SANDIA NATIONAL LABORATORIES
WASTE ISOLATION PILOT PLANT
QUALITY ASSURANCE PROCEDURE (QAP)
QAP 6-1

DOCUMENT CONTROL PROCEDURE

Revision C

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CONTENTS

1.0 SCOPE

This Quality Assurance Procedure (QAP) defines the procedure for preparing, issuing, and changing Sandia originated Waste Isolation Pilot Plant (WIPP) documents that prescribe activities affecting quality. Sandia has established six basic categories of controlled documents for the WIPP Project. Each category has been assigned unique document controls due to the diversity of document types and functions. The six categories are:

- WIPP Quality Assurance Program Description (QAPD) and QAPs.
- Test plans
- WIPP procedures
- Drawings & Engineering sketches
- Environmental Safety & Health Standard Operating Procedures (ES&H SOP's)
- Technology Development Description

2.0 APPLICABILITY

This QAP applies to all Sandia and Sandia contractor activities performed for the WIPP Project.

3.0 REFERENCES

ASME NQA (latest revision and applicable supplements) Quality Assurance Program Requirements for Nuclear Facilities.

A Guide to Writing Activity Specific ES&H Standard Operating Procedures, Sandia National Laboratories.

The Concise Format Guide for WIPP SAND Reports, Sandia National Laboratories.

WIPP Quality Assurance Program Description, Sandia National Laboratories

SNL WIPP Form #227, Review and Response.

4.0 DEFINITIONS

Acceptance Criteria - Any controlled document shall, as applicable, include or reference acceptance criteria for quality related activities. This is to determine if the activities have been satisfactorily accomplished.

Controlled Document - A document which prescribes activities affecting quality or specifies quality requirements and which is distributed through a system that provides for review, approval, a distribution list and provisions for controlling issuance. At the discretion of the individual responsible for a document, additional controls may be used such as a transmittal form with provision for receipt and acknowledgment and assignment of control numbers to documents issued. Controlled documents for the WIPP Project are: the WIPP QAPD, QAPs, test plans, WIPP procedures, sketches, ES&H SOP's and Technology Development Descriptions.

Document - An original paper furnishing documentary evidence of activities, requirements, procedures, or results pertaining to the WIPP Project. A document is not considered to be a quality assurance record until it satisfies the definition below.

Document Control - The act of assuring that documents are reviewed for adequacy, approved for release by authorized personnel, and distributed to and used at the location where the prescribed activity is performed. Document control ensures that only the current version of a document is used.

Quality Assurance Record - A completed document that furnishes evidence of the quality of items and/or activities affecting quality.

5.0 WIPP QAPD & QAP's

5.1 Content

Documents that are written to establish the QA program and the implementing QAPs necessary for an effective QA program and to meet the QA requirements imposed by DOE, these documents include the following elements, as applicable:

- Distribution list

- Cover/approval page
  - Document title
  - Document identification
  - Effective date
  - Revision letter
- Contents
- Scope
- Applicability
- Requirements, methods or procedure
- QA Records (applies only to QAP's)

5.2 Review

At least one peer reviewer is required. See Section 11.

5.3 Approval

The QAPD requires approval by the Project Manager, QA Chief and the WIPP Project Integration Office (WPIO) and WIPP Project Site Office (WPSO) QA Manager. QAP's require approval by the Project Manger and QA Chief.

5.4 Issuance

The WIPP QA Chief is responsible for the issuance of the QAPD and QAP's. After obtaining the required reviews and approvals, the QA Chief will issue a numbered copy of the WIPP QAPD and each QAP to Sandia employees working full time on the WIPP Project and to others as deemed appropriate by the Project Manager and the QA Chief. A controlled copy will be sent to WPIO, WPSO and the WIPP Central File (SWCF). A receipt acknowledgement form is used to assure that each individual has received the WIPP QAPD. The current revision of the WIPP QAPD and of each QAP is listed in the Master Document Register (MDR).

5.5 Change Control

Changes to the WIPP QAPD or QAP require the same level of review and approval as the original. However, minor changes (e.g. typographical corrections, organization chart updates, etc.) may be made by sending a copy of the corrected page to each holder for insertion into the document. Pages issued for this purpose will be issued with a revision designator in the following format. Current Revision and sequential number (e.g.; QAP 6-1, Revision C-1) The QAPD Table of Contents will reflect these page updates, revision and the effective date.

6.0 TEST PLANS

6.1 Content

Test Plans that are written by or under the direction of the principal investigator (PI) responsible for a designated test/experiment. Test plans are approved for each WIPP experiment prior to initiation of experimental activities and describe the experiment in sufficient detail that the experiment may be conducted. They include the following as applicable:

- Distribution list
- Cover/approval page
- Contents
- Description or summary of the experiment
- Test objectives
- Instrumentation/test equipment
- Schedule and responsibilities
- Data acquisition/collection plan
- Design Analysis
- Provisions for noting significant events
- Quality assurance
- Safety
- References.

