DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	G. A. Ritter	Date 1/26/95
Project Title/Work Order		EDT No. 609853
Acceptance Test Report, 241-SY-101 Flexible Receiver System, Phase II Testing		ECN No. NA

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
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Page 1 of 1

1. EDT 609853

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241-SY-101	G. A. Ritter	NA
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See attached Acceptance Test Report for the 241-SY-101 Flexible Receiver System Phase II Testing for your approval.		NA
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1	1	Cog.Eng. GA Ritter	G A Ritter	1/26/95	H0-38	OSTI (2)			L8007		
1	1	Cog. Mgr. CE Hanson	C E Hanson	1/27/95	H5-09						
1	1	QA ML McElroy	M L McElroy		S1-57	2-2-95					
1	1	Safety LS Krogsrud	L S Krogsrud for MJO		R3-08						
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		Proj/Prog.		2-2-95							
1	1	Other MJ Ostrom	M J Ostrom		H5-68						

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WHC Information Release Administration Specialist:

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V.L. Birkland

SUPPORTING DOCUMENT

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Phase II
mitigation
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flexible receiver

6. Author

Name: G. A. Ritter

Signature

Organization/Charge Code 8D520/N2B2K

7. Abstract

This report summarizes the results of the load testing of the 241-SY-101 Flexible Receiver System containment bag performed at the MASF Facility. This acceptance test verified the strength of the containment bag to ensure that the bag could support waste that may drain from the pump internals during removal and handling of the test mixer pump from Tank 241-SY-101.

8. RELEASE STAMP

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2.1 TEST METHOD AND TEST EQUIPMENT 1
2.2 TEST EXCEPTIONS 2

3.0 TEST RESULTS 2

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APPENDIX A - ACCEPTANCE TEST PROCEDURE TEST CONTROL COPY A-1

ACCEPTANCE TEST REPORT
241-SY-101 FLEXIBLE RECEIVER SYSTEM
PHASE II TESTING

1.0 INTRODUCTION

This document summarizes the results of the phase II acceptance test of the 241-SY-101 Flexible Receiver System (FRS). The FRS is one of six major components of the Equipment Removal System, which has been designed to retrieve, transport, and store the test mixer pump currently installed in Tank 241-SY-101. The purpose of this acceptance test is to verify the strength of the containment bag and bag bottom cinching mechanism. It is postulated that 68 gallons of waste could be trapped inside the pump internals. The bag must be capable of supporting this waste if it shakes loose and drains to the bottom of the bag after the bag bottom has been cinched closed. This test encompasses test requirements for the Phase II test as defined in WHC-SD-WM-TP-257, *Test Plan for Qualification Testing of the 241-SY-101 Flexible Receiver System.*

This acceptance test was performed at the Maintenance & Storage Facility (MASF) Facility in the 400 area on January 23, 1995. The test was performed following JCS work package #4A-94-80/W and witnessed by a TWRS Quality Assurance representative and the FRS cognizant engineer. Funding for this test was provided by the 101-SY Hydrogen Mitigation Program.

2.0 DESCRIPTION OF TEST

2.1 TEST METHOD AND TEST EQUIPMENT

The details of the test are given in Appendix A, which contains the test control copy of the acceptance test procedure (ATP). A brief summary of the test is given in this section. Phase II testing for load holding capability of the containment bag was performed by using a mock containment bag that was approximately 17.4 m (57 feet) long and was without the absorbent lining material. The pump cap assembly was installed on a test fixture that mocks up the top of the SY-101 mixer pump. The containment bag was then attached to the pump cap and the entire assembly was suspended by the MASF overhead crane. A load cell was installed below the crane load block for measuring the weight of water added to the bag. The bottom of the bag was cinched and raised to one side using the bag cinching mechanism.

The bag assembly was then hoisted above the MASF Large Diameter Cleaning Vessel (LDCV) to catch any water if bag failure occurred. The LDCV is a large water tank that has been used for performing run-in testing of the SY-101 mixer pump. A small vertical slit was cut in the bag and the water supply hose was inserted. The bag was then filled with 910 kg (2000 lb.) of water to load the bag with a test weight. The bottom of the bag was closely observed during the test to identify and leakage or holes in the bag. After 910 kg (2000 lb.) of water had been added, the load was held for approximately 40 minutes. To verify the bag was not held up in the LDCV because of expansion of the bag bottom from filling with water, the crane was raised up and down

and the bag was jostled by MASF Facility personnel. No change in the load cell reading was observed. There was no indication of leakage or damage to the bag.

