

TWS-QAS-QP-08.2, R0

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PROCEDURE FOR CONTROL OF DATA

Effective Date: 8/23/89

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DIF Guidance Rating: 4.0  
Training Requirements: Formal Training

## PROCEDURE FOR CONTROL OF DATA

### 1.0 PURPOSE

This quality administrative procedure (QP) describes how technical information (typically data) from the Los Alamos National Laboratory (LANL) Yucca Mountain Project (YMP or Project) is controlled. This procedure implements the Los Alamos Quality Assurance Program Plan (QAPP) requirements and the Project Office Administrative Procedures AP 5.2Q and AP 5.3Q, which describe how data are to be submitted to the YMP Technical Data Base and the YMP Reference Information Base. This procedure describes the steps to follow in preparing and submitting data as well as the subsequent addition, deletion, or modifications of the submitted data.

### 2.0 SCOPE

This QP is applicable to all LANL personnel and their subcontractors who conduct scientific investigations as part of the YMP. The procedure applies only to technical information, which includes data, interpretations, and modeling results, submitted to the Technical Data Base and/or the Reference Information Base (RIB). Samples and engineered items are not covered by this procedure.

This QP is written so that the integrity of the data-generating source, LANL, is protected. This protection is accomplished by

- recommending that the data submittal package be related to a document that can be referenced because Project technical data base citations will also be given Sandia National Laboratory (SNL) references; and
- ensuring that the YMP policy approval is obtained because data in the Project data base are considered to be a source similar to a journal source. The data then will be disseminated, and YMP policy approval must be obtained.

### 3.0 REFERENCES

- LANL-YMP-Quality Assurance Program Plan (QAPP).
- TWS-QAS-QP-01.1, Procedure for Interface Control.
- TWS-QAS-QP-03.2, Procedure for Preparation and Technical and Policy Review of Technical Information Products.
- TWS-QAS-QP-06.1, Procedure for Document Control.
- TWS-QAS-QP-17.1, Procedure for the Los Alamos Group Resident File.
- AP 5.2Q, Technical Information Flow to and from the Yucca Mountain Project Technical Data Base.
- AP 5.3Q, Information Flow into the Project Reference Information Base.

### 4.0 DEFINITIONS

#### 4.1 Data

Data are considered to be technical information generated by any LANL YMP scientific investigation. Raw data normally are the original, unedited information generated during an experiment. Reduced data are raw data that have been converted so that they are recognizable as information suitable for use by the scientific community. In this QP, the term data refers to reduced data.

4.2 Data Manager

The data manager is a representative of the LANL Program Office who has been selected by the Technical Project Officer (TPO) to coordinate the submission of all technical information to the YMP Technical Data Base and the YMP RIB. The data manager must be cognizant of the parameter listings in the Site Characterization Plan.

4.3 Reference Information Base

The RIB is a YMP baselined document that is under controlled distribution and provides summary data and information pertaining to the Project. It is a dynamic, evolving document that represents the best available Project-endorsed technical information at any point in time. The technical information may include data and/or interpretations.

4.4 RIB Administrator

The RIB administrator is the individual responsible for the RIB data base. All data submitted to the RIB are transmitted to the RIB administrator.

4.5 RIB Change Request

A RIB change request is a form used to initiate processing of proposed changes to the RIB, including additions of new data, modifications, and deletions.

4.6 Technical Data Base

This Project-level data base contains data for engineering design, performance assessment, and licensing activities. The Technical Data Base contains two components: the Site and Engineering Properties Data Base (SEPDB) and the Interactive Graphics Information System (IGIS). Unless noted otherwise, the Technical Data Base as used in this QP applies specifically to the SEPDB.

4.7 Interactive Graphics Information System

The IGIS provides standardized, computer-aided, three-dimensional modeling and mapping capabilities for the YMP. The IGIS is primarily an analytical tool for the creation, manipulation, analysis, and display of graphics-based information (e.g., a base map showing the location of Project drill holes). All requests for IGIS products are coordinated by the data base administrator. The IGIS is part of the Technical Data Base.

