



Office of Civilian Radioactive Waste Management

QA: QA

PROCEDURE


CONTROL OF MEASURING AND TEST EQUIPMENT

AP-12.1Q

Revision 0 ICN 3

Effective Date: 04/30/2004

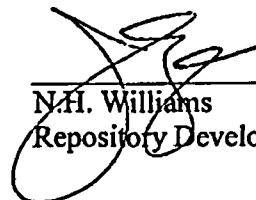
Preparer:



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4/27/04
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4-29-04
Date

CHANGE HISTORY

<u>Revision Number</u>	<u>Interim Change No.</u>	<u>Effective Date</u>	<u>Description of Change</u>
0	0	09/15/2000	Initial issue. This procedure establishes the responsibilities and process for the identification, calibration, control, storage, and maintenance of measuring and test equipment. This procedure supersedes YAP-12.3Q, <i>Control of Measuring and Test Equipment and Calibration Standards</i> , and incorporates DAR-25206 and DAR-D80 actions.
0	1	03/27/2001	This Interim Change Notice incorporates the actions specified in Document Action Requests D468 and D587; includes the addition of a Required Calibration Tolerance, or a reference to same, to the Measuring and Test Equipment list; and also includes a requirement to submit the OCR to a designated individual when Measuring and Test Equipment is damaged, missing, or found to be out of specified tolerance.
0	2	02/06/2002	ICN to incorporate all notes within the procedure. Reference Deficiency Report YMSCO-01-D-064.
0	3	04/30/2004	ICN to incorporate Document Action Requests D2461 (clarify definition of calibration, clarify pre- and post-test calibration requirements, eliminate loophole allowing calibration intervals to be arbitrarily extended past established due date, and change title), D4768 (require identification of limited calibration or use range), D5668 (clarify Measuring and Test Equipment Out of Calibration Report instructions), D7348 (remove reference to YAP-15.1Q), D8249 (delete usage of word "product"), D10387 (update Section 6.0, Records, in accordance with AP-17.1Q, Revision 3), D10524 (change reference from AP-15.2Q to AP-16.1Q), and D13420 (add definition of one-time-only measuring and test equipment). Made editorial changes.

1.0 PURPOSE

This procedure establishes the responsibilities and process for the identification, calibration, control, storage, and maintenance of measuring and test equipment (M&TE).

2.0 APPLICABILITY

This procedure applies to individuals within Affected Organizations, including Bechtel SAIC Company, LLC (BSC), the national laboratories, the U.S. Geological Survey (USGS), the Office of Civilian Radioactive Waste Management, and direct-support contractors, who control, calibrate, maintain, or use M&TE (including calibration standards and equipment that contains software or programmable hardware).

This procedure applies to the control of M&TE subject to *Quality Assurance Requirements and Description* (QARD), DOE/RW-0333P, and shall be used by all Affected Organizations to document and resolve conditions resulting from the identification, listing, calibration, storage, use, out-of-calibration/tolerance conditions, loss, and removal from service of M&TE. This procedure also may be used for activities not subject to the controls of the QARD. M&TE software that is developed or modified by the Affected Organization shall be controlled in accordance with AP-SI.1Q, *Software Management*.

This procedure does not apply to standard commercial equipment (e.g., rulers, tape measures, levels, and other commercial equipment) that provides adequate accuracy for the intended work, unless those devices are specifically identified as requiring calibration by the Affected Organization within controlled implementing documents, or where there are no specified, required tolerances or accuracies.

Calibrations and Out of Calibration Reports (OCRs) in process at the time of the effective date of this procedure shall be completed in compliance with the implementing document under which they were initiated. All equipment calibrated on or after the effective date of this procedure shall include new information required on the M&TE list and the calibration sticker.

3.0 DEFINITIONS

- 3.1 **Accuracy**—The degree of agreement of the measurement with the true value of the quantity measured.
- 3.2 **Calibration**—The set of operations which establish, under specified conditions, the relationship between values indicated by a measuring instrument or system and the corresponding standard or known values derived from the standard.
- 3.3 **Calibration Standard**—A material measure, measuring instrument, reference material, or system intended to define, realize, conserve, or reproduce a unit or one or more known values of a quantity to serve as a reference.
- 3.4 **Engineering Test Lead**—An individual responsible for the engineering testing activity. The Engineering Test Lead may be from design engineering, field engineering, startup, or

another organization. For the purposes of this procedure, the Engineering Test Lead is considered equivalent to the Principal Investigator (PI).