The bag was then lowered into the LDCV to release the water. After the water had drained, the bag was lowered to the ground and laid out from end to end to inspect for damage. Key areas inspected consisted of the grommets on the top and bottom of the bag, the bag material around the band clamps, the cinch mechanism/buckle assembly, and the bag material surrounding the buckle assembly. No damage was found and the test was considered successful.

2.2 TEST EXCEPTIONS

Three test exceptions to the original ATP occurred and are documented in Appendix A. The first exception is that a "secondary bag" between the primary bag and pump cap was not used; the primary bag attaches directly to the pump cap, which is a simplified design. The second test exception is that the test was performed at the MASF Facility above the LDCV and not at the Crane & Rigging Facility in the 600 area. Finally, test exception #3 consisted of using a load cell to directly measure the weight of water added to the bag instead of measuring the volume of water and calculating the weight.

3.0 TEST RESULTS

The results for this acceptance test, taken from Appendix A, are summarized in the table below. The uncertainties on the load cell reading are ± 9 kg (± 20 lb.) The measured weight added to the bag was 920 kg (2020 lb.).

	Time	Load Cell Reading kg (lb.)
Begin filling water	1:55 p.m.	455 (1000)
Stop filling water	2:15 p.m.	1370 (3020)
Drain water	2:55 p.m.	1370 (3020)

4.0 CONCLUSIONS AND RECOMMENDATIONS

The bag assembly supported the weight of 920 kg (2020 lb.) of water with no leakage or damage to the bag. This value meets the acceptance criteria of 910 kg (2000 lb.) of water and therefore the results were found to be acceptable. The maximum volume of liquid expected to be held up in the pump internals is 258 L (68 gallons), which corresponds to 410 kg (910 lb.). This test weight gives just over a safety factor of 2. The bag also supported a

small shock load while it was filled with water when the crane hoisted the bag assembly up and down. Based on the strength rating of the bag components, the bag assembly should support 2 - 3 times the test weight of 910 kg (2000 lb.).

5.0 REFERENCES

WHC, 1994, *Test Plan for Qualification Testing of the 241-SY-101 Flexible Receiver System*, WHC-SD-WM-TP-257, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995a, *Flexible Receiver Drawing Tree*, drawing H-2-821385, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995b, *Flexible Receiver Assembly*, drawing H-2-821386, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995c, *Flexible Receiver Blast Shield Assembly*, drawing H-2-821387, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995d, *Flexible Receiver Bag Assembly*, drawing H-2-821391, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995e, *Flexible Receiver Installation*, drawing H-2-821392, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995f, *Flexible Receiver Pump Cap*, drawing H-2-821393, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995g, *Flexible Receiver Mock Pump Top*, drawing H-2-821394, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

APPENDIX A - ACCEPTANCE TEST PROCEDURE TEST CONTROL COPY

TEST CONTROL COPY

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35 Station 21

ENGINEERING DATA TRANSMITTAL

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241-SY-101	G. A. Ritter	NA
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See attached Acceptance Test Procedure for the 241-SY-101 Flexible Receiver System Phase II Testing for your approval.		NA
		10. System/Bldg./Facility: 241-SY-101
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1	1	Cog.Eng.	GA Ritter	10/25/94	H0-38						
1	1	Cog. Mgr.	CE Hanson	10/25/94	H5-09						
1	1	QA	ML McElroy	10/27/94	S1-57						
1	1	Safety	LS Krogsrud		H5-08						
		Env.									
1	1	Proj/Prog.	JW Lentsch	10/25/94	R2-78						
1	1	Other	MJ Ostrom	10/25/94	H5-68						

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G.A. Ritter Signature of EDT Originator — Date: 10/25/94	C. E. Hanson Authorized Representative for Receiving Organization — Date: 10/25/94	H. Toffer Cognizant/Project Engineer's Manager — Date: 10-25-94	[] Approved [] Approved w/comments [] Disapproved w/comments

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Niki Solis

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6. Author

Name: G. A. Ritter

G L A. Ritter

Signature

Organization/Charge Code 8D520/N2B2K

7. Abstract

This Acceptance Test Procedure is for the 241-SY-101 Flexible Receiver System. The procedure will test the strength of the containment bag assembly by subjecting the bag assembly to a load test.

