CPCCo
Central Plateau
Cleanup Company

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Standards

CPCC-STD-EN-40281

Engineering Test Documentation

Revision 0, Change 3

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USQ Facility	USQ Review	Screener
105 KW Facility	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
324 Building	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
Below HazCat 3	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
Canister Storage Building/Interim Storage Area	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
Capsule Storage Area	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
D4ES-Central Plateau	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
Solid Waste Operations Complex	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
Transportation	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	
Waste Encapsulation Storage Facility	**Exclusion Reason:** *N/A per CPCC-PRO-NS-53097*	

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Change Summary

Description of Change

Clarified shall vs should in the appendices to correct intent.

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1.0 INTRODUCTION

1.1 Purpose

This standard establishes the requirements applicable to test documentation prepared and revised in support of Central Plateau Cleanup Company (CPCCo) engineering, development, modification, qualification, and construction testing activities on structures, systems, or components (SSC).

1.2 Scope

This standard applies to test documentation prepared to support the following types of testing activities:

- Acceptance Testing including Factory Acceptance Tests (FAT), Construction Acceptance Tests (CAT), Startup Tests (ST), and Operational Acceptance Tests (OAT)
- Qualification Testing for design verification
- Process Testing
- Development Testing

Test documentation shall be prepared in accordance with this standard and CPCC-PRO-EN-440, *Engineering Documentation Preparation and Control*.

1.3 Applicability

This standard applies to test documentation prepared in support of facility modifications, formal construction projects, development projects, and procured equipment. Documentation approved prior to implementation of this standard may follow the format in place at the time of approval.

1.4 Implementation

This standard is effective upon publication.

2.0 STANDARD

Table 1, *Test Document Types*, defines the purpose and section providing required format and content for the four types of testing documentation covered by this standard.

Table 1 – Test Document Types

Document	*Section*	*Purpose*	*Notes*
Test Plan	2.1	The Test Plan defines the following: • required tests, extent of testing, test boundary, and testing sequence/schedule • testing methods used • rationale for the testing • relationships among items tested and other SSCs • tests or inspection controls to be applied • review and approval requirements	Test Plans are typically prepared for Formal Projects to identify what testing needs to be performed but may be prepared for any complex testing activities.
Test Specification	2.2	The Test Specification identifies the following: • specific tests to be performed • test requirements and parameters for each test • acceptance / success criteria for each test Acceptance criteria is identified which supports verification and validation of essential design, interface, and performance characteristics / attributes.	Test Specifications provides the basis for preparing Test Procedures. Test requirements and acceptance/success criteria may be incorporated in a Test Procedure if a separate Test Specification is not prepared.
Test Procedure	2.3	The Test Procedure provides the following: • detailed instructions for performing tests and recording of results • prerequisites, precautions, special equipment, and test sequence • assurance that the scope and objectives defined by the associated test requirements are satisfied • objective evidence of test completion and confirmation of successful acceptance or success criteria	The Test Procedure may be combined with a Test Plan, Test Specification, or integrated into a Facility Modification Package (FMP) or Work Package (WP) if not prepared as a separate standalone document.

Document	*Section*	*Purpose*	*Notes*
Test Report	2.4	The Test Report summarizes and documents the test results. The test report includes the following: • a reference to the standalone Test Plan or relevant elements of a Test Plan • a reference to a standalone Test Specification or relevant elements of a Test Specification • a reference to a standalone Test Procedure or relevant elements of a Test Procedure • results of each specific test and comparison to the acceptance criteria • identification and discussion of test deficiencies, test exceptions, and other pertinent information as appropriate for the test category (i.e., acceptance, development, qualification, etc.) • evaluation and/or analysis of the data as appropriate (e.g., development testing results) • Test Log identifying test activities performed • a summary discussing overall test results, acceptability of acceptance/success criteria, and an explanation of any relevant test exceptions and/or deficiencies	

Testing documentation may be prepared as a single document for each type listed above, or as a combination of two or more types. Testing documentation may be released as standalone documents or as an integrated section of an FMP or Work Package.

2.1 Test Plan

Appendix A provides the elements of a Test Plan for acceptance, qualification, and/or development testing activities.