4.8 Data Base Administrator

The data base administrator is the task leader for the Project Technical Data Base. All data submitted to the Technical Data Base are transmitted to the data base administrator.

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#### 4.9 Site and Engineering Properties Data Base

The SEPDB is a computerized data base with storage and retrieval capabilities for objective physical properties and related information derived from geotechnical and other studies of the proposed Yucca Mountain repository site. The SEPDB deals principally with information in tabular form. It supports engineering design, performance assessment, and licensing activities. The SEPDB does not include interpretations of data but would cite appropriate references, if available.

#### 4.10 Technical Information Product

A technical information product is considered to be a technical report that may be an abstract, LA-series report, journal publication, or a Project Report (milestone). A technical information product is disseminated outside the Project and therefore requires a technical and policy review and a YMP Policy Review following QP-03.2.

### 5.0 RESPONSIBILITIES

#### 5.1 Principal Investigator

The principal investigator (PI) responds to requests to submit data to a Project data base or initiates a request to submit data. The PI prepares data submittal packages and modifies past data submissions, if necessary.

#### 5.2 Technical Project Officer

The TPO has final authority for all data package submittals. The TPO's duties include transmitting the data package for policy review as a technical information product (QP-03.2) and transmitting the approved data submittal packages to the Project data bases (QP-01.1).

#### 5.3 Data Manager

The data manager at LANL coordinates all data package submittals. The data manager works with the PI to identify all candidate information appropriate for or requested for submittal. The data manager notifies the data base administrator or RIB administrator of potential data submittals. The data manager reviews and transmits the completed package to the TPO. The data manager assists the PIs or other project participants in obtaining data from the Project data bases.

### 6.0 PROCEDURE

The steps described below facilitate the preparation, review, and transmittal of data submittal packages to the Technical Data Base and to the RIB. Steps to modify a previously submitted data package are described. This section implements Project AP 5.2Q and AP 5.3Q.

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**PERSON**

**ACTION**

- a copy of the Data Authorization Form or of the RIB change request form with appropriate sections completed; and
  - proof of technical and policy review, if appropriate. The proof would include a copy of the completed LANL preparation and review traveler (QP-03.2), the LANL technical and policy review forms, and YMP policy review approval letter. For those data submittal packages containing previously approved technical information products, only the LANL TWS number or the accession number of the processed completed records package is needed.
- Data manager
5. Ensures that the data submittal package is complete, that all quality assurance and LANL classification requirements are met, signs the LANL Data Traveler, and transmits the data submittal package to the TPO for final approval.
- TPO
6. Approves the data submittal package by signing the traveler. If the submission is to the Technical Data Base, the TPO also signs the Data Authorization Form. The TPO transmits the completed data submittal package to the data base administrator or the RIB administrator by TWS letter. Because the package crosses organizational boundaries, the TPO follows the QP on interface control (QP-01.1).
- Data manager
7. Sends copies of the completed traveler, Data Authorization form or RIB Change Request Form, and TWS transmittal letter to the PI and either the QAL or the Record File Custodian for inclusion in the Resident File records package for this product.
- Data manager
8. Receives requests from the data base administrator or RIB administrator for modification of the data submittal package, if any, and verifies correctness. May need to request the PI to resolve RIB review comments.
- Obtains the data authorization number from the data base administrator and sends it to the PI and either the QAL or the Record File Custodian for inclusion in the Resident File records package for this product.

6.2 Modification of a Previously Submitted and Accepted Data Submittal Package

PERSON	ACTION
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Data manager

9. In consultation with the PI and the data base administrator or RIB administrator, determines whether corrections are minor or major.

Minor corrections, such as typographical errors, are made by transmitting the corrections to the data base administrator or RIB administrator. For the Technical Data Base, the data authorization number of the original submittal, the errors to be corrected, and the replacement information are specified in the letter. A copy of the letter is sent to the PI who generated the initial data submittal package.

Major corrections resulting in extensive changes must be submitted by preparing a new data submittal package following Steps 1-8. The data manager ensures that the new submission clearly indicates that the incorrect data submittal package is being replaced.

