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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

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Stall 43

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17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)											
(G)	(H)	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G)	(H)
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1,2	/	Cog. Mgr. C. J. Alderman	<i>C. Alderman</i>	9/23/94							
1,2	/	QA J. I. Diehl	<i>J. Diehl</i>	9-26-94	R3-85						
		Safety									
		Env.									
1,2	/	G. L. Neer	<i>G.L. Neer</i>	9/23/94	L6-13						

18. <i>L.V. Feigenbutz</i> 9/23/94 Signature of EDT Originator	19. <i>C. Alderman</i> 9/23/94 Authorized Representative for Receiving Organization	20. <i>C. Alderman</i> 9/23/94 Organizational Manager	21. DOE APPROVAL (if required) Ctrl. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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RELEASE AUTHORIZATION

Document Number: WHC-SD-SNF-TC-001, Revision 0

Document Title: Test Procedure Forms for Sludge Retrieval and Packaging

Release Date: September 26, 1994

* * * * *

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

* * * * *

WHC Information Release Administration Specialist:

M. Boston

(Signature)

M. N. Boston

9/26/94

(Date)

SUPPORTING DOCUMENT		1. Total Pages 28
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7. Abstract This document provides test procedure forms for sludge retrieval and packaging tests in the 305 Cold Test Facility. The completed and approved forms provide all descriptions, criteria and analysis to safely perform sludge equipment tests in the 305 Cold Test Facility.		
<p>8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</p> <p>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</p> <p>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>	<p>10. RELEASE STAMP</p> <div style="border: 2px solid black; padding: 10px; text-align: center;"> <p>OFFICIAL RELEASE 43 BY WHC DATE SEP 27 1994 <i>Stall</i></p> </div>	
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**TEST PROCEDURE FORMS
FOR SLUDGE RETRIEVAL AND PACKAGING**

1.0 INTRODUCTION

1.1 PURPOSE

These procedure forms shall be used for testing of sludge retrieval and packaging equipment in 305 building Cold Test Facility. The test equipment will include tests of equipment with no potential for plant use, prototype equipment and systems which may be upgraded for use in K Basin, and plant equipment and systems requiring cold acceptance testing prior to plant use.

1.2 SCOPE

Completion of these tests will verify the sludge equipment to the functions and requirements in accordance with WHC-SD-SNF-TP-007, *Test Plan for Sludge Retrieval and Packaging* and specific performance criteria included herein.

The scope of testing is:

- Basic equipment functions and mechanical interfaces will be verified.
- Installation and removal of equipment will be demonstrated.
- Sludge retrieval and packaging performance will be measured.

2.0 APPLICABLE/REQUIRED DOCUMENTS

- WHC-SD-SNF-TP-007, *Test Plan for Sludge Retrieval and Packaging*.
- WHC-SD-SNF-FRD-003, *Functions and Requirements for 105-KE Basin Sludge Activities for Sludge Packaging Development*.
- Signature Verification Data Sheet (Appendix A).
- Test Configuration Documentation List (Appendix B).

3.0 DEFINITIONS

Additional definitions, supplementary to those found in Section 3.0 of WHC-SD-SNF-TP-007, *Test Plan for Sludge Retrieval and Packaging*, pertinent to this test procedure are:

- **Test Index Logbook:** A controlled logbook for recording the test number, description, and date of each test or activity in sequence, whether controlled by a work plan or test procedure.
- **Test Control Copy:** The single copy of all record documentation maintained at the test facility and used for all required signatures, approvals, and data recording.
- **Test Logbook:** A logbook for recording all data and observations by the test performer which are not included in a test procedure.
- **Performance Criteria:** All functions, requirements and operating criteria for measuring the successful performance of test equipment.
- **Equipment List:** A list of all materials, equipment, instrumentation and tools required to complete test.
- **Test Layout/Schematic:** A layout showing configuration of test setup, including all mechanical, electrical and instrumentation systems. This should simulate where possible, the actual operating conditions of the test.
- **Acceptance Criteria:** Requirements for equipment destined for use in K Basins to be used for accepting the equipment, to be delineated and approved by K Basin Operations.

4.0 TEST CONTROLS

4.1 RESPONSIBILITIES

4.1.1 The responsibilities for the conduct of this test procedure are defined in Section 4.0 of WHC-SD-SNF-TP-007, *Test Plan for Sludge Retrieval and Packaging*.