2.2 Test Specification

Appendix B provides a general template which may be used for acceptance / qualification / development / operational test specifications.

For development testing, specific acceptance criteria are typically not known or available. However, expected results or success criteria should be determined and used for evaluation of test results.

2.3 Test Procedure

Appendix C provides a general template which may be used for acceptance / qualification / development / operational test procedures.

2.4 Test Report

Appendix D provides a general template which may be used for acceptance / qualification / development / operational test reports.

3.0 FORMS

None

4.0 RECORD IDENTIFICATION

All records are required to be managed in accordance with CPCC-PRO-IRM-10588, *Records Management Processes*. OCRWM records are also managed in accordance with CPCC-PRO-QA-19579, *OCRWM Records Management*.

Records Capture Table

Name of Record	*Submittal Responsibility*	*Retention Responsibility*
Test Plan	Author	IRM Service Provider
Test Specification	Author	IRM Service Provider
Test Procedure	Author	IRM Service Provider
Test Report	Author	IRM Service Provider
Test Plan (OCRWM)	Author	OCRWM Records Coordinator
Test Specification (OCRWM)	Author	OCRWM Records Coordinator
Test Procedure (OCRWM)	Author	OCRWM Records Coordinator
Test Report (OCRWM)	Author	OCRWM Records Coordinator

5.0 SOURCES

5.1 Requirements

CPCC-RD-EN-1819, *Engineering Requirements*

5.2 References

CPCC-PRO-EN-286, *Testing of Equipment and Systems*
CPCC-PRO-EN-440, *Engineering Documentation Preparation and Control*
CPCC-PRO-IRM-10588, *Records Management Processes*
CPCC-PRO-QA-19579, *OCRWM Records Management*

Appendix A - Test Plan

TITLE PAGE

If a separate standalone Test Plan is prepared, it should include a Title Page containing the following:

- Document Number and Title
- Approval Block for approvals as specified in CPCC-PRO-EN-440, *Engineering Documentation and Control*

A document number and Title Page can be obtained through the Hanford Document Numbering System (HDNS) web page.

TABLE OF CONTENTS

If a separate standalone Test Plan is prepared, it should include a Table of Contents.

1.0 INTRODUCTION

Briefly summarize the basis for the testing. Include any historical information that has led to the need for the test.

2.0 OBJECTIVE

Describe the goals the test(s) is designed to accomplish. Define what is necessary to consider the test(s) complete.

3.0 SCOPE

Describe the size and complexity of the testing activities.

4.0 TEST PERSONNEL QUALIFICATION AND DESIGNATION

Describe qualifications for the test personnel (e.g., Test Coordinator) and designate the responsible individuals/organization.

5.0 DESCRIPTION OF TEST

5.1 TEST ITEMS AND TEST BOUNDARY

Describe what will be tested.

5.2 TEST ENVIRONMENT

Identify and define the environment and location used for testing.

5.3 EQUIPMENT AND FACILITIES

List needed equipment and facilities.

Appendix A - (Cont.)

5.4 DATA

Identify the data to be collected, how the data will be evaluated, and how the data will be documented.

5.5 CRITERIA/CONSTRAINTS

List the basic requirements governing the test (e.g., licensing requirements, environmental constraints, etc.). Include references to specific criteria, regulatory guides, EPA regulations, DOE Orders, or other controlling documents.

6.0 EXPECTED RESULTS

Describe the parameters used to determine whether the tests are successful.

7.0 TEST SPECIFICATION/TEST PROCEDURE

Describe the basic configuration of the testing program. Identify which tests will have a standalone Test Specification document and which will rely solely on a Test Procedure.

8.0 SAFETY

Address any unique or unusual industrial, radiological, chemical, fire, release of energy, or criticality safety hazards involved with performing or supporting the proposed tests. If there is no anticipated safety impact, state so. A hazard analysis is required for non-routine jobs. Prepare either a Job Hazards Analysis (JHA), an Automated Job Hazards Analysis (AJHA), or formal hazard analysis and include in test documentation.