6.3 Requests for information from the Technical Data Base.

Requests for information from the Technical Data Base can be submitted by any LANL YMP participant to the Project data base administrator. The procedure for making the requests is given in AP 5.2Q. It is recommended that the requests be coordinated with the LANL data manager.

7.0 QA REQUIREMENTS

Records

Records to be kept include a complete copy of the data submittal package. This package includes a hard copy of the data being submitted to either data base, all forms required by QP-03.2 or the TWS or accession number of the previously approved and processed records package, the Data Authorization Form or RIB Change Request Form, the LANL Data Traveler, and the data authorization number assigned by the data base administrator to the data submittal package. Records are submitted to the group Resident File and the Records Processing Center according to QP-17.1.

8.0 ACCEPTANCE CRITERIA

The criteria that show this procedure has been correctly implemented are the records identified in Section 7.0, which bear all necessary signatures.

9.0 ATTACHMENT

Attachment 1: Los Alamos National Laboratory YMP Data Traveler.

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LOS ALAMOS NATIONAL LABORATORY YMP DATA TRAVELER  
SIGNATURES REQUIRED

Initiation of traveler

\_\_\_\_\_  
Date Manager

\_\_\_\_\_  
Date

QP-03.2 forms (Section 6.1, Step 4)  
or accession number of competed  
records package

Data Authorization Form or  
RIB Change Request

Hard copy of data

Electronic media copy of data,  
if appropriate

Los Alamos Data Traveler

Date submittal package  
complete and sent to  
data manager

\_\_\_\_\_  
PI

\_\_\_\_\_  
Date

Review of package  
complete and sent to TPO

\_\_\_\_\_  
Date Manager

\_\_\_\_\_  
Date

Authorization

\_\_\_\_\_  
TPO

\_\_\_\_\_  
Date

Receipt acknowledgment  
All forms received for  
Resident File. These forms  
include the following:

\_\_\_\_\_  
PI

\_\_\_\_\_  
Date

QP-03.2 forms (Section 6.1, Step 4)  
or accession number of competed  
records package

Data Authorization Form or RIB  
Change Request

Hard copy of data

Electronic media copy of data,  
if appropriate

Los Alamos Data Traveler

Data Authorization Number  
(Received from data manager;  
fill in number on traveler)

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EXAMPLE  
CONTACT THE QAS TO  
OBTAIN ORIGINAL FOR  
YOUR USE



NNA-891010.0159

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for the  
Yucca Mountain Project

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CR No. 060	Modifies QP-04.3, R1 (CR in front of QP)
CR No. 061	Modifies QP-05.1, R2 (CR in front of QP)
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CR No. 066	Modifies QP-05.2, R2 (CR in front of DP)

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TMS-INC-DP-78, R0	The Preparation of Solutions of Pure Oxidation States of Neptunium, Plutonium, and Americium
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CHANGE REQUESTS (CR)

CR No. 058	Modifies QP-17.1, R0 (CR in front of QP)
CR No. 059	Modifies QP-17.2, R0 (CR in front of QP)

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CHANGE REQUESTS (CR)

CR No. 029	Modifies TWS-ESS-DP-114, RO (CR in front of DP)
CR No. 067	Modifies TWS-ESS-DP-114, RO (CR in front of DP)

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TWS-QAS-QP-12.1, R4

PROCEDURE FOR CONTROL OF MEASURING AND TEST EQUIPMENT

Effective Date: Feb 27, 1990

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1/16/90  
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Quality Assurance Project Leader

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Date

[Signature]  
R. J. Herbst  
Technical Project Officer

2/6/90  
Date

## PROCEDURE FOR CONTROL OF MEASURING AND TEST EQUIPMENT

### 1.0 PURPOSE

The purpose of this quality administrative procedure (QP) is to establish a system to identify, control, and calibrate measuring and test equipment (hereafter referred to as instruments or M&TE) at appropriate intervals to maintain accuracy within specified limits.