- 3.5 Limited Calibration**—M&TE that is calibrated to less than the full range, function, or accuracy specification.
- 3.6 Measuring and Test Equipment (M&TE)**—Devices or systems used to calibrate, measure, gage, test, or inspect in order to control or acquire data to verify conformance to specified requirements (QARD).
- 3.7 Nonretrievable M&TE**—M&TE that is installed in situ and cannot be, or is not intended to be, retrieved for recalibration.
- 3.8 One-Time-Only M&TE**—M&TE that falls under one of the following three types:
- 1) Instruments that require calibration prior to each use (e.g., pH meters or gas analyzers)
 - 2) Instruments that take measurements or readings that cannot be taken any other time
 - 3) Instruments used only once and not used again (i.e., instruments that will be used once and then removed from service or discarded).
- 3.9 Operational Check**—An examination performed and documented to verify that M&TE is functioning and operating within specified tolerances. A check may be performed at any time prior to the calibration expiration date or whenever the reliability of the M&TE is suspect.
- 3.10 Out of Calibration**—An all-inclusive term that identifies M&TE that has never been calibrated, has not been recalibrated within the required time period, has been subjected to recalibration procedures or periodic checks and found to be out of the allowed specification tolerances (i.e., out of tolerance), or has been damaged or found in a condition that has been determined to be suspect.
- 3.11 Principal Investigator (PI)**—An individual who has the technical responsibility for the scientific work and/or conducts technical work.
- 3.12 Repair**—The process of restoring an item to a condition such that the capability of an item to function reliably and safely is unimpaired even though that item still does not conform to the original requirement (QARD).
- 3.13 Scrap/Reject**—The disposition that is authorized when the M&TE cannot be fixed and is considered unacceptable for its intended use.

4.0 RESPONSIBILITIES

- 4.1** The BSC Repository Development Manager is responsible for the preparation, change, and approval of this procedure.

4.2 The following organizations or positions are responsible for activities identified in Section 5.0 of this procedure:

- a) Responsible Manager
- b) PI
- c) Engineering Test Lead
- d) Affected Organization M&TE Custodian
- e) Responsible Individual

5.0 PROCESS

Acronyms and abbreviations used in this procedure are defined in Attachment 1, Acronyms and Abbreviations.

PROCESS OUTLINE

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5.1 IDENTIFICATION AND LISTING OF M&TE

5.1.1 Responsible Manager, PI, or Engineering Test Lead:

- a) Select the appropriate M&TE for use based upon anticipated measurement range capabilities and environmental considerations under which the equipment will be expected to perform.
- b) Ensure that M&TE is uniquely identified by tag, sticker, marking, or other means that permit traceability to its calibration documentation (refer also to Paragraph 5.3.2b).

5.1.2 Affected Organization M&TE Custodian:

Maintain and be responsible for an up-to-date list of M&TE that shall include the following, as a minimum. Additional information, which is only for the benefit of the Affected Organization M&TE Custodian, may be maintained on the M&TE

list. The optional information is subject to correction whenever updates are received.

- 1) Unique identification of the M&TE
- 2) Description or type of M&TE
- 3) Date calibrated
- 4) Recalibration due date or frequency of calibration or shelf life, as appropriate
- 5) Required calibration tolerance or a reference to same, where applicable
- 6) Description of limited calibration status, as applicable
- 7) Indication of special status (e.g., nonretrievable M&TE or one-time-only M&TE).

5.2 ESTABLISHMENT OF STANDARDS

Responsible Manager, PI, or Engineering Test Lead, when calibrating M&TE internally:

- a) Obtain M&TE calibration standards having traceability to nationally recognized standards (e.g., standards from the National Institute of Standards and Technology). If no nationally recognized standards or physical constants exist, document the basis for calibration on Attachment 2, M&TE Justification, or in a scientific notebook that includes, as a minimum, the information required by the M&TE Justification form.
- b) Ensure that standards have an accuracy greater than the required accuracy of the M&TE to be calibrated, except where indicated in the following steps:
 - 1) Use standards with an accuracy equal to that of the M&TE if use of these standards can be shown to adequately meet the requirements and if standards with a greater accuracy do not exist or are unavailable.
 - 2) Document the justification on the M&TE Justification form or in a scientific notebook that includes, as a minimum, the information required by the M&TE Justification form by explaining why the accuracy is limited and why the accuracy is adequate for the M&TE's intended use.
- c) Submit the documentation specified in Steps 5.2a) and 5.2b) as records to the Records Processing Center (RPC) in accordance with Section 6.0.