9.0 QUALITY ASSURANCE

Identify QA-related requirements (e.g., hold points, witnessing the test, traceability, and applicable standards, calibrations, etc.). Identify any applicable licensing requirements.

Appendix A - (Cont.)

10.0 ORGANIZATION AND FUNCTIONAL RESPONSIBILITIES

Describe the responsibilities and interdependencies of the organizations that must support the tests. Describe responsibilities unique to the following organizations and the needed interaction between these organizations, as applicable:

- Primary operating division/department
- Other affected operating division(s)/department(s)
- Customer
- Nuclear Safety
- Radiation Protection
- Fire Protection
- Safeguards and Security
- Occupational Safety and Health
- Environmental Protection
- Quality Assurance
- Outside agencies.

11.0 SCHEDULE

Include the programmatic or project schedule requirements and identify test milestones, hold points, and the sequence of tasks between interdependent organizations. Prepare a detailed schedule for accomplishing the proposed test, including milestones, as a normal functional scheduling requirement. Estimate the manpower required from different organizations to aid in allocating the available resources.

Test plans may be released without the detailed schedule section. Before the test, they are re-released as the next higher revision level when the completed schedule section is appended to the test plan.

12.0 REPORTS

Describe the reports to be prepared, the frequency of reporting, report formats (internal memos, supporting documents, etc.), as required, and document control, retention, and traceability requirements.

13.0 REFERENCES

Reference pertinent drawings, specifications, texts, manuals, support documents, etc.

14.0 DATA SHEETS

Describe the manner and/or system by which data will be collected (e.g., log/notebooks, data sheets, computer printouts, etc.).

Appendix B - Test Specification

TITLE PAGE

If a separate standalone Test Specification is prepared, it should include a Title Page containing the following:

- Document Number and Title
- Approval Block for approvals as specified in CPCC-PRO-EN-440, *Engineering Documentation and Control*

A document number and Title Page can be obtained through the Hanford Document Numbering System (HDNS) web page.

TABLE OF CONTENTS

If a separate standalone Test Specification is prepared, it should include a Table of Contents.

1.0 PURPOSE

The section briefly explains what test(s) will be performed on the structure, system, or component (SSC), why the test is being run, and how the test information will be used.

2.0 TEST REQUIREMENTS

This section identifies the test requirements, acceptance criteria, actions required to satisfy the purpose of the test, and provides a brief, itemized summary of how the test will be performed.

The test requirements shall be clearly stated. The test requirements should indicate any critical areas requiring special attention or control during the test and why they are important.

The summary should be specific enough, so the reader fully understands the scope of the test and what is to be performed.

Reference source documents of the test specification including section/paragraph number that identifies a specific test source reference (e.g., ANSI, ASME).

3.0 PLANT CONDITIONS

This section identifies the plant or SSC conditions that are necessary to conduct the required test.

4.0 SPECIAL EQUIPMENT

This section identifies the requirements for all special equipment that is needed to conduct the test and record data.

Appendix B - (Cont.)

5.0 TEST CRITERIA

This section provides acceptance criteria that are used to determine if the SSC performance is satisfactory. If the test is for development, identify the expected results or success criteria to be used rather than acceptance criteria. This section may be presented in a tabular format and combined with the "Data Required" Sections of 6.0.

6.0 DATA REQUIRED

This section identifies the minimum data that must be recorded to evaluate whether SSC performance meets the acceptance criteria and specifies the expected range of results. It also specifies initial trend analysis data to be collected during testing, and the test acceptance criteria associated with observed functions.

7.0 TEST PREDICTIONS

This section may or may not be required. It provides information that will be useful in preparing Test Procedures, assisting the customer (e.g., Operations) in preparation for the test, and evaluating plant performance and computer models.

If the complexity of the test requirements does not warrant the preparation of test predictions, state "Not Required." A statement should be included when it can be identified that an evaluation report is required.

8.0 TEST MATRIX

The purpose of this section is to summarize the flow down requirements into the test objectives, similar to the table shown below. This will be used to compile, plan, and track all the required testing objectives.