4.1.2 The test engineer for this test procedure is _____.

Note: The blank line in Section 4.1.2 will be filled upon assignment. Assignment may occur after test procedure approval.

4.1.3 Any and all persons responsible for signature verification(s) during testing shall complete a portion of the Signature Verification Data Sheet (Appendix A).

4.2 TEST DATA

- 4.2.1 Data shall be recorded on data sheets as provided by this procedure.
- 4.2.2 All changes to the configuration of tested items will be documented by redline markups to the controlled design documentation. These include pen and ink changes to test procedures, draft operating procedures, and redline drawing markups. All redline changes must receive the final approval of the test engineer. Approvals will be documented by the test engineer's initials and date on the redline item. Lack of immediate redline approval does not constitute a test hold. Continued test progress is at the discretion of the test performer.
- 4.2.3 A test logbook will be maintained by the test performer(s). The test engineer shall be the designated logbook custodian. All pertinent observations, off-normal events, sketches, photographs, etc., shall be logged. Chronological tests conducted shall also be logged. All logged entries shall be signed and dated. Additional notes or entries relating to a procedure data sheet entry field or information shall be adequately referenced to the appropriate section of this procedure.

4.3 TEST CONFIGURATION

- 4.3.1 Drawings, sketches, figures, and other engineering documents which establish the process equipment test configuration shall be recorded on the Test Configuration Documentation List (Appendix B). The list shall include all configuration documentation for major equipment items, ancillary equipment items, and tooling.
- 4.3.2 Listed configuration documentation items are not a part of this document for the purpose of approval unless specifically included as a part of this procedure for approval.
- 4.3.3 Listed configuration documentation are independently approved and controlled by the applicable document control procedure.
- 4.3.4 For the purpose of the control of test configuration, copies of the listed documents which are part of the controlled test procedure package (per Section 4.4) shall be the justification basis for change control or finalization of the listed documents.
- 4.3.5 All items marked "Included" in Appendix B shall be marked as TEST CONTROL COPY and shall be included in the controlled test procedure package for the purpose of conducting the test. The exception to this requirement is for unmodified, manufactured equipment which the configuration documentation is a manufacturer's part number.

4.4 PROCEDURE CONTROL

4.4.1 A controlled test procedure package shall be used for testing and shall include the following:

- A single copy of this test procedure marked TEST CONTROL COPY.
- All listed items per Section 4.3 marked TEST CONTROL COPY.
- The test logbook marked TEST CONTROL COPY to record test performer remarks, observations, and data.
- Other data sheets, travelers, and information directly applicable to testing which are required will be marked TEST CONTROL COPY.

4.4.2 All items of the completed test procedure shall be date stamped prior to completing the test readiness review checklist per Section 8.2. All package deficiencies shall be noted on the review checklist.

4.5 RETEST PROCEDURE CONTROL

4.5.1 If retest is required, additional copies of applicable procedure sections or data sheets of this test procedure may be used or new procedures per Section 8.0 may be used.

4.5.2 The addition of procedure sections to be used for retest shall be added as Appendix F (Retest Procedure and Data Sheets), noted in the test, and concurred with by the WHC QA representative. All additions shall be marked TEST CONTROL COPY.

4.5.3 Minor procedure changes such as editorial changes to a step, clarification of a step or steps, or limited sequential changes of steps, and changes which do not fall in the categories of Section 8.0, shall be noted in the procedure by redline entries, noted in the test giving the reason for the change, and initialed and dated by the test engineer. Elimination or addition of a step which requires QC verification signature will require a hold point for QA review and approval.

4.5.4 Documentation not marked TEST CONTROL COPY shall not be used for testing and shall not be present in the test area.

4.6 OPEN ITEMS

Items and actions identified during the conduct of testing which require future resolution/completion shall be noted on data sheets and in the test logbook. Identified open items shall subsequently be entered into the test completion report to assure final closeout.

5.0 TEST DESCRIPTION

5.1 TEST EQUIPMENT

Test equipment lists, descriptions and drawings/sketches, if not included in the Test Configuration Documentation List (Appendix B), will be included as an attachment to the traveler (Appendix E).

5.2 ANCILLARY EQUIPMENT AND TOOLS

All ancillary equipment and tools required for conduct of the test will be listed in an attachment to the traveler (Appendix E).

6.0 TEST FACILITY

Testing of sludge equipment will be conducted in the 305 building Cold Test Facility. After acceptance testing has been completed and approved, the accepted equipment may be relocated to 105-KE Basin for installation and use.