5.3 CALIBRATION OF M&TE

5.3.1 Responsible Manager, PI, or Engineering Test Lead:

- a) Ensure that M&TE is calibrated, adjusted, and maintained, as appropriate, at established intervals, or prior to use, against reference calibration standards having traceability to nationally recognized standards either by a calibration service supplier or by a Responsible Individual.
- b) Ensure that calibration documentation includes the following:
 - The unique identification of the M&TE calibrated.
 - Date calibrated.
 - Calibration data.
 - Recalibration due date or calibration interval/frequency.
 - Identification of the procedure (including revision level) used to calibrate the M&TE.
 - Identification of and traceability to the calibration standards used for the calibration.
 - Results of the calibration and statement of acceptability.
 - As-found condition of the M&TE, as appropriate.
 - Specified range and tolerances and whether the M&TE met those tolerances.
 - Personnel performing calibrations.
 - Reference to M&TE OCR number, if generated as a result of calibration. For M&TE calibrated by a calibration service supplier, this reference can be made on the Acceptance Report for Calibration Services (Form A77-5 from AP-7.7Q, *Acceptance of Items and Services*).
- c) Steps 5.3.1c), d), and e) are not always applicable or followed in the order listed. Individual activities within these steps are required when a step is deemed applicable by the Responsible Manager and/or PI. Ensure that when M&TE is calibrated internally:
 - 1) Procedures are developed and maintained for the calibration of M&TE in accordance with Section 5.2 of the QARD, or the calibration process is documented in a scientific notebook in accordance with Section III.2.2 of the QARD.

- 2) Calibration procedures or process documentation address the following requirements for the equipment to be calibrated:
 - Identification of standards to be used
 - Detailed description of calibration method
 - Identification of tolerances and range of use.
- d) Ensure that pertinent information from equipment vendor manuals is incorporated into the applicable document (i.e., calibration procedure or scientific notebook), or that the manuals are controlled per AP-6.1Q, *Document Control*.
- e) Ensure that when M&TE is calibrated by a service supplier:
 - 1) Procurement of calibration supplier services is performed in accordance with applicable procurement procedures and accepted in accordance with AP-7.7Q. For calibration services procured by the USGS, ensure that the procurement is performed and accepted in accordance with approved USGS procurement procedures.
 - 2) The supplier is listed on the Office of Civilian Radioactive Waste Management Qualified Supplier List database. The National Institute of Standards and Technology is not subject to audits and surveys. All other calibration service suppliers are subject to audits or surveys in accordance with AP-7.4Q, *Supplier Evaluation and Qualified Supplier List (QSL) Maintenance*.
 - 3) Supplier documentation meets the requirements of Step 5.3.1b) and is submitted to the RPC in accordance with the applicable procedure.

5.3.2 Responsible Individual:

- a) When internally calibrating M&TE:
 - 1) Calibrate M&TE as specified by an approved procedure for that M&TE or as described in a scientific notebook.
 - 2) Document the calibration and submit documentation to the RPC in accordance with the approved calibration procedure or calibration process documented in a scientific notebook.
- b) Attach an M&TE Calibration Sticker (Attachment 3, Example of M&TE Calibration Sticker and Out of Service Tag) to M&TE if the calibration documentation is acceptable. The means of attachment shall not impair the function or accuracy of the equipment. If the device is too small to attach a calibration sticker, the sticker may be attached to the M&TE storage container as long as the container stays within proximity when the device is in use. Calibration stickers for calibrated M&TE that are not accessible for observation may be displayed in reasonable proximity to the device. M&TE

that cannot be physically tagged and do not have containers may be referenced by their locations on grids, charts, or other documents.

