.7, R0, section 6.2, states, in part, "The YMP supervisor ensure that a YMP employee ... receives the required training ... in the procedure that governs a YMP activity that affects quality before assigning the YMP employee to perform the activity...."

DEFICIENCY: EES-13 editor signed publications traveler for TWS-LS2-04-89-02 without being trained to the current procedure. See related DR on this item.

LANL-0069 REQUIREMENT: QP-03.3, R0, section 5.2 states, in part, "The N-5 staff ensures that the credentials of authors and reviewers are on file."

DEFICIENCY: According to the QAPL, EES-13 is not currently retaining the credentials of the authors and reviewers of study plans.

LANL-0070 REQUIREMENT: QP-03.5, R0, section 6.5.1 states, in part, "The experimenter records... the identification number of the DP to be followed...."

DEFICIENCY: Field books and logbooks do not reference the DPs being followed for entries. While the notebooks were started before the current requirements were implemented, current entries should meet current requirements. Field books TWS-ESS-1-11/82-3 and TWS-EES-1-1/85-7 failed to reference DP for sampling.

LANL-0071 REQUIREMENT: QP-03.5, R0, section 6.5.1 states, in part, "The experimenter records... the identification number of the DP to be followed...."

DEFICIENCY: Field books and logbooks do not reference the DPs being followed for entries. While the notebooks were started before the current requirements were implemented, current entries should meet current requirements. TWS-HSE12-1/88-11 Sample logbook failed to reference DP-307 (corrected in audit).

LANL-0072 REQUIREMENT: Scope statement of QP-03.3, R0 states that the QP "applies to all LANL personnel and LANL subcontractors who conduct scientific work, experiments,

or investigations as part of this project." This requires that all technical staff be trained to this QP before performing technical work.

DEFICIENCY: It appears that all staff are not trained to this procedure. This is probably a deficiency in the scope of the procedure.

LANL-0073 REQUIREMENT: QP-03.3, section 5.2, designates LANL Group N-5 (now EES-13) as responsible for coordinating "the development, writing, and review of SCP study plans."

DEFICIENCY: EES-13 staff failed to implement QP-03.3, R0 for study plans that were in progress at the time the procedure became effective. New travelers should have been started as new work on the study plans began. The study plan coordinator stated that this would not occur until the plans were returned to DOE for the next review iteration. However, the new travelers should have been started when Project Office comments were received (step 18 on traveler). Note that the current procedure has been effective for 13 months, which is a more than adequate transition period. Also note that this is not reworking old material, but continuing in-process work with the current requirements. Authors should be working to QP-03.3, R0 when they are resolving these comments, and their progress should be tracked on the appropriate travelers.

Note that new study plans are being properly tracked, and old study plans completed prior to QP-03.3 implementation are not affected.

LANL-0074 REQUIREMENT: QP-02.7, R0, section 6.2, states, in part, "The YMP supervisor ensure that a YMP employee ... receives the required training ... in the procedure that governs a YMP activity that affects quality before assigning the YMP employee to perform the activity ..."

DEFICIENCY: The author of study plans 8.3.1.3.6.1 and 8.3.1.3.6.2 has not been trained to QP-03.3, R0. Note that the plan was originally prepared before QP-03.3 implementation; comments however, are currently being resolved under QP-03.3.

LANL-0075 REQUIREMENT: QP-17.3, R0, section 6.2 states, "All Project records are lifetime records. Project records shall be protected.... Dual storage at widely separated locations (Resident file and RPC) shall be satisfactory for these purposes."

DEFICIENCY: Training records for QP-03.3, R0 for the author of study plan SCP 8.3.1.3.1 were not in the EES-15 resident file. The QAS records had a copy; dual storage however, was not maintained.

LANL-0076 REQUIREMENT: QP-03.5, R0, section 6.9.1 states, in part, "... all notebooks ... must be independently reviewed when they are completed.... The reviewer states that the notebook ... has been reviewed and understood and signs and dates the final entry reviewed.... The notebook is then a completed record for the Project."

Section 7.1 also requires that notebooks "are retained in the group Resident File until copies are submitted to the Records Processing Center."

DEFICIENCY: Completed notebook TWS-EES-5-7/87-34 shows no evidence that it has

been reviewed (although the last entry said it would be) or that it has been submitted to the RPC (although it appears to have an RPC stamp). It is unclear if the problem lies in the RPC files or with the resident file. According to the RPC staff, this problem may extend to other records from the same time period.

LANL-0077 REQUIREMENT: QAPP, section 3.1.3, states, in part, "The results of the technical review and the resolutions of any comments by the reviewers shall be documented and shall become part of the QA records as prescribed in the QP for document review."

DEFICIENCY: QP-3.3, R0 is vague on the responsibilities of records keeping; it is not clear who is responsible for what records and what records must be kept. As a result, staff interviewed were unclear as to their responsibilities and assumed other staff were keeping some of the records. The QP is deficient in not listing all the records that must be kept of the review cycle. There are no positive controls in consistent actual use to make sure that all critical records are maintained.

LANL-0078 REQUIREMENT: TWS-QAS-QP-04.1, R2 section 6.3 states, in part, "The QAL reviews and completes the QA level Assignment... and section 7.1.1 and 7.1.2 state, in part, "The RFC sends a copy of the procurement documents to the QAS...."

DEFICIENCY: Four EES-5 procurements were not initially reviewed by the QAL. Memo TWS-EES-5-6-90-2, dated 6/8/90, was issued to change the QA level assignments, but copies were not sent to MAT and the PR's were not corrected. The procurements are as follows:

J43721 dated 3/19/90  
D0494 dated 3/13/90  
J3692 dated 1/25/90  
J3691 dated 1/25/90

Three EES-5 procurements were not dated by the QAL and none are marked "YMP." The procurements are as follows:

F7533 dated 6/28/89  
F7541 dated 7/25/89  
J3677 dated 11/20/89

No procurement documentation has been sent to the QAS.

LANL-0079 REQUIREMENT: TWS-QAS-QP-17.3, R0 section 6.4.2 states, in part, "The QAL and RFC implement a record identification system that is specific to the Project...."

DEFICIENCY: The following TIPs which originated from group EES-13, were not assigned a unique identifier:

"Assessment of Radionuclide Retardation"

"Geochemistry of the Yucca Mountain Site: An Overview of the Approach to Characterization"

LANL YMP AUDIT REPORT  
AUDIT NO. LANL-AR-90-003  
Page 10 of 12

LANL-0080 REQUIREMENT: TWS-QAS-QP-03.2, R0. section 7.0 states, in part, "The following records will be generated through implementation of this procedure: ...."

DEFICIENCY: Information is missing from several TIP records packages.

LANL-0081 REQUIREMENT: TWS-QAS-QP-03.2, R0 section 5.2 states, in part, " The TPO resolves questions over the resolution of review comments...."

DEFICIENCY: The following TIPs contain no approval signatures by the TPO:

TWS-INC7-7-89-10 dated 8/21/89  
TWS-INC7-7-89-15 dated 10/17/89  
TWS-INC7-9-89-1 dated 11/20/89  
TWS-INC11-9-89-5 dated 12/22/89  
TWS-EES-1-8-89-9 dated 12/11/89

LANL-0082 REQUIREMENT: TWS-QAS-QP-03.2, R0 section 7.0 states, in part, "The following records will be generated through implementation of this procedure...."

DEFICIENCY: The following TIPs have been published but not sent to the RPC as completed packages:

TWS-INC7-7-89-11, final signature date 8/25/89  
TWS-INC7-7-89-15, published, but no final signature  
TWS-INC11-7-89-17, published

LANL-0083 REQUIREMENT: TWS-QAS-QP-04.2, R2 Section 5.0 states, in part, "The requestor evaluates the service for acceptance within three months to one year of the initiation of work...."

DEFICIENCY: The following PRs did not have the acceptance letter: PR 1818X Stanford (dated 06/27/88) and PR Y8086 Lawrence Berkley Livermore dated 08/25/85.

LANL-0084 REQUIREMENT: TWS-QAS-QP-04.2, R2 Section 6.1 states, in part, " The requestor documents acceptance of the results of a procured service by checking the appropriate 'accept' box on the acceptance form (Attachment 1)...."

DEFICIENCY: The following PRs did not have this form in file: PR 1818X Stanford (dated 06/27/88) and PR Y8086 Lawrence Berkley Livermore dated 08/25/85.

LANL-0085 REQUIREMENT: TWS-QAS-QP-4.1, R2 Section 6.2 states, in part, "The QAL reviews and completes the QA Level Assignment and Commercial Grade Checklist, signs the PR and marks it 'QA Level III' and 'YMP'."

DEFICIENCY: TWS-INC7-10-89-2 dated 10/04/89 Record Package transmitting PRs PR 3091Z dated 02/13/89 and 3092Z dated 02/13/89 are marked QA level III on the PR, but the QA Level Checklist is marked QA level I. The QAL signature line is also illegible.

LANL-0086 REQUIREMENT: TWS-QAS-QP-17.3, R0, Section 6.4.5 states, in part, "Record



packages are submitted within seven working days after notice by the originator that the record package is complete...."

DEFICIENCY: TWS-EES-1-11-89-13 Record Package of Milestone T433 'Quantitative X-ray Deffraction Analyses of Samples Used for Sorption Studies by the Isotope and Nuclear Chemistry Division, LANL' published date was September 1989 but the record package was sent out on November 7, 1989.

LANL-0087 REQUIREMENT: TWS-QAS-QP-17.3, R0, Section 6.4.2 states, in part, "The QAL and RFC implement a record identification system that is specific to the Project and each LANL group... The system must uniquely identify each Project record as shown in the following example: TWS-EES-1... where the second element uniquely identifies the group originating the record...."

DEFICIENCY: TWS-EES-1-5-90-2 dated 5/8/90 "Review of EES-5 procurements and Voiding of EES-5 TWS numbers" was originated in EES-1 for procurements that were originated in EES-5.

LANL-0088 REQUIREMENT: TWS-QAS-QP-17.3, R0 section 6.4.3 states, in part, "table of contents (each segment of a record package is listed separately by identifying the date, ...."

DEFICIENCY: The following records packages did not list items separately:

TWS-INC7-06-90-07, dated 6/18/90  
TWS-INC7-10-89-2, dated 10/04/89

LANL-0089 REQUIREMENT: TWS-QAS-QP-17.3, R0 section 6.4.5 states, in part, "...Record packages are submitted within seven days ...."

DEFICIENCY: Record Package TWS-ESS-5/1-89-07 dated 8/30/89 was signed 8/31/89 but received by the RPC on 10/23/89.

## 7.0 AREAS OF ACCEPTABILITY

Although deficiencies were noted in criterion 2, none of these are significant in nature. The requirements in this criterion are being implemented by the LANL YMP staff in an acceptable manner. Much more attention to details in the procedures that implement the requirements in criteria 3, 4, and 17 is required to ensure that activities in these criteria are performed effectively. Steps should be taken to ensure that LANL YMP personnel are very knowledgeable of and comply with all procedural requirements that govern the quality affecting activities they perform.

## 8.0 AUDIT MEETINGS

A preaudit meeting was held on June 25, 1990, at 8:30 a.m. to discuss the scope of the audit, to arrange for contacts between the audit team and audited organization, and to designate locations for the audit activities.

A postaudit meeting was held on June 29, 1990, at 9:15 a.m. to discuss the results of the audit, including observations and deficiencies noted.

Lists of attendees of the preaudit and postaudit meetings are filed in the QA records package for this audit.

## 9.0 REQUIRED ACTION

It is recommended that the observations listed in Section 5.0 be addressed by the responsible LANL YMP staff to determine whether or not action should be taken on each one. The Deficiency Reports listed in Section 6.0 will be forwarded under a separate cover memorandum to the responsible individual(s) for a required action pursuant to TWS-QAS-QP-15.2.

# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

THIS IS A VMP  
ACTION ITEM

NO. NNI-1990-3680

I-305730  
Page 30 of 31 C  
WBS 1.2.9.3  
QA

September 4, 1990

TWS-EES-13-09-90-030

Mr. Donald Horton  
Yucca Mountain Project Office  
U. S. Department of Energy  
P. O. Box 98608  
Las Vegas, NV 89193-8608

Dear Mr. Horton:

**SUBJECT: REVISED RESPONSE, STANDARD DEFICIENCY REPORT NO. 513,  
ACTION ITEM NO. NNI-1990-3680**

Reference: Letter, Herbst to Horton, dated August 17, 1990

Discussions with your QA staff concerning our revised response to the referenced standard deficiency report revealed the response was incomplete. Therefore, we wish to add the following to the revised response for your review.

## Block 16 - Cause of Condition & Corrective Action to Prevent Recurrence

Additional response to state: Cause - These are the initial reports within our revised audit system. The delay in issuance occurred because the verification staff needed additional time to correlate the completed checklists to the final report, and still plan and conduct additional audits. Survey reports were delayed for similar reasons. The verification staff is tasked with both audits and surveys. Survey reports were delayed in deference to completing the audit reports.

Corrective Action to Prevent Recurrence: For audits, none is required--the subject audit reports, LANL No. 90-01, LANL No. 90-02, and LANL No. 90-03, are completed and attached for your review. LANL audit report No. 90-04 was issued within a 30 calendar day time period as recommended. For surveys, the corrective action is to complete the Survey Reports Nos. SR-04 and SR-05. Steps to prevent recurrence have been taken with the issue of internal memo dated July 10, 1990, which directed the Verification Coordinator to complete and submit survey reports to the LANL QAPL within 15 working days of completion of the survey.

Block 17 - Effective date August 17, 1990, for audits  
Effective date September 14, 1990, for surveys

If you have any questions, please contact Henry Nunes at (FTS) 843-8039 for information regarding this standard deficiency report response.

