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(formerly QP-5.7, MAQ-011-R2  
and SOP-5009)

Revision: **0**



Effective Date: **June 17, 2008**

## Waste & Environmental Services

### Standard Operating Procedure

for **NOTEBOOK DOCUMENTATION FOR WASTE AND ENVIRONMENTAL SERVICES TECHNICAL FIELD ACTIVITIES**

#### APPROVAL SIGNATURES:

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## 1.0 PURPOSE AND SCOPE

The purpose of this procedure is to describe the process that the Waste and Environmental Services (WES) personnel and subcontractors use for documenting WES technical work and field activities at Nuclear Environmental Sites (NES) and non-NES in a notebook. This procedure also describes the maintenance, protection, and disposition of the notebook as a record.

This procedure pertains to WES work that requires documentation of work performance with a notebook and applies to all WES personnel and subcontractors performing such work.

## 2.0 BACKGROUND AND PRECAUTIONS

### 2.1 Background

None.

### 2.2 Precautions

2.2.1 Prior to use at a LANL nuclear facility, this procedure must be submitted as part of a work package of implementing documents for a proposed activity for evaluation using the Unreviewed Safety Question (USQ) Process. The USQ process applies to all LANL Hazard Category 2 and 3 nuclear facilities and is governed by the Los Alamos National Laboratory [ISD 112-3](#).

#### 2.2.2 Maintenance and Protection

[NOTE: Notebooks comprise the primary objective evidence for the work performed, and as such are irreplaceable one-of-a-kind records subject to loss, damage, or destruction until they are submitted as final records to the Records Processing Facility (RPF). Printed copies of electronic data are maintained in accordance with EP-DIR-SOP-4003, *Records Management*.]

- A notebook shall not be altered by obliterating any data (i.e., by tearing or folding of page edges, hole punching, and using white-out, correction tape, or any other means of obliterating data).
- Electronic notebook entries shall be printed at the end of each day, providing there is a new entry added.
- Notebook data should be promptly recorded at as near the real time of observations and events to avoid incomplete or inaccurate entries.
- Notebook Owners shall photocopy notebook records quarterly and as they are completed, and shall submit these copies to the RPF.
- The RPF shall maintain notebook copies and file them in a fireproof filing cabinet until the final, completed original notebook record is submitted for processing.

#### 2.2.3 Unintentional Data Obliterations

- Unintentional obliterations shall be corrected in accordance with Section 2.2.3 of this procedure.

#### 2.2.4 Incomplete or Illegible Data

- An incomplete or illegible entry shall be corrected by enhancing, regenerating, and/or transcribing only the illegible information.

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### 2.2.5 Procedure Change

- When a procedure change is necessary to avoid procedural noncompliance, use procedure EP-DIR-SOP-4001, *Document Control*, and make a notebook entry to describe the conditions that require the change.
- A person or field team shall not continue working before the procedure change is finalized either as an Immediate Procedure Change (IPC) or as a permanent change to the procedure.
- For an IPC, refer to ISD 315-1, *LANL Conduct of Operations Manual*, Chapter 16.0 and use ISD 315-1, Section 16.1, “Tier 3 Operations Procedures,” Attachment 5, “Procedure Review and Concurrence Form.”

### 2.2.6 Design Basis Change

- A person or field team shall not continue working before a design change is finalized in accordance with the following method. A design basis change shall be:
  - made in accordance with ISD 341-1.2, *Engineering Processes Manual*;
  - documented in a notebook entry with a description of the conditions that require a design basis change; and
  - processed in accordance with EP-DIR-SOP-4001, *Document Control*.