- c) Enter the following information on the M&TE Calibration Sticker:
 - 1) If the calibration was performed by a calibration service supplier, enter the name of the supplier and the initials of the person attaching the calibration sticker in the "BY" space. If the calibration was performed internally, enter the name or initials of the person performing the calibration in the "BY" space.
 - 2) Date calibrated. As a minimum, the calibration date should consist of month, day, and year.
 - 3) Due date for the next calibration (month, day, and year) if the device is placed in service. Omit this step if the device will be placed in storage in accordance with Subsection 5.5.
 - 4) Unique identification number of the device.
- d) For M&TE that meet the definition of limited calibration, label the M&TE with an M&TE Limited Calibration Sticker (see Attachment 3 for an example) rather than with an M&TE Calibration Sticker. The M&TE Limited Calibration Sticker is subject to all of the requirements imposed upon the use of the M&TE Calibration Sticker, identified in Paragraphs 5.3.2b) and c), in addition to the following:
 - 1) The sticker must be labeled with the heading "limited calibration."
 - 2) The sticker must be partially or entirely red.
 - 3) The sticker must indicate either the calibration limitations or a specific reference to where this information can be found.
 - 4) If a calibration sticker affixed by a calibration service supplier does not meet the above requirements, then an internal sticker must be generated and affixed to the M&TE.

5.3.3 Responsible Manager, PI, or Engineering Test Lead, where applicable:

- a) For one-time-only applications of M&TE:
 - 1) Ensure that M&TE is calibrated both before and after use.
 - 2) Notify Affected Organization M&TE Custodian of the M&TE one-time-only use status, so that it may be indicated as such on the M&TE list.

- b) For nonretrievable applications of M&TE:
 - 1) Document on the M&TE Justification form the validity of data collected with M&TE that cannot be, or is not intended to be, retrieved for recalibration.
 - 2) Submit a copy of the M&TE Justification form to the RPC in accordance with Section 6.0.
 - 3) Notify the Affected Organization M&TE Custodian of the M&TE nonretrievable status, so that it may be indicated as such on the M&TE list.

5.3.4 Affected Organization M&TE Custodian:

Update the M&TE list, as applicable.

5.4 STORAGE OF M&TE

Responsible Individual:

- a) Ensure that M&TE, when placed in storage, are appropriately stored, handled, and protected to maintain accuracy and to reduce the likelihood of damage or loss. Consider the manufacturer's recommendations regarding storage and handling.
- b) Ensure that access to designated M&TE storage is adequately controlled. Methods may include locked cabinets, rooms, buildings, or other appropriate means.

5.5 LONG-TERM STORAGE OF CALIBRATED M&TE

The following section describes the control of calibrated equipment that is ready for use and placed into long-term storage until activation of the calibration period. This process provides for a ready supply of calibrated spare units to minimize down-time in the event of equipment failure or expiration of calibration periods. The use of this section is optional.

5.5.1 Responsible Individual:

- a) Establish the technical justification for storing calibrated M&TE without activating the prescribed calibration period. Consider the following during development of the justification:
 - 1) Environmental effects on electronic or mechanical components.
 - 2) Previous maintenance history of the M&TE during normal calibration sequences (e.g., reliability, inherent stability, purpose of use).
 - 3) Special storage requirements such as temperature and humidity control.
 - a. Special packaging requirements (e.g., sealed bags, use of desiccant, plugging of open ports).

- b. Any deviations from manufacturers' recommendations and specifications.

- b) Present evidence to justify the maximum length of time the M&TE can be stored and still receive the full calibration period upon activation to the Responsible Manager and/or PI on the M&TE Justification form or in a scientific notebook that includes, as a minimum, the information required by the M&TE Justification form.

5.5.2 Responsible Manager, PI, or Engineering Test Lead:

Accept or reject, in writing, the submitted justification and forward it to the Affected Organization M&TE Custodian if documented on the M&TE Justification form.

5.5.3 Affected Organization M&TE Custodian or Responsible Individual:

- a) Submit the justification as a quality assurance (QA) record to the RPC in accordance with Section 6.0 if documented on the M&TE Justification form, or in accordance with AP-SIII.1Q, *Scientific Notebooks*, if documented in a scientific notebook.

- b) Update the M&TE list, if applicable. (The calibration due date for stored M&TE is listed as the calibration date [month, day, and year] plus the maximum shelf life plus the established period between calibrations [calibration interval] [e.g., if the calibration date is 3/15/00 with a calibration frequency of one year and a maximum shelf life of three years, then the M&TE list calibration due date will show 3/15/04].)

5.5.4 Responsible Manager, PI, or Engineering Test Lead:

- a) Provide storage area(s) with controlled access. (The area may be a building, room, or storage cabinet that will provide physical and environmental protection. The area shall be locked when not attended.)