### 2.0 SCOPE

This procedure applies to all M&TE (instruments) used in quality assurance (QA) Level I or II activities by Los Alamos National Laboratory (LANL) personnel in Yucca Mountain Project (YMP or Project) investigations. The procedure includes all M&TE used to calibrate, measure, gauge, test, or inspect in order to acquire data, verify conformance to regulations, or establish characteristics or values not previously known.

Calibration and control measures are not required for rulers, tape measures, levels, and similar devices if normal commercial-grade instruments or equipment provide adequate accuracy.

### 3.0 REFERENCES

LANL-YMP-Quality Assurance Program Plan, Section 12.  
TWS-QAS-QP-03.5, Procedure for Documenting Scientific Investigations.  
TWS-QAS-QP-05.2, Preparation of a Detailed Technical Procedure.  
TWS-QAS-QP-13.1, Procedure for Shipping, Handling, and Storage.  
TWS-QAS-QP-15.1, Procedure for Nonconformances.  
TWS-QAS-QP-17.3, Procedure for LANL YMP Records Management.

### 4.0 DEFINITIONS

#### 4.1 Calibrate

To calibrate means to adjust or systematically standardize the output of a measuring or test instrument.

#### 4.2 Calibration Certificate

A calibration certificate, provided by the National Institute of Standards and Technology (NIST, formerly the National Bureau of Standards), the instrument's supplier organization, or a service organization, attests to the accuracy of a calibration and specifies the period of validity for the calibration.

#### 4.3 Calibration File

The calibration group or service organization maintains a calibration file for each instrument it calibrates. This file documents the equipment used in calibrating that instrument and maintains the traceability of each piece of equipment to the NIST, other nationally recognized standards, and/or physical constants.

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4.4 Calibration Group

The calibration group referred to here is the LANL Standards and Calibration Group, which provides NIST-traceable calibration to other LANL groups and maintains the documentation for traceability.

4.5 Calibration Label

All instruments covered by this procedure are identified with a calibration label. Examples are shown in Attachment 1.

4.6 Calibration Standard

A calibration standard has a known, valid, documented relationship to the NIST or another nationally recognized standard or physical constant. The standard must have equal or better accuracy than that required of the instrument. However, the principal investigator (PI) may approve a standard with a lower accuracy than that of the instrument if this standard is adequate for a specific application and if a more accurate standard is not available. The PI documents the basis for accepting an equal or lower accuracy standard in a memo to the group Resident File, in a DP, or in an entry in a laboratory notebook. If no national standards exist, the basis for calibration is documented in a memo to the group Resident File, in a DP, or in an entry in a laboratory notebook.

4.7 Controlled Calibration

Controlled calibration is performed according to written procedures and to standards that are traceable to nationally recognized standards or natural physical constants. Calibration performed by the calibration group, external service organization, or instrument operator is controlled calibration. These calibration procedures are described in written procedures, operator's manuals, or other standard reference documents.

4.8 Custodian/Operator

The custodian/operator of a particular instrument is a member of a LANL group who is responsible for maintaining and calibrating the instrument.

4.9 M&TE Calibration Record

The M&TE Calibration Record (Attachment 2) provides the following information:

- a record of the unique identification and calibration requirements of each individual instrument;
- the calibration procedure, accuracy, and range through which the instrument was calibrated; and
- the date of the next scheduled calibration or the notation "operator calibrated."

For every instrument covered by this procedure an M&TE Calibration Record is completed and filed with the Quality Assurance Support (QAS) organization and a copy is kept in the Resident File.

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#### 4.10 Service Organization

A service organization is a group outside of LANL that can provide controlled calibration service using nationally recognized standards or physical constants and written procedures.

### 5.0 RESPONSIBILITIES

#### 5.1 Quality Assurance Project Leader

The Quality Assurance Project Leader is responsible for evaluating each group's calibration DPs and ensuring that they are effective and comply with this QP.

#### 5.2 Principal Investigator

The PI may delegate any designated function to another Project member by documenting such action in a memo to the group Resident File. The PI selects instruments for use on Project work, taking into consideration the type, range, accuracy, and tolerance required to accomplish the intended function. This selection is documented in DPs, in laboratory notebooks or logbooks, or by memo. The PI or QAS initially fills in the first section of the M&TE record.