Sincerely,



Richard J. Herbst

HPN/kb

*[Handwritten signatures and initials]*  
D. J. Horton  
L. J. ...  
W. J. ...  
B. J. ...  
S. J. ...  
W. J. ...  
C. J. ...  
C. J. ...  
C. J. ...  
C. J. ...  
REC'D IN VMP  
9-10-90

Mr. Donald Horton  
TWS-EES-13-09-90-030  
September 4, 1990  
Page 2

Page 31 of 31

Cy:

S. L. Bolivar, EES-1, MS D462  
K. E. Brackhahn, EES-13, MS J521  
D. E. Broxton, EES-1, MS D462  
K. Campbell, A-1, MS F600  
J. A. Canepa, EES-13, MS J521  
B. A. Carlos, EES-1, MS D462  
M. J. Clevenger, EES-15, MS J495  
E. M. Cole, LATA, MS M321  
G. P. Cort, EES-13, MS J521  
B. M. Crowe, EES-13/LV, MS J900/527  
J. L. Day, LATA, MS M321  
C. J. Duffy, INC-7, MS J514  
M. H. Ebinger, EES-15, MS J495  
K. G. Eggert, EES-5, MS F665  
C. D. Harrington, EES-1, MS D462  
L. E. Hersman, LS-2, MS M880  
D. E. Hobart, INC-11, MS G739  
H. N. Kalia, EES-1/LV, MS J900/527  
S. S. Levy, EES-1, MS D462  
A. Meijer, INC-7, MS J514  
T. L. Morgan, INC-7, MS J519  
D. E. Morris, INC-11, MS G739  
R. A. Morley, EES-1/LV, MS J900/527  
J. T. Fabryka-Martin, INC-7, MS J514  
H. P. Nunes, EES-13, MS J521  
E. S. Patera, INC-DO, MS J514  
B. A. Robinson, EES-4, MS D443  
R. S. Rundberg, INC-11, MS J514  
L. W. Schempp, MEE-9, MS J521  
E. P. Springer, EES-13, MS J521  
S. R. Sebring, MAT-3, MS P274  
D. N. Simundson, LATA, MS M321  
K. W. Thomas, INC-11, MS J514  
I. R. Triay, INC-11, MS J514  
D. T. Vaniman, EES-1, MS D462  
K. A. West, EES-13, MS J521  
D. L. Williams, LATA, MS M321  
RPC File (2), LATA, MS M321  
TWS-EES-13 File, MS J521  
QAS File, LATA, MS M321  
CRM-4, MS A150

ORIGINAL

THIS IS A RED STAMP  
N-QA-038  
4/89

## YMPO STANDARD DEFICIENCY REPORT

Completed by Originating QA Organization	1 Date 3-29-90		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 23	
	3 Discovered During Audit 90-1		3a Identified By R.L. Maudlin		4 SDR No. 515 Rev. 0	
	5 Organization Los Alamos		6 Person(s) Contacted T. Moran, S. Sebring		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) TWS-QAS-QP-04.1, R2, Para. 6.4 states in part: "The requestor supplements the PR with additional documentation...the requestor particularly considers the following points and requires only those that are appropriate..."					
Completed by Organization in Block	9 Deficiency No modification has been made to the existing Lawrence Berkeley contract to describe rights of access by DOE, pass-through of QA requirements to sub-tier contractors, and control of supplier-issued nonconformances.					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective Identify the remedial actions to be taken to correct the deficiencies noted in Block 9. Investigate the program, process, activities, or documentation to					
	11 QAE/Lead Auditor/Date <i>R. Maudlin 04-11-90</i>		12 Division Manager/Date <i>N/A 4-12-90</i>		13 Project Quality Mgr./Date <i>John A. ... 4-12-90</i>	
	14 Remedial/Investigative Action(s)  <i>Refer to Page 3 of 3</i>					
Completed by Org. QA Org.	15 Effective Date <i>June 29, 1990</i>					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence  <i>Refer to Page 3 of 3</i>					
	17 Effective Date <i>July 31, 1990</i>					
	18 Signature/Date <i>HPMunes 5/18/90</i>					
Comp. by Orig. QA Org.	19 Response Accepted		QAE/Lead Auditor/Date <i>R. Maudlin 5-29-90</i>		Division Manager/Date <i>N/A</i>	
	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date <i>N. Morris 12-18-90</i>		Division Manager/Date <i>N/A</i>	
	21 Remarks <i>Response 7/17/90 - TWS-EES-13-05-90-066</i> <i>Accept Response YMP:CEH-3552, 6-5-90</i> <i>Extension Request 10/5/90 - TWS-EES-13-10-90-054 - Accepted 11/7/90 - QA:CEH-693</i> <i>Block 20 CLOSURE STATEMENT ATTACHED - O. Morris 12/18/90</i>		Project Quality Mgr./Date <i>John A. ... 5-30-90</i>		Project Quality Mgr./Date <i>John A. ... 12/18/90</i>	
	22 QA CLOSURE		QAE/Lead Auditor/Date <i>N. Morris 12/18/90</i>		Division Manager/Date <i>N/A</i>	
				PQM/Date <i>John A. ... 12/18/90</i>		

**YMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET**

N-QA-038  
2/89

SDR No. 515

Page 2 of 2 ~~2~~

8 Requirement ( continued )

right-of-access provision which allows designated Los Alamos and Department of Energy (DOE) personnel entry to suppliers facilities...Subcontracting Requirements...Any subcontracts must include a pass-through of appropriate QA requirements...Control of supplier-issued nonconformances....".

10 Recommended Actions ( continued )

determine the extent and depth of similar deficient conditions to those listed on the SDR. Identify these deficiencies and provide the measures required to correct them. Identify the cause of the condition and the planned action to prevent recurrence.

#### **14. Remedial/Investigative Actions**

**Remedial Actions:** The Lawrence Berkeley Laboratory procurement will be modified to include provisions for DOE right of access, subcontractor pass through requirements, and nonconformance reporting.

**Investigative Actions:** All service procurements will be reviewed by the appropriate QAL to ensure that the appropriate contractual commitments have been made. Each QAL will issue a written report of the review, including copies of the revised scope of work where appropriate.

#### **16. Cause of the Condition and Corrective Action to Prevent Recurrence**

**Cause of the Condition:** The LANL staff has failed to modify the existing contracts to include the new Yucca Mountain Project contractual commitments.

**Corrective Action to Prevent Recurrence:** The LANL implementing procedure for preparation of procurements for services will be revised. The revision will require the use of standard language to cover these specific Yucca Mountain requirements and a method for QAL verification that this standard language is included in all procurements for special services.

Block 20, Corrective Action Verification

1. Verified the purchase document scope of work for Lawrence Berkeley Laboratory was revised on November 16, 1990. Section 4, Quality Assurance, contains the following provision:

All work performed under this study will be carried out under the LANL-YMP Quality Assurance Program, as embodied in the LANL-YMP QA Manual. The LANL-YMP QA Manual consists of the Quality Assurance Plan, its implementing procedures, and detailed technical procedures. All work will be conducted under appropriate procedures, as applicable, defined by the LANL-YMP Principle Investigator for the Solubility Task. The contractor shall maintain a Resident File for QA records. The contractor shall submit to audits and surveys conducted by both LANL and the DOE and/or its designee. Any subcontracts must contain applicable LANL-YMP QA requirements and must be approved by LANL.

2. Verified the review of Service Procurement documents were reviewed by a QAL to ensure appropriate contractual commitments were made.

Letter TWS-EES-13-LV-12-90-06, R. Morley, QAL, to H. Nunes, subject: Review of service procurement packages for SDR 515, dated December 10, 1990, Golden Associates Incorporated, University of Colorado and University of New Mexico were determined to be satisfactory in regards to the QA requirements.

Letter, TWS-INC-7-12-90-01, T. Morgan, QAL, to H. Nunes, subject: Review of INC Division service procurements which included Lawrence Berkeley Laboratory, HydroGeo Chem and Stanford University, dated December 11, 1990. The Lawrence Berkeley Laboratory is being reissued, the Hydro Geo Chem is currently being re-bid with a revised scope of work, which includes the appropriate Quality Assurance requirements in Section 7.0.

A letter TWS-INC-7-12-90-02, A. Meijer to B. Holden, Subject: Modification of contract with Stanford University, dated December 11, 1990. This letter requested a minor modification of purchase document in order to be in full compliance with the QA requirements. The proposed New Task 7 of the scope of work contains the appropriate QA requirements.

3. Verified by review of LANL-YMP-QP-04.5, Revision 0, Procurement of Noncommercial Grade Items and Services, effective date December 10, 1990. That the appropriate QA Program requirements are specified in Section 6.1.1.1 thru 6.1.1.6, 6.1.2 and 6.1.3. Section 6.3 requires a QAL review and concurrence of the QA requirements prior to submittal for final authorization.

*D. J. Harris*  
12-18-90





Department of Energy

Yucca Mountain Project Office

P. O. Box 98608

Las Vegas, NV 89193-8608

WBS 1.2.9.3

QA

AUG 07 1990

RECEIVED

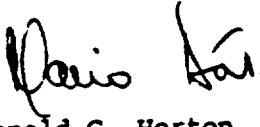
AUG 09 1990

Richard J. Herbst  
Technical Project Officer  
for Yucca Mountain Project  
Los Alamos National Laboratory  
University of California  
N-5, Mail Stop J521  
P.O. Box 1663  
Los Alamos, NM 87545

ACCEPTANCE OF RESPONSES TO OBSERVATIONS RESULTING FROM YUCCA MOUNTAIN PROJECT  
OFFICE (PROJECT OFFICE) QUALITY ASSURANCE (QA) AUDIT 90-01 OF LOS ALAMOS  
NATIONAL LABORATORY (LOS ALAMOS)

The Project Office QA staff has evaluated the responses to Observations  
90-01-01 through 14, generated as a result of Project Office QA Audit 90-01 of  
Los Alamos. The responses to these observations are acceptable. Copies of the  
observations are enclosed for your information.

If you have any questions, please contact either Catherine E. Hampton at  
(702) 794-7973 or FTS 544-7973, or Stephen R. Dana at (702) 794-7176 or  
FTS 544-7176 of the Yucca Mountain Project QA staff.

*for*   
Donald G. Horton, Director  
Quality Assurance  
Yucca Mountain Project Office

QA:CEH-4416

Enclosures:  
Observations 90-01-01 thru 14

cc w/encls:  
D. E. Shelor, HQ (RW-30) FORS  
S. W. Zimmerman, NWPO, Carson City, NV  
K. R. Hooks, NRC, Washington, DC  
H. P. Nunes, LANL, Los Alamos, NM

cc w/o encls:  
H. E. Valencia, LAAO  
J. W. Hines, OQD, AL  
A. R. Chernoff, MSD, AL  
N. J. Brogan, SAIC, Las Vegas, NV, 517/T-08  
S. R. Dana, SAIC, Las Vegas, NV, 517/T-06  
S. R. Dippners, SAIC, Las Vegas, NV, 517/T-08  
J. W. Gilray, NRC, Las Vegas, NV

**YUCCA MOUNTAIN PROJECT OFFICE**  
**YMPO OBSERVATION NO. 90-01-01**

N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: M. Diaz

4 Date:  
3-28-90

5 Organization: Los Alamos

6 Person(s) Contacted: H. Nunes

7 Response Due Date  
is 20 Days from Date  
of Transmittal

8 Discussion:

The new QA organization has recognized the need to revise several procedures to reflect new Los Alamos organizational changes. However, a plan is needed to determine:

- a) How many of these procedures should be revised; and
- b) The period of time or schedule by which this task should be finished.

9 QAE/Lead Auditor

Date

*S. Davis*

5/8/90

10 Branch Manager

Date

*Catherine Hampton*

5/8/90

Completed by Responsee

11 Response:

The LANL QA Organization currently holds bi-weekly QA meetings. These meetings have two parts: one is an open session to discuss open QA issues and other project issues of interest, and the second is a working session for the QA Liasons and other QA staff. Attendance is kept, an agenda issued, and an action item list is maintained. These meetings identify needed revisions or new procedures and formally establish responsibilities for their creation or revision and set due dates. These actions identify the procedures to be revised (a, in the observation) and sets a schedule for the task (b, in the observation).

12 Signature:

*(HPA Nunes)*

Date:

7/12/90

Completed by QA Org.

13 Response Receipt Acceptable ☒

Initiator

*Raisa Lian*

Date

7/27/90

QA/Lead Auditor

*S. Davis*

Date



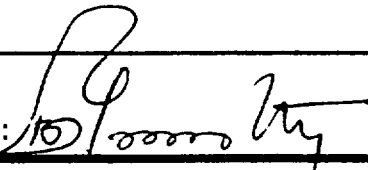
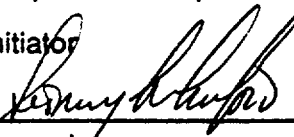

7/30/90

14 Remarks:

Page

1 of 1

YUCCA MOUNTAIN PROJECT OFFICE  
1 YMPO OBSERVATION NO. 90-1-02N-QA-012  
4/89

Completed by Originating Organization	2 Noted During: Audit 90-1	3 Identified By: S. L. Crawford	4 Date: 3-30-90	
	5 Organization: YMPO	6 Person(s) Contacted: D. Broxton	7 Response Due Date is 20 Days from Date of Transmittal	
	8 Discussion:  YMPO (M. Blanchard) requested on 10/25/89 that a Readiness Review of SP 8.3.1.3.2.1 be conducted per AP-5.13Q. Los Alamos responded 11/21/89 suggesting a Los Alamos person as the Readiness Review board chairman. The Readiness Review has not been performed to-date pending resolution and verification of Audit 89-7 Observations 89-7-01 and 89-7-02, and revision of Los Alamos procedure QP-02.4. Based on the correspondence, it is not clear who is responsible for the Readiness Review (YMPO or Los Alamos) or which procedure governs (AP-5.13Q or QP-02.4). In addition, the Los Alamos			
Completed by Response	9 QAE/Lead Auditor 	Date 4/11/90	10 Branch Manager 	Date 4/14/90
	11 Response:  The subject readiness review scheduled by the Regulatory and Site Evaluation Division has been tentatively postponed because of the required input from the plans and procedures effort and the comments from the U.S. Nuclear Regulatory Commission on the study plan. It will be rescheduled in future after obtaining the appropriate input.  The Readiness Review Board Chairman is from the Project Office and is independent. Los Alamos suggested Chairman is for the Readiness Review Team, not for the Board.			
Completed by QA Org.	12 Signature: 		Date: 6/12/90	
	13 Response Receipt Acceptable <input checked="" type="checkbox"/>  Initiator  Date 6/15/90		QA/Lead Auditor  Date 6/20/90	
14 Remarks:				
<div>Page 1 of 2</div>				

8 Discussion: ( continued )

suggested chairman is the author of the subject study plan and does not appear to have sufficient independence of the activity to be reviewed.

**YUCCA MOUNTAIN PROJECT OFFICE**  
**1 YMPO OBSERVATION NO. 90-1-02**

N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: S. L. Crawford

4 Date:  
3-30-90

5 Organization: YMPO

6 Person(s) Contacted: D. Brexton

7 Response Due Date  
is 20 Days from Date  
of Transmittal

8 Discussion:

YMPO (M. Blanchard) requested on 10/25/89 that a Readiness Review of SP 8.3.1.3.2.1 be conducted per AP-5.13Q. Los Alamos responded 11/21/89 suggesting a Los Alamos person as the Readiness Review board chairman. The Readiness Review has not been performed to-date pending resolution and verification of Audit 89-7 Observations 89-7-01 and 89-7-02, and revision of Los Alamos procedure QP-02.4. Based on the correspondence, it is not clear who is responsible for the Readiness Review (YMPO or Los Alamos) or which procedure governs (AP-5.13Q or QP-02.4). In addition, the Los Alamos

9 QAE/Lead Auditor

Date

10 Branch Manager

Date

*[Signature]*

4/11/90

*[Signature]*

4/14/90

11 Response:

No response is required from LANL. The YMPO is responsible for responding to this observation.

Completed by Response

12 Signature:

*[Signature]*

Date:

7/12/90

13 Response Receipt Acceptable ☐

Initiator

Date

QA/Lead Auditor

Date

14 Remarks:

Completed by QA Org.

Page

1 of 2

## 8 Discussion: ( continued )

suggested chairman is the author of the subject study plan and does not appear to have sufficient independence of the activity to be reviewed.

