



Environmental Management Consolidated Business Center  
Ash Fall Project

Laboratory Notebook Control

Procedure: AFP-AP-21  
Revision 0, 01/24/16

Laboratory Notebook Control

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**Revision: 0**  
**Effective Date is 3 days after the date of approval**

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## 1.0 PURPOSE

The purpose of this procedure is to establish the responsibilities and provide the requirements for the documentation, review, maintenance, and control of Laboratory Notebooks (LNs) that are associated with the Ash Fall Project supporting the Office of River Protection (ORP) Program.

## 2.0 SCOPE

The scope of this procedure is to identify and process LNs associated with the Department of Energy Environmental Management Consolidated Business Center (EMCBC) Ash Fall Project supporting the Office of River Protection (ORP) Program.

## 3.0 APPLICABILITY

- 3.1 This procedure applies to LN activities associated with the EMCBC personnel and contractors that participate in Ash Fall Project activities supporting the ORP Program.
- 3.2 This procedure applies only to LNs obtained from the EMCBC Coordinator and is not applicable to other types of notebooks (e.g., those obtained through stores).
- 3.3 LNs are the means for keeping a permanent record of the details of an individual's day-to-day work in the research and development areas. LNs provide:
  - A basic reference which the individual and others can refer to at a later date.
  - Legal evidence with respect to the materials recorded.
  - Compliance with the provisions of many contractual arrangements.

## 4.0 REQUIREMENTS and REFERENCES

### 4.1 Requirements

4.1.1 EM-QA-001, *EM Quality Assurance Program (QAP)*

4.1.2 ASME NQA-1-2008/2009a, *Quality Assurance Requirements for Nuclear Facility Applications*

### 4.2 References

4.2.1 AFP-QAPP-01, *Quality Assurance Project Plan (QAPP)*

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4.2.2 AFP-AP-01, *Personnel Qualification and Training*

4.2.3 AFP-AP-14, *Document Control*

4.2.4 AFP-AP-20, *Quality Assurance Records*

## 5.0 DEFINITIONS and ACRONYMS

None.

## 6.0 RESPONSIBILITIES

### 6.1 ORP Engineering Lead or designee

6.1.1 Responsible for issuance of LNs supporting the Ash Fall Project activities.

6.1.2 Responsible for numbering LNs.

6.1.3 Responsible for the LNs closure and submittal to records.

### 6.2 LN Reviewer

6.2.1 Assigned by the ORP Engineering Lead to conduct periodic reviews of the LNs.

### 6.3 QA Lead for the Ash Fall Project

6.3.1 Responsible for periodic reviews of LNs.

### 6.4 LN Users (Ash Fall Project Staff)

6.4.1 Responsible for documenting their activities in accordance with the Ash Fall Project procedures and documenting those activities in a controlled LN in accordance with laboratory practices.

6.4.2 Responsible for controlling the notebooks in accordance with AFP-AP-14, *Document Control* and AFP-AP-20, *Quality Assurance Records* processes.

6.4.3 Responsible for submittal of LNs for review and final closure as required by this procedure.

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6.5 EMCBC Coordinator, Office of Technical Support and Asset Management

6.5.1 Responsible for the issuance, collection and submittal of LNs into the QA Records system.

## 7.0 GENERAL INFORMATION

None.

## 8.0 PROCEDURE

8.1 Completed LNs are a component of the original research records, of the project. At the conclusion of the project the LNs shall be returned to Document Control/Records Management for permanent retention.

8.2 The ORP Engineering Lead shall assure assigned LNs will be recorded on the document control list and will identify the LN number and assigned project.

8.3 Upon receipt of the LN, the assigned Ash Fall Project staff (i.e., staff member to whom the LN is assigned) shall; read the inside cover of the LN, for the general information on how to maintain the LN, complete the information block on the first sheet of the LN, identify the project number and title (include task/subtask identification as appropriate), reserve specific pages for:

8.3.1 Documenting the Table of Contents.

8.3.2 Identifying the names of personnel authorized to make entries including reviewers, and obtaining examples of those individual's signatures and initials on a Signature Page.

8.3.3 Describing the work to be covered in the LN, as the first entry in the book including the objectives of the work as defined in the Test Plan associated with the work.

8.4 The Ash Fall project staff member to whom the LN is assigned shall assure that this list is maintained current.

8.5 Guidelines for Data Entry:

8.5.1 Make sure the control page has been filled out prior to making entries in the notebook.

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## 8.5.2 Ash Fall Project Staff using the LN shall:

- document clearly and in sufficient detail the work performed so that someone of equivalent skill and experience in the technology can reproduce the work, as originally performed, without recourse to the originator,
- Sign and date each page of the LN as it is used, and on any documents attached in the LN. In the event that multiple staff members are documenting work on the same LN page, each member needs to sign the page as it is used, or as testing is completed.

Note: Documents that are clearly identified as a statement by the reporting individual, or organization, (e.g., reports) do not require signature on the document.

## 8.6 LN entries shall:

- describe the work that was performed and how it was performed; including information on the experimental apparatus,
- the unique number/serial number of measuring and test equipment (M&TE) used,
- the test documentation used (e.g., test instruction) the results obtained, any observations made including any changes to the planned testing or deficiencies or nonconformances encountered during the testing.

8.7 Record the information in permanent ink. Do not erase entries in the LN. If an error is made, mark out the error(s) with a single line so that the original entry may be read. If the reason for the change is significant and not obvious (e.g., correction for instrumentation error), record the reason. The correction shall be signed/initialed and dated.