## 2.3 Definitions

- 2.3.1 Consumable Calibration Standard – a secondary standard used by laboratory and field personnel to calibrate or verify the calibration (function check) of Measurement and Test Equipment (M&TE).
- 2.3.2 Enhancing – making a notebook entry clearer or more legible.
- 2.3.3 Logbook – see “Notebook”.
- 2.3.5 Nonconformance – Any deficiency in a physical characteristic, documentation, or procedure rendering the quality of an item or service unacceptable or of indeterminate quality.
- 2.3.4 Notebook – a quality record that is hand-written and/or an electronic printout (i.e., hardcopy) that is comprised of field, laboratory, or log (i.e., “logbook”) information which is the legal record and objective evidence of work investigations performed. This includes methodology, observations, results and information that validate the results.
- 2.3.5 Primary Record – a document that is identified as the first in a series of documents that will be submitted as a record (e.g., first notebook in a series of notebooks).
- 2.3.6 Record – a book, paper, map, photograph, machine-readable material, or other documentary material, regardless of physical form or characteristics, made or received by the WES project in connection with the transaction of business. Said material is preserved or appropriate for preservation by the WES project, or its legitimate successor. The material serves as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the EP project or because of the information value of data in them. [Adopted from 44 U.S.C. 3301]

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- 2.3.7 Regenerating – a notebook entry is re-created by re-writing the entry. When word processing using a computer, the original entry is preserved and a note in the margin of the original entry points to the location of the regenerated entry.
- 2.3.8 Supervisor – a Los Alamos National Security (LANS) employee assigned to an WES project who is a project leader or manager with the authority and responsibility to direct and authorize WES project activities.
- 2.3.9 Technical Activity Investigation – an observation, identification, description, experimental study, or analysis and explanation of information and/or data (e.g., site investigations and field activities).
- 2.3.10 Transcribing – the process of writing or computer word-processing an exact copy of an original notebook entry.
- 2.3.11 Unqualified Data – notebook data that results from one or more of the conditions stated below and requires validation before the data area accepted as qualified:
- Data that were not collected in accordance with the Standard Operating Procedure(s) or methods specified in a project Investigation Work Plan (IWP) and/or Integrated Work Document (IWD);
  - The data are not part of the associated notebook by reference or as an entry to the notebook; and
  - Data results from analytical samples that lack a defensible chain-of-custody in accordance with EP-ERSS-SOP-5085, Chain-of-Custody for Analytical Data Record Packages.
- 2.3.12 Validation – confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled. [EPA QA/R-5, *EPA Requirements for Quality Assurance Plans*, March 2001, p. B-4]

### 3.0 EQUIPMENT AND TOOLS

None.

### 4.0 STEP-BY-STEP PROCESS DESCRIPTION

#### 4.1 Notebook Acquisition

Note: The logbook owner is responsible for ensuring protection and maintenance of the notebook(s) throughout the life of the project until all notebook information has been submitted to the Records Processing Facility for storage; and

Logbook Owner	1.	Decide how many notebooks will be used and whether the notebook will be a bound notebook or a loose-leaf notebook kept in a 3-ring binder.
	2.	Maintain a separate notebook for each different project and/or task because notebooks are project-specific.
	3.	Use bound notebooks with blank, sequentially-numbered pages.  [NOTE: Those manufactured by the Scientific Notebook Company and/or by ACCO Brands are acceptable for use.]

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- |               |    |  |
|---------------|----|--|
| Logbook Owner | 4. | When using a loose-leaf notebook kept in a 3-ring binder with blank, sequentially-numbered pages, ensure all entries, including daily hard-copy printouts from electronic notebooks (i.e., computers) are maintained to preclude the loss and/or manipulation of data. |
|---------------|----|--|
- 
- |  |    |  |
|--|----|--|
|  | 5. | Notify the Supervisor or a qualified alternate identified by and acting for the Supervisor to perform a notebook review, including its attachments, when notebook is closed out and before its disposition to the Records Processing Facility. |
|--|----|--|
- 

#### **4.2 Table of Contents or Index Notebook Entries**

- |               |    |   |
|---------------|----|---|
| Logbook Owner | 1. | Leave the necessary number of pages blank to complete the table of contents or the index. |
|---------------|----|---|
- 
- |  |    |   |
|--|----|---|
|  | 2. | Cross out pages that are not used with a single line, initialed, and dated. |
|--|----|---|
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#### **4.3 Routine Notebook Entries**

