

Note: Use of National Standards. When reference standards are used without modification, the TP will document the standard by reference only. If deviations from test standards or the establishment of specially prepared test procedures is deemed appropriate (e.g., no nationally recognized test standards exist) the modified or new test procedures shall be documented in sufficient detail to be repeatable, and shall be justified, evaluated, and approved by the cognizant technical organization. The differences will either be defined in the TP, or documented as an Activity/Project Specific Procedure (SP), reference NP 5-1 (Implementing Procedures), or documented by using a Scientific Notebook (SN), reference NP 20-2 (Scientific Notebooks), whichever is appropriate.

2.2 Format

2.2.1 The cover page of the TP shall include the following:

- "Test Plan"
- TP number assigned by Document Control
- TP Title
- Author(s) Name(s), Organization(s)
- Revision Number
- Effective Date: _____

Note: Both the TP number and the effective date are assigned by the SNL WIPP Document Control Staff. The first issue of a TP is "Revision 0".

2.2.2 Document Control Header. Each page of a TP shall bear the following document control header, located in the upper right-hand side of the page:

TP (number)
Revision (number)
Page (number) of (total number)

2.2.3 Content. The required content of the TP is described in Appendix A.

2.3 Test Plan Review and Approval Process

The author shall:

- Obtain a TP control number from the SNL WIPP Document Control Staff,
- Prepare the text of the TP in accordance with Appendix A, and
- Forward the draft TP to the assigned reviewers.

Reviewers shall:

- Review the TP according to NP 6-1 (Document Review Process).
- Verify that the TP meets the requirements of this procedure, including Appendix A.
- Document review on a Document Review and Comment (DRC) form, Form NP 6-1-1.

The following are the minimum required approval signatures:

- Technical reviewer.
- QA reviewer.
- Responsible WIPP manager.

A DOE review will occur after the Technical, QA, and manager reviews are complete. The TP will be transmitted electronically and comments and comment resolution may be handled via email. This correspondence and final DOE approval (e.g. a memo, an email) will be submitted as a QA record as part of the TP package.

The PI may add additional reviewers as necessary, for example:

- contractor required reviews.
- safety reviews (lab or field).

Reviewers and authors shall sign the TP or revision with the exception of the DOE reviewer. The required signatures and applicable DRC forms indicate that the TP or revision was reviewed, review comments were satisfactorily resolved and incorporated, and the TP or revision is approved for use, subject to its effective date.

2.4 Changes to Test Plans

The author shall ensure revisions to the Test Plan are clearly indicated with vertical change bars in the margin of the revised plan (Note: change bars will indicate changes for the current revision only). Changes to TPs shall receive technical, QA and management review in accordance with NP 6-1.

2.5 Issuance and Control

The author shall submit the TP for issuance as a controlled document in accordance with NP 6-2 (Document Control Process).

2.6 Test Plan Implementation

The PI or designee shall:

- Oversee implementation of the TP.
- Revise the TP, as necessary.

3.0 Records

The following records, generated through implementation of this procedure, shall be prepared and submitted to the WIPP Records Center in accordance with NP 17-1 (Records).

QA Record

- The final, approved new/revised TP
- DRC forms (NP 6-1-1)
- Correspondence from the DOE relating to the approval of the TP

4.0 Appendices

- Appendix A: Test Plan Content
- Appendix B: Test Plan Flow Chart

Appendix A Test Plan Content

Test Plans (TPs) shall include the following, unless the nature of the work does not involve the item or concept:

- **Title and Header Information** - See format in Section 2.2.
- **Reviews and Approvals** - Provide the name, title, and dated signatures of persons approving the TP, including the author and reviewers i.e. technical, QA and management.
- **Table of Contents** - Provide an outline of the TP contents and the corresponding pages at which the sections start.
- **Revision History** - Describe the purpose and content of the current revision made.
- **Purpose and Scope** – Describe the purpose and scope of the scientific activity (hypothesis or hypotheses to be tested), and the intended use of the data.
- **Experimental Process Description** – Describe the primary tasks and the conduct of the scientific investigation activity, addressing the following (note: if specifics are not known, describe how they will be documented during the scientific investigation activity):

⇒Planning Overall Strategy and Process

- Critical variables to be measured and controlled including the acceptance criteria for data quality evaluation to ensure the data are valid and satisfy the purpose and scope of the test plan
- Coordination with organizations providing inputs or using the results
- Procedures to be used/developed
- Identification of prerequisites, special controls (including controls to prevent tampering of data during acquisition and analysis), specific environmental conditions, processes, or skills.
- Known sources of error and uncertainty including any uncertainty about the quality of input data
- Compatibility of data processing with any conceptual/mathematical models used at each applicable stage
- Specify documents to be maintained as QA records (e.g., scientific notebooks)

⇒Sample Control

- Sample labeling/identification method to be used (e.g., as described/recorded in scientific notebook)
- Sample handling/nonconforming requirements - reference NP 13-1 (Control of Samples and Standards)
- Sample storage and/or environmental controls
- Sample disposal and/or disposition