YUCCA MOUNTAIN PROJECT OFFICE  
YMPO OBSERVATION NO. 90-1-03N-QA-012  
4/89

Completed by Originating Organization	2 Noted During: Audit 90-1	3 Identified By: S. L. Crawford	4 Date: 3/30/90	
	5 Organization: Los Alamos	6 Person(s) Contacted: D. Broxton	7 Response Due Date is 20 Days from Date of Transmittal	
	8 Discussion: <p>Los Alamos Detailed Technical Procedures (DPs) and Quality Assurance Procedures (QPs) referenced or identified in Study Plan 8.3.1.3.2.1, Rev. 0, 6/89 are incorrect or have not been prepared. The Study Plan has been issued by YMPO as a controlled document. Los Alamos should issue a Study Plan Change Request to YMPO per the requirements of AP-1.10Q, Rev. 1, Paragraph 5.7.</p> <p>Examples to follow:</p>			
Completed by Respondee	9 QAE/Lead Auditor <i>[Signature]</i>	Date 4/11/90	10 Branch Manager <i>[Signature]</i>	Date 4/16/90
	11 Response: <p>An interim change notice will be prepared by D. Broxton and issued to Study Plan 8.3.1.3.2.1, Rev. 0, in accordance with YMPO administrative procedure, AP-1.10Q, Rev. 1, paragraph 5.7 by July 15, 1990, clarifying the quality administrative and technical procedures referenced in the plan. The study plan is a Headquarters' document. Headquarters should provide guidance for controls of procedure listings included in study plans for information. Information lists should be dated and refer the reader to the original source document.</p>			
Completed by QA Org.	12 Signature: <i>[Signature]</i>		Date: 7/12/90	
	13 Response Receipt Acceptable <input checked="" type="checkbox"/>	Initiator <i>[Signature]</i> S. L. Crawford	Date 7/25/90	QA/Lead Auditor <i>[Signature]</i>
14 Remarks:				
Page 1 of 2				

## CONTINUATION PAGE

1/89

8 Discussion: ( continued )

SP PARA.#	PROCEDURE #	EXAMPLE
2.5.6	TWS-MSTQA-QP-18	Obsolete procedure
3.1.1	TWS-ESS-DP-28	Rescinded 2/7/89 (P 3.3.1, 3.4.1 also)
3.1.4	TWS-QAS-QP-3.11	Not prepared (P 3.3.4 also)
	QP-3.12	Not prepared " "
	QP-3.13	Not prepared " "
3.3.1	TWS-ESS-DP-117	Rescinded 6/29/89 (P 3.4.1 also)
Table A-1		Numerous unissued and superseded QPs are listed.



YUCCA MOUNTAIN PROJECT OFFICE  
YMPO OBSERVATION NO. 90-1-04

N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: S. L. Crawford

4 Date:  
3-30-90

5 Organization: Los Alamos

6 Person(s) Contacted: D. Hobart,  
K. West

7 Response Due Date  
is 20 Days from Date  
of Transmittal

8 Discussion:

A QA Review of Study Plan SP-8.3.1.3.5.1/3.5.2 was conducted 1/2/90 following the issue of AP-1.10Q, Rev. 1 (signed 12/21/89, effective 1/22/90). The QA review identified conflicting QA program criteria between Table A-1 and Table A-2, but did not identify numerous unissued and superseded Quality Procedures in Table A-1. The study plan was still in internal Los Alamos review and had not been submitted to YMPO. See examples to follow.

9 QAE/Lead Auditor

Date

*[Signature]*

4/11/90

10 Branch Manager

Date

*[Signature]*

4/16/90

11 Response:

Table A-1 will be corrected to reflect the current approved quality administrative procedures prior to its submittal.

Completed by Response

12 Signature:

*[Signature]*

Date:

7/12/90

13 Response Receipt Acceptable ☒

Initiator

Date

*[Signature]*

7/25/90

QA/Lead Auditor

Date

*[Signature]*

7/30/90

14 Remarks:

Completed by QA Org.

Page

1 of 2

8 Discussion: ( continued )

Examples: QP-3.6 - superseded by QP-3.15, QP-3.16  
QP-3.8 - superseded by QP-3.15, QP-3.16  
QP-3.11 - not issued  
QP-3.12 - not issued  
QP-3.13 - not issued  
QP-17.1 - superseded by QP-17.3  
QP-17.2 - superseded by QP-17.3

Additional Los Alamos QPs were issued or superseded 3/2/90 subsequent to the QA review of the Study Plan.

**YUCCA MOUNTAIN PROJECT OFFICE**  
**1 YMPO OBSERVATION NO. 90-01-05**

N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: S. L. Crawford

4 Date:  
3-30-90

5 Organization: Los Alamos

6 Person(s) Contacted: D. Broxton,  
D. Hobart, Vaniman

7 Response Due Date  
is 20 Days from Date  
of Transmittal

8 Discussion:

Los Alamos Detailed Technical Procedures (DPs) referenced obsolete Quality Assurance procedures. Although action to cross reference obsolete and superseded QPs to the equivalent current procedures on procedure tables of contents is being taken, Los Alamos should establish measures to review DPs on a periodic basis (for example 1 year) for changes, updates, and corrections.

9 QAE/Lead Auditor

Date

10 Branch Manager

Date

*[Signature]*

5/8/90

*[Signature]*

5/8/90

Completed by Respondee

11 Response:

LANL issues its QA Manual with its Table of Contents annotated to show superseded procedures and a reference to the new procedures. The Records Coordinator will be directed to develop a matrix of procedural (QP and DP) cross references. QP-05.1 and .2 will be revised to instruct the Records Coordinator to review procedural references in new and revised procedures and to prepare ICNs or further revisions as required to assure that cross references do not include obsolete, superseded, or rescinded procedures. This action is sufficient to address the observation.

12 Signature:

*[Signature]*

Date:

7/12/90

Completed by QA Org.

13 Response Receipt Acceptable ☒

Initiator

Date

QA/Lead Auditor

Date

*[Signature]*  
S. L. Crawford

7/25/90

*[Signature]*

7/30/90

14 Remarks:

Page

1 of 2

## 8 Discussion: ( continued )

The following procedures are identified as examples only, and not for specific corrective action:

TWS-ESS-DP-03	Reference obsolete MSTQA-QP-14, MSTQA-QP-16
TWS-INC-DP-35	Reference obsolete MSTQA-QP-14, QAS-QP-07
TWS-INC-DP-78	Reference obsolete QAS-QP-0.5, QAS-QP-14
TWS-INC-DP-79	Reference obsolete MSTQA-QP-14, QAS-QP-07
TWS-INC-DP-80	Reference obsolete MSTQA-QP-14, QAS-QP-07, QAS-QP-14

YUCCA MOUNTAIN PROJECT OFFICE  
YMP O OBSERVATION NO. 90-1-06

N-QA-012  
4/89

Completed by Originating Organization	2 Noted During: Audit 90-1		3 Identified By: S. L. Crawford		4 Date: 3-30-90	
	5 Organization: Los Alamos		6 Person(s) Contacted: D. Hobart, T. Morgan		7 Response Due Date is 20 Days from Date of Transmittal	
	<p>8 Discussion:</p> <p>Lawrence Berkeley Laboratory (LBL) procedures for YMP activities are prepared, reviewed, and approved under the Los Alamos QAPP and QP-05.2. The TWS-LBL-DP-XX procedures, although issued in their own controlled binder set, were not issued to various "reference" set Quality Assurance Binder (QAPP/QP/DP) assignees who have a need for the LBL procedures for reference purposes. These assignees include, for example: D. E. Shelor, D. G. Horton, J. E. Clark, K. L. Foster, J. L. Day, G. Gainer, R. R. Loux, and D. Porter.</p>					
Completed by Respondee	9 QAE/Lead Auditor <i>[Signature]</i>		Date 4/11/90		10 Branch Manager <i>[Signature]</i> Date 4/16/90	
	<p>11 Response:</p> <p>Additional reference copies of the LBL technical procedures will be issued to D. E. Shelor, OCRWM; J. E. Clark, SAIC/LV; R. R. Loux, State of Nevada; and D. Porter, SAIC/GOLDEN; by June 29, 1990. K. Foster, G. Gainer, and J. Day have access to copies of the LBL procedures from the LANL records distribution center.</p>					
Completed by QA Org.	12 Signature: <i>[Signature]</i> Date: 7/12/90					
	13 Response Receipt Acceptable <input checked="" type="checkbox"/>					
	<p>Initiator <i>[Signature]</i> S. L. Crawford</p> <p>Date 7/25/90</p>		<p>QA/Lead Auditor <i>[Signature]</i></p> <p>Date 7/30/90</p>			
14 Remarks:						
						<p>Page 1 of 1</p>

YUCCA MOUNTAIN PROJECT OFFICE  
1 YMPO OBSERVATION NO. 90-01-07N-QA-012  
4/89

Completed by Originating Organization	2 Noted During: Audit 90-1	3 Identified By: F. L. Maudlin	4 Date: 3-29-90
	5 Organization: Los Alamos	6 Person(s) Contacted: R. Morley	7 Response Due Date is 20 Days from Date of Transmittal
	8 Discussion:  The purchase requisition and associated "Statement of Work" for the University of Colorado (Req. No. 8482Y) does not define which Los Alamos implementing procedures are required to perform the scope of work described by the "Statement of Work".		
	9 QAE/Lead Auditor <i>Richard B. Maudlin</i> Date 05/08/90	10 Branch Manager <i>Colleen Hampton</i> Date 5-8-90	
Completed by Respondee	11 Response:  LANL plans no actions regarding this observation. The LANL QA Liaison, assigned responsibility for the University of Colorado (UCO) contract, monitors their work and assures that the UCO staff is trained to the procedures needed at the appropriate time, i.e. prior to quality-affecting work being performed.		
	12 Signature: <i>APD Jones</i> Date: 7/12/90		
Completed by QA Org.	13 Response Receipt Acceptable <input checked="" type="checkbox"/>		
	Initiator <i>Maudlin</i> Date 07-26-90	QA/Lead Auditor <i>S. Jones</i> Date 7/30/90	
14 Remarks:  NO VERIFICATION REQUIRED TO THIS OBS. TRAINING WILL BE EVALUATED DURING FUTURE AUDITS/SURVEILLANCES.			
			Page 1 of 1

YUCCA MOUNTAIN PROJECT OFFICE  
1 YMPO OBSERVATION NO. 90-1-08N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: A. E. Cocoros

4 Date:  
3-26-90

5 Organization: Los Alamos

6 Person(s) Contacted: H. Hunes

7 Response Due Date  
is 20 Days from Date  
of Transmittal

## 8 Discussion:

TW-QAS-QP-05.2, Rev. 2, Para. 1.0 states that the purpose of the QP is to describe the writing, reviewing, approving...of technical procedures (DP) used by Los Alamos and any of its' contractors. Throughout the rest of the procedure, there is no further reference to the subcontractor's effort. There is no indication that the subcontractor may write his own procedures. Also, Para. 6.2 does not refer to any technical or QA review by Los Alamos personnel of procedures developed by a contractor nor is there a procedural (con't)

9 QAE/Lead Auditor

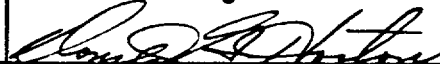
Date



4/10/90

10 Branch Manager

Date



4/16/90

Completed by Responsee

## 11 Response:

The LANL administrative procedure for Detailed Technical Procedures is currently on the QA Liaison Action List referenced in Observation No. 1. This observation will be incorporated into Revision 3 to QP-05.2 by August 15, 1990.

12 Signature:



Date:

7/12/90

Completed by QA Org.

13 Response Receipt Acceptable ☒

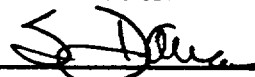
Initiator



Date

7/25/90

QA/Lead Auditor



Date

7/30/90

14 Remarks:

Page

1 of 2

8 Discussion: ( continued )

requirement for Los Alamos personnel to sign the title page.



**YUCCA MOUNTAIN PROJECT OFFICE**  
**1 YMPO OBSERVATION NO. 90-01-09**

N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: A. E. Cocoros

4 Date:  
3-26-90

5 Organization: Los Alamos

6 Person(s) Contacted: R. Herbst

7 Response Due Date  
is 20 Days from Date  
of Transmittal

8 Discussion:

The Los Alamos QA Program Plan for the Yucca Mountain Project (Los Alamos-YMP-QAPP-R4.4) provides instructions to apply the QA requirements to the technical activities conducted by Los Alamos in support of the Project. Los Alamos does not have a mechanism (procedure) for making changes to this QAPP.

9 QAE/Lead Auditor

Date

*Allen*

5/8/90

10 Branch Manager

Date

*Catherine Lin*

5-90

11 Response:

The LANL QAPP or its implementing procedures do not currently address revisions to the QAPP itself. LANL internal deficiency reports, LANL DR No. LANL-0011 and DR No. LANL-0012, have been issued. A revision to Section 2 of the LANL QAPP will be prepared and sent to the Project Office for their review and approval as the proposed corrective action stated in the deficiency reports. LANL will take no further action regarding this observation.

Completed by Respondee

12 Signature:

*HPA Jones*

Date:

7/12/90

13 Response Receipt Acceptable ☒

Initiator

*Allen*

Date

7/25/90

QA/Lead Auditor

*S. Jones*

Date

7/30/90

14 Remarks:

Completed by QA Org.

Page

1 of 1

**YUCCA MOUNTAIN PROJECT OFFICE**  
**YMPO OBSERVATION NO. 90-1-10**

N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: S. L. Crawford

4 Date:  
3-30-90

5 Organization: Los Alamos

6 Person(s) Contacted: D. Broxton,  
C. Harrington, B. Crowe

7 Response Due Date  
is 20 Days from Date  
of Transmittal

8 Discussion:

AP-6.3Q identifies the YMP Sample Management Facility (SMF) provisions for the control of samples. Los Alamos procedure QP-08.1 identified AP-6.3Q provisions and requirements to certify field sample collection personnel in accordance with AP-6.3Q. Detailed technical procedures for sample collection and identification did not fully address or reference AP-6.3Q and/or QP-08.1. For example:  
(con't)

9 QA/Lead Auditor

Date

4/11/90

10 Branch Manager

Date

4/16/90

11 Response:

LANL will review all of its sample management procedures and where appropriate make the necessary changes by August 22, 1990.

Completed by Respondee

12 Signature:

*[Signature]*

Date:

7/12/90

13 Response Receipt Acceptable ☒

Initiator

Date

*[Signature]*  
for S. L. Crawford

7/25/90

QA/Lead Auditor

Date

*[Signature]*

7/30/90

14 Remarks:

Completed by QA Org.

Page

1 of 2

8 Discussion: ( continued )

TWS-ESS-DP-101, R1 (Change Request 139 initiated during audit)

TWS-ESS-DP-114, R1

TWS-EES-13-DP-606, R1 References AP-6.3Q, but does not reference QP-08.1  
or provide for AP-6.3Q certified field sample  
collection personnel.

**YUCCA MOUNTAIN PROJECT OFFICE**  
**1 YMPO OBSERVATION NO. 90-1-11**

N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1	3 Identified By: S. L. Crawford	4 Date: 3-30-90
5 Organization: Los Alamos	6 Person(s) Contacted: D. Hobart, T. Morgan	7 Response Due Date is 20 Days from Date of Transmittal
8 Discussion:  Laboratory analytical M&TE to be used by INC and LBL for YMP activities, and identified in Study Plans and detailed technical procedures (DP) have not been added to the "List of Calibrated Measuring and Test Equipment (M&TE)" by initiation of an M&TE Calibration Record per QP-12.1 (and previously by QP-12.2). The equipment has not been used under current QA program requirements yet. (con't)		
9 QA/Lead Auditor <i>[Signature]</i>	Date 4/11/90	10 Branch Manager <i>[Signature]</i>
Date 4/16/90		

Completed by Respondee

11 Response:  LANL has already taken steps that will adequately address this observation as part of its closure actions for standard deficiency report SDR No. 490. LANL internal memo (TWS-EES-13-05-90-035) will cause all LANL groups, including subcontractors, to revise the M&TE calibration records which will cause an update to the LANL Yucca Mountain Project overall M&TE equipment listing.
12 Signature: <i>[Signature]</i>
Date: 7/12/90

Completed by QA Org.