6.2 Review

At least one peer reviewer is required. See Section 11

6.3 Approval

These documents require approval by the Project Manager, the responsible Department Manager, the QA Chief, Safety, and the WPIO Project Director. If the test is to take place at the WIPP Site the WPSO Project Manager must approve the Plan.

6.4 Issuance

The PI is responsible for issuing Test Plans. After obtaining the required review and approvals, the PI will issue a copy of the test plan to each person or organization on the distribution list. The distribution list is determined by the PI and includes, as appropriate, WPIO, WPSO, Sandia management, the WIPP QA Chief, the WIPP Site QA Staff, WIPP Site Safety, the SWCF and Sandia staff and contractors involved in the experiment. Test plans are listed on the MDR.

6.5 Change Control

Test plans are changed by means of appendixes/addenda that define the change. Significant changes require the same level of review and approval as the original document. Minor changes (e.g., changing the number or type of instruments used, etc.) that do not alter the basis or concept of the test require only the approval of the PI, SNL QA Chief and Safety. Typographical errors may be corrected and the appendix distributed by the PI, without additional approvals.

7.0 WIPP PROCEDURES

7.1 Content

WIPP procedures define specific technical areas and tasks such as gage installation, system or equipment checkouts, equipment operation, etc. When procedures are used, they will be approved before each activity begins and will include the following elements, as applicable:

- Header
  - Procedure number
  - Revision number (original issue is zero)
  - Effective date
  - Page _ of _
- Title
- Review and Approval Signatures
- Purpose
- Responsibility
- Safety
- References
- Forms
- QA Records
- Procedure

7.2 Review

At least one peer reviewer is required. See Section 11.

7.3 Approval

These documents require approval by the PI, DAS Coordinator or the respective Manager; QA and Safety. If the procedure is to be performed on site, Managing Operating Contractor (MOC) Safety will concur. If the procedure is implemented by MOC personnel, the respective MOC Department Manager will concur.

7.4 Issuance

After the author of a WIPP procedure obtains the necessary reviews and approvals, the document is given to QA for distribution. QA will enter the document into the MDR and distribute according to site procedures.

7.5 Change Control

WIPP procedures are revised by making the changes and reissuing the procedure. Changes require the same level of review and approval as the original issue. Temporary field changes may be authorized by the responsible PI or designee by entering a red-line change in the procedure, initialing and dating that procedure and notifying SNL QA. Red-line changes may be used for six weeks, maximum. The changes are incorporated into a revised issue of the procedure.

8.0 DRAWINGS & SKETCHES

8.1 Content

Engineering drawings are created and issued in accordance with Sandia Laboratories Engineering Drawing System (SLEDS), out of Albuquerque. The SLEDS present the standard practices and information required in the preparation of engineering drawings. Each drawing is assigned a title, a drawing number, an alphabetic issue character, an approval block, and a revision block. A description of changes in included in the revisions block. A listing of the current version of each drawing is maintained in the MDR.

Engineering sketches may be created by site personnel. Although sketches are not subject to the SLEDS, they are subject to the same review, approval, and issue control that drawings are. QA will maintain a listing of the current version of each engineering sketch in the MDR.

Copies (preferably 8.5" x 11"), or originals, of all new and revised drawings and

engineering sketches are sent to QA by the PI or responsible engineer for inclusion in the QA notebook system.

8.2 Review

At least one peer review is required. See section 11.

8.3 Approval

These documents require approval (initials) by the PI or responsible engineer, SNL QA and Safety.

8.4 Issuance

After obtaining the required review and approvals, drawings may be obtained from the Design Definition Department. SNL QA maintains released drawings. Engineering sketches are issued by the originator after obtaining the required review and approvals. The responsible PI or engineer will distribute drawings and/or engineering sketches to project personnel as needed and to QA for inclusion in the QA Notebook System and the MDR.

8.5 Change Control

Changes to drawings or sketches are marked on a copy of the drawing or sketch and submitted to the responsible draftsman for incorporation. The drawing or sketch will then be modified and changes may be indicated in the Notes section. Changes require the same level of review and approval as the original issue. Typographical errors, such as misspellings, may be corrected without repeating the approval cycle.

9.0 ES&H SOP's

9.1 Content

The content requirements are listed in the SNL writers guide for SOP's, "A Guide to Writing Activity-Specific ES&H Standard Operating Procedures". A copy of this can be obtained from SNL WIPP Safety.

9.2 Review

In addition to the review requirements in the writers guide, an SOP must have been reviewed by at lease one peer, if the SOP directs activities affecting the quality of data.

9.3 Approval

In addition to the approval requirements in the writers guide, an SOP must have the same approvals as a procedure, if the SOP is directing activities which affect the quality of data.