⇒Data Quality Control

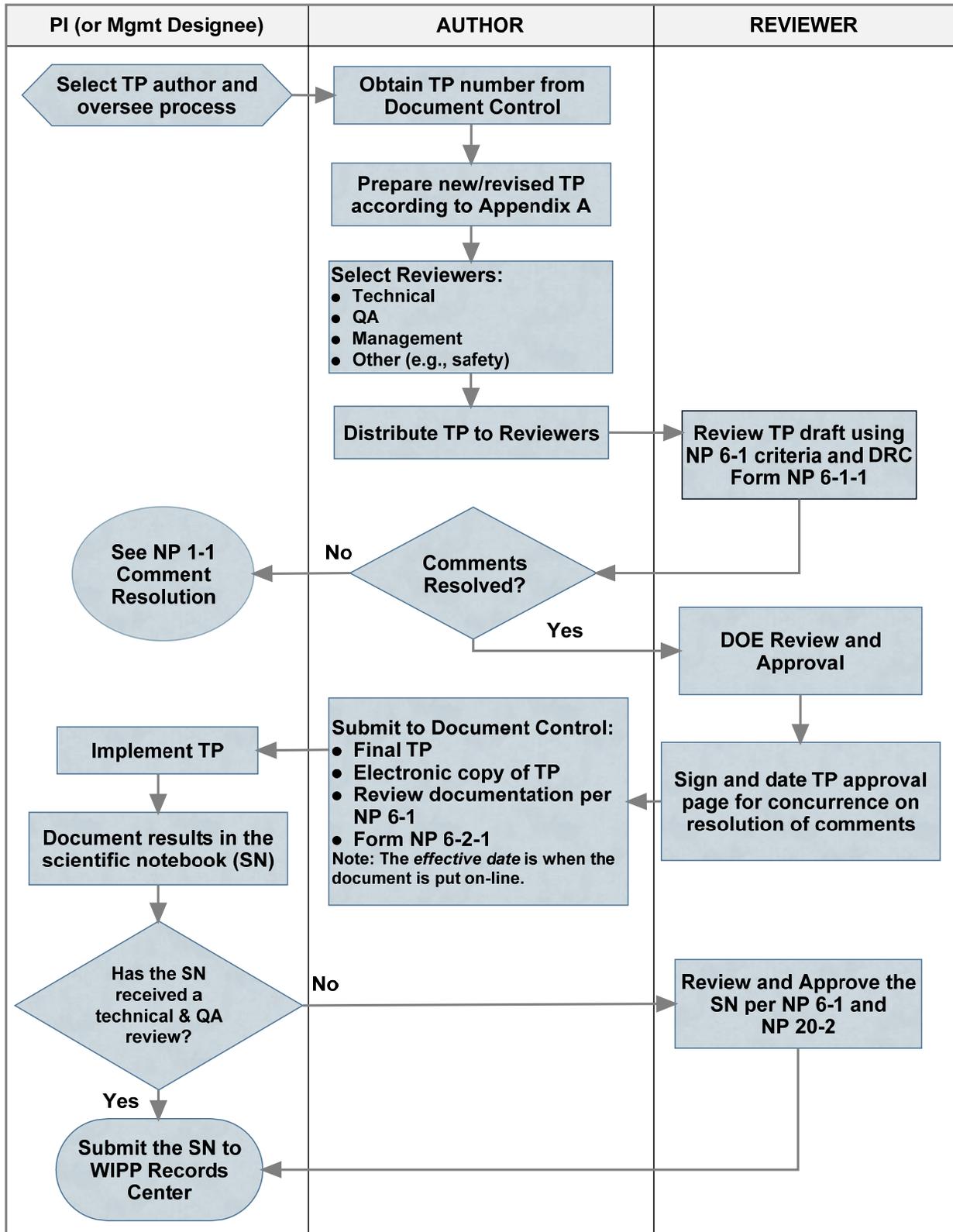
- Measuring and Test Equipment (M&TE) - reference NP 12-1 (Control of Measuring and Test Equipment)
 - calibration requirements and acceptance/tolerance limits to meet the purpose and scope of the test plan
 - use of M&TE, standards, and other tools
- Data Acquisition
 - For the intended use, identify required periodic in-use manual or automatic self-check routines (e.g., visual data inspection, established alarm interval limits, calibrated source)
 - For commercial software not modified, document the name, version and the hardware for which it is used

- For developed or modified stand alone software (i.e., software which can be operated and verified independent of the hardware system), refer to NP 19-1 (Software Requirements) for qualification
- Methods for justification, evaluation, approval, and documentation of any deviations from test standards or of establishment of specially prepared test procedures (e.g., when no nationally recognized test standards exist)
- Controls/reference sample use (e.g., use of replicates, spikes, split samples, control charts, blanks, reagent checks)
- Test media (e.g., fluids) when used, shall be characterized and controlled in accordance with test procedures

⇒Data Identification and Use

- Method(s) of recording data (e.g., scientific notebook, log books, data sheets) to clearly identify and trace to the source from which the data was generated
 - Data control to ensure that data integrity and security are maintained. Controls shall prescribe how data will be stored to protect from damage and destruction during their prescribed lifetime.
 - Data transfer and reduction controls to ensure data transfer is error free and that input is completely recoverable
 - Control of erroneous or inadequate data (includes identification, segregation, and disposition)
 - Data conversion controls
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- **Training** –Identify special qualification and training requirements, if applicable (reference NP 2-1, Qualification and Training).
 - **Health and Safety** – Describe any unique health and safety hazards associated with this work, and describe specific requirements and procedures to mitigate impact.
 - **Permitting/Licensing** – Discuss special permitting or licensing requirements which may be required to conduct the scientific activity (e.g., state permit to drill wells).
 - **References** – List documents referenced in the TP in sufficient detail (e.g., author, journal name, publish date) to allow copies to be obtained by the reader.

Appendix B Test Plan Flowchart



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