#	*Facility*	*System, Subsystem or Component Tag number*	*Acceptance Criteria*	*Test Criteria Source*	*Test Conditions*	*Testing Phase*	*Remarks*

9.0 ATTACHMENTS

Include references considered necessary as a separate attachment at the end of the Specification

Appendix C - Test Procedure

TITLE PAGE

If a separate standalone Test Procedure is prepared, it should include a Title Page containing the following:

- Document Number and Title
- Approval Block for approvals as specified in CPCC-PRO-EN-440, *Engineering Documentation and Control*

A document number and Title Page can be obtained through the Hanford Document Numbering System (HDNS) web page.

TABLE OF CONTENTS

If a separate standalone Test Procedure is prepared, it should include a Table of Contents.

1.0 INTRODUCTION

Provide a brief description of the test and the work to be performed.

2.0 SCOPE

Give a brief description of the structure, system, or component (SSC) to be tested.

3.0 GENERAL REQUIREMENTS

Identify general requirements related to Test Procedure performance, such as additional methods of test control or technical or safety requirements.

As a minimum, include the following statements in this section:

- This procedure is under the direct control and supervision of the assigned Test Coordinator.
- A pretest briefing for all personnel involved in the performance of the test shall be conducted at the beginning of each shift. When new test team members assume test duties, they can be briefed individually. The time and date of each briefing shall be documented in the startup test log.
- All Test Coordinators participating in the performance of this test procedure shall have read, shall be familiar with, and shall comply with all applicable facility safety procedures before initiation of testing activities specified in this procedure.

4.0 TOOLS, EQUIPMENT, AND SUPPLIES

Specify any unique tools, equipment, or supplies necessary for satisfactory completion of the test. If tools will not be used during the test, indicate "Not Applicable."

Appendix C - (Cont.)

5.0 SAFETY PRECAUTIONS AND LIMITATIONS

List all applicable precautions and warnings in this section. State the specific precautions used to notify the Test Coordinator of any potentially hazardous conditions and their effects.

NOTE: *Cautions or warnings applicable to specific steps are included in Section 9.0.*

As a minimum, include the following statement:

- All personnel on the test team shall immediately bring any personnel safety concerns to the attention of the Test Coordinator for immediate resolution.

6.0 INTERFACE REQUIREMENTS

Identify any physical or functional interface with other areas, systems, or organizations that may require special attention by the Test Coordinator.

Consider interface responsibilities with other organizations for support needs, such as radiation protection, operations, or craft support. Also, consider physical interfaces such as mechanical, electrical, electronic, hydraulic, pneumatic, optical, computer data links, and software.

7.0 INITIAL CONDITIONS

Define the required status and condition of the SSCs before testing.

NOTE 1: *Do not put prerequisite items in this section.*

NOTE 2: *Actions CANNOT be directed from this section of the Test Procedure.*

As a minimum, include the following statement:

- All permanent plant equipment (except microprocessors) used to document acceptance criteria shall have current calibration stickers and shall have the data recorded on Exhibit F, *Installed Equipment Calibration Log*.

Examples of additional things to consider are:

- Availability of utilities
- Construction complete to support testing
- Any centralized control system that needs to be available.

8.0 PREREQUISITE ACTIONS

Specify all prerequisite and preparatory actions to be completed before commencing procedure steps. Prerequisites may be performed in any order unless otherwise specified.

Appendix C - (Cont.)

Include the following prerequisites as applicable:

- All open items have been evaluated and verified to not affect the performance of this test (e.g., nonconformance reports, construction punchlist, outstanding engineering or design change notices, test deficiency reports).
- All reference documents shown in Section 12 and all scoping documents are the current revision. If later revisions exist, record those documents along with the latest revision in the test log.
- A walkdown inspection of the SSC(s) tested by this procedure has been performed. All components are labeled in accordance with the approved drawings, all devices listed in the Test Procedure match the device labeling in the field.
- Custody tagging (or equivalent) has been installed to identify and control access to SSCs under the test organization's custody in accordance with CPCC-PRO-EN-286, *Testing of Equipment and Systems*.
- The valve lineup shown in Exhibit C is complete.
- The electrical lineup shown in Exhibit D is complete.
- All measuring and test equipment required for this test is listed in Exhibit E, "Test Equipment Calibration Log," and is in the current calibration cycle.
- Provide advance notification to representatives from the appropriate organization (e.g., Quality Assurance, Radiation Protection, etc.) of test procedure steps that contain hold points. Provide notification of at least 24 hours before the commencement of testing.
- Verify that work documents required for the Test Procedure are in order. Record the documentation numbers as required.
- Verify that the necessary permits (e.g., confined space, hot work, radiation work) have been obtained for this Test Procedure.
- Specify the communications equipment to be installed and operational. Temporary communications systems may be necessary.
- Specify system maintenance that must be completed before testing.
- Specify temporary changes to be made and verify their status. Temporary changes made to permanent plant equipment or components to support test performance shall be made in accordance with CPCC-PRO-WKM-12115, *Work Management*.
- Specify any special training requirements.

Appendix C - (Cont.)

Include the following statement as the last items in this section:

"I have reviewed the above prerequisites and initial conditions. The prerequisites and initial conditions required to commence Section 9.0 are complete. I recommend that this Test Procedure be released for performance."

Test Coordinator _____ Date _____

9.0 TEST PROCEDURE STEPS

Prepare a detailed procedure for conducting the test and organize it into a logical sequence of events. Organize the procedure steps to provide both continuity and clarity and to achieve the test objectives. Procedure steps, subsections, and sections SHALL BE performed in the order written unless the procedure specifically identifies that a different sequence may be used.

Use descriptive headings to organize the procedure into sections and subsections of related steps.

Provide a location in the Test Procedure steps or on datasheets for entering data in a way that allows it to be easily compared to the acceptance criteria.

The following general guidelines apply:

- If data are concise and simple, record the data in the Test Procedure step that directs the data to be recorded.
- If data consist of extensive or repetitive lists, use datasheets to record the information. If datasheets are used, reference the sheet that the data are recorded on in the Test Procedure step.
- Data recorded to establish a baseline that are not acceptance criteria in the test specification will be identified in the Test Procedure by the initials BL (baseline) near the step where the data are to be recorded.
- Specify units of measure.
- Define acceptance criteria with limits or tolerances and state them as maximum/minimum values (e.g., 420-460 lbf/in^2 (gauge) or 420 lbf/in^2 (gauge) minimum), not as a given value with plus/minus values.
- Clearly identify any abort test criteria and test requirements that take the plant, system, or component beyond normal operating limits.

Appendix C - (Cont.)

- Specifically identify the DANGER and CAUTION tag out requirements for valves, electrical equipment, system, or test components, as appropriate, for the test to be performed. Also identify any required safe condition checks and controlled drawings that illustrate the safe working boundary. Standard operating procedures shall be used as far as practicable so that their adequacy is confirmed during conduct of the test.
- Identify initial performance trend analysis data to be collected.
- If a procedure step requires that an action be performed, that step should be written as a command to perform the specific action. Also, provide spaces for initials and dates for action steps. If a step may be performed more than once, provide multiple blocks.
- If independent verification is required, include spaces for signature and date.
- Notes can be placed in the procedure to draw attention to important information needed before performing a step that must be performed by personnel with special training.
- Test parameters affected by potential sources of uncertainty and error shall be identified and controlled [Office of Civilian Radioactive Waste Management (OCRWM) items only].
- Use warning or caution statements to provide information essential to safe performance. Place the statements immediately before the step to which they apply.
    - Warning statements indicate potential danger to personnel. For example:

WARNING:

PERFORMANCE OF THE FOLLOWING STEP MAY RESULT IN DANGER TO PERSONNEL

    - Caution statements alert personnel of possible equipment damage. For example:

CAUTION:

IMPROPER PERFORMANCE OF THE FOLLOWING STEP MAY RESULT IN EQUIPMENT DAMAGE

- Equipment hazards include:
    - Abnormal operating conditions
    - Design limitations
- Hold Points may be imposed by Radiological Protection or Quality Assurance for steps that require inspection of performed actions before continuing the test.

Appendix C - (Cont.)