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ACCEPTANCE TEST PROCEDURE
241-SY-101 FLEXIBLE RECEIVER SYSTEM
PHASE II TESTING

1.0 INSTRUCTION SECTION

1.1 PURPOSE/SCOPE

The purpose of this acceptance test procedure is to provide a means of verifying that the Flexible Receiver System (FRS) is capable of performing its intended function adequately by meeting specified test criteria. Specifically, this procedure will test the strength of the containment bag and bag bottom closure mechanism. This test procedure encompasses test requirements for the Phase II test as defined in WHC-SD-WM-TP-257, *Test Plan for Qualification Testing of the 241-SY-101 Flexible Receiver System.*

The Phase II test consists of a load test of the containment bag for the FRS. It is postulated that 68 gallons of waste could be trapped inside the pump internals. The bag must be capable of supporting this waste if it shakes loose and drains to the bottom of the bag after the bag bottom has been cinched closed. All parts of this test must be completed before the FRS is either rejected or accepted. Testing is scheduled to begin in late-November, 1994 and will take approximately 3 days to complete.

1.2 REFERENCES

WHC, 1994a, *Test Plan for Qualification Testing of the 241-SY-101 Flexible Receiver System*, WHC-SD-WM-TP-257, Westinghouse Hanford Company, Richland, Washington.

WHC, 1994b, *Flexible Receiver Drawing Tree*, drawing H-2-821385, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1994c, *Flexible Receiver Bag Assembly*, drawing H-2-821391, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1994e, *Flexible Receiver Installation*, drawing H-2-821392, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1994f, *Flexible Receiver Pump Cap*, drawing H-2-821393, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

WHC, 1994g, *Flexible Receiver Mock Pump Top*, drawing H-2-821394, Rev. 0, Draft, Westinghouse Hanford Company, Richland, Washington.

DOE-RL, 1992, *Hanford Site Hoisting and Rigging Manual*, DOE-RL-92-36, U.S. Department of Energy Field Office, Richland, Washington.

1.3 RESPONSIBILITIES

1.3.1 Equipment Removal System Cognizant Manager

- Responsible for overall control of the Equipment Removal System (ERS), including the testing of the FRS.
- Assigns responsibilities related to the ERS, which includes the FRS.

1.3.2 Equipment Removal System Project Engineer

- Identifies and specifies testing requirements for the ERS.
- Approves test procedures and criteria changes as required.
- Provides technical expertise during testing of the FRS.
- Approves acceptability of test activities and results.

1.3.3 FRS Cognizant Engineer

- Responsible for preparing test specifications and procedures.
- Identifies equipment and facilities for the acceptance test.
- Acts as a liaison between the participants in FRS testing.
- Ensures informal testing and inspection is complete.
- Provides guidance and technical expertise during the acceptance test.
- Designates a recorder for this ATP.
- Takes necessary action to clear exceptions to this ATP.
- Approves acceptability of test activities and results.

1.3.4 Quality Assurance Manager

- Assigns and manages Quality Assurance representatives to participate in the FRS testing.

1.3.5 Quality Assurance Representative

- Approves Acceptance Criteria changes.
- Witnesses the acceptance test.

- Evaluates results of testing and approves field changes and exceptions to the ATP.
- Assists in maintenance and control of test records.

1.3.6 Safety Engineering

- Reviews the test procedure and specifications for safety conformance.
- Provides test facility inspection and support as needed to conduct testing within the safety standards of WHC.

1.3.7 Equipment, Design, and Fabrication Group Manager

- Assigns personnel to perform this acceptance test.
- Responsible for training of personnel who will be performing the test.

1.3.8 Equipment, Design, and Fabrication Group Technicians

- Responsible for transporting equipment to the test facility.
- Responsible for equipment set-up and instrument calibration, if necessary.
- Assists the FRS cognizant engineer in performing this acceptance test.

1.3.9 Hoisting and Rigging Manager and Operators

- Responsible for providing a facility for testing.
- Responsible for providing a crane and rigging hardware for performing this acceptance test.
- Responsible for operating the crane during acceptance testing per the *Hanford Site Hoisting and Rigging Manual*, DOE-RL-92-36.

1.3.10 Test Recorder

- Observes test, records test data using black ink, and maintains Test Log (Appendix D).
- Records names of all designated personnel on the Test Execution sheet (Appendix E) on the Test Control copy of the ATP prior to testing.

- Initials and dates every test step on the Test Control copy as it is completed, next to the step number or on a table, when provided.
- Records authorized field changes to the ATP.
- Records exceptions and test steps that are not performed on a Test Exception sheet (Appendix C). Additional Exception sheets will be reproduced as needed.
- Assigns page numbers to Test Data sheets and Test Exceptions sheets after the ATP is complete, and submits the completed Test Control copy of the ATP for approval signatures.