The PI ensures that all appropriate instruments are calibrated before they are used for QA Level I or II Project work.

The PI prepares deficiency reports when instruments are found to be outside the required tolerance.

#### 5.3 Quality Assurance Support

The QAS maintains a master inventory of all M&TE on a calibration schedule. The QAS notifies the Quality Assurance Liaison (QAL) of calibrations due within the next month. Annually, the QAS prepares a records package of all M&TE records.

#### 5.4 Quality Assurance Liaison

The QAL notifies the PI or laboratory supervisor of instruments scheduled for calibration within the next month.

#### 5.5 Custodian/Operator

The custodian/operator of a particular instrument is a member of a LANL group who maintains and calibrates an instrument. The instrument may be calibrated using a DP, an operator's manual, or manufacturer's instructions. The custodian/operator or personnel (operators) trained by the custodian/operator may calibrate the instrument. The custodian/operator documents the training in the laboratory notebook or attaches the documentation to the specific instrument calibration procedure.

When the instrument is used, the operator or user records the instrument ID along with the measurements taken to ensure traceability to the calibration data of the instrument.

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## 6.0 PROCEDURE

### 6.1 Selection

#### 6.1.1 Selection of Instruments for Calibration

The PI initially fills in the first section of the M&TE Calibration Record (Attachment 2) for each instrument that is covered by this procedure and used in his/her Project work. The PI notes on the Calibration Record whether it is to be calibrated by the operator, a service organization, or LANL's Standards and Calibration Group. For subsequent calibrations, the QAS can fill in this section of the record. The PI documents the following information:

- group and location where the instrument is kept,
- instrument description,
- capacity,
- tolerance required for the purposes of this task (the PI can select a tolerance that is less than the accuracy of the instrument if this is appropriate for the measurements to be taken for the task),
- unique instrument identification (property number or other), and
- calibration interval.

If any section of the form is not applicable, the PI notes it as N/A. The PI gives this record to the QAL, who gives a copy to the calibration group or service organization performing the calibration and sends the original to the QAS to show that the instrument is used for Project work.

#### 6.1.2 Exemption of Instruments

The PI may determine that an instrument is exempt from control and calibration procedures described in other sections of this QP. The PI documents the reasons for the exemption in a DP, a memo to the group Resident File, or an entry in a laboratory notebook. The instrument is labeled to indicate exemption from YMP control and calibration requirements. The label references the exemption document.

### 6.2 Calibration Interval

The PI determines the appropriate calibration interval for instruments, taking into consideration

- type of equipment,
- manufacturer's recommendation,
- service organization's recommendation,
- government and industry codes and standards,
- frequency and conditions of use,
- stability characteristics, and
- required accuracy and precision.

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The PI specifies the calibration interval on the M&TE Calibration Record for each instrument. When a service organization performs calibrations, the service organization may recommend to the PI the calibration interval based on the service organization's experience and information regarding the instrument and based on the expected frequency of use. Unless the PI determines that a shorter interval is appropriate, balances are calibrated annually and reference weights are calibrated every two years.

If the calibration of an instrument is in doubt, the PI may have it calibrated before the calibration date indicated.

### 6.3 Performance of Calibration

Instruments are calibrated by LANL's Standards and Calibration Group, by a service organization, or by the operator. Individuals who perform calibrations are properly trained and certified (according to the procedures for personnel selection and indoctrination or the service organization's procedures) and use written procedures and appropriate calibration standards. Calibrations and the standards used are documented on the M&TE Calibration Record (Attachment 2), in laboratory notebooks, or in a calibration certificate. Specific calibration information that is documented includes, as applicable for the instrument or procedure,

- reference number, including revision number, of the calibration procedure used;
- range through which the instrument was calibrated;
- accuracy before and after calibration (to determine whether the instrument is out of tolerance);
- identification number of the 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 the instrument should be returned for calibration, as applicable; and
- any comments, such as inability to calibrate the instrument within the manufacturer's specified tolerance.