- Write the procedure to have only one action performed in a step. For example:

AC*	Step	Description	Initials/Date
	7.1	Place hand switch XXX in start.	
	7.2	Verify that motor YYY starts	
	7.3	Verify proper indication	

- Steps that satisfy acceptance criteria identified in Section 11.0 shall be indicated in the left margin by "AC" flags. For example:

AC*	Step	Description	Initials/Date
	9.1	Step 9.1 text	xxx–mm/dd/yy
AC		a. Step 9.1 text	xxx–mm/dd/yy
	9.2	Step 9.2 text	xxx–mm/dd/yy
* AC indicates step satisfies acceptance criteria in Section 11.			

10.0 POST-PERFORMANCE ACTIONS/RESTORATION

Specify actions such as valve and electrical lineups, test equipment removal, and temporary modification restoration that are necessary to return structures, systems, and components to the desired configuration.

Specify special actions required for equipment reuse, storage, or disposal after the test has been completed.

Include the following as the last step in Section 10.0:

Performance of testing required by this procedure has been reviewed by the testing organization. It is determined that testing required by this procedure is field complete.

Test Coordinator _____ Date _____

Appendix C - (Cont.)

11.0 ACCEPTANCE CRITERIA

Identify acceptance criteria by item number and procedure steps to facilitate review.

Reference the procedure steps in chronological order (e.g., 9.1, 9.2, 9.3).

Acceptance criteria shall be qualitative or quantitative. For quantitative acceptance criteria, defining a maximum and minimum value is preferable. For examples:

- Qualitative (attribute): Pump speed varies with rheostat position.
- Quantitative (characteristic): Pump discharge pressure is 100-110 lbf/in2, or pump discharge pressure does not exceed 100 lbf/in2.

Step	*Description*	*Acceptance Criteria*
9.1.a	Text	

12.0 REFERENCES

List all reference documents used in the preparation of the Test Procedure. Include any other sources of information needed during test performance. NOTE: The first reference listed in the Test Procedure should be the current Test Specification (if a separate document) to which the Test Procedure is being tested.

Specify the revision or issue date for all references, as applicable.

Document Number	*Revision or Issue Date*	*Title*
xxx-xxxx	mm/dd/yy	Title

13.0 EXHIBITS AND ATTACHMENTS

Include the following in Section 13.0 of the Test Procedure and list them as exhibits:

Exhibit A - Test Boundary Diagram

Exhibit B - Equipment Lineups

- Provide the necessary lineup to verify the desired system configuration. If lineups are not excessive, consider performing initial system lineups in the initial steps of the procedure.
- Ensure that the number and description of the component provided on the lineup page match the label or plate designation on the component. Lineups can be performed in any order; if a specific sequence is required to position components, it must be clearly identified in the remarks or special instructions on the exhibit.
- Valve lineups must specify a required position such as "open," "shut," or "throttled." If the required position is throttled, provide a space to specify or record the method of positioning the valve, such as "turns from full open" or "turns from full shut."

Appendix C - (Cont.)

- Electrical lineups specify the required position of electrical items (e.g., fuses, control switches, or circuit breakers).

Exhibit C - Required Measuring & Test Equipment

- Provide a page to record information about test equipment calibration (e.g., serial number, last calibration date, calibration due date).

Exhibit D - Installed Equipment Calibration Log

- If installed plant equipment is used to satisfy acceptance criteria, provide a page to record the calibration information.

Exhibit E - Data Tables

- Include datasheets or tables when there are extensive or repetitive amounts of data to be recorded. They should be appropriate for the specific test being performed and should be in matrix format, if possible.
- Datasheets or strip charts generated by instruments or recorders may be taped or otherwise affixed to a blank sheet and properly identified.
- Datasheets/tables should contain the following information as applicable:
    - Document number
    - Title of test
    - Date of test
    - Serial number (if applicable)
    - Attribute being tested
    - Corresponding Test Procedure step number for each piece of data
    - Blank space to indicate acceptance or rejection of data
    - Signature of whoever records and reviews the data.