1.4 SYSTEM DESCRIPTION

The FRS is one of six major components of the Equipment Removal System, which has been designed to retrieve, transport, and store the existing mixer pump that may require removal from Tank 241-SY-101. The FRS is designed to contain the waste during the removal and handling of the pump prior to insertion of the pump into the storage container.

The FRS consists of a containment bag, pump cap, blast shield, and gamma detector system. The containment bag is a long cylindrical fiber-reinforced plastic bag that is slipped over the pump as it is lifted from the tank. The bag is 1.8 m (70 in.) in diameter, and approximately 17.7 m (58 ft.) long. A manually operated cinching mechanism closes the bag bottom and pulls it up to one side of the pump. The pump cap is a two-piece sheet-metal cap that is used to seal off the top of the pump above the mounting flange and provides a sealing interface between the bag and pump. The blast shield is a large diameter steel cylinder that provides a sealing surface to the load distribution frame (LDF) and contains the spray water from the high pressure nozzles located in the LDF. The blast shield protects the containment bag from the impingement of the wash water blast and also supports the containment bag prior to the pump removal. The gamma detector system is mounted to the base of the blast shield to measure dose rates as the pump is lifted from the tank.

Other equipment associated with the FRS includes the lifting yoke, the yoke brace, and the aluminum stages. The lifting yoke is a below-the-hook lifting device that is used to lift the test mixer pump. It attaches to the two lugs on the pump mounting flange. The yoke brace secures the yoke to the upper pump column so that the crane can be disconnected from the yoke and the FRS can be lowered over the yoke and onto the LDF. The aluminum stages serve as access platforms for rigging and manual manipulation of attachment hardware.

1.5 TEST CONDITIONS AND EQUIPMENT REQUIRED

The test for Phase II will be conducted at the Hoisting and Rigging Facility in the 600 Area. The test will be outside the building where water drainage can be provided.

Phase II testing for load holding capability of the containment bag will be performed by using a mock containment bag that is approximately ~~12.2 meters~~ 57 (~~40~~ feet) long and is without the ~~elastic cords and~~ absorbent lining material. The bag assembly will be suspended by a crane and the bottom of the bag will be cinched and raised to one side using the bag cinching mechanism. The bag will then be filled with a measured ~~volume~~ weight of water to load the bag with a test weight. The ~~volume~~ weight of water to be added is 3000 lb ~~908 L (240 gal.)~~ or until the bag fails. ~~This volume corresponds to a test weight of approximately 910 kg (2000 lb.)~~. If failure occurs, the ~~volume~~ weight of water added will be recorded. The bottom of the bag will be closely observed during the test to identify any significant leakage or holes in the bag.

The following equipment will be required for this ATP:

- Mock primary containment bag of approximately ~~12.2 m~~ (~~40~~ ft.) 57 length equipped with a bag bottom cinching mechanism. The bags will be without the ~~elastic cords and~~ absorbent liner. ~~The bag will feature a fill valve in the side near the bottom for connecting a hose to add water to the bag.~~
- ~~Secondary bag, which connects primary bag above to the pump cap assembly.~~
- Test fixture to mock up top of pump.
- Pump cap assembly.
- Rigging for supporting the containment bag and test fixture.
- A crane with a minimum lift height of 12.2 m (~~40~~ 60 ft) and 1800 kg (2-ton) lift capacity. As an alternate to the crane, a support structure to suspend the load may be used with a hoisting device for lifting and lowering the load.
- A water supply with hoses and connectors.
- A LOAD CELL ~~flow totalizer~~ with a minimum accuracy of ± ~~5%~~ ok and a minimum range of ~~950 L (250 gal.)~~ 3000 lb for measuring the volume of water added to the bag.

1.6 ACCEPTANCE TEST

The test is to be performed per the following sequence of step-by-step instructions.

1.6.1 Preliminary Conditions

The following shall be satisfactorily completed before performing Section 1.6.2.

✓ 1.6.1.1 All equipment (listed in Section 1.5) required for the test is located at the test site.

✓ 1.6.1.2 The ~~primary and secondary~~ (SEE TE#1) containment bag~~s~~ ~~have~~ (HAS) been inspected for workmanship and for compliance with design.

✓ 1.6.1.3 The pump cap assembly has been inspected for workmanship and for compliance with design.