13 Response Receipt Acceptable <input checked="" type="checkbox"/>  Initiator <i>[Signature]</i> S. L. Crawford	Date 7/25/90	QA/Lead Auditor <i>[Signature]</i>	Date 7/30/90
14 Remarks:			

Page

1 of 2

8 Discussion: ( continued )

Examples:

Beckman NaI Gamma Counter (SP 8.3.1.3.5.1/2)  
Baird Eagle Mount Atomic Emission Spectrometer (SP 8.3.1.3.5.1/2)  
Alpha/Beta Liquid Scintillation Counter (SP 8.3.1.3.5.1/2)  
Phillips Norelco X-Ray Powder Diffraction Analyzer (SP 8.3.1.3.5.1/2)  
Varian Cary Spectrophotometer (TWS-INC-DP-78)  
Perkin Elmer Ge/Li Gamma Counter (TWS-INC-DP-64)  
Brookhaven/EG&G Autocorrelation Photon Spectroscope (TWS-INC-DP-75)

YUCCA MOUNTAIN PROJECT OFFICE  
YMPO OBSERVATION NO. 90-1-12N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 90-1

3 Identified By: R. L. Maudlin

4 Date:  
3-29-90

5 Organization: Los Alamos

6 Person(s) Contacted: M. Williams

7 Response Due Date  
is 20 Days from Date  
of Transmittal

## 8 Discussion:

TWS-QAS-QP-17.3, R0, Section 6.1 does not address all of the record review criteria that is specified in AP-1.7Q, Section 5.7.1. Items not addressed by QP-17.3 include a verification that records are authenticated, record contains WBS number, records in record packages are checked against table of contents received with packages, and QA designation noted on record. It was found that in practice all items are verified, however, the procedure lacks definition.

9 QAE/Lead Auditor

Date

*R. L. Maudlin*

04-10-90

10 Branch Manager

Date

*Donald B. Vinton*

4/11/90

Completed by Responsee

## 11 Response:

LANL will revise the records administrative procedure to meet the requirements of the new RCMP within 90 days of its receipt from the Project Office as a controlled document.

12 Signature:

*HPK*

Date:

7/12/90

Completed by QA Org.

13 Response Receipt Acceptable ☒

Initiator

Date

*R. L. Maudlin*

07-26-90

QA/Lead Auditor

Date

*S. Davis*

7/30/90

## 14 Remarks:

THE REQUIREMENTS OF AP.1.7Q HAVE BEEN RECEIVED.

Page

1 of 1

YUCCA MOUNTAIN PROJECT OFFICE  
1 YMPO OBSERVATION NO. 9C-01-13N-QA-012  
4/89

Completed by Originating Organization

2 Noted During: Audit 9C-01

3 Identified By: M.J. Mitchell

4 Date:  
03/28/90

5 Organization: Los Alamos

6 Person(s) Contacted: R. Herbst

7 Response Due Date  
is 20 Days from Date  
of Transmittal

## 8 Discussion:

The purpose of a technical procedure is to control the potential sources of uncertainty and error in activities. In order to achieve this end, specific requirements have been established for information to be included in procedures. This required information includes accept and reject criteria, calibration requirements, and accuracy and precision for recording data. Mandatory verification points should be included in the procedures, as applicable.

9 QAE/Lead Auditor

Date

*S. Jones*

5/8/90

10 Branch Manager

Date

*Cathy A. Smith*

5-8-90

Completed by Respondee

## 11 Response:

LANL will revise its administrative procedure for technical procedure preparation to address the concerns of this observation. Specific concerns that will be addressed include: accept/reject criteria, statements of accuracy and precision, and the use of verification and mandatory hold points. The documentation needs for each of these concerns will be clearly spelled out in the procedure. The observation report comments will be incorporated into the revised procedure by August 15, 1990.

12 Signature:

*DP Jones*

Date:

7/12/90

Completed by QA Org.

13 Response Receipt Acceptable ☒

Initiator

*Martha J. Mitchell*

Date

27 July 1990

QA/Lead Auditor

Date

*S. Jones*

7/30/90

## 14 Remarks:

Page

1 of 2

## 8 Discussion: ( continued )

In several instances during Los Alamos Audit 90-01, it was noted by technical auditors that as part of good scientific practice, calculations, or other actions, were internally verified by Los Alamos technical staff. These actions were not identified as having been checked in laboratory notebooks and these checks were not identified as mandatory verification points in the controlling procedures. This indicates that there needs to be a better understanding of the purpose of technical procedures developed and used by Los Alamos on this project.

Credit should be taken for good scientific practice. Activities such as verification and new or expanded methods for research, or support activities including calibration, should be included in the technical procedures.



YUCCA MOUNTAIN PROJECT OFFICE  
YMPO OBSERVATION NO. 90-01-14N-QA-012  
4/89

Completed by Originating Organization	2 Noted During: Audit 90-01	3 Identified By: M.J. Mitchell	4 Date: 03/28/90	
	5 Organization: Los Alamos	6 Person(s) Contacted: R. Herbst	7 Response Due Date is 20 Days from Date of Transmittal	
	8 Discussion:  During Los Alamos Audit 90-01, letter reports were found attached to monthly activity reports for the project. These letter reports were identified as Level III milestones and contain a considerable amount of data in some cases. These reports are viewed as internal, informal, and preliminary by the authoring staff members. Some of these letter reports originate at subcontract organizations. It appears that these reports are intended for administrative purposes only and for that reason do not receive technical review. Data included in activity reports that has not been technically			
Completed by Respondee	9 QAE/Lead Auditor <i>S. Dana</i>	Date 5-8-90	10 Branch Manager <i>Catherine Springer</i>	Date 5-8-90
	11 Response:  LANL prepares a monthly report of technical progress for internal distribution. Information copies are provided to cognizant managers and interested staff at the Project Office. Further distribution and use of these reports is discouraged by the cover letter transmitting these reports and a disclaimer included inside of the front cover of the report itself. To emphasize the preliminary nature of data included in these reports, the following disclaimer has been added:  "This document has not received formal technical or policy review by Los Alamos or the Yucca Mountain Project. Data present in this document represents work progress and is not intended for release from the Department of Energy."  No further action is required by LANL regarding this observation report.			
Completed by QA Org.	12 Signature: <i>HP Munis</i>		Date: 7/12/90	
	13 Response Receipt Acceptable <input checked="" type="checkbox"/>  Initiator <i>M. de Lell</i> 27 July '90		QA/Lead Auditor <i>S. Dana</i> 7/30/90	
14 Remarks:				
Page 1 of 2				

8 Discussion: ( continued )

reviewed should be identified as preliminary and a mechanism needs to be established that can exclude such reports from the technical review cycle.

**OFFICE OF CIVILIAN  
RADIOACTIVE WASTE MANAGEMENT  
QUALITY ASSURANCE AUDIT NO. 91-03  
OF  
LOS ALAMOS NATIONAL LABORATORY  
AUDIT CHECKLIST NO. 91-03-1  
PAGES 1 THROUGH 154**

**CHECKLIST APPROVED BY:**

Richard E. Powe

**RICHARD E. POWE - AUDIT TEAM LEADER**

**DATE:**

March 12, 1991

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 1 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
1-1	QAPP, Rev. 5, Sect. 1, para. 1.2	Changes made to the QAPP are subject to Project Office approval:			
1-2	para. 1.3	Verify that the LANL organization and responsibilities are in actuality as is described in the QAPP.			
1-3	para. 1.5	Are external interfaces being implemented in accordance with LANL implementing procedures?			
				<p>9 AUDITOR SIGNATURE</p> <p>10 DATE</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 2 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-1	QAPP, Rev. 5, Sect. 2, para. 2.1	<p>QUALITY ASSURANCE PROGRAM PLAN</p> <p>Verify redistribution of the entire section of the QAPP including the signature page indicating approval, the title page indicating the revision, and the table of contents indicating the revision of the section when any portion of a section of the QAPP is revised.</p>			
2-2		<p>Verify that management above or outside of the QA organization regularly receives information as to the scope, status, adequacy, compliance, etc., of the QA program.</p>			
2-3		<p>Verify that Readiness Reviews are performed, as appropriate, and are used in verifying that specified prerequisites and programmatic requirements have been identified before major scheduled and/or planned activities that could affect quality are started. (TWS-QAS-QP-02.3)</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 3 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-4	QAPP, Rev. 5, Sect. 2, para. 2.1.1	Verify that a QP for review of suppliers' QA programs has been prepared and makes provisions for the assignment of responsibility for review and approval of supplier QA programs, identifies documents for review and approval and documentation of results, and provides for recording of reviews on checklists that specify criteria and indicate conformance or nonconformance.			
2-5	para. 2.1.2	Verify that a QP has been prepared and implemented for the use of data or data interpretations in licensing activities that were not generated under a program which meets the requirements of 10 CFR 60, Subpart G.			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 4 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-6	QAPP, Rev. 5, Sect. 2, para. 2.1.3	Verify that QA levels are identified by LANL or by the Project Office for all activities affecting quality that are associated with site characterization, permanent closure, and decontamination and dismantling of surface facilities.			
2-7		Verify that QA levels assigned by LANL are subject to Project Office approval before work begins on the item or activity.			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 5 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-8	QAPP, Rev. 5, Sect. 2, para. 2.2	Verify that LANL YMP Program activities are graded in accordance with Project Office guidance and that the resulting grading reports are submitted to the Project Office for review and approval.			
2-9		Verify that grading for activities at lower WBS levels is conducted in accordance with a LANL QP and submitted to the Project Office for information.			
				9 AUDITOR SIGNATURE	10 DATE



91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 6 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-10	QAPP, Rev. 5, Sect. 2, para. 2.4	Verify that Management Assessments are conducted at least annually to verify that the QA program is being effectively implemented; that the system and management controls established to achieve and assure quality are effective; that the resources and personnel provided to the QA program are adequate; and that personnel are trained to the QA requirements of the program. (TWS-QAS-QP-02.4)			
2-11		Verify that Management Assessments are performed and reported in accordance with LANL QPs which include minimum requirements for planning, organizing, performing, documenting results, analyzing results for quality trends, and specify that reports and recommendations be tracked.			
2-12		Verify that management outside or above the QA organization is responsible for the Management Assessment activity and that copies of the Management Assessment Report are transmitted to the Yucca Mountain Project Manager and the PQM.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 7 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-13	QAPP, Rev. 5, Sect. 2, para. 2.5	<p>Verify that Position Descriptions establish minimum personnel qualifications and necessary indoctrination or training or both before a person starts work on activities that affect quality.</p> <p>(TWS-QAS-QP-02.5) (TWS-QAS-QP-02.6) (TWS-QAS-QP-02.7) (TWS-QAS-QP-02.8) (TWS-QAS-QP-02.9)</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 8 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-14	QAPP, Rev. 5, Sect. 2, para. 2.5.1	Verify that Position Descriptions specify and generally describe activities performed for each YMP personnel position, requirements for formal education and experience, and that relevant education, experience and training of personnel are verified.			
2-15		Verify that initial capabilities of individuals are based on evaluation of education, experience, and training compared to those established for the position.			
2-16		Verify that YMP personnel proficiency evaluations are performed and documented at least annually by managers or supervisors responsible for activities performed.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 9 of 154