Appendix D - Test Report

TITLE PAGE

If a separate standalone Test Procedure is prepared, it should include a Title Page containing the following:

- Document Number and Title
- Approval Block for approvals as specified in CPCC-PRO-EN-440, *Engineering Documentation and Control*

A document number and Title Page can be obtained through the Hanford Document Numbering System (HDNS) web page.

EXECUTIVE SUMMARY

The executive summary should identify the following:

- The objectives of the test and declaration that the objectives were or were not met.
- A brief description of the system. This should include the purpose of the system and any safety functions the system performs.
- A description of how the system was tested and what functions were tested.
- A brief summary of problems encountered during testing and their resolution.
- Identification of open items and the proposed resolution. Include a schedule for implementation and describe how open items will be tracked to closure.

1.0 PURPOSE

Describe the system purpose, the system functions, and the safety-related functions. Describe the objectives of the tests.

Example:

The vapor pressure system chilled water system provides cooling to condense the water vapor removed from the multi-canister overpack during vacuum processing. The system is designed to provide a minimum flow of 4 gal/min to each active processing bay. The design requires that cooling water be delivered to the vapor pressure system skid at approximately 40 °F. The acceptance test procedure demonstrates that the minimum flow and maximum temperature requirements are met. The acceptance test procedure also demonstrates the operation of the manual and automatic control, and that abnormal condition alarms function as designed.

Appendix D - (Cont.)

2.0 SCOPE

Identify the portion or portions of the system that are being tested. Unlike a test specification, the test summary should not include a detailed listing of equipment unless necessary. If only a portion of the system is being tested by this acceptance test procedure, and another acceptance test procedure is testing other portions of the system, identify the other acceptance test procedure and its scope.

Example:

The vapor pressure system chilled water acceptance test procedure tests the portion of the system that is part of the Cold Vacuum Drying Facility, including the chiller, circulating pumps, and piping. Those portions of the vapor pressure system chilled water system that are associated with the vapor pressure system skids are tested in the integrated multi-canister overpack processing acceptance test procedure.

3.0 TEST RESULTS

The results from this test are summarized in a table that contains information similar to the one below.

Item #	*Facility*	*System, Subsystem or Component Tag number*	*Acceptance Criteria*	*Test Criteria Source*	*Test Conditions*	*Testing Phase*	*Test Document #*	*Results*	*Remarks*

* Enter initials for Acceptance Test Procedure (ATP), Factory Test Procedure (FAT), of Other Startup Test (OST).
** Enter initials for Satisfactory (SAT) or Unsatisfactory (UNSAT).

3.1 DESCRIPTION OF TEST ACTIVITIES

3.1.1 Test Methodology Summary

Provide a brief description of the test methodology.

3.1.2 Major Activity Chronology

Provide a chronological listing of the major test activities. This should not be a recitation of the test log but should give the reader an idea of how long the test took and what the test sequence was. Specifically, if there are large gaps of time where no testing is occurring, an explanation should be provided. Identify whether testing is or is not satisfactorily completed, and if all acceptance criteria were or were not met.

3.1.3 Procedure Change Summary

List all procedure change notices and provide a brief explanation of why each procedure change notice was needed.

Appendix D - (Cont.)

3.1.4 Test Deficiency Summary

List all test deficiency reports. Provide a description of each problem and state how the problem was resolved. Identify whether retesting was required and provide the results of any retesting.

3.1.5 Other Problems Encountered

Discuss any other problem encountered during testing that impacted the test schedule, test performance, or test results.

3.1.6 Open Items

Identify any open items. State why the items are open, the impact of turning the system over with them open, the proposed resolution, and the projected time of closure. List the tracking documents.

3.1.7 Test Conclusion

Provide a clear and unequivocal statement that the testing did or did not meet the objectives and that the system is or is not ready for turnover to operations.

4.0 REFERENCES

Reference all standalone Test documentation associated with the test (e.g., Test Plan, Test Specification, Test Procedure).

Reference other relevant documentation.

5.0 ATTACHMENTS

Include the following as attachments if applicable:

- Test log
- Other startup test document
- Test deficiency report log and reports
- Non-conformance reports, including closure documentation
- Factory acceptance test procedure test result documentation
- Procedure change notice log