- b) Provide Attachment 4, M&TE Calibrated Equipment Storage Datasheet, to document storage dates for each type of device placed in storage. (The datasheet shall contain the unique identification number, a brief description, serial number, date of calibration, date placed in storage, date removed from storage, and signature[s] of personnel placing the device into or removing the device from storage.)

5.5.5 Responsible Individual:

- a) Place the calibrated equipment in the designated storage area and initiate the M&TE Calibrated Equipment Storage Datasheet.

- b) Complete the datasheet when removing the M&TE from the storage area for placement into service.

- c) Submit the completed M&TE Calibrated Equipment Storage Datasheet to the RPC in accordance with Section 6.0, or to the Affected Organization M&TE Custodian.
- d) Do not return M&TE removed from storage and placed into service back to storage without recalibration. Verify the calibration status and performance of M&TE prior to use.
- e) Annotate the calibration due date (month, day, and year) on the calibration sticker. (The due date is determined by adding the calibration frequency period to the date that the equipment is removed from storage [e.g., if the date the M&TE was removed from storage is 3/15/00 and the calibration frequency is one year, then the calibration due date would be 3/15/01].)
- f) Perform a cursory check of the M&TE for damage that may be detrimental to its normal operation prior to placing it into service.

5.5.6 Affected Organization M&TE Custodian:

Submit the M&TE Calibrated Equipment Storage Datasheet to the RPC in accordance with Section 6.0.

5.6 USAGE OF M&TE

Responsible Manager, PI, or Engineering Test Lead:

- a) Ensure, when M&TE is used, that Affected Organization personnel document the use so that if the M&TE's calibration validity comes under question, items, equipment, devices, data, or other M&TE checked with it can be identified, rechecked, or re-evaluated.
- b) Document the use of M&TE, including standards, on Attachment 5, M&TE Usage Log. Alternatively, use can be documented in a scientific notebook or by other means (e.g., documents generated by the calibration or operational check procedures) if all information required by Attachment 5 is included.
- c) Perform an operational check or recalibrate the M&TE when its accuracy is suspect (i.e., conditions exist that could be expected to have changed the M&TE calibration, or the M&TE is sensitive to motion and the instrument has been moved).
- d) Document the check and/or recalibration results in accordance with controlled implementing procedures or method documented in a scientific notebook.
- e) Ensure that M&TE is used within its calibrated capabilities. If the M&TE is labeled with a Limited Calibration sticker, then determine the appropriate limits prior to use.

5.7 OUT-OF-CALIBRATION CONDITIONS, INCLUDING LOSS OR DAMAGE TO M&TE

5.7.1 Affected Organization M&TE Custodian:

Control the issuance of M&TE OCR numbers by:

- 1) Maintaining a log of the organization's issuance of M&TE OCRs.
- 2) Ensuring numbers conform to the following format: AAA-YYYY-NNN, where:
 - AAA (not limited to three characters) represents the initials of the organization's acronym or name
 - YYYY represents the calendar year the M&TE OCR was initiated
 - NNN represents a unique number, starting with 001 for the first report of the year and using sequential numbers thereafter.

5.7.2 Responsible Individual:

- a) Consider M&TE out of tolerance or out of calibration if any of these conditions exist, as applicable:
 - 1) The calibration due date or interval has passed without recalibration when M&TE is in use.
 - 2) The M&TE produces results known to be in error.
 - 3) Software or programmable hardware for the M&TE has been upgraded and affects calibration.
 - 4) M&TE that has not been calibrated has been used to collect data or gauge performance.
 - 5) The M&TE has been subjected to recalibration procedures or periodic checks and found to be out of the allowed specification tolerances.
 - 6) M&TE is lost.
 - 7) M&TE is damaged.

- b) Control out-of-calibration M&TE (except lost M&TE) to prevent inadvertent use by doing one or more of the following:
 - 1) Apply an M&TE Out of Service tag (see Attachment 3) or other similar tag to the M&TE to indicate the out-of-calibration condition. Tags indicating an out-of-calibration condition shall include, as a minimum:
 - Description of the M&TE
 - Unique identifier of the M&TE
 - Reason for applying the tag
 - Dated signature of person tagging the M&TE.
 - 2) Segregate the out-of-calibration M&TE by moving the M&TE to an area identified as “segregated” or “out-of-service.”
- c) Immediately after tagging and/or segregating the affected M&TE, or after discovering M&TE has been lost, document the out-of-calibration conditions using Attachment 6, M&TE OCR, in accordance with the instructions provided. Obtain an OCR number from the Affected Organization M&TE Custodian (see Paragraph 5.7.1). Print name, sign, and date the M&TE OCR.
- d) Submit the M&TE OCR to one of the following:
 - The appropriate PI in the scientific community
 - The appropriate Responsible Manager in the Environmental Safety and Health group
 - The appropriate Engineering Test Lead in the engineering discipline.