<sup>3</sup> AUDIT ITEM NO.	<sup>4</sup> QUALITY REQUIREMENT REFERENCE(S)	<sup>5</sup> QUALITY REQUIREMENT/GUIDELINE	<sup>6</sup> RESULTS S,X,N/A	<sup>7</sup> SUMMARY OF INVESTIGATION	<sup>8</sup> PERSON CONTACTED
2-17	QAPP, Rev. 5, Sect. 2, para. 2.5.2	Verify that personnel assigned to perform activities affecting quality are first indoctrinated to the purpose, scope, methods of implementation, and applicability of the following documents including changes as they relate to work to be accomplished:			
		a. Implementing procedures and work applicable to the individual's responsibilities;			
		b. Regulations; and			
		c. Project Level documents.			
		Verify that indoctrination is effected through the use of mandatory reading lists, classroom presentations, or other instructional methods.			
				<div style="display: flex; justify-content: space-between;"> <div data-bbox="1354 1485 1711 1534"><sup>9</sup> AUDITOR SIGNATURE</div> <div data-bbox="1732 1485 1953 1534"><sup>10</sup> DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 10 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
2-19	QAPP, Rev. 5, Sect. 2, para. 2.5.3	Verify that before being assigned activities affecting quality when it is deemed necessary to develop and demonstrate initial proficiency, personnel undergo training to gain required proficiency.			
2-20	para. 2.5.5	Verify that YMP personnel files contain records required by LANL QPs for position descriptions, evaluation of personnel qualifications, proficiency evaluations, indoctrination and training.			
2-21	para. 2.5.5	Verify that documents contained in YMP personnel files are retained as QA records.			
				<div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 11 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-01	LANL YMP QAPP, R 5 Para. 3.4  TWS-QAS-QP-03.2, R0 Para. 7.0	<b>3.4 TECHNICAL REVIEWS</b>  Technical reviews shall be performed in accordance with a QP that defines the following: <ul style="list-style-type: none"> <li>. the criteria for selection of the technical reviewers,</li> <li>. the procedure for technical reviews, and</li> <li>. the method of review documentation.</li> </ul> <b>7.0 QUALITY ASSURANCE REQUIREMENTS</b> Records The following records will be generated through implementation of this procedure: {copies of all document versions; document review forms; Attachments 1, 3, and 5; Attachment 2 if not reviewer is YMP certified; transmittal cover letters.} 1. Verify that records include: <ul style="list-style-type: none"> <li>a. original draft submitted technical review.</li> <li>b. version approved by YMPO.</li> <li>c. published TIP if published.</li> <li>d. document review forms and comment resolutions correctly prepared. (ATT. 4)</li> <li>e. a Publications Traveler (Attachment 1) with all 24 lines signed and dated.</li> </ul>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 12 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-01 cont'd		f. a signed and dated Review Criteria form signed and dated (Att. 3)			
		g. a completed Policy Review Form, signed and dated. (Att. 5).			
		h. transmittal cover letters.			
		2. If any reviewer is not YMP certified, verify each is covered by ATT. 2, Reviewer Qualifications.  (NOTE: Record the identities of such reviewers.)			
		3. Verify that all referenced final reports have an accession number.			
		4. ALL LANL reports published must have an accession number before publication. VERIFY.			
		5. IF COMPUTER SOFTWARE has been used to generate data, verify that software is fully documented OR that claimer is included about not meeting SQA requirements.			
		6. If new data are reported, verify that the QA Level of the data producing activity is reported.  (NOTE: Identify and enumerate any such reports.)			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 13 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-02	LANL YMP QAPP, R5 Para. 3.2.2	DESIGN INPUT  Applicable design input (such as site characterization data, criteria letters, design bases, performance and regulatory requirements, codes, standards, manufacturer's design data, and quality standards) shall be identified and documented, and their selection be shall reviewed and approved by the responsible design organization and QA organization. ... Changes in approved design input .... shall be controlled by the responsible design organization. ....			
	TWS-QAS-QP-03.14, R1 Para. 6.1	.... No design input submittals will be acceptable without a statement attesting to the verification status of the design input (as determined through technical and QA reviews.  -- The only permitted exception is for preliminary input so marked clearly.  1. Verify that every design input includes a statement attesting to its verification (unless marked preliminary.)			
3-02 cont'd	TWS-QAS-QP-03.14, R1 Para. 6.2	Review and Verification  A technical review shall be performed by a selected competent person in accordance with QP-03-16. Changes in design input shall undergo this same review.  2. Verify that every design input underwent a QP-03.16 technical review as attested by a dated approval signature of the technical reviewer.			
				9 AUDITOR SIGNATURE	
				10 DATE	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 14 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-02 cont'd	LANL YMP QAPP  TWS-QAS-QP-03.14 Para. 6.2       TWS-QAS-QP-03.14 Para. 6.3	<p>The QAL will also review the information for compliance with QA requirements.</p> <p>3. Verify that every design input underwent a QA compliance review as attested by a dated signature of the QAL.</p> <p>The LR will transmit the reviewed design input in accordance with QP-17.1 and QP-03.15. The written communication shall state which scientific planning document specifies the submitted design input or have attached a copy of the analyses that generated the design input. Review of the input for acceptance by the REQUESTOR will be implemented as specified in QP-03.15 {if within LANL} or associated Memoranda of Understanding (MOU) governing interface control.</p> <p>4. Verify that design input transmittals have been handled as stated in Para. 6.3.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 15 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-03	LANL YMP QAPP, R5 Para. 3.2.6          TWS-QAS-QP-03.15, R1 Para. 7.0	<b>DESIGN INTERFACE CONTROL</b>  Design interfaces internal and external to LANL shall be identified and controlled, and the design efforts shall be coordinated. .... Design information transmitted across interfaces shall be documented and controlled. Transmittals shall identify the status of design information or documents provided and, when necessary, identify incomplete items that require further evaluation, review, or approval. Where it is necessary to initially transmit design information informally, the design information shall be confirmed promptly by a controlled document.  <b>Records</b>  The following records are generated through implementation of this procedure and are contained in the file package... . (Kept in the Resident File prior to transmittal to the RPC.) See para. 7.1.  1. Verify letters of appointment of Lead Representatives for ESF Testing and IDS Liaison.  2. Verify Memorandums of Understanding between the Test Manager's Office (TMO) and participant organizations detailing interface control.			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 16 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-03 cont'd		3. Verify that correspondence between PIs and LR's has been retained in record packages. (Examples: request letters, received input, acceptance/rejection letters)			
		4. Verify that review process correspondence has been retained in record packages. (Examples: Memos, reports, documentation of recommendations, etc.)			
		5. Verify that the format and content requirements of A/Es or other users are retained in record package.			
		6. Verify that draft design criteria and related review and comment resolution documents are retained.			
		7. Verify that Project change action correspondence is retained as well as other records required by a governing APQ.			
		8. Verify that final record packages are retained.			
		9. If any design and design-related reviews are performed beyond those required by this procedure, verify that copies of transmittal letters, review documentation, and supporting documents and references are retained. See para. 6.4.			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 17 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-04	LANL YMP QAPP, R4.3 Para. 3.2.4.6  TWS-QAS-QP-03.16, R0 Para. 6.0  Para. 6.1.1 (2)	<p>DESIGN REVIEW FOR VERIFICATION OR TECHNICAL DESIGN REVIEW FOR VERIFICATION</p> <p>Design verification shall be accomplished by design reviews, alternate calculations, qualification testing, and/or peer reviews.</p> <p>The type of review, either a Design Review or Technical {Design} Review, is determined based on the requirements of other procedures or as requested by the TPO or ES TM.</p> <p>(NOTE: QP-03.16 defines a design review as a detailed, documented evaluation of the design ... performed to verify that the design is correct and satisfactory. Also Technical Reviews of design information are performed for items of small scope or as required by other procedures, such as QP-03.14 or QP-03.15, where a formal Review Team and Review Record Memorandum are neither appropriate nor required. This procedure is distinct from QP-03.2.)</p> <p>{NOTE: Acquire for audit the Design Review Record Memorandum or the Technical Review Records Package, as appropriate. }</p> <p>1. DESIGN REVIEW: Verify a completed Design Review Notice.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 18 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-04 cont'd	Para. 6.1.2 (8) or Para. 6.2 (1)	2. DESIGN: Verify a Design Review Team Selection Record, signed and dated. OR			
		TECHNICAL: Verify a memo assigning the reviewers and specifying the scope and purpose of the review.			
	Para. 6.1.2 (6)	3. DESIGN: Verify the inclusion of at least one QA representative on the review team.			
	Para. 6.1.2 (9)	4. DESIGN: Verify that the assigned team members were trained in QP-03.16 and other applicable documents.			
	Para. 6.1.4 (11) OR Para. 6.2 (2)	5. DESIGN or TECHNICAL: Verify that LANL YMP Review Sheets were correctly used to record comments and to resolve those comments. ( If the Technical Review is of limited scope, a signed statement from the reviewer is adequate documentation. Para. 6.1 (1).)			
	Para. 6.1.5 (21) OR Para. 6.2 (4)	6. DESIGN: Verify that a signed and dated Review Record Memorandum has been issued OR			
		TECHNICAL: Verify that a Technical Review Records Package containing a memo (stating the outcome of the review and any open items) was prepared.			
	Para. 6.1.2 (7) OR Para. 6.2 (4)	7. DESIGN AND TECHNICAL: Verify that any reviewer from outside YMP that was used has documentation of qualifications in the records package.			
				<div data-bbox="1344 1490 1633 1524" data-label="Text"> <p><sup>9</sup> AUDITOR SIGNATURE</p> </div> <div data-bbox="1722 1490 1841 1523" data-label="Text"> <p><sup>10</sup> DATE</p> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 19 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-05	LANL YMP QAPP, R5 Para. 3.1.3       TWS-QAS-QP-03.3, R0 Para. 6.2.1       Para. 6.1	<p>The organization that develops a scientific investigation planning document shall conduct a technical review of it... The scientific investigation planning document shall be reviewed per LANL procedures.</p> <p>REVIEW AND APPROVAL OF STUDY PLANS TECHNICAL REVIEW The author ensures that the study plan is reviewed technically according to QP-03.2 ..... The technical review is performed by any qualified Project or LANL participant other than the person who developed the original document.</p> <p>1. Verify that each SCP Study Plan audited underwent a technical review under procedure QP-03.2 by one or more qualified participants. NOTE: This also includes any major changes to a study plan. Use QP-03.2 for audit.</p> <p>2. Verify that each study plan audited has an appendix that includes QA level assignments as well as specific details of the specific controls that will be applied... (per attachment 2).</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 20 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-05 cont'd	Para. 6.2.2	3. Verify that a QA Review was performed on each study plan audited (Signed and Dated Attachment 3).			
	Para. 7.1	4. Verify that each QA Records package is complete with the most recent version of the study plan, the QP-3.2 travelers, all review comments, and the LANL Study Plan QA Review Form.			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 21 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-06	LANL YMP QAPP, R5 Para. 3.1.6          TWS-QAS-QP-03.5, R0 Para. 6.1          Para. 6.2	<p>DOCUMENTING SCIENTIFIC INVESTIGATIONS</p> <p>There are two kinds of documentation that can be used for the QA documentation and control of scientific work: the scientific notebook and the detailed technical procedure (DP)..... Bound notebooks, logbooks, or appropriate forms shall be used to document the performance of DPs and the control over all other aspects of the work. Documentation of scientific work, i.e., experiments and research, shall be performed to provide a written record of the experiment or research.</p> <p>Identification--- The Resident File Custodian (RFC) assigns a unique group identification number, such as a TWS number. The following information is recorded inside the front of each notebook and logbook:</p> <ul style="list-style-type: none"> <li>- unique identification number</li> <li>- assignee's name or instrument(s) or activity covered by the book, and</li> <li>- starting date for the books use.</li> </ul> <p>When loose leaf pages are used, the pages must be consecutively numbered.</p> <p>1. Verify that "books" are uniquely identified, have the above required information inside, and have consecutively numbered pages.</p> <p>The experimenter signs and dates each entry.</p> <p>2. Verify signed and dated entries.</p>			
				9 AUDITOR SIGNATURE	10 DATE



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 22 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-06 cont'd	Para. 6.3	<p>Entries shall be in a photocopiable ink with no open spaces for later entries, and with pages firmly affixed.</p> <p>3. Verify the above requirements in each "book" examined.</p>			
	Para. 6.6.2	<p>If any deviation from a DP occurs, any data that could be compromised by a malfunction or failure must be evaluated for acceptance or rejection by the PI. The PI writes and signs a statement regarding acceptance or rejection in the notebook or logbook.</p> <p>4. In case of a DP deviation, verify the above action. (NOTE any such occurrence in the margin.)</p>			
	Para. 6.6.3	<p>Research and Development in-process entries shall be signed and dated on the day the entries are made.</p> <p>5. Verify the above required action.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 23 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED	
3-06, cont'd	Para. 6.6.5	<p>If researcher creates files of data, these shall be referenced in the notebooks by a unique identification number and storage location. The researcher must consecutively number the loose pages of the file.</p> <p>6. Verify the above required action. (NOTE the occurrence in the margin.)</p>				
	Para. 6.7	<p>When final results have been obtained for the experiment and research, the PI documents in a project report a summary of the outcome. ... The report becomes a Project QA Record.</p> <p>7. Verify the above action for any concluded experiment or research. (NOTE such cases in the margin.)</p>				
	Para. 6.8	<p>Any necessary corrections may be made by the individual or PI who made the original entry USING a SINGLE LINE STROKE through the incorrect entry.</p> <p>8. Verify that any corrections are made this way.</p>				
	<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>					

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 24 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-06 cont'd	Para. 6.9          Para. 6.9	<p>At a minimum, all notebooks and logbooks must be independently reviewed when they are completed or when the activity is terminated. .... The reviewer states that the notebook or logbook has been reviewed and understood and signs and dates the final entry reviewed. Interim technical reviews are suggested.</p> <p>9. Verify the above action for all completed or terminated experiments (or interim reviews).</p> <p>THE LOGBOOK RECEIVES A QA REVIEW, RATHER THAN A TECHNICAL REVIEW FOR CLARITY AND FOR CORRECTION OF OBVIOUS ERRORS.</p> <p>DETERMINE THE MEANING OF THIS STATEMENT in the light of the requirement just above for technical review of a logbook.</p>			
				<div> <div><sup>9</sup> AUDITOR SIGNATURE</div> <div><sup>10</sup> DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 25 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-07	<p>LANL YMP QAPP, R5 Para. 3.5</p> <p>TWS-QAS-QP-03.7, R0 Para. 6.1</p> <p>Para. 6.2</p>	<p>PEER REVIEWS</p> <p>When applicable, LANL shall institute a peer review process to provide adequate confidence in the work being reviewed. A peer review QP shall meet the requirements of NUREG-1297 and Appendix J of this QAPP.</p> <p>The initiation of a Peer Review is documented in a memo or letter from the TPO to the Principal Investigator (PI) or design manager in charge of the work to be peer reviewed. The memo or letter also documents the justification for the review.</p> <p>1. Verify that such a letter was written to initiate all peer reviews.</p> <p>.... The selection of the Peer Review Group (PRG) and the designation of the chairperson (by the TPO) are documented in the peer review report.</p> <p>2. Verify this selection procedure.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 26 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-07 cont'd	Para. 6.3	<p>... The technical qualifications and relationship of each peer reviewer to the work being reviewed are documented in the final report of the PRG. ... The final report also includes the YMP resume for each member of the PRG. ... Any reviewer not working on the YMP must formally become part of the YMP by receiving training in the use of the QAPP and this QP, and their qualifications must be documented in accordance with QP-02.1.</p> <p>3. Verify such action in the case of a non-YMP reviewer. (Note any such instances in the margin.)</p>			
	Para. 6.4.1	<p>The TPO, or his designee, prepares a peer review plan that contains a description of the work to be reviewed, the size of the PRG, the technical fields to be represented by the members of the PRG, and a suggested schedule for the review.... The plan identifies the criteria against which the work will be reviewed and includes, at a minimum, the criteria listed in QAPP Appendix J, Section J.5.</p>			
	Para. 6.4.2	<p>The chairperson ... prepares written documentation of the results of all meetings, deliberations, or other activities of the PRG. This documentation is included in the PRG's final report.</p> <p>5. Verify that this documentation is within any final peer review report.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 27 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-07 cont'd	Para. 6.4.3          Para. 6.5	<p>The written report is signed by each member of the PRG.</p> <p>6. Verify the required signatures.</p> <p>... The PI or design manager prepares responses to the peer review comments if responses are required and these responses are reviewed by the TPO or his designee.</p> <p>7. If the PI is required, verify that written responses were prepared and reviewed.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 28 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
3-07 cont'd	Para. 6.6	<p>If there are unresolved issues and IF the PI is unable to concur with the objections of the PRG, the matter may be referred to successively higher levels of management. ... Any remaining unresolved concerns of the PRG are documented in the final report of the work reviewed.</p> <p>8. Verify that this process was used if appropriate. (NOTE the occurrence of any such cases in the margin.)</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 29 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-1	LANL-YMP-QP-04.4, Rev. 0 Para. 6.1.1	<p>"Procurement of Commercial-Grade Items and Services"</p> <p>Commercial-Grade Items</p> <p>The requester completes the PR and any supporting documentation, e.g. an Acceptance Plan. The requester may prepare an Acceptance Plan to specify the means for accepting an item.</p> <p>1. Verify the PR contains the following information, as appropriate.</p> <ul style="list-style-type: none"> <li>o Scope of Work descriptions</li> <li>o Technical requirements for work</li> <li>o QA Program requirements</li> <li>o Rights of access</li> <li>o Subcontracting requirements including pass through of appropriate QA requirements</li> <li>o Documentation requirements</li> <li>o Nonconformance provisions</li> </ul>			
				9 AUDITOR SIGNATURE	10 DATE