- |               |    |  |
|---------------|----|--|
| Logbook Owner | 1. | Record information promptly at or near the time events and observations occur to avoid errors in the completeness or accuracy of notebook records. |
|---------------|----|--|
- 
- |  |    |  |
|--|----|--|
|  | 2. | Enter the following information into the notebook, as applicable, on the first numbered pages: <ul style="list-style-type: none"><li>• Printed name and title of all individuals who are authorized to make notebook entries, and each individual's sample signature and initials;</li><li>• Statement of purpose and objectives;</li><li>• Description of the work to be performed;</li><li>• Enter a statement that describes the proposed work to be performed, or reference the study plan, other planning documents, or implementing documents that describe the work to be done. The description may include reference to other notebooks, manuals, texts, etc. For field investigations, describe the location where the field activities are to take place, and make reference to a map or photograph that shows the location of the site.</li><li>• This entry should be made one time at the beginning of the notebook. If the proposed work requirements and/or processes change, and entry must be made to address the change.</li><li>• List major equipment (include property or serial number), including Measuring and Test Equipment (M&amp;TE), and any special materials to be used, as specified by the responsible Project Leader;</li><li>• Reference to the pertinent sampling plan and how samples are uniquely identified, as applicable in accordance with the associated work plan;</li><li>• Qualitative and/or quantitative data acceptance criteria, as applicable in accordance with the associated work plan;</li><li>• Table of contents or an index that lists the major sections of the notebook, and the associated page numbers, and any applicable attachments to the notebook (e.g., Attachment 1, 22 pages);</li><li>• Attachments (e.g., forms, maps, photographs, charts, graphs, computer printouts, data binders, optical disk, or electronic media) traceable to the notebook. Identify an attachment to the notebook by using the attachment number and the page number (sequential), and total pages on each page of the attachment and title (e.g., WES2001-0001, Attachment 1, Surface Water Site Assessment, Page 1 of 200, etc.).</li></ul> |
|--|----|--|
-

Logbook  
Owner  
(Continued)

3. Make entries with indelible black or dark blue ink that can be photocopied to ensure they are readable, clear, and distinct.

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4. When making an enhancement (e.g., darkening a faint, illegible character), consider it a change and initial and date the entry.

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5. If an Nonconformance Report (NCR), as per ISD-330-6, *Nonconforming Reporting*, is issued for any items or work activities covered by the notebook include the NCR number as an entry.

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6. Number notebook pages sequentially using alpha or numerical characters, or a combination of both.

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7. Make entry corrections by drawing a single line through the incorrect information, inserting or indicating the correct information, and initialing and entering the date the correction was made in close proximity of the correction.

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8. Explain any removal and/or deletion of notebook text (e.g., pages removed or deleted, etc.) in a notebook entry.

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9. Initial and date pasted or otherwise attached entries (e.g., figures, tables, computer-generated information, photographs, etc.) such that the initials and date are entered on the entry.

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10. Enter the date at the beginning of each shift.

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11. Enter the time of the entry (0830 and/or 8:30 a.m.) at the beginning of each entry.

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12. Ensure all individuals authorized to make notebook entries print his/her name, and sign and date the entries no less frequently than at the end of each day that the information is entered into the notebook.

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13. For work governed by an WES project procedure, make entries that contain the following information:
  - All applicable procedures, including the identification number and revision of a procedure being used (e.g., LANL-EP-ERSS-SOP-5059) and other applicable documents (e.g., Statement of Work, Field Implementation Plan, Readiness Review Checklist, Investigation Work Plan, Certificate of Conformance, or a form, etc.) shall be identified as a one-time entry on the initial pages of the notebook.
  - Information pertaining to calibration of equipment and/or use of standards, as applicable in accordance with OST-308-00-00, *Laboratory Calibration Program*.

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14. Make entries that address calibration of equipment or use of standards in accordance with Section 4.4 of this procedure and OST-308-00-00, *Laboratory Calibration Program*.

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Logbook  
Owner  
(Continued)

15. If computer software has been used to generate data, document the name of the software and any associated reference number documenting a SQA.  
  
Refer to LIR 308-00-05, *Software Quality Management*, and ISD 114-7.0, *Safety Analysis Software Toolbox* for more information on development and documentation of codes and calculations.  
  