✓ 1.6.1.4 All rigging meets the inspections requirements in the *Hanford Site Hoisting and Rigging Manual*, DOE-RL-92-36.

✓ 1.6.1.5 All nameplates, equipment tags, etc. are installed/attached.

✓ 1.6.1.6 All test instruments requiring calibration have a currently valid calibration stamp attached that indicates a calibration traceable to the National Institute of Standards and Technology.

✓ 1.6.1.7 Personnel responsible for directing and witnessing the performance of the test described in this ATP have read and understand their roles.

✓ 1.6.1.8 The location for the test will provide adequate drainage for draining the water from the bag and for a sudden release of a large volume of water in the event of a bag failure. TEST PERFORMED AT MASF FACILITY IN THE 400 AREA.

✓ 1.6.1.9 If the ATP is performed outside the 200 Areas, the Safety Organization for that area shall provide overview at the ATP. If the ATP is performed in the 200 Areas, TWRS Industrial Health and Safety will provide overview. The safety representatives have performed a job walk down, a Pre-Job Safety Meeting has been conducted, and a Hanford Job Hazard Analysis Checklist has been completed. JCS PACKAGE # 4A-94-80/W

✓ 1.6.1.10 All personnel have hard hats to be worn during crane operation.

1.6.2 Bag Assembly Setup

✓ 1.6.2.1 Verify that all of the steps in section 1.6.1 are complete.

✓ 1.6.2.2 Install pump cap assembly on the mock pump test fixture by inserting and tightening the provided bolts per drawing H-2-821392.

N/A ~~1.6.2.3 Attach secondary bag to pump cap using pump cap band clamp per drawing H-2-821392.~~ SEE TE #1 GHK 1/23/95

✓ 1.6.2.4 Attach ~~secondary bag to primary~~ bag to pump cap using two band clamps per drawing H-2-821392.

N/A ~~1.6.2.5 Bundle/compress the secondary bag on top of the pump cap assembly.~~ SEE TE#1 GHK 1/23/95

✓ 1.6.2.6 Attach rigging to the mock pump test fixture and lift the bag assembly to an elevation that will locate the bottom of the

LDCV SEE TE#2

bag approximately 0.610 meters (2 feet) above the ~~ground~~. Using the bag cinching mechanism, cinch the bottom of the bag.

1.6.2.7 Connect the hose from the building standard water supply ~~to the flow totalizer. Connect the hose from the flow totalizer to the fill valve on the bag. Verify that the flow totalizer is located a safe distance from the bag in case of bag failure.~~ SEE TE#3 AND INSERT HOSE THROUGH A VERTICAL SLIT IN THE BAG.

1.6.3 Test Procedure

1.6.3.1 Verify that all of the steps in section 1.6.2 have been performed.

1.6.3.2 Verify that the ~~flow totalizer~~ LOAD CELL, SEE TE#3 (CORRECT ALL PLACES) is functional and record the initial ~~totalizer~~ LOAD CELL reading.

1.6.3.3 Add ~~908 L (240 gal.)~~ 2000 lb. to the initial ~~totalizer~~ LOAD CELL reading and record this value on the test data sheet.

1.6.3.4 A technician is required to man the water supply valve for the duration of this test. Open the water supply valve and start adding water to the bag. Approximate fill rate should be 38 - 76 L/min. (10 - 20 gpm). Verify that the ~~flow totalizer~~ LOAD CELL is indicating ~~flow and volume~~ ADDITIONAL WEIGHT.

NOTE: Observe the ~~totalizer~~ LOAD CELL indication as the bag is filling to avoid exceeding the maximum ~~volume~~ WEIGHT of ~~908 liters (240 gal.)~~ 2000 lb. The technician manning the water valve shall be ready to respond quickly to shut the valve if the bag fails so that the final ~~totalizer~~ LOAD CELL reading will be accurate.

1.6.3.5 Observe the bag for leaks while filling and record comments from observations on the Test Log (Appendix D). The ~~totalizer's volume~~ LOAD CELL WEIGHT indication at the occurrence of the leak should be recorded with the comments. Also, a rough estimate of the leak rate should be recorded.

1.6.3.6 Shut off water supply valve after ~~flow totalizer~~ LOAD CELL reading exceeds value recorded in step 1.6.3.3. Record final WEIGHT totalizer reading on the test data sheet. The ~~volume~~ of water added to the bag has reached ~~908 liters (240 gallons)~~ 2000 lb., and the test is considered complete.