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 30 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-2	LANL-YMP-QP-04.4 Rev. 0 Para. 6.1.2	Commercial-Grade Services			
	Para. 6.1.2.1	The requester completes PR and supporting documentation. The requester indicates on the PR a services catalog number (when available) description of the service and the name of the recommended supplier.			
	2. Verify the PR, contains the following information, as appropriate.				
	o Scope of Work description (catalog number)				
	o Technical requirements for work				
	o QA Program requirements				
	o Rights of access				
	o Subcontracting requirements including pass through of appropriate QA requirements				
	o Documentation requirements				
	o Nonconformance provisions				
	o Name of recommended supplier				
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 31 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-3	LANL-YMP-QP-04.4 Rev. 0 Para. 6.1.2.2	<p>The requester prepares an acceptance plan to specify the means for accepting the service. For analytical services, the requester may submit blanks, duplicates, and/or standards to provide the bases for accepting the results. The requester states, in advance, the tolerance required for the analyses and will document the information for each sample blank, duplicate, and/or standard in a sample logbook or laboratory notebook.</p> <p>Verify an acceptance plan was prepared with the bases for accepting the service. The plan specifies the required tolerance. Sample blanks, duplicates, and/or standards shall be recorded in a sample logbook or laboratory notebook.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 32 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-4	LANL-YMP-QP-04.4 Rev. 0 Para. 6.2	<p>QAL Review</p> <p>A QAL reviews the procurement documents to ensure that QA requirements of the above sections have been met. A QAL dates and signs the PR (to document review and concurrence), marks the PR as "YMP", and returns the procurement document to the requester.</p> <p>Verify the PR was signed, dated, and PR marked as YMP.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 33 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-5	LANL-YMP-QP-04.4 Rev. 0 Para. 6.3	Submittal of PR  The requester processes the PR according to organization procurement procedures. Copies of the PR and supporting documentation are retained in the requester's groups resident file. Commercial-grade items and services are then procured in accordance with organizational policies for bid evaluation.  Verify copies of the PR and supporting documentation are retained in the requesters group resident file.			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 34 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-6	LANL-YMP-QP-04.4 Rev. 0 Para. 6.4	<p>Change Control</p> <p>Changes to procurement documents are reviewed and approved in the same manner as original documents. The requester incorporates any changes made as a result of bid evaluations into the procurement documentation in accordance with organizational policies. The requester reviews any changes, evaluates their possible effects, and documents any findings with dated signatures, showing acceptance. (This documentation may be notations on the PR.)</p> <p>Verify changes to PR are reviewed and approved by the requester and the QAL concurred with the changes.</p>			
				<p><sup>9</sup> AUDITOR SIGNATURE <sup>10</sup> DATE</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 35 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-7	LANL-YMP-QP-04.4 Rev. 0 Para. 6.5	Receiving Inspection			
		Either the requester or a LANL or LANL-subcontractor YMP employee inspects and verifies received items or services.			
4-8	Para. 6.5.1	Commercial-Grade Items			
		Commercial-grade items are inspected by requester after delivery to determine that:			
		o The item received conforms to the specifications of the item ordered			
		o All documentation specified in the PR is present and acceptable			
		o The item is not damaged			
4-9	Para. 6.5.2	Commercial-Grade Services			
		Commercial-grade services are verified by the requester to determine that:			
		o The service is acceptable based on the acceptance criteria stated in the Acceptance Plan or procurement documentations			
		o All documentation specified in the PR is present and acceptable.			
			<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>		

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 36 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-10	LANL-YMP-QP-04.4 Rev. 0 Para. 6.5.3	<p>Reviewing Inspection and Acceptance Documentation</p> <p>o The requester completes one Receiving Inspection Report (Attachment 1) per PR. If the number of items or services is too numerous to list on one report, the requester uses additional reports.</p> <p>Verify the requester or LANL or YMP subcontractor inspected and verified received items or services.</p> <p>Verify Receiving Inspection Report was initiated for each PR and includes all items on PR, and report was completed.</p> <p>Verify the acceptance of service was performed per the Acceptance Plan or procurement documentation and documented on the Inspection Report.</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 37 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-11	LANL-YMP-QP-04.4 Rev. 0 Para. 6.5.3.2	<p>For incomplete orders or for orders that contain damaged item, the requester</p> <p>a. Retains the Receiving Inspection Report until the problem has been resolved.</p> <p>b. Completes the Receiving Inspection Report for only those items or services that are acceptable and refers to Section 6.6 for incomplete order or damaged items. After the problem has been resolved, the requester completes an additional Receiving Inspection Report.</p> <p>Verify the Receiving Inspection Report for damaged items is held by the requester until the deficiencies are resolved.</p> <p>Verify that after the deficiencies have been resolved, the requester completes an additional Receiving Inspection Report for the incomplete or damaged items or services.</p>			
				<p><sup>9</sup> AUDITOR SIGNATURE _____ <sup>10</sup> DATE _____</p>	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 38 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-12	LANL-YMP-QP-04.4 Rev. 0 Para. 7.0	<p>Records</p> <p>A complete records package is submitted to the requester's group resident file and to the Records Processing Center. This package consists of:</p> <ul style="list-style-type: none"> <li>o The PR</li> <li>o Receiving Inspection Report</li> <li>o Any supporting documentation</li> </ul> <p>Verify the records are in both the group residents file and the Records Processing Center.</p> <p>Verify the records package consist of the PR, Receiving Inspection Report, and supporting documentation.</p> <p>Verify the records package accounts for all items on the PR.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 39 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-13	LANL-YMP-QP-04.4 Rev. 0 Para. 9.0	<p>Training Requirements</p> <p>Personnel listed in Section 5.0 and who conduct the actions described in this procedure, require training.</p> <p>Verify personnel that perform activities associated with this procedure are trained on this procedure. Obtain names from PRs and Receiving Inspection Reports that have recently been processed.</p>			
				<div> <div><sup>9</sup> AUDITOR SIGNATURE</div> <div><sup>10</sup> DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 40 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-14	LANL-YMP-QP-04.5	<p>"Procurement of Noncommercial-Grade Items and Services."</p> <p>Procurement Preparation</p> <p>The requester completes the Purchase Requisition (PR) and supplements it with additional documentation (e.g. Statement of Work) addressing the requirements listed below.</p> <p>Verify the PR contains the following information, as appropriate.</p> <ul style="list-style-type: none"> <li>o Scope of work descriptions</li> <li>o Technical requirements for work</li> <li>o QA Program requirements</li> <li>o Rights of access</li> <li>o Subcontracting requirements including pass-through of appropriate QA requirements</li> <li>o Documentation requirements</li> <li>o Nonconformance provisions</li> <li>o Performance requirements</li> <li>o Hold for inspection</li> <li>o Chain of custody.</li> </ul>			
	Rev. 0				
	Para. 6.1				

9 AUDITOR SIGNATURE \_\_\_\_\_

10 DATE \_\_\_\_\_

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 41 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-15	LANL-YMP-QP-04.5 Rev. 0 Para. 6.2	<p>Evaluation and Selection of Suppliers for Noncommercial-Grade Procurements</p> <p>Before a contract for a noncommercial-grade item or service is awarded, one or more suitable suppliers are identified, based on an evaluation of the supplier's capability to provide an item or service in accordance with the technical and QA requirements in the procurement documents. The requester, QAL or QAS evaluates a supplier for qualification.</p> <p>Verify the supplier was qualified using one or more of the following methods.</p> <p>In-House Survey</p> <p>An in-house survey relies on documents and information provided by the supplier. Documents may include the following:</p> <p>a. Letters of recommendation, which must address the supplier's ability to meet technical and/or QA requirements comparable to those in the PR or the supplier's history of providing similar products or services that have proven satisfactory in actual use;</p> <p>b. the supplier's documented history in providing acceptable, identical or similar products or services;</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 42 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-15 cont'd	Para. 6.2	<p>c. previous preaward surveys;</p> <p>d. a current QA program and records;</p> <p>e. evaluations conducted by other DOE contractors, if appropriate codes and standards have been used as the basis for qualification; or</p> <p>f. a questionnaire sent to the supplier from MAT, at the direction of the requester and with the QALs concurrence, to elicit specific information.</p> <p>On-Site Preaward Survey</p> <p>An on-site preaward survey is usually conducted by a technical person (the requester) and QA-trained personnel, if necessary. The survey team reviews pertinent issues with the supplier that include, but are not limited to, the following:</p> <p>a. Purpose of the survey.</p> <p>b. Supplier's organization and facilities.</p> <p>c. Qualifications of personnel.</p> <p>d. Instrument and equipment calibration procedures and certification systems.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 43 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-15 cont'd	Para. 6.2	e. Product and service delivery capabilities.			
		f. Design requirements of the products or services.			
		g. Process procedures.			
		h. Content and implementation of the supplier's QA program.			
		i. Documentation of satisfactory product performance.			
		Evidence of Prior Acceptance			
		If another YMP participant has accepted a supplier to provide noncommercial-grade items or services that meet technical and QA requirements similar to those under consideration, evidence of such acceptance may serve as a recommendation for qualifying the supplier. A letter of recommendation will document prior acceptance.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 44 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-15 cont'd	Para. 6.2	<p>Agreement to Work Under the LANL QA Program</p> <p>A supplier may elect to use the LANL YMP QA Program. This must be written into the subcontract, and if the supplier meets the technical requirements of the statement of work, the subcontract may be awarded. However, technical work may not proceed until the supplier's implementation of the LANL YMP QA Program is found acceptable by a LANL YMP audit or survey.</p> <p>NOTE: After a supplier has been qualified, similar procurements may be made using all or part of the initial evaluation to expedite the procurement process.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 45 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-16	LANL-YMP-QP-04.5 Rev. 0 Para. 6.3	QAL Review  Verify a QAL reviewed the procurement to ensure that QA requirements of the above sections have been met. A QAL dates and signs the PR (to document review and concurrence) and marks the PR as "YMP."			
4-17	Para. 6.5.	Change Control  Verify changes to procurement documents were reviewed and approved in the same manner as the original documents. Verify the requester incorporates any changes made as a result of bid evaluations into the procurement documentation in accordance with organizational policies. Verify the requester reviews the changes, evaluates their possible effects, and documents any f with a dated signature, showing acceptance (this documentation may be notations on the PR).			
				<div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div>	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 46 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-18	LANL-YMP-QP-04.5 Rev. 0 Para. 6.6	<p>Receiving Inspection</p> <p>Verify the requester or LANL or LANL subcontract employee inspects and verifies items or services as follows:</p> <p>Noncommercial-Grade Items</p> <p>Noncommercial-grade items are inspected by the requester after delivery to determine that</p> <ul style="list-style-type: none"> <li>o The items are acceptable, based on the acceptance criteria in the PR.</li> <li>o All documentation specified in the PR is present and acceptable.</li> <li>o The items are not damaged (i.e., to the extent that the damage affects the function of the items).</li> </ul> <p>Noncommercial-Grade Services</p> <p>Noncommercial-grade services are verified by the requester to determine that</p> <ul style="list-style-type: none"> <li>o The services are acceptable, based on the acceptance criteria in the PR.</li> <li>o All documentation specified in the PR is present and acceptable.</li> </ul>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 47 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-19	LANL-YMP-QP-04.5 Rev. 0 Para. 6.6.3	<p>Receiving Inspection and Acceptance Documentation</p> <p>Verify the requester documents receiving inspection and acceptance.</p> <ul style="list-style-type: none"> <li>o For Items - Completes a Receiving Inspection Report, Attachment 1 of LANL-YMP-04.4.</li> <li>o For Services - Completes an an Acceptance of the Results of Procured Services Report, Attachment 2.</li> </ul>			
				<p><sup>9</sup> AUDITOR SIGNATURE _____ <sup>10</sup> DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 48 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
4-20	LANL-YMP-QP-04.5 Rev. 0 Para. 7.0	<p>Records</p> <p>Verify a records package was submitted to the requester's group resident file and records processing center. Verify the packages consist of</p> <ul style="list-style-type: none"> <li>o The PR</li> <li>o Receiving Inspection Report or Acceptance of the Results of Procured Services Report</li> <li>o Supporting documentation as required by the PR.</li> </ul>			
4-21	Para. 9.0	<p>Training Requirements</p> <p>Verify personnel, that performed actions as required by this QP and is evidenced by name or signature on the documents, were trained to this QP.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 49 of 154

<sup>3</sup> AUDIT ITEM NO.	<sup>4</sup> QUALITY REQUIREMENT REFERENCE(S)	<sup>5</sup> QUALITY REQUIREMENT/GUIDELINE	<sup>6</sup> RESULTS S,X,N/A	<sup>7</sup> SUMMARY OF INVESTIGATION	<sup>8</sup> PERSON CONTACTED
6-1	LANL-YMP-QP-06.1, R2 LANL YMP QAPP R5, Para. 6.2	<p>NOTE: LANL has combined Criteria 5 and 6. There will be no checklist questions numbered 5-1, 5-2, etc.</p> <p>DOCUMENT CONTROL</p> <p>Implementation of Document Control; Documents shall be controlled according to a QP that prescribes a method for insuring that the correct and applicable documents are available at the location where they are to be used.</p> <p>Verify that there is a tracking method for insuring which document holders acknowledge receipt of controlled documents.</p>			
				<div data-bbox="1346 1489 1717 1523"><sup>9</sup> AUDITOR SIGNATURE</div> <div data-bbox="1730 1489 1948 1523"><sup>10</sup> DATE</div>	

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 50 of 154

[illegible]

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 51 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-4	LANL-YMP-QP-06.1, Para. 6.3.2.4	<p>To issue a controlled document or update, the QAS Resident File Custodian identifies the document as controlled.</p> <p>Verify that the QAS Resident File Custodian identifies documents as controlled.</p>			
6-5	LANL-YMP-QP-06.1, Para. 6.4.2.5	<p>If the controlled document is not returned by the specified date, the QAS Resident File Custodian issues a letter or memorandum informing the recipient that the copy is no longer controlled and contacts the individuals YMP supervisor in order to obtain the document.</p> <p>Verify that the QAS Resident File Custodian issues a decontrolling memo to the document holder when the Controlled Document Acknowledgment form is not returned within the stated time frame.</p>			
				<p>9 AUDITOR SIGNATURE</p>	
				<p>10 DATE</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 52 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-6	LANL-YMP-QP-06.1, R2, Para. 7.0	<p>Records resulting from this procedure are the following:</p> <ul style="list-style-type: none"> <li>o Controlled Document Acknowledgments</li> <li>o Master Controlled Document Lists</li> <li>o Reference copies of controlled documents, superseded documents, and obsolete documents</li> <li>o Correspondence related to controlled distributions</li> </ul> <p>Verify that the above listed documents are retained as records.</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 53 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-7	LANL-YMP-QP-06.2, R0	PREPARATION, REVIEW, AND APPROVAL OF QUALITY ADMINISTRATIVE PROCEDURES			
	LANL-YMP-QP-06.2, R0, Para, 6.1.1	To request new QPs and revisions or deletions of existing QPs, a LANL YMP employee completes Section 1 of a QP Action Request (Attachment 1).			
		Examine appropriate document packages and verify that this form is present and properly completed.			
			<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>		



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 54 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-8	LANL-YMP-QP-06.2, R0, Para.6.1.2.1, d and e	<p>To concur with the request, the QAPL selects a preparer (if not a request for a deletion) and enters the preparer's name in Section IV. Signs and dates Section II of the form, and returns an information copy to the originator.</p> <p>Verify that a preparer has been selected and entered on the QP Action Request.</p> <p>Verify that the QAPL signs and dates the QP Action Request.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 55 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED	
6-9	LANL-YMP-QP-06.2, R0 Para. 6.2.1.1	QPs contain a cover page as page 1 that documents preparation, review, and approval of the procedure (Attachment 4).  Verify that the cover page is present and contains the required documentation.				
6-10	Para. 6.2.2.3	For revisions to QPs, revised text is indicated by a vertical bar in the margin next to changes other than minor editorial changes.  Verify that revisions to QPs are shown by change bars.				
				<div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div>		