7.0 SAFETY

- A Job Hazard Analysis (JHA) form specific to this test may be required in accordance with WHC-CM-4-3, Standard A-3. Existing JHAs may also be applicable.
- The applicable JHAs for this test are listed in Appendix D (Job Hazard Analysis and Material Safety Data Sheets).
- The applicable Material Safety Data Sheets (MSDSs) for this test are listed in Appendix D.
- All applicable JHAs and MSDSs shall be posted or located in the test facility test area.
- All test area personnel shall observe all safety precautions outlined in the MSDS and JHA.
- Pre-job briefings for personnel involved in testing shall be conducted and documented in Appendix G.

8.0 TEST PROCEDURE

8.1 TEST PERFORMER ASSIGNMENT

The test performer for this test procedure is _____.

8.2 TEST READINESS REVIEW

Prior to proceeding with Section 8.3, complete the test readiness review per the checklist in Appendix C (Test Readiness Review Checklist).

8.3 TEST PROCEDURE STEPS

Traveler forms, as required by the following procedure steps, are included in Appendix E.

Generally, Sections 8.3.1 through 8.3.8 are to be accomplished in sequence.

8.3.1 Perform the pre-operational checkout steps per test procedure traveler operation 1.0, "Pre-operational Checkout."

Completed: _____ _____
 Test Performer Date

8.3.2 Perform calibration steps per test procedure traveler operation 2.0, "Calibration Checks."

Completed: _____ _____
 Test Performer Date

8.3.3 Attach equipment list per test procedure traveler operation 3.0.

Completed: _____ _____
 Test Performer Date

8.3.4 Attach test layout/schematic per test procedure traveler operation 4.0.

Completed: _____ _____
 Test Performer Date

8.3.5 Perform equipment setup per test procedure traveler operation 5.0.

Completed: _____ _____
 Test Performer Date

8.3.6 Perform the test per test procedure traveler operation steps listed after operation 5.0.

8.3.7 Perform 305 test procedure traveler final verification (last operation in traveler).

Completed:

Test Performer

Date

8.3.8 Training objectives, if required, are accomplished through a separate "Training Plan" but training objectives may also be accomplished throughout this test procedure execution. The traveler will have a hold point on equipment removal to assure completion of training requirements.

Completed:

Test Performer

Date

APPENDIX A

SIGNATURE VERIFICATION DATA SHEET

APPENDIX B

TEST CONFIGURATION DOCUMENTATION LIST

APPENDIX C

TEST READINESS REVIEW CHECKLIST

APPENDIX C

TEST READINESS REVIEW CHECKLIST

Date _____

REVIEWERS

NAME (PRINT)	POSITION	SIGNATURE	DATE

CHECKLIST

1. Is this test procedure released?

Yes _____ No _____

Comments _____

2. Are there any open items which need to be addressed prior to start of testing?

Yes _____ No _____

Comments _____

APPENDIX C

TEST READINESS REVIEW CHECKLIST (CONTINUED)

3. Is the test procedure package per Section 4.4 complete and are all pages, attachments, etc., marked TEST CONTROL COPY?