5.7.3 Responsible Manager, PI, or Engineering Test Lead:

Evaluate the M&TE Disposition Recommendation for approval. If unsatisfactory, return it to the Responsible Individual. If satisfactory, print name, sign, and date the M&TE OCR. Return the M&TE OCR to the Responsible Individual.

5.7.4 Responsible Individual:

Complete the M&TE disposition action(s) and provide the completion date on the M&TE OCR. Notify the Responsible Manager, PI, or Engineering Test Lead that the M&TE OCR is ready for impact evaluation.

5.7.5 Responsible Manager, PI, or Engineering Test Lead:

Assign an individual to complete the impact evaluation. Ensure that they are knowledgeable in the functional use of the M&TE and its relation to applicable items, samples, or data.

5.7.6 Responsible Individual:

- a) Evaluate the impact to associated items, samples collected, or data collected as a result of using out-of-calibration, damaged, or lost M&TE.
 - 1) If it is determined that there is an impact, document this on the M&TE OCR, immediately report the condition as a nonconformance in accordance with AP-16.1Q, *Condition Reporting and Resolution*, and note the Condition Report (CR) number on the M&TE OCR.
 - 2) If it is determined that there is no impact, document the justification for this decision on the M&TE OCR. This evaluation and justification shall be sufficiently supported by a logical, documented process to address applicable issues such as reviews of previously collected data, calibration history for the specific M&TE, statistical analysis and comparisons, and the operational status up to the point of the out-of-calibration condition.
- b) Print name, sign, and date the M&TE OCR, and submit it to the appropriate Responsible Manager, PI, or Engineering Test Lead.

5.7.7 Responsible Manager, PI, or Engineering Test Lead:

Review the M&TE OCR for approval and closure. If unsatisfactory, return it to the Responsible Individual. If satisfactory, print name, sign, and date the M&TE OCR. Return the M&TE OCR to the Responsible Individual.

5.7.8 Responsible Individual:

- a) Submit the completed M&TE OCR to the RPC in accordance with Section 6.0.
- b) Repair or replace M&TE that is consistently found to be out of calibration when recalibrated.

5.8 REMOVAL OF M&TE FROM SERVICE

Responsible Individual, when M&TE is to be removed from service:

- a) If the M&TE is operable and has been used since its last calibration, ensure that the M&TE is calibrated in accordance with Subsection 5.3.
- b) If the M&TE is found to be out of calibration, lost, or damaged, generate an M&TE OCR in accordance with Subsection 5.7.
- c) Remove the M&TE from service and remove all indications that the M&TE is in service and available for use.

6.0 RECORDS

The records listed in Subsections 6.1 and 6.2 shall be collected and submitted to the RPC in accordance with AP-17.1Q, *Records Management*, as individual records or included in a records package, as specified.

6.1 QA RECORDS

Submit as an Individual Record or a Records Package, as applicable:

- M&TE Justification form, or justification description in scientific notebook
- M&TE Calibrated Equipment Storage Datasheet
- M&TE OCR
- M&TE Usage Log

6.2 NON-QA LONG-TERM RECORDS

Submit as an Individual Record or a Records Package, as applicable:

- M&TE Justification form, or justification description in scientific notebook
- M&TE Calibrated Equipment Storage Datasheet
- M&TE OCR
- M&TE Usage Log

6.3 NON-QA SHORT-TERM RECORDS (THREE YEARS OR LESS RETENTION)

None

7.0 REFERENCES

- a) *Quality Assurance Requirements and Description*, DOE/RW-0333P
- b) AP-6.1Q, *Document Control*
- c) AP-7.4Q, *Supplier Evaluation and Qualified Supplier List (QSL) Maintenance*
- d) AP-7.7Q, *Acceptance of Items and Services*
- e) AP-16.1Q, *Condition Reporting and Resolution*
- f) AP-17.1Q, *Records Management*
- g) AP-SI.1Q, *Software Management*
- h) AP-SIII.1Q, *Scientific Notebooks*

8.0 ATTACHMENTS

Forms attached to this procedure are controlled and distributed as full-size pages separate from this procedure and may be copied for use when implementing this procedure.