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 56 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-11	LANL-YMP-QP-06.2, R0 Para. 6.2.5	The reviewers conduct a review of the draft QP.			
	Para. 6.2.5.1	The quality reviewer(s) and the Records Coordinator complete the LANL YMP Review Sheet (Attachment 4 to TWS-QAS-QP- 03.2) and the Quality Assurance Review Checklist (Attachment 2)			
	Para. 6.2.5.2	The other reviewers complete the LANL YMP Review Sheet.			
	Para. 6.2.5.3	A reviewer (either quality or other) who has no comments on the draft enters "no comments" in the "Reviewer's Comments" column of the LANL YMP Review Sheet and "N/A" in the other columns.			
	Para. 6.2.5.4	A reviewer who has comments on the draft QP enters the comments in the "Reviewers Comments" column of the LANL YMP Review Sheet, the location in the draft of the of the comment subject, and the type of comment (mandatory or optional).			
		NOTE: If comments are marked on a copy of the text, the copy must be clearly labeled as an attachment to the LANL Review Sheet.			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 57 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-11 cont'd	LANL-YMP-QP-06.2, R0 Para. 6.2.5.5	<p>The quality reviewer completes the Quality Assurance Review Checklist, and all reviewers complete the second block of the Review Sheet and return the form to the preparer.</p> <p>Verify that the reviews of QPs conform to the above requirements.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 58 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-12	LANL-YMP-QP-06.2, R0 Para. 6.2.6.2	<p>If all of the reviewer's mandatory and optional comments are not acceptable, the preparer</p> <p>b. enters either "A" (to accept) or an "R" (to reject) in the "Preparer's Response" column of the LANL YMP Review Sheet to indicate acceptance or rejection of each of the coreviewer's mandatory mments.</p> <p>Verify that all reviewer's mandatory comments are addressed with either an "A" or "R" as required above.</p>			
				<p><sup>9</sup> AUDITOR SIGNATURE <sup>10</sup> DATE</p>	

91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 59 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-13	LANL-YMP-QP-06.2, R0 Para. 6.2.7	<p>If any of the reviewer's mandatory comments are rejected, the preparer returns the LANL YMP Review Sheet to the reviewer or contacts the reviewer to resolve those comments (resolution may be accomplished by phone or meeting).</p> <p>How can this phone call be documented.</p>			
6-14	Para. 6.2.9.4	<p>The preparer signs and dates the cover page (Attachment 4) and forwards the QP and the QP Action Request to the QAPL.</p> <p>Verify that this is done.</p>			
				<sup>9</sup> AUDITOR SIGNATURE _____ <sup>10</sup> DATE _____	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 60 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-15	LANL-YMP-QP-06.2, R0 Para. 6.2.10	<p>The QAPL signs and dates the cover page, selects the type of training required in Section IV of the QP Action Request, and forwards the QP and the QP Action Request to the TPO.</p> <p>Verify that this is being done.</p>			
6-16	Para. 6.2.11	<p>The TPO signs and dates the cover page and forwards the QP and the QP Action Request to the Records Coordinator.</p> <p>Verify that this is being done.</p>			
				<div style="display: flex; justify-content: space-between;"> <span><sup>9</sup> AUDITOR SIGNATURE _____</span> <span><sup>10</sup> DATE _____</span> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 61 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-17	LANL-YMP-QP-06.2, R0 Para. 7.0	<p>Records resulting from this procedure are:</p> <ul style="list-style-type: none"> <li>o Draft QP</li> <li>o Final approved QP</li> <li>o Review Sheets</li> <li>o Quality Assurance Review Checklist</li> <li>o QP Action Request</li> <li>o Correspondence related to these Documents</li> </ul> <p>Verify that the above records are retained as records.</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 62 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-18	LANL-YMP-QP06.3, R0  Para. 6.1.2.1 c and d	<p>PREPARATION, REVIEW, AND APPROVAL OF DETAILED TECHNICAL PROCEDURES</p> <p>To concur with the request, the PI selects a preparer for new DPs and DP revisions and enters the preparer's name in Section III of the DP Action Request (Attachment 1). Signs and dates Section II.</p>          <p>Verify that this is being done.</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 63 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-19	LANL-YMP-QP06.3, R0 Para. 6.2.3.1	<p>The preparer selects the reviewers (the PI may help in the selection). A technical review and a QA review are required; additional reviews are optional. The QA review is usually conducted by the group QA Liaison; however, any QA staff can conduct the QA review. The technical reviewer is selected pursuant to TWS-QAS-QP-03.2.</p> <p>Verify that the QA and technical reviews are conducted according to the above requirements.</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 64 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-20	LANL-YMP-QP06.3, R0 Para. 6.2.4.1	<p>The QA reviewer conducts the review, completes the LANL YMP Review Sheet (Attachment 4 to TWS-QAS-QP-03.2) and the Quality Assurance Review Checklist (Attachment 2 to LANL-YMP-QP-06.2), and returns all review documentation to the preparer.</p> <p>Verify that QA reviews are conducted according to the above requirements.</p>			
6-21	Para. 6.2.4.2	<p>The technical reviewer conducts the review, completes the LANL YMP Review Sheet (Attachment 4 in TWS-QAS-QP 03.2), and returns all review documentation to the preparer.</p> <p>Verify that technical reviews are conducted according to the above requirements.</p>			
				9 AUDITOR SIGNATURE	10 DATE

91-03-01

2 Page 65 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-22	LANL-YMP-QP06.3, R0 Para. 6.2.6.4	The preparer signs and dates the cover page (Attachment 3), obtains dated signatures from the QA and technical reviewers, and forwards the DP and DP Action Request to the PI.			
6-23	Para. 6.2.7	The PI determines training needs and completes Section III of the DP Action Request and signs and dates the DP cover page and forwards the package to the QAPL.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 66 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
6-24	LANL-YMP-QP06.3, R0 Para. 6.2.8	The QAPL signs and dates the DP cover page and forwards the package to the TPO.			
6-25	Para. 6.2.9	Verify that the QAPL has signed and dated the cover page.			
		The TPO signs and dates the DP cover page and forwards the package to the Records Coordinator.			
		Verify that the TPO signs and dates the cover page.			
				<div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div>	

91-03-01

2 Page 67 of 154

[illegible]

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 68 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
8-1	TWS-QAS-QP-08.1, R1, Sect. 6.2.1	1. Verify that investigators provide applicable collection information, on a sample collection report form, prior to submission of samples to the SMF or PI's own laboratory.  2. Verify that bar code labels have been affixed, as practicable, to samples or sample containers.  3. Verify that a sample collection report form accompanies the samples sent to the SMF.  4. Verify that when samples are retained by the investigator, a copy of the sample collection report form is sent to the SMF within 30 days.  5. Verify that sufficient documentation exists to trace a sample and its processed derivatives to the original field location.  6. Verify that sample numbers are traceable to SMF bar code designations.			
8-2	TWS-QAS-QP-08.1, R1, Sect. 6.3	1. Verify that the analytical history and chain of custody of samples, while it is at LANL, is documented as described in the appropriate LANL approved procedure.			
				9 AUDITOR SIGNATURE _____	10 DATE _____

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 69 of 154

3 AUDIT ITEM NO.	4  QUALITY REQUIREMENT REFERENCE(S)	5  QUALITY REQUIREMENT/GUIDELINE	6  RESULTS S,X,N/A	7  SUMMARY OF INVESTIGATION	8  PERSON CONTACTED
8-3	TWS-QAS-QP-08.1, R1, Sect. 6.4	1. Verify that container requirements, methods of handling, any environmental or safety considerations, or other items of concern are identified in a LANL approved procedure.			
8-4	TWS-QAS-QP-08.1, R1,Sect. 6.4	1. Where in QP-03.5 is there direction on how the following requirement is met: Verify that the PI determines the manner to be utilized that will not degrade the samples, in shipment, and records such information in a notebook.  2. Verify that for samples returned to the sender, documentation of how the sample was received and why the sample is being returned was submitted to the Resident File. (For damaged or deteriorated samples.)			
				<sup>9</sup> AUDITOR SIGNATURE _____ <sup>10</sup> DATE _____	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 70 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
8-5	TWS-QAS-QP-08.1, R1, Sect. 6.5	<p>1. Verify that for samples, specimens and remnants sent to the SMF, the PI states the expected life of the sample in the appropriate document.</p> <p>2. Verify that for materials returned to the SMF, an inventory list that identifies the original samples, tests performed on each sample, and a list of sample numbers and their corresponding bar code numbers accompanies the material.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 71 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
8-6	TWS-QAS-QP-8.2, R0, Sect. 6.0, 3.	1. What is the basis for the data manager to determine whether a data submittal package is technically reviewed and receives a policy review and approval?			
8-7	TWS-QAS-QP-08.2, R0, Sect. 6.0, 4.	1. Verify the following for completed travelers: <ul style="list-style-type: none"> <li>- all required information is filled-in on the traveler</li> <li>- PI signs traveler</li> </ul>			
				<sup>9</sup> AUDITOR SIGNATURE _____ <sup>10</sup> DATE _____	

91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 72 of 154

[illegible]

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 73 of 154

<sup>3</sup> AUDIT ITEM NO.	<sup>4</sup> QUALITY REQUIREMENT REFERENCE(S)	<sup>5</sup> QUALITY REQUIREMENT/GUIDELINE	<sup>6</sup> RESULTS S,X,N/A	<sup>7</sup> SUMMARY OF INVESTIGATION	<sup>8</sup> PERSON CONTACTED
8-10	TWS-QAS-QP-08.2, R0, Sect. 6.0, 7.	1. Verify that for submitted data, the following records are in the Resident File: <ul style="list-style-type: none"> <li>- copy of completed traveler</li> <li>- Data Authorization Form or RIB Change Request Form</li> <li>- TWS transmittal letter</li> </ul>			
8-11	TWS-QAS-QP-08.2, R0, Sect. 6.0, 9.	1. Verify that corrections are determined to be either major or minor.			
				<sup>9</sup> AUDITOR SIGNATURE	<sup>10</sup> DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 74 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
8-12	TWS-QAS-QP-08.2, R0, Sect. 7.0	1. Verify that for submitted data submittal packages the following documents are included: <ul style="list-style-type: none"> <li>- hard copy of data being submitted</li> <li>- all forms required by QP-03.2 or the TWS or accession number of the previously approved and processed records package</li> <li>- Data Authorization Form or RIB Change Request Form</li> <li>- LANL Data Traveler</li> <li>- data authorization number</li> </ul>			
				9 AUDITOR SIGNATURE _____ 10 DATE _____	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 75 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
8-13	AP-6.3Q, R0, Para. 5.7.1	1. Verify that for each sample submitted to the SMF, the minimal amount of sample information as delineated on the Sample Collection Report shall be provided.  - Date Sample Collected  - Sample Collector  - Organization  - Collector's Sample ID  - Bar Code Label  - Type of Sample  - Type of Site  - Collection Location  - Sample weight, volume and dimensions  - Field Photos Type  - Storage Requirements  - Remarks  - Sample Transfer to SMF			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 76 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
8-14	AP-6.3Q, R0, Para. 5.7.4	1. Verify that when both the sample and Sample Collection Report are submitted to the SMF, the User and an SMF staff member sign and date the Sample Collection Report.			
				9 AUDITOR SIGNATURE	10 DATE

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

2 Page 77 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-1	TWS-QAS-QP-12.1, R4, Sect. 5.3	<p>1. Verify that the QAS maintains a master inventory of all M&amp;TE on a calibration schedule.</p> <p>2. Verify that the QAS prepares a records package of all M&amp;TE records, annually.</p>			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 78 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-2	TWS-QAS-QP-12.1, R4, Sect. 6.1.1	<p>1. Verify that an M&amp;TE Calibration Record for each instrument has been filled-out for each instrument examined and includes the following information:</p> <ul style="list-style-type: none"> <li>- group and location where the instrument is kept</li> <li>- instrument description</li> <li>- capacity</li> <li>- tolerance required for the purpose of the task</li> <li>- unique instrument identification (property number or other)</li> <li>- calibration interval</li> </ul> <p>2. Verify that non-applicable portions of Calibration Record form are noted as N/A.</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 79 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-3	TWS-QAS-QP-12.1, R4, Sect. 6.1.2	1. Verify that for each instrument exempted from control and calibration procedures, the instrument is labeled as exempt.           2. Verify that the reason for exempting an instrument is documented.			
				9 AUDITOR SIGNATURE _____	10 DATE _____

[illegible]

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

2 Page 81 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-5	TWS-QAS-QP-12.1, R4, Sect. 6.3	1. Verify that calibrations and standards used are documented on the M&TE Calibration Record, in laboratory notebooks or in a calibration certificate.  2. Verify that the following calibration information is documented for the instrument, as applicable:  - reference number  - range  - accuracy before and after calibration  - ID number of calibration file or other calibration standards that show traceability to NIST or other standards  - signature, date, location and telephone number of the calibrator  - calibration expiration date  - date by which instrument should be returned for calibration  - comments (see procedure)			
				<sup>9</sup> AUDITOR SIGNATURE <sup>10</sup> DATE	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 82 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-6	TWS-QAS-QP-12.1, R4, Sect. 6.4	1. Verify that calibrated instruments have been labeled and labels include the following information:  - identity of the calibrator  - next scheduled calibration date  - traceability to the calibration procedure, such as file or procedure number			
				<div style="display: flex; justify-content: space-between;"> <span><sup>9</sup> AUDITOR SIGNATURE _____</span> <span><sup>10</sup> DATE _____</span> </div>	

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 83 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-7	TWS-QAS-QP-12.1, R4, Sect. 6.6	<p>1. Verify that for instruments not in calibrations, the instrument is segregated or tagged with the statement "DO NOT USE FOR YMP".</p> <p>2. Verify that for instruments removed from service, a memo from the PI to the QAS has been placed in the group Resident File documenting this removal.</p>			
				<sup>9</sup> AUDITOR SIGNATURE _____ <sup>10</sup> DATE _____	

91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 84 of 154

3 AUDIT ITEM NO.	4  QUALITY REQUIREMENT REFERENCE(S)	5  QUALITY REQUIREMENT/GUIDELINE	6  RESULTS S,X,N/A	7  SUMMARY OF INVESTIGATION	8  PERSON CONTACTED
12-8	TWS-QAS-QP-12.1, R4, Sect. 6.7	<p>1. Verify that for instruments found to be out of tolerance before calibration, if data was obtained, the PI prepared a deficiency report to document this situation.</p> <p>2. Verify that if invalid or indeterminate information has been submitted to other Project personnel, the PI notifies these individuals.</p>			
				<sup>9</sup> AUDITOR SIGNATURE <sup>10</sup> DATE	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 85 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-9	TWS-QAS-QP-12.1, R4, Sect. 6.8	1. Verify that when a specific procedure is required for handling and storing M&TE, the PI documents any specific procedure (other than DPs) in a memo to the group Resident File or in a notebook and explains the procedure to the users of the instrument.			
				9 AUDITOR SIGNATURE	10 DATE