If any section on the form is not applicable, the calibrator notes it as N/A.

#### 6.3.1 Non-operator-calibrated M&TE

The PI may hand carry the instrument or have it packed and shipped (according to QP-13.1) to a service organization for calibration, or the individual who performs the calibration may calibrate the instrument where it is used, depending on the circumstance. If handling and shipping are required, the PI makes arrangements necessary to prevent damage in transit and documents the arrangements in the laboratory notebook or by memo to the group Resident File. If the instrument is shipped, the PI marks the container exterior with the instrument type and any special handling instructions.

An individual in the calibration group or service organization calibrates the instrument. This calibrator fills in the information required

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in the lower part of the M&TE Calibration Record (Attachment 2). The calibrator compares the instrument's tolerance as stated in the top part of the M&TE form with the accuracy measured before adjustment and notes the tolerance on the M&TE Calibration Record.

The calibrator returns the instrument, if applicable, and the record to the PI or QAL. The PI or QAL places a copy of the calibration record and a calibration certificate, if any, in the group Resident File and sends the originals to the QAS as Project records. If a calibration certificate (e.g., from the calibration group) is returned to the PI without the M&TE calibration record, the PI sends the certificate to the QAS. The QAS transfers the appropriate information to the M&TE calibration record, attaches the record to the copy of the calibration certificate in the QAS file, and sends a copy of the record to the Resident File.

### 6.3.2 Operator-calibrated M&TE

The two methods for controlling operator calibration at LANL for YMP activities are to follow a DP (prepared according to QP-05.2) or to follow the instructions of the calibration method in a laboratory notebook (documented according to QP-03.5). For either method, an operator's manual or manufacturer's instructions can be included as a reference.

The operator documents the calibration on the M&TE Calibration Record, in a laboratory notebook, or in an instrument logbook, as specified by the calibration procedure for the instrument. The operator also records the information listed in Section 6.3 above, as applicable for the instrument and/or calibration procedure. If an M&TE Calibration Record is not used to document the calibration, the location of the information is noted in the M&TE record. The original of the form is sent to the QAS and a copy is sent to the group Resident File.

### 6.4 Labeling the Calibrated Instrument

The custodian/operator, calibrator, or PI places a label (some examples are shown in Attachment 1), tag, or other documentation on or with the instrument to provide traceability to calibration data. The label will indicate

- the identity of calibrator (operator, service organization, or LANL's Standards and Calibration Group),
- the next scheduled calibration date, and
- the traceability to the calibration procedure, such as file or procedure number.

### 6.5 Recalibration

After an instrument is in the system, the QAS initiates the updated M&TE Calibration Record and sends it to the QAL as notification that recalibration will be due within the next month. The QAL and PI arrange for recalibration (Section 6.3) and labeling (Section 6.4).

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6.6 Instruments Not in Calibration

The PI or QAL segregates the instrument or affixes a tag stating "DO NOT USE FOR YMP" to any instruments that are beyond the calibration interval, are out of calibration, or cannot be calibrated within the tolerance listed. These instruments are not used until recalibrated. Any instrument that is consistently out of calibration must be repaired or replaced. The PI informs the QAS by memo of any instrument that is removed from service and places a copy of the memo in the group Resident File.

6.7 Instruments Out of Tolerance

If the instrument was out of tolerance before calibration, the QAS returns a copy of the M&TE record to the PI, who evaluates the validity of the information obtained from that instrument since the expiration of the previous calibration. If data were obtained, the PI must prepare a deficiency report to document his/her conclusions. If invalid or indeterminate information has been submitted to other Project personnel, the PI notifies these individuals.

6.8 Handling and Storage

To maintain accuracy, M&TE is handled and stored using good scientific and engineering judgment, following manufacturer's recommendations, or following a specific procedure, if the PI so directs. 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.

6.9 Transfer of Records Package to the Records Processing Center

The QAS prepares a records package for M&TE consisting of the following for each calibrated instrument:

- a completed M&TE Calibration Record,
- a calibration certificate if provided by the calibration group or service, and
- any correspondence on instruments removed from use.