9.4 Issuance

SOP's are issued by the Laboratory, as described in the writer's guide.

9.5 Change Control

Changes to SOP's are in accordance with the writers guide and 9.2 and 9.3 above.

10.0 TECHNOLOGY DEVELOPMENT DESCRIPTION (TDD)

10.1 Content

This document is used for proof of concept and prototyping activities and shall include, as appropriate:

- General description of activities, location, objective, responsibilities, etc.;
- Identification of safety hazards;
- Identification of required MOC support;
- Statement allowing for a logbook to document the steps;
- Revision number and issue date.

Note: Any experimental data collected by this activity may not be directly used by Performance Assessment.

10.2 Review

At least one peer reviewer is required. See Section 11.

10.3 Approval

These documents require approval by the PI, DAS Coordinator or the respective Manager; QA and Safety. If the procedure is to be performed on site, MOC Safety will concur. If the procedure is implemented by MOC personnel, the respective MOC Department Manager will concur.

10.4 Issuance

The author will distribute the TDD's after obtaining the required review and approvals. The distribution shall include the SWCF and all those who reviewed and approved the document.

10.5 Change Control

Revisions shall be reviewed and approved at the same level as the original. Typographical errors may be corrected by the author without repeating the review and approval cycle.

11.0 REVIEW

11.1 **Peer Reviewers.** Peer reviewers will be chosen who are independent of the document being reviewed and who have technical expertise at least equivalent to that of the author(s) of the document being reviewed. Peer reviewers may be within the author's division, department, internal to SNL or come from outside the Lab. Peer reviewers should be free from potential conflicts such as:

- Supervising those whose work is reviewed (supervisor peer review is acceptable only if other peer reviewers are not available);
- Participating in development of the work.

11.2 **Peer Review Documentation** - The peer reviewer may record comments directly on the document being reviewed and return the document to the author or may document the comments on a separate sheet such as WIPP Form 227, with reference to the subject page and paragraph. The author will respond in writing to each review comment. If the author rejects a comment, the reviewer will be informed. If the disagreement cannot be resolved by the author and the reviewer, the responsible department manager will resolve it. When the document is signed by the reviewer, it is understood that all comments have been satisfactorily resolved. This is indicated by the reviewer's signature, or initials.

Review comments and their resolution may be disposed of one year after the document has been signed and issued.

12.0 OTHER DOCUMENTS

12.1 Line Drawings

Line drawings are used as illustrations in reports, test plans, etc., but may not be used for fabrication. They are controlled along with the document in which they appear.

12.2 SAND Documents

SAND documents are official reports issued by Sandia National Laboratories as the normal method of publishing data reports, technical reports, presentation, journal articles, etc. Detailed instructions for preparing and issuing a SAND document may be found in "The Concise Format Guide for WIPP SAND Report" and Sandia Laboratory Instructions.

12.3 Site Work Instructions

Site Work Instructions may be used to describe, initiate and direct experimental tasks. The Work Instructions will give a brief description of the task, or reference appropriate procedures, drawings or other approved forms of instruction. If they are used instead of procedures to describe work, they must be for one time activities. They are not intended to replace procedures as the principle means for prescribing work. Sandia Procedure 125, Experimental Program Work Requests, details the requirements for using Site Work Instructions for MOC personnel.

12.4 Data

Original data from tests and experiments may be maintained by the PI responsible for the test or experiment, until completion of the test or experiment if the following standards are met:

- A documented plan for collecting, filing and maintaining data is documented and approved by QA (the plan may be documented in a test plan, WIPP procedure, or memorandum of record);
- Copies of the data are maintained in dual locations remote enough from each other to eliminate exposure to a simultaneous hazard;
- Interim storage, prior to establishing dual storage will be maintained in a one hour fire proof filing cabinet;
- Rules are established governing access to and control of the data;
- Provisions are made in the storage arrangement to prevent damage from moisture, temperature, and pressure;
- Data sheets are firmly attached in binders or placed in folders or envelopes for storage in steel file cabinets or shelving;

- Provisions are made for special processed data (e.g.; photographs, negatives, magnetic tape or disks, etc.) to prevent damage from excessive light, stacking, electromagnetic fields, temperature, etc.

For data acquired by contractors, contractual arrangements are made to ensure that standards are made to ensure the standards listed above are met and that data are submitted to Sandia either periodically or at the conclusion of the test or experiment.

12.5 Release of Data

The PI for each test or experiment is responsible for the release of data from that test or experiment and will ensure that the intended use of the data is suitable to those data. The data may be raw, partially reduced, or fully reduced and interpreted. However, the PI will ensure, in writing, that the recipient of the data is aware of the status of the data.

13.0 QA RECORDS

The following QA records may be generated by this procedure:

- QAPD
- QAP's
- Test Plans
- Procedures
- Drawings & Sketches
- ES&H SOP's that describe data quality affecting activities
- TDD's