- Attachment 1 - Acronyms and Abbreviations
- Attachment 2 - M&TE Justification (Form A121-1)
- Attachment 3 - Example of M&TE Calibration Sticker and Out of Service Tag
- Attachment 4 - M&TE Calibrated Equipment Storage Datasheet (Form A121-2)
- Attachment 5 - M&TE Usage Log (Form A121-3)
- Attachment 6 - M&TE OCR (Form A121-4)

BSC	Bechtel SAIC Company, LLC
CR	Condition Report
M&TE	measuring and test equipment
OCR	Out of Calibration Report
PI	Principal Investigator
QA	quality assurance
QARD	Quality Assurance Requirements and Description
RPC	Records Processing Center
USGS	U.S. Geological Survey

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MEASURING AND TEST EQUIPMENT JUSTIFICATION			QA: Page of
1. M&TE ID No.	2. M&TE Type		
3. Initiator Name	4. Date	5. Responsible Manager or Principal Investigator	
6. Justification			
<h1>EXAMPLE</h1>			
7. Approved By			
Responsible Manager or Principal Investigator:		_____	Date: _____
		Printed Name	

		Signature	

M&TE JUSTIFICATION INSTRUCTIONS

Responsible Manager, PI, or Engineering Test Lead:

1. Enter the QA designation in the Title Block.
2. Enter the number of pages in the Title Block.
3. In Block 1, enter unique M&TE identification number. If the justification is for a particular type of M&TE and not for a specific device, enter "N/A" in this block.
4. In Block 2, enter type or description of M&TE.
5. In Block 3, print name of person initiating the justification form.
6. In Block 4, print date when justification form is initiated.
7. In Block 5, print name of Responsible Manager, PI, or Engineering Test Lead.
8. In Block 6, enter appropriate justification.

Responsible Manager, PI, or Engineering Test Lead after the justification has been reviewed and approved:

9. In Block 7, print and sign name in the spaces provided.
10. In Block 7, print date in space provided.

M&TE Out of Service Tag

●

Description: _____

ID #: _____

Calibration Required
 Damaged
 To Be Excessed
 Maintenance Required

Comments/Disposition: _____

Signature _____ Date _____

(Front)

●

Service

Out of

(Back)

M&TE Calibration Sticker

CALIBRATION	
BY _____	DATE _____
NEXT CAL DUE _____	
INSTRUMENT # _____	

M&TE Limited Calibration Sticker

LIMITED CALIBRATION	
BY _____	DATE _____
NEXT CAL DUE _____	
INSTRUMENT # _____	
LIMITS _____	

AP12.1Q_INGS.CDR/2 2-04

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MEASURING AND TEST EQUIPMENT CALIBRATED EQUIPMENT STORAGE DATASHEET			QA: Page of
Equipment Description			
Equipment Identification Number		Serial Number	
Date Calibrated		Maximum Storage Period	
Person Placing Equipment Into Storage (Printed Name)	Signature	Date Placed in Storage	
Person Removing Equipment From Storage (Printed Name)	Signature	Date Removed From Storage	
Comments:			
<h1>EXAMPLE</h1>			
<p><i>Forward this form to the M&TE Custodian after removal of equipment from storage.</i></p>			

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
MEASURING AND TEST EQUIPMENT
USAGE LOG

QA: _____ of
Page _____ of

ID Number		Serial Number		Description		
OUT		IN		Location Used	Equipment, Items, etc., Checked	Damage/Comments
Date	Responsible Person's Name	Date	Responsible Person's Name			
	Print		Print			