1.6.3.7 Lower the bag assembly to the ~~ground~~ LDCV TO RELEASE WATER TE#2 and inspect for damage. Record a description of any damage on the Test Log. If no damage to the bag assembly occurred and no leaks occurred during the test, the bag has met its acceptance criteria for this test. If leakage occurred, an estimate of the total volume that leaked should be recorded on the test data sheet.

1.6.3.8 As the last step in this test, review the test to verify that all steps have been completed.

1.7 TEST DATA SHEETS

The Test Data Sheets are to provide a record of the test and to document any procedure steps requiring verification. Instructions for filling out the data sheets are provided below. The Test Data Sheets are provided in Appendix B.

1. Date: Record the date the test is performed.

2. Test Section Title: There are several sections of this acceptance test being performed, e.g., the preliminary conditions, equipment setup, etc.

3. Test Unit Number: Record the unit number of the test unit, if any.

4. Test Performed By: Print the name of the person performing the test.

5. Procedure Step Number: This column contains the test steps requiring verification.

6. Attribute: This column contains the item being verified or the parameter being measured/recorded.

7. Value: This column is for recording the quantitative or qualitative measure of the item being verified, i.e. a line voltage may have a value of 120V, whereas a pump may have a value of ON or OFF.

8. Range: This column indicates the anticipated value of the item being measured. If a value is recorded for later analysis, there may not be a tolerance associated with it.

9. Accept/Reject: Indicate whether the value obtained is acceptable in comparison with the Range. If a value is recorded for later analysis, the accept/reject decision may be determined later.

10. Comment: Provide any pertinent observations or comments. If the value is rejected, give a justification for denial.

11. Complete Sig/Init: Initial in this column to indicate the step has been completed.

1.8 TEST EQUIPMENT SHEETS

The Test Equipment Sheets provide a record of equipment used for the acceptance test. The Test Equipment Sheets are provided in Appendix A and can be copied as needed. Provide a description of the equipment used and record the equipment serial number. For instrumentation, record the calibration expiration date, if applicable.

2.0 CHANGE CONTROL AND EXCEPTIONS TO ACCEPTANCE TEST SECTION

Acceptance testing is to be conducted in accordance with the steps and requirements specified in this procedure. Any required field changes or other discrepancies must be recorded as an exception and resolved/approved following the method described in this section.

2.1 TEST EXECUTION

The acceptance test procedures detailed in Section 1.6 shall be performed in sequential steps starting with Section 1.6.1. As required by Section 1.3.10, the Recorder will initial and date every test step in the space provided on the Test Control copy of the ATP as each step is completed. Any step that requires verification must also be recorded on the Test Data Sheet. The Test Execution Sheet (Appendix E) will be completed per the following directions.

2.1.1 Without Exception

2.1.1.1 Check applicable space on the Test Execution Sheet (Appendix E) to show that the ATP has been performed and no exceptions have been recorded.

2.1.1.2 Sign and date in the spaced provided in the Test Execution and Test Approval and Acceptance sections of the Test Execution Sheet.

2.1.1.3 Distribute the Test Control copy of the ATP as required.

2.1.2 With Exception/Resolved

2.1.2.1 Check applicable space on the Test Execution Sheet to show that the ATP has been performed with exceptions recorded and resolved.

2.1.2.2 Sign and date in the spaced provided in the Test Execution and Test Approval and Acceptance sections of the Test Execution Sheet.

2.1.2.3 Distribute the Test Control copy of the ATP as required.

2.1.3 With Exception/Outstanding

2.1.3.1 Check applicable space on the Test Execution Sheet to show that the ATP has been performed with exceptions recorded, part or all of which are presently outstanding, unresolved.

2.1.3.2 Sign and date in the spaces provided in the Test Execution section of the Test Execution Sheet.

2.1.3.3 Distribute the Test Control copy of the ATP as required.

2.1.3.4 After all outstanding exceptions have been resolved, sign and date in the spaces provided in the Test Approval and Acceptance section of the Test Execution Sheet.

2.2 RECORDING AND RESOLVING EXCEPTIONS

2.2.1 GENERAL

Exceptions to the ATP are sequentially numbered and recorded on individual Exception Sheets (Appendix C). This enables case-by-case resolution, recording, approval, and distribution of each exception.