[NOTE: Commercial or government off-the-shelf software is exempt from qualification unless it is modified.]

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16. Identify data references (e.g., standards, regulations, journals, handbooks, documented personal communications, laboratory notebooks, or other sources) and enter into the notebook.  
  
[NOTE: A one-time entry at the beginning of the notebook or at first use may be made.]

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17. Enter the following information on and/or adjacent to all photographs pasted into and/or made as an attachment to a notebook:
  - Location where photograph was taken, and orientation to north, south, east, and west, etc.;
  - Description of photograph content;
  - Name of individual who took the photograph;
  - Date and time photograph was taken; and
  - Purpose of the photograph (e.g., SOW requirement, additional information to address a process and/or need, etc.).

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18. Enter the names of all personnel working on site for each day and the time they arrived and departed.

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19. Track visitors' names and organizations and the date and times they arrived and departed in the notebook or separately in a separate notebook.

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20. At the conclusion of the work, state conclusions or observations, addressing whether the original referenced objectives as stated in the initial entry (reference notebook page entry) were achieved.

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21. Incorporate deviations from the original approach into the conclusion work entry.

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#### 4.4 Consumables Standards Entries

Logbook  
Owner

1. Document the following information for each consumable standard, as applicable, in the notebook or incorporate by reference:
  - The unique identifier (e.g., a lot number for a chemical, a purchase request number, or an alphanumeric identifier using date);
  - The description, both physical form (e.g., solid, powder, or gas) and chemical formula, if applicable;
  - The supplier or source (e.g., National Institute for Standards and Technology (NIST) or XYZ Chemical Company);
  - The date received;
  - The storage location (e.g., the subcontractor's name, city and state, or the Laboratory technical area designation, building and room number(s));
  - The designated usage in the WES project (e.g., for calibration of a pH meter or ion chromatography system or submission as a blind sample to provide a quality check of results from outside analytical laboratories);
  - The certified value and its uncertainty;
  - The certification information, including: a) a certificate that shows the accuracy and tolerance or stated physical or chemical value, and traceability to NIST or other nationally recognized standard, or b) if standard is not traceable to NIST or equivalent, describe the basis for using the standard (e.g., published reports or articles as a basis for certification such as geo-standards);
  - Any special handling and storage instructions (e.g., for solutions: tightly capped or refrigerated);
  - The expiration date;
  - The assigned custodian;
  - The supervisor's name; and
  - The documentation of standards usage.

#### 4.5 Measuring and Test Equipment Entries

Logbook  
Owner

1. Calibrate measure and test equipment (M&TE) in accordance with OST 308-00-00, *Laboratory Calibration Program*. As per OST 308-00-00, when performing a calibration at a minimum the following information is to be recorded in the notebook:
  - A file number or unique identification (see OST 308-00-00 for more information.)
  - The item name
  - The date the verification was performed
  - The date the verification expires\*
  - The condition of the item before any adjustments were made (in or out of tolerance)\*
  - The condition of the item after all adjustments were made (in or out of tolerance)
  - The calibration procedure used (or a brief description of the calibration method)
  - A description of test results obtained
  - Name (signature, when possible) of the person performing the verification
  - The certified or verified M&TE used to perform the calibration
  - Reference to any action taken with respect to out-of calibration or nonconforming M&TE, including evaluation of results for acceptability.

\*Omit for items that are calibrated at the time of use.

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- Logbook Owner (Continued)
2. Identify potential sources of error or uncertainty that will be measured or controlled that could affect the results or conclusions.
  3. Identify any suspect conditions that may adversely affect the results
  4. To identify M&TE calibrated on a set frequency:
    - Record the identification number shown on the associated M&TE report or the identification number on the M&TE label;
    - Record the calibration due date or expiration date is on the M&TE label.

[NOTE: For non-conformances, see ISD 330-6, *Nonconformance Reporting*.]
  5. To identify M&TE calibrated on a set frequency:
    - use the identification number shown on the applicable M&TE Report or the identification number on the M&TE label;
    - ensure the calibration due date or expiration date is on the M&TE label.