EXAMPLE

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MEASURING AND TEST EQUIPMENT OUT OF CALIBRATION REPORT		QA: Page 1 of
1. M&TE OCR No.		2. Organization
3. Responsible Individual (Print)		4. Date
5. Responsible Manager, PI, or Eng. Test Lead (Print)		
6. M&TE Description (manufacturer, name, model, etc.)		
7. <input type="checkbox"/> Q <input type="checkbox"/> Non-Q		8. M&TE Unique ID
9. Previous Calibration or In Service Date		
10. Out of Calibration Condition Description (condition of equipment; location; function/use; job scope/activity [e.g., scientific notebook, procedure, etc.])		
Check appropriate box: <input type="checkbox"/> Out of calibration <input type="checkbox"/> Lost <input type="checkbox"/> Damaged		
<h1>EXAMPLE</h1>		
<input type="checkbox"/> Out of Service Tag Affixed		<input type="checkbox"/> Continuation Page (include OCR #)
11. M&TE Disposition Recommendation		
Check appropriate box(es) <input type="checkbox"/> Calibrate <input type="checkbox"/> Repair <input type="checkbox"/> Scrap/Reject		
Recommended Disposition by Responsible Individual: (Print/Sign)		
_____		Date: _____
Approval of Disposition by PI, Responsible Manager, or Engineering Test Lead: (Print/Sign)		
_____		Date: _____
12. M&TE Disposition Action Completion Date: _____		
13. Condition Impact Evaluation <input type="checkbox"/> Item <input type="checkbox"/> Sample <input type="checkbox"/> Data		
Performed by: (Print/Sign)		
_____		Date: _____
<input type="checkbox"/> CR CR No. _____		<input type="checkbox"/> Continuation Page (include OCR #)
14. Final Approval and Closure by PI, Responsible Manager, or Engineering Test Lead: (Print/Sign)		
_____		Date: _____

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT		QA:
MEASURING AND TEST EQUIPMENT		Page of
OUT OF CALIBRATION REPORT		OCR No.: _____
<small>Continuation Page</small>		
<h1>EXAMPLE</h1>		

M&TE OCR INSTRUCTIONS

Responsible Individual:

1. Title Block: Enter QA designation.
2. Block 1: Enter unique M&TE OCR organization sequential tracking number obtained from the Affected Organization M&TE Custodian.
3. Block 2: Enter the name of the organization generating the M&TE OCR.
4. Block 3: Print Responsible Individual name.
5. Block 4: Enter date the M&TE OCR was initiated.
6. Block 5: Print name of Responsible Manager, PI, or Engineering Test Lead who is responsible for the care and maintenance of the M&TE identified as being out of calibration, damaged, or lost.
7. Block 6: Enter the name of the M&TE (e.g., manufacturer and model) and any other appropriate identifying information, as applicable.
8. Block 7: Check the appropriate box, identifying the M&TE as Q or Non-Q.
9. Block 8: Enter the M&TE unique identification (e.g., serial number).
10. Block 9: Enter previous calibration date or date when the M&TE was last put into service.
11. Block 10: Describe in sufficient detail:
 - The present condition of the M&TE (check appropriate box: out of calibration, lost, or damaged).
 - The location of the M&TE when identified as being out of calibration or damaged. If M&TE is lost, describe the last known location.
 - The function and use of the M&TE.
 - The job scope or activity (e.g., scientific notebook or procedure) for which the M&TE is used.

Provide any additional information necessary to describe the situation. Out-of-calibration conditions are defined in Paragraph 5.7.2a).
12. Block 10: Check box if Out of Service tag or other similar tag was affixed to out-of-calibration or damaged M&TE to identify that the equipment cannot be used. Segregate the M&TE to prevent inadvertent use, as practicable.
13. Block 10: Check the Continuation Page box if additional pages are required to provide a description of the M&TE.
14. Block 11: Check the appropriate box(es) for the M&TE Disposition Recommendation (calibrate, repair, or scrap/reject).
15. Block 11: Print name, sign, and date.

Responsible Manager, PI, or Engineering Test Lead:

16. Block 11: Evaluate the M&TE Disposition Recommendation for approval. Print name, sign, and date.

M&TE OCR INSTRUCTIONS (Continued)

Responsible Individual:

17. Block 12: Enter date of M&TE Disposition Action Completion.
18. Block 13: Describe in detail the condition impact evaluation and indicate whether or not the out-of-calibration, damaged, or lost condition of the M&TE has impacted items, samples, and/or data by checking the appropriate box(es). If there is no impact, provide adequate justification for this decision and leave the item, sample, and data boxes unchecked.
19. Block 13: If there is an impact to items, samples, and/or data, check the CR box, process in accordance with AP-16.1Q, and note the CR number on the M&TE OCR form.
20. Block 13: Check Continuation Page box if additional pages are required to provide the details of the impact evaluation.
21. Block 13: Print name, sign, and date. Present the M&TE OCR form to the Responsible Manager, PI, or Engineering Test Lead.

Responsible Manager, PI, or Engineering Test Lead:

22. Block 14: Evaluate M&TE OCR form for completeness and adequacy. Print name, sign, and date.
23. Title Block: Provide final pagination.