2.2.2 RECORDING

2.2.2.1 Number each exception sequentially as it occurs and record it on an Exception Sheet.

2.2.2.2 Enter name and organization of objecting party for each exception.

2.2.2.3 Enter planned action to resolve each exception when such determination is made.

2.2.3 RETEST/RESOLUTION

2.2.3.1 Record the action taken to resolve each exception. Action taken may not be the same as planned action.

2.2.3.2 When action taken results in an acceptable retest, complete Retest Execution section of the Exception Sheet.

2.2.3.3 When action taken does not involve an acceptable retest, strike out the Retest Execution and Acceptance section of the Exception Sheet. Resolve exception per section 2.2.4 below.

2.2.4 APPROVAL AND ACCEPTANCE

2.2.4.1 The Cognizant Engineer is responsible for resolving exceptions to the ATP and obtaining final approval and acceptance of exceptions by checking one of the following on the Exception Sheet:

- Acceptable Retest Performed: Applicable when Retest Execution and Acceptance section is completed.
- Exception Accepted-As-Is: Requires detailed explanation.
- Other: Requires detailed explanation.

2.2.4.2 The Cognizant Engineer signs and dates the Exception Sheet and obtains other approvals, if required.

2.2.5 DISTRIBUTION

Attach completed Exception Sheets to the Test Control copy of the ATP and distribute for final approval.

APPENDIX A - TEST EQUIPMENT SHEET
(Copy as needed)

TEST EQUIPMENT

Serial Number	Description	Calibration Exp. Date
33076	LOAD CELL	815-29-06-038 STOCK#
"	TRANS WEIGH MODEL 6260	"

APPENDIX B - TEST DATA SHEETS

TEST DATA SHEET

Date of test: 1/23/95			Test Unit Number:			
Test Section Title: Flexible Receiver Phase II Acceptance Test Test Performed By: MASF FACILITY			R = Recorder E = Cognizant Engineer Q = Quality S = Safety O = Other Defined: _____			
Procedure Step Number	Attribute	Value	Range	Accept/ Reject	Comment	Complete Sig/Init
1.6.2.1	Section 1.6.1	YES	Completed (yes)	A		E Q
1.6.3.1	Section 1.6.2	YES	Completed (yes)	A		E Q
1.6.3.2	~~totalizer~~ LOAD CELL initial reading	1000 lb.	Record	NA		E Q
1.6.3.3	Projected final ~~totalizer~~ LOAD CELL reading	3000 lb	Record	NA		E Q
1.6.3.4	Flow ~~totalizer~~ LOAD CELL function	YES	Functional (yes)	A		E Q
1.6.3.6	Final ~~totalizer~~ LOAD CELL reading	3020	greater than value in step 1.6.3.3	A		E Q
1.6.3.7	Bag assembly inspection	NO DAMAGE	Damage (none)	A		E Q
1.6.3.8	Section 1.6.3	YES	Completed (yes)	A		E Q

APPENDIX C - TEST EXCEPTION SHEET
(Copy as needed)

TEST EXCEPTION SHEET # 1

Test Title: Acceptance Test Procedure, 241-SY-101 Flexible Receiver System Phase II Testing			Test Item Number:	
EXCEPTIONS			**RESOLUTION**	
Procedure Step Number	Date	Description	Planned Action	Action Taken
1.6.1.1 1.6.2.3 1.6.2.5	1/23/95	SECONDARY BAG IS NO LONGER USED - DELETE STEPS 1.6.2.3 AND 1.6.2.5	/	/

OBJECTING PARTY: N/A

Recorder Date

RETEST EXECUTION AND ACCEPTANCE:

Date of test:			Test Unit Number:			
Test Section Title: Test Performed By:			R = Recorder E = Cognizant Engineer Q = Quality S = Safety O = Other Defined: _____			
Procedure Step Number	Attribute	Value	Range	Accept/ Reject	Comment	Complete Sig/Init

CORRECTION APPROVAL:

____ ACCEPTABLE RETEST PERFORMED

__X__ EXCEPTION ACCEPTED AS-IS
EXPLAIN: DESIGN SIMPLIFICATION TO NOT USE A SECONDARY BAG - CONNECT THE PRIMARY BAG DIRECTLY TO THE PUMP CAP ASSEMBLY.