Yes _____ No _____

Comments _____

4. Are all JHAs and MSDSs required by the procedure posted or located in the test area?

Yes _____ No _____

Comments _____

5. Is all equipment per Section 5.1 available at the test area for installation?

Yes _____ No _____

Comments _____

6. Are all test materials per Section 5.2 available at the test area?

Yes _____ No _____

Comments _____

7. Are the facility support systems available in the test area?

Yes _____ No _____

Comments _____

APPENDIX D

**JOB HAZARD ANALYSIS
AND
MATERIAL SAFETY DATA SHEETS**

APPENDIX E

TRAVELER FORM

WHC-SD-SNF-TC-001, REV. 0
APPENDIX E

TEST TRAVELER		Page <u>1</u> of <u> </u>	Number <u> </u>
Job Description		Work Order No.	Prepared by
System Engineer Approval	Phone	Date Required	Approval Designator
System Manager Approval		305 Bldg Manager Approval	Date
		Safety Approval	Date
Operation Number	Test Instruction	Ref., Dwg., Proc., Spec.	Completion Sig/Stamps
Date			Notes
1.0	Pre-Operational Checkout		Q _____ T _____ N _____ E _____ C _____
1.1	Verify all test performer blanks in Section 8.0 and Appendixes A,B,C, and D are completed. Also stamp "TEST CONTROL COPY" per Section 4.4 on entire procedure.		Q _____ T _____ N NA _____ E _____ C NA _____
1.2	Conduct a "pre-job briefing" of operations, including a review of all procedures, drawings and other engineering documents required to complete the test. Signoff Appendix G.		Q _____ T _____ N NA _____ E _____ C NA _____
1.3	Verify that performance criteria are included as Attachment 1 to this traveler.		Q _____ T _____ N NA _____ E _____ C NA _____
2.0	Calibration Checks: Verify that all instruments and equipment have current calibration stickers.		Q _____ T _____ N NA _____ E _____ C NA _____

E = Engineer

Q = QA Inspector

T = Technician

C = Craft

N = NDE Inspector

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APPENDIX E

TEST TRAVELER (Continuation Sheet)			Page 2 of _	Number	
Operation Number	Test Instruction	Ref., Dwg., Proc., Spec.	Completion Sig/Stamps	Date	Notes
3.0	Issue and verify the equipment list (Attachment 2).		Q _____ T _____ N NA _____ E _____ C NA _____		
4.0	Complete and verify the test layout/schematic (Attachment 3).		Q _____ T _____ N NA _____ E _____ C NA _____		
5.0	Set up the test equipment per the test layout/schematic.		Q _____ T _____ N _____ E _____ C _____		
<i>Additional operation steps should be inserted here as required.</i>					
Last Operation	Verify that all steps in this traveler have been completed.		Q _____ T _____ N NA _____ E _____ C NA _____		
List of Required Attachments: 1. Performance Criteria 2. Equipment List 3. Test Layout/Schematic Optional Attachment: 4. Acceptance Criteria for K Basin Equipment					

E = Engineer

Q = QA Inspector

T = Technician

C = Craft

N = NDE Inspector

APPENDIX F

RETEST PROCEDURE AND DATA SHEETS

APPENDIX G

PRE-JOB BRIEFING ATTENDANCE FORMS

HANFORD JOB HAZARD ANALYSIS CHECKLIST

Page 1 of _____

Prepared By _____	Date _____	Area _____	Bldg. _____
Scope/Description: _____			<input type="checkbox"/> New <input type="checkbox"/> Revised
Emergency Contact Person(s): Primary: _____ Secondary: _____ Emergency Radio/Phone Number: _____			JHA Number (not required): _____

Specific Work Location(s): _____

KNOWN OR POTENTIAL HAZARDS

	Yes	No	✓	●	Reference		Yes	No	✓	●	Reference
1. Radiation Area Work			✓	●		10. Respiratory Hazards			✓	●	
2. Hazardous Waste Operations			✓	●		11. Electrical Hazards			✓	●	
3. Confined Space Entry			✓	●		12. Lock and Tag			✓	●	
4. Cutting/Welding				●		13. Scaffolding					
5. Roof Work						14. Aerial Lifts			✓	●	
6. Fall Hazards (> = 10')						15. Asbestos Removal			✓	●	
7. Excavation/Trenching				●		16. Other (see JHA Sht. 2):					
8. Asbestos Inspection Report				●		✓ = Formal training required. ● = Items that require a permit/form/report.					
9. Hazardous Materials			✓								

Other Hazards	Yes	No	Control Measures	
1. Temperature Extremes				
2. Noise				
3. Poor Lighting				
4. Animals/Insects				
5. Process Chemicals/Steam				
6. Dust				
7. Flammable/Combustible Materials				
8. Ladders				
9. Wet/Slippery Floors				
10. Uneven Terrain				
11. Open Excavations/Trenches				
12. Adjacent Water Hazard				
13. Vehicle Traffic				
14. Heavy Equipment				
15. Rigging Operation				
16. Manual Lifting				
17. Power Tools				
18. Pinch Points				
19. Falling Objects				
20. Sharp Objects				
21. Overhead Obstructions				
22. Site Control (Signs/Barricades)				
23. Remote Work Area				
24. Other (see JHA Sht. 2):				

MINIMUM DRESS REQUIREMENTS: _____

APPROVALS

Does further evaluation of the job steps, associated hazards, or safety measures need to be performed? Yes No
 If Yes, continue job hazard analysis on the following pages.

Supervisor, Person in Charge
(Signature)

Industrial Safety/Hygiene
(Signature)