#### 4.6 Attachment Entries

- Logbook Owner
1. Identify attachments (e.g., forms, maps, photographs, charts, graphs, computer printouts, data binders, optical disk, or electronic media) traceable to the notebook.
  2. Record the attachment number, title and the sequential page numbers of the attachment, and total pages on each page (e.g., WES2006-0005, Attachment 2, "Equipment Calibration", Page 194 of 294, Total Pages: 100).
  3. Before submitting the notebook and the attachment(s) as a record, the total number of pages, note the attachment number in the notebook Table of Contents or index (e.g., see Attachment F).
  4. Submit documents (e.g., chain-of-custody forms, sample collection forms, tailgate safety forms, etc.) to the Records Processing Facility in the following ways: as an attachment to a notebook, as a notebook, or as part of a records package).
 

[NOTE: See EP-DIR-SOP-4004, *Record Transmittal and Retrieval Process*.]

#### 4.7 Supervisor Notebook Entry for a Review

- Logbook Owner's Supervisor
1. Review and ensure completeness of data values and entries contained in the notebook.
  2. Perform a notebook review according to the duration of the ER project work:
    - Duration < 2 weeks – once a week;
    - Duration > 2 weeks to 6 months – once every two weeks; and
    - Duration > 6 months or longer – monthly.

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3. Ensure notebook entries meet the following criteria:
    - Sufficient detail is provided such that another Supervisor could retrace the investigation and confirm the results, or could repeat the investigation and achieve comparable results without communicating with the original Supervisor;
    - Entries are correct, accurate, technically adequate, and complete.
- 

Logbook  
Owner's  
Supervisor  
(Continued)

4. Identify rejected data by entering "Rejected Data" next to the data, or by entering a statement in the notebook that identifies the unacceptable data and provides an explanation for rejection, followed by a signature or initials and date.
- 
5. Ensure the data are evaluated by a qualified individual if he/she has reason to believe data entry or entries may be suspect or may have been compromised because of equipment malfunction (e.g., M&TE accuracy) or failure during routine daily analysis or experimentation.
- 
6. Inspect (evaluate) data that is suspect because M&TE or standards are not documented in the notebook, are lost, are out-of-calibration, or could not be calibrated to determine acceptability.
- 
7. Ensure that unqualified data is not used to document WES project work.
- 
8. Enter the statement below on the notebook page after the last entry reviewed or in a section he/she reviewed and follows this entry by printed name, signature, and date:
 

"I have reviewed the entries on pages (enter page number) through (enter page number) and they meet the requirements described in EP-WES-SOP-5009, *Notebook Documentation for Environment and Remediation Support Services Technical Activities*. All review comments have been corrected and/or resolved."

#### 4.8 QA Specialist Notebook Entry for a Review

QA  
Specialist

1. Perform a review of a project notebook, including its attachments and/or data, if applicable, to ensure the entries are legible and the configuration of the notebook meets the requirements of this procedure and required reviews were performed and documented.
- 
2. Enter a statement, as follows, on the notebook page after the last entry reviewed or in a section designated for review and follow this entry with printed name, signature, and date:
 

"I have reviewed the entries on pages (enter page number) through (enter page number) and they meet the requirements described in EP-WES-SOP-5009, *Notebook Documentation for Environment and Remediation Support Services Technical Activities*. All review comments have been corrected and/or resolved."
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#### 4.9 Records

- Logbook Owner 1. Submit the following records generated by this procedure to the Records Processing Facility:
- Completed, reviewed notebook;
  - Notebook attachments and/or data, as applicable;
  - Complete the Record Transmittal Form as stated in the Records Transmittal and Retrieval Process, EP-DIR-SOP-4004.

#### 5.0 PROCESS FLOW CHART

Flow chart is to be included at a later date.

#### 6.0 ATTACHMENTS

None.

#### REVISION HISTORY

Author: Steve Bolivar

Revision No. <i>[Enter current revision number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
0	4/7/08	New procedure; supersedes QP-5.7 and MAQ-011-R2.	T

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