____ OTHER
EXPLAIN: _____

1-25-95 1/23/95

Quality Date Cognizant Engineer Date

N/A

Safety Date

TEST EXCEPTION SHEET # 2

Test Title: Acceptance Test Procedure, 241-SY-101 Flexible Receiver System Phase II Testing			Test Item Number:	
EXCEPTIONS			**RESOLUTION**	
Procedure Step Number	Date	Description	Planned Action	Action Taken
1.6.2.6	1/23/95	TEST WAS PERFORMED ABOVE THE LOCU AT THE WRAP FACILITY INSTEAD OF ABOVE GROUND.	/	/

OBJECTING PARTY: N/A _____ _____
Recorder Date

RETEST EXECUTION AND ACCEPTANCE:

Date of test:			Test Unit Number:			
Test Section Title: Test Performed By:			R = Recorder E = Cognizant Engineer Q = Quality S = Safety O = Other Defined: _____			
Procedure Step Number	Attribute	Value	Range	Accept/ Reject	Comment	Complete Sig/Init

CORRECTION APPROVAL:

___ ACCEPTABLE RETEST PERFORMED

X EXCEPTION ACCEPTED AS-IS
EXPLAIN: _____

___ OTHER
EXPLAIN: _____

1-23-95 1/23/95
Quality Date Cognizant Engineer Date

N/A
Safety Date

TEST EXCEPTION SHEET # 3

Test Title: Acceptance Test Procedure, 241-SY-101 Flexible Receiver System Phase II Testing			Test Item Number:	
EXCEPTIONS			**RESOLUTION**	
Procedure Step Number	Date	Description	Planned Action	Action Taken
1.6.2.7	1/23/95	A LOAD CELL WAS USED INSTEAD OF A FLOW TOTALIZER TO MEASURE THE AMOUNT OF WATER ADDED TO THE BAG.	✓	✓

OBJECTING PARTY: N/A

Recorder Date

RETEST EXECUTION AND ACCEPTANCE:

Date of test:			Test Unit Number:			
Test Section Title:			R = Recorder E = Cognizant Engineer Q = Quality S = Safety O = Other Defined: _____			
Test Performed By:						
Procedure Step Number	Attribute	Value	Range	Accept/ Reject	Comment	Complete Sig/Init

CORRECTION APPROVAL:

___ ACCEPTABLE RETEST PERFORMED

X EXCEPTION ACCEPTED AS-IS
EXPLAIN: LOAD CELL WILL PROVIDE MORE ACCURATE MEASUREMENT OF TEST WEIGHT.

___ OTHER
EXPLAIN: _____

1-23-95 — Quality Date

G L A Litt 1/23/95 — Cognizant Engineer Date

N/A — Safety Date

APPENDIX D - TEST LOG SHEET
(Copy as needed)

TEST LOG

DATE/TIME	COMMENTS
1/23/95 1:55 p.m	BEGIN FILLING BAG W/WATER. INITIAL LOAD CELL READING IS EXACTLY 1000 lb – WEIGHT OF BAG, PUMP CAP + MOCK PUMP TOP
1/23/95 2:15 p.m	STOPPED FILLING BAG – LOAD CELL READING OSCILLATING BETWEEN 3020 + 3040 lb. NO LEAKS HAVE BEEN OBSERVED. CONTINUE TO HOLD LOAD ON BAG – LOAD WAS HELD FOR 40 MINUTES WITH NO CHANGE IN LOAD CELL READING.
1/23/95 2:55 p.m	STOP HOLDING LOAD ON BAG AND LOWER BAG DOWN INTO LOCU TO RELEASE WATER. TAKE BAG OUT OF LOCU TO INSPECT FOR DAMAGE. NO VISUAL DAMAGE TO THE BAG, AND BAG CAPTURE MECHANISM. TEST RESULTS ARE ACCEPTABLE!

APPENDIX E - TEST EXECUTION SHEET

TEST EXECUTION SHEET

Date: 1/23/95
Test Unit Number:

Document Number: WHC-SD-WM-ATP-092, Rev. 0

TEST PERSONNEL

Cognizant Engineer: GLENN A. RITTER

Recorder: GLENN A. RITTER

Safety: N/A

Quality: ERNEST N WEGENER

Others: KIM MATTIS, WASF FACILITY PERSONNEL:
JR VINCENT (WASF PIC) BRIAN BERGLIN (TEST ENGINEER)
JOHN LOZAN - (CRAFT PIC)

TEST EXECUTION

___ Without Exception X With Exception/Resolved ___ With Exception/Outstanding

G L A Ritter 1/23/95
Cognizant Engineer Date

G L A Ritter 1/23/95
Recorder Date

N/A
Safety Date

1-23-95
Quality Date

TEST APPROVAL AND ACCEPTANCE

G L A Ritter 1/23/95
Cognizant Engineer Date

1-23-95
Quality Date

N/A
Safety Date