During the first quarter of each year, the QAS duplicates all calibration records collected during the previous year and submits the duplicate copies as a records package to the Records Processing Center.

7.0 QUALITY ASSURANCE DOCUMENTATION

7.1 Records

A calibration record for each instrument is initiated and maintained by the PI and QAS on the M&TE Calibration Record form. A separate file is kept for those instruments calibrated at each use.

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The original of the M&TE Calibration Record is sent to the QAS, and a copy is maintained in the group Resident File. The QAS annually prepares a records package of all calibration records (Section 6.9).

**7.2 Labels**

All instruments covered by this procedure are labeled to indicate calibration status. Some examples of labels are shown in Attachment 1.

**8.0 ACCEPTANCE CRITERIA**

Completion of the M&TE Calibration Records, the appropriate tags and labels on instruments, and a master inventory list of all M&TE demonstrates satisfactory performance of this procedure.

**9.0 ATTACHMENTS**

Attachment 1: Examples of Calibration Labels  
Attachment 2: M&TE Calibration Record

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EXAMPLES OF CALIBRATION LABELS

For QA Work

Ident. \_\_\_\_\_

**OPERATOR TO CALIBRATE**

Procedure No. \_\_\_\_\_

QA-CL-21

SCHEDULED CALIBRATION

For QA Work

Ident. \_\_\_\_\_

Date Calibrated \_\_\_\_\_

Re-calibration Due \_\_\_\_\_

Procedure No. \_\_\_\_\_

Calibrator \_\_\_\_\_

QA-CL-20

Los Alamos  
STANDARD LABORATORY  
SERIES

Lab No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Serial No. \_\_\_\_\_

**CERTIFIED**

RECALIBRATE TO NATIONAL STANDARDS

Los Alamos NRC-4  
STANDARD LABORATORY

CERTIFICATION LIMITED

RECALIBRATE TO NATIONAL STANDARDS

Lab No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Los Alamos NRC-4  
STANDARD LABORATORY

1 1 9 1 0 7 5 9

LOS ALAMOS NATIONAL LABORATORY  
YUCCA MOUNTAIN PROJECT

M&TE CALIBRATION RECORD

(PI or QAS COMPLETES)

GROUP \_\_\_\_\_ LOCATION \_\_\_\_\_

INSTRUMENT/ITEM DESCRIPTION \_\_\_\_\_

CAPACITY \_\_\_\_\_ TOLERANCE REQUIRED FOR TASK \_\_\_\_\_

INSTRUMENT/ITEM ID NUMBER \_\_\_\_\_

DATE CALIBRATION EXPIRES \_\_\_\_\_ CALIBRATION INTERVAL \_\_\_\_\_

INSTRUMENT TO BE CALIBRATED BY (CHECK ONE BOX):

LANL CALIBRATION GROUP  OPERATOR

OPERATOR AT EACH USE PURSUANT TO DP \_\_\_\_\_  SERVICE ORGANIZATION

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

PI OR QAS

(CALIBRATOR COMPLETES)

CALIBRATION PROCEDURE NUMBER \_\_\_\_\_

RANGE OF CALIBRATION \_\_\_\_\_

ACCURACY BEFORE CALIBRATION \_\_\_\_\_ AFTER CALIBRATION \_\_\_\_\_

INSTRUMENT WITHIN TOLERANCE SPECIFIED ABOVE  YES  NO (DEFICIENCY REPORT  
MUST BE WRITTEN BY PI)

CALIBRATION FILE ID NUMBER \_\_\_\_\_ WEIGHT SET NUMBER \_\_\_\_\_

SIGNATURE OF CALIBRATOR \_\_\_\_\_ DATE \_\_\_\_\_

GROUP/LOCATION \_\_\_\_\_ TELEPHONE \_\_\_\_\_

DATE NEXT CALIBRATION DUE \_\_\_\_\_

RETURN (AS APPLICABLE) FOR CALIBRATION BY \_\_\_\_\_

COMMENTS:

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