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 86 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-10	TWS-QAS-QP-12.1, R4, Sect. 6.9	1. Verify that the QAS prepares a records package for M&TE for each calibrated instrument consisting of the following: <ul style="list-style-type: none"> <li>- a completed M&amp;TE Calibration Record</li> <li>- a calibration certificate if provided by the calibration group or service</li> <li>- any correspondence on instruments removed from use</li> </ul>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 87 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
12-11	TWS-QAS-QP-12.1, R4, Sect. 7.1	1. Verify that a M&TE Calibration Record form for each instrument is initiated and maintained by the PI and QAS.			
				<sup>9</sup> AUDITOR SIGNATURE	<sup>10</sup> DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 88 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
13-1	TWS-QAS-QP-13.1, R2, Sect. 6.1	<p>1. Verify that for any special requirements not covered in a specific procedure, the PI or experimenter documents these requirements in a laboratory notebook, in a DP or in a memo and submits this documentation to the Resident File.</p> <p>2. Verify that equipment used in research and development activities is identified and any special handling, storage or shipping procedures are noted by the experimenter following the procedures described in QP-03.5.</p> <p>3. Verify that repetitive activities are described in DPs.</p> <p>4. Verify that any special handling, storage, or shipping practices are documented in the DPs.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 89 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
13-2	TWS-QAS-QP-13.1, R2, Sect. 6.3	<p>1. Verify that marking and labeling instructions for packaging, shipment, handling and storage of items are specified in LANL DPs or in memos to the group Resident File.</p> <p>2. Verify that the above instructions contain specific instructions to adequately identify, maintain, and preserve the item.</p> <p>3. Verify that marking requirements for special environments or special controls are specified in LANL DPs or memos containing specific instructions.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 90 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
13-3	TWS-QAS-QP-13.1, R2, Sect. 6.4	1. Verify that when procuring services or equipment, special requirements for packing, shipping or handling are stated in the procurement documents as described in QP-04.1.			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 91 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
13-4	LANL YMP QAPP, R4.3, Sect 13.4	<p>1. In which LANL procedure is the following requirement met?</p> <p>Special-handling tools and equipment shall be inspected and tested in accordance with approved procedures and at specified time intervals to verify that the tools and equipment are adequately maintained.</p>			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 92 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-1	TWS-QAS-QP-15.2, Rev. 1, Para. 6.1.3	NOTE: LANL has combined Criteria 15 and 16. There will be no checklist questions numbered 16-1, 16-2, etc.			
		Verify that the YMP supervisor reviews, signs and dates Part I of the DR and forwards the DR to the QAL and QAPL.			
		In addition, determine what transpires if the YMP supervisor does not sign the DR.			
					<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 93 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-2	TWS-QAS-QP-15.2, Rev. 1, Para. 6.2.1	Verify that the DR Log is being maintained as appropriate.			
				9 AUDITOR SIGNATURE	10 DATE



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 94 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-3	TWS-QAS-QP-15.2, Rev. 1, Paras. 6.2.1.1, 6.2.1.2, 6.2.2, 6.2.2.1 and 6.2.2.2	<p>Verify that the QAPL documents concurrence/ nonconcurrence of the deficiency by checkling the yes/no box, signing, and dating Part II, Section A.</p> <p>If the QAPL does not agree with the deficiency, verify that the TPO performs the proper reviews and documents his reviews by completing Part II, Section B.</p> <p>NOTE: Part II-A of the form also stipulates that the TPO can sign, however, the procedure does not spell this out.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 95 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-4	TWS-QAS-QP-15.2, Rev. 1, Paras. 4.1, 4.6 and 6.3.1	<p>Review DRs to determine whether the correct choice was made as to the determination of "Condition Adverse to Quality" or "Significant Condition Adverse to Quality (SCAQ)."</p> <p>If the DR was determined to be an SCAQ, verify that a stop work order was issued.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 96 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-5	TWS-QAS-QP-15.2, Rev. 1, Para. 6.4	Verify that the deficiency is resolved and the DR returned to the QAPL within (30) thirty calendar days of the date of the QAPLs signature on Part III of the DR.			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 97 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-6	TWS-QAS-QP-15.2, Rev.1, Paras. 6.4.1.3 and 6.4.1.4	Verify that items are properly tagged, marked, and segregated by the YMP supervisor.			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 98 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-7	TWS-QAS-QP-15.2, Rev. 1, Paras. 6.4.2, 6.4.2.1, 6.4.2.2, 6.4.2.3, 6.4.2.4 and 6.4.2.5	<p>Verify that the person responsible for the disposition of the deficiency enters the correct information by reviewing dispositioned DRs and comparing to procedural requirements.</p> <p>Note: LANL-YMP-QAPP, Revision 5, Para. 15.5.3 is not transcribed verbatim. Assure that upper tier requirements are appropriately transcribed.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 99 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-8	TWS-QAS-QP-15.2, Rev. 1, Para. 6.5.1	Verify that DRs which are returned to the responsible organization for an amended response/disposition are returned to the QAPL within (15) fifteen calendar days of the date on the QAPLs transmittal letter or memorandum.			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 100 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-9	TWS-QAS-QP-15.2, Rev. 1, Para. 6.5	Verify that the proposed response is approved or disapproved within (15) fifteen calendar days.			
		<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>			

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 101 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-10	TWS-QAS-QP-15.2, Rev. 1, Para. 6.5.2.1	<p>Verify that the Project Office QA Division (POQAD) receives copies of DRs written against items.</p> <p>In addition, verify that the POQAD Director is sent "repair" or "use-as-is" dispositions for approval.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 102 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-11	TWS-QAS-QP-15.2, Rev. 1, Paras. 6.6.1, 6.6.1.1, 6.6.1.2, 6.6.1.3 and 6.6.1.4	Verify that conditional release requests address the criteria established by the procedure relative to items.			
				<div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 103 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-12	TWS-QAS-QP-15.2, Rev. 1, Paras. 6.7.1 and 6.7.3	<p>Verify that if the date for corrective action cannot be met that the YMP supervisor notifies the QAPL requesting an extension.</p> <p>In addition, verify that the YMP supervisor notifies the QAPL when corrective action is complete.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 104 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-13	TWS-QAS-QP-15.2, Rev. 1, Paras. 6.7.4, 6.7.4.1, 6.7.4.2 and 6.7.4.3	Verify that the QAPL verifies that the deficiency was corrected adequately and documents the method of verification.			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 105 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-14	TWS-QAS-QP-15.2, Rev. 1, Paras. 6.7.5, 6.7.5.1, 6.7.5.2, 6.7.5.3, 6.7.5.4, 6.7.5.5 and 6.7.5.6	Verify that when implementation of corrective action was determined to be inadequate or was not completed by the completion date, the QAPL initiates a new DR in accordance with procedural guidelines.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 106 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
15-15	TWS-QAS-QP-15.2, Rev. 1, Para. 6.8.1.1	Verify that the responsible group removes tags or marks from the deficient items and removes the items from the holding area upon closure of DRs written on items.			
				9 AUDITOR SIGNATURE _____	10 DATE _____

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 107 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
17-1	TWS-QAS-QP-17.3, R1 Para. 6.3.4	<p>RECORDS MANAGEMENT</p> <p>The originator ensures that the record is legible for microfilming.</p> <ul style="list-style-type: none"> <li>- The record must be easy to read, clear and distinct.</li> <li>- Photocopies that are reduced must result in a clear and distinct image.</li> <li>- If blue-line or sepia drawings are the only copies available, they are rolled and stored on stick files or in flat plan files.</li> <li>- Records must not have information obliterated.</li> <li>- If the best available copy of a record is of substandard quality, the affected pages are marked "Best Available Copy", signed and dated.</li> </ul> <p>Verify that LANL adheres to the above stipulations.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 108 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
17-2	TWS-QAS-QP-17.3, R1 Para. 6.3.5	<p>The originator ensures that errors are properly corrected.</p> <ul style="list-style-type: none"> <li>- Records can be corrected only by drawing a single line through the erroneous material, inserting or indicating the correct material, and initialing and dating the correction.</li> <li>- Write-overs are not acceptable for error correction.</li> <li>- Correction fluid or tape must not be used.</li> </ul> <p>Verify conformance to the above requirements.</p> <p>Is there a provision for the records department to insure that the originator has complied with the above stipulations?</p>			
				<p>9 AUDITOR SIGNATURE</p>	
				<p>10 DATE</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 109 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
17-3	TWS-QAS-QP-17.3, R1 Para. 6.3.6	<p>The originator ensures that the record is complete by checking that</p> <p>- sections of all accompanying forms are complete or N/A is entered, as appropriate.</p> <p>Verify that all forms are complete including marking N/A where information is not required.</p>			
				<p>9 AUDITOR SIGNATURE _____ 10 DATE _____</p>	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 110 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
17-4	TWS-QAS-QP-17.3, R1 Para. 6.4.1	<p>The originator or RFC prepares a Record Traveler Package (Attachment 2) and includes the following information:</p> <ul style="list-style-type: none"> <li>- date the record is completed;</li> <li>- WBS number;</li> <li>- TWS number (Record Package Travelers receive their own unique identifier);</li> <li>- QA designation;</li> <li>- title or subject of the record package (there should be only one subject);</li> <li>- total number of pages, including the Record Package Traveler;</li> <li>- table of contents with each record listed separately with its date, document identification number (as applicable), subject, and number of pages; and</li> <li>- signature.</li> </ul> <p>Verify that the above information is included on the Record Package Travelers.</p>			
				9 AUDITOR SIGNATURE	10 DATE

OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL 2 Page 111 of 154

1 ORGANIZATION LOS ALAMOS NATIONAL 2 Page 111 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
17-5	TWS-QAS-QP-17.3, R1 Para 6.5	<p>The originator or RFC authenticates all records, Special-Processed Record Forms, and Record Package Travelers.</p> <p>- The originator authenticates individual records (e.g., memos and letters) by initialing or signing the dated document.</p> <p>Verify that records are authenticated.</p>			
17-6	Para. 6.7.1	<p>Upon receipt of a record, the RPC staff stamps "RPC Rec'd" and initials and dates the first page of the record.</p> <p>Verify that records have been stamped, initialed and dated by the RPC staff.</p>			
				<p><sup>9</sup> AUDITOR SIGNATURE <sup>10</sup> DATE</p>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 112 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
17-7	TWS-QAS-QP-17.3, R1 Para. 6.8.5	<p>Access to each Resident File and to the RPC is limited to the YMP personnel identified on the access list posted on the outside of the lockable door or storage unit.</p> <p>- The QAL determines which personnel have access to the Resident File and generates, signs and posts the access list.</p> <p>- The Administration and Control Project Leader determines the personnel who have access to the RPC and generates and signs the access list.</p> <p>Verify that the access list is posted in the assigned place and that it has been signed by the QAL and the Administrative and Control Project Leader.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 113 of 154

<sup>3</sup> AUDIT ITEM NO.	<sup>4</sup> QUALITY REQUIREMENT REFERENCE(S)	<sup>5</sup> QUALITY REQUIREMENT/GUIDELINE	<sup>6</sup> RESULTS S,X,N/A	<sup>7</sup> SUMMARY OF INVESTIGATION	<sup>8</sup> PERSON CONTACTED
18-1	LANL-YMP-QP 18.1, Rev. 4, Paras. 6.1.1, 6.1.3.1 and 6.1.5.2	Verify that an annual audit schedule is issued that includes internal and external audits of LANL and LANL contractor YMP activities.			
		In addition, verify that all appropriate LANL contractors are included.			
		<div style="display: flex; justify-content: space-between;"> <span><sup>9</sup> AUDITOR SIGNATURE _____</span> <span><sup>10</sup> DATE _____</span> </div>			

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 114 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-2	LANL-YMP-QP 18.1, Rev. 4, Paras. 6.2 and 6.2.3	Verify that when LANL performs internal audits; that personnel involved in audit activities are independent of the activity itself.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 115 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-3	LANL-YMP-QP 18.1, Rev. 4, Paras. 6.3.6.1, 6.3.6.2 and Attachment 5	Verify that the Audit Team Leader prepares an audit plan which includes the following information:  a. Introduction b. Purpose and Scope of the Audit c. Audit Schedule d. Activities to be Audited e. Requirements f. Audit Procedures and Checklists g. Audit Personnel			
				<sup>9</sup> AUDITOR SIGNATURE <sup>10</sup> DATE	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 116 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-4	LANL-YMP-QP 18.1, Rev. 4, Paras. 6.3.4.1 and 6.3.4.2	Verify that audit team members prepare checklists that list elements to be verified.			
				<div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div>	

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

2 Page 117 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-5	LANL-YMP-QP 18.1, Rev. 4, Paras. 6.5.3, 6.5.3.1, 6.5.3.2, 6.5.4.1 and 6.5.5	Verify that the Audit Team Leader prepares an Audit Report which includes the following:  a. Introduction b. Individuals Contacted c. Audit Team Members d. Audit Scope e. Objective Evidence Examined f. Observations g. Deficiencies h. QA Program Adequacy and Effectiveness i. Required Action			
				<div style="display: flex; justify-content: space-between;"> <span><sup>9</sup> AUDITOR SIGNATURE _____</span> <span><sup>10</sup> DATE _____</span> </div>	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 118 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-6	LANL-YMP-QP 18.1, Rev. 4, Attachment 2	Review Audit Status Log; and assure Log is maintained, as appropriate.			
				<div style="display: flex; justify-content: space-between;"> <span>9 AUDITOR SIGNATURE _____</span> <span>10 DATE _____</span> </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 119 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-7	TWS-QAS-QP 18.2, Rev. 2, Paras. 6.1, 6.1.1 and 6.1.2	Verify an annual survey schedule is prepared and issued.			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 120 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-8	TWS-QAS-QP 18.2, Rev. 2, Paras. 6.2.3.1 and 6.2.3.2	Verify that the survey team members prepare checklists based upon that team member's survey assignment.			
				9 AUDITOR SIGNATURE	10 DATE

**OCRWM AUDIT CHECKLIST NO. 91-03-01**

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 121 of 154

[illegible]

# OCRWM AUDIT CHECKLIST NO. 91-03-01

<sup>1</sup> ORGANIZATION LOS ALAMOS NATIONAL

<sup>2</sup> Page 122 of 154

<sup>3</sup> AUDIT ITEM NO.	<sup>4</sup> QUALITY REQUIREMENT REFERENCE(S)	<sup>5</sup> QUALITY REQUIREMENT/GUIDELINE	<sup>6</sup> RESULTS S,X,N/A	<sup>7</sup> SUMMARY OF INVESTIGATION	<sup>8</sup> PERSON CONTACTED
18-10	TWS-QAS-QP 18.2, Rev. 2, Paras. 6.4.8.1 and 6.4.8.2	Verify that the survey team leader prepares a survey records package that contain  a. Survey Report b. Survey Checklists, and c. Attachments and/or correspondence related to the two previous documents			
				<div> <sup>9</sup> AUDITOR SIGNATURE                         <sup>10</sup> DATE                     </div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 123 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-11	TWS-QAS-QP 18.3, Rev. 2, Para. 5.5	Verify that auditors and Lead Auditors have completed auditor and Lead Auditor indoctrination and training prior to performing LANL YMP audits.			
				<div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div>	

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 124 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-12	TWS-QAS-QP 18.3, Rev. 2, Para. 6.0 and Note 6.1.1	<p>Verify that auditors and Lead Auditors are certified by both the LANL YMP contractor and by LANL for contractors.</p> <p>In addition, verify that LANL YMP employees are certified by LANL.</p>			
				9 AUDITOR SIGNATURE	10 DATE

# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 125 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-13	TWS-QAS-QP 18.3, Rev. 2, Paras. 6.2 and 6.3	Verify that auditors and Lead Auditors meet the requirements specified for their qualification.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	



# OCRWM AUDIT CHECKLIST NO. 91-03-01

1 ORGANIZATION LOS ALAMOS NATIONAL

2 Page 126 of 154

3 AUDIT ITEM NO.	4 QUALITY REQUIREMENT REFERENCE(S)	5 QUALITY REQUIREMENT/GUIDELINE	6 RESULTS S,X,N/A	7 SUMMARY OF INVESTIGATION	8 PERSON CONTACTED
18-14	TWS-QAS-QP 18.3, Rev. 2, Paras. 6.4 and 6.4.2	Verify that the maintenance of Lead Auditor qualifications are accomplished within procedural guidelines.			
				<div> <div>9 AUDITOR SIGNATURE</div> <div>10 DATE</div> </div>	