8.8 Pages shall be kept intact (i.e., no page shall be left blank or removed from the LN).

8.9 Pages shall be used consecutively. Each day's work shall be started on a separate page with lines drawn angularly across the unused portion of the previous page. Lines left blank will be noted by stating "blank line" in the margin. Block spaces (at the bottom of a page) and entire pages left blank shall have a single line drawn angularly across the page to prevent addition of information at a later time. Entries which extend over non-consecutive pages shall be properly cross referenced, to

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assure traceability of the activity.

- 8.10 Record all data in accordance with governing test document (e.g., test instruction) directly into the LN or attach the data sheets into the LN. The LN entries shall provide traceability to the test document.
- 8.11 Attachments in the LN (e.g., data sheets, photocopies, photographs) shall be made permanently (e.g., glue, tape) to the page and shall, when unfolded, be kept within the confines of the opened notebook. No entries shall be made in the page beneath attached sheets and nothing must be obscured. Leave the heading at the top and the space provided for the review signature at the bottom of the page exposed. Inserts shall be signed and dated by the person making the entry. If materials such as spectra, graphs, etc. are not kept in the notebook, they must be signed, dated, and identified in such a manner as to provide a reference back to the pertinent page(s) of the laboratory notebook itself.
- 8.12 The LN number and page number shall be noted on the attachment. The LN page shall have a reference to the attachment on the page.
- 8.13 Report the loss or theft of a research notebook to the QA Lead and the ORP Engineering Lead immediately.
- 8.14 LN Review:
  - 8.14.1 LN reviewers shall be approved by the ORP Engineering Lead, (e.g., notation in the LN or memo to file). The ORP Engineering Lead shall assure that the LNs are reviewed periodically (period defined by the ORP Engineering Lead, although not less than bi-annually) to confirm correct and adequate recording of information, per the LN instructions, this procedure, and the test documentation (e.g., test instruction).
  - 8.14.2 The LN Reviewer shall:
    - 8.14.2.1 Review the LN for legibility, completeness and traceability between each LN page and the activities, or items, to which it applies. The review shall include a review of the validity of the data recorded (including accuracy of the calculations, as appropriate). Exhibit 1, of this procedure, is a Laboratory Notebook (LN) Review Acknowledgement sheet. The LN Review Acknowledgement (LNRA) sheet shall be used to document the completed review.

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Note: An equivalent sheet may be used, provided it contains the same information. The completed LNRA shall be retained as a Project Record, and it is recommended that the LNRA be retained in the LN.

- 8.14.2.2 Not be connected with the conception, shall not have taken part in the experimental work performed by another, but shall understand the technical field of entry.
  - 8.14.2.3 Complete the table of contents for the data entry, record page numbers and the description.
  - 8.14.2.4 Scan the table of contents and entry pages to ensure information is secured, and add these pages, along with the LNRA to the project records in accordance with AFP-AP-20, *Quality Assurance Records*.
  - 8.14.2.5 Sign and date any graphs, charts, analytical data, etc. that are attached to the notebook pages.
  - 8.14.2.6 Contact the ORP Engineering Lead to coordinate any actions necessary to correct any mistakes in the LN.
  - 8.14.2.7 When the LN Reviewer has completed the review, and is satisfied that the information recorded is complete and correct, the reviewer shall sign/initial and date the LN using the notation "Read and Understood".
  - 8.14.2.8 Any written comments made by the reviewer that are clearly identified as comments made during the review are not required to be reviewed by a second reviewer.
- 8.15 The LN should be returned to the QA Lead or designee upon completion of the project or if no entries have been made in the LN within one year.
- 8.15.1 The QA Lead or designee will complete the notebook control information on the inside left cover.
  - 8.15.2 The QA Lead or designee will write "Notebook closed, no further entries", following the last recorded data. Date and sign the page.

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8.15.3 The LN in its entirety shall be scanned and submitted to the project records in accordance with AFP-AP-20, *Quality Assurance Records*.

## 9.0 RECORDS

9.1 The following are considered Lifetime QA Records and shall be submitted by the EMCBC Coordinator to records in accordance with AFP-AP-20, *Quality Assurance Records*:

9.1.1 Laboratory Notebook Review Acknowledgement.

9.1.2 Completed Closed Out Laboratory Notebook.

## 10.0 FORMS USED

Form 21-1 – Laboratory Notebook Review Acknowledgement

## 11.0 ATTACHMENTS

Attachment A – Laboratory Notebook Review Acknowledgement

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**Attachment A**

**Laboratory Notebook Review Acknowledgment**

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**Laboratory Notebook (LN) reviewed:** \_\_\_\_\_

**Pages Reviewed:** \_\_\_\_\_

**Reviewed By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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The reviewer has completed the following:

- Read each page and understands the data input on each lab notebook page
  - Ensure all necessary corrections are made and properly documented
  - Ensure the Project name and notebook number is filled out on each page
  - Sign and date any graphs, charts, analytical data attached to the notebook pages
  - Sign and date each notebook page
  - Complete table of contents
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**Basis for Acceptance of LN Entries (as applicable):**

*{**Note:** Brief discussion, or hand calculation examples, to be entered below}*

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**Form 12-1 – Record of Revision**

DOCUMENT: AFP-AP-21, *Laboratory Notebook Control*

Revision Number	Description of Changes	Revision on Pages	Effective Date
0	Initial Issue	All	01/24/2016