

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 640790

Proj. ECN W-087-77

2. ECN Category (mark one) Supplemental <input type="checkbox"/> Direct Revision <input checked="" type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedeure <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	3. Originator's Name, Organization, MSIN, and Telephone No. DS McShane, FDNW, S2-54, 376-2201	4. USQ Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No TF-96-0835, Rev. 1	5. Date 4/29/97
	6. Project Title/No./Work Order No. Radioactive Liquid Waste Line Replacement/W-087/CR1508	7. Bldg./Sys./Fac. No. 222-S, 244-S, 242-S	8. Approval Designator N/A /SC3
9. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-W087-ATR-001, REV 0		10. Related ECN No(s). N/A	11. Related PO No. N/A

12a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 12b) <input checked="" type="checkbox"/> No (NA Blks. 12b, 12c, 12d)	12b. Work Package No. 2W-95-212 (Ref. only)	12c. Modification Work Complete N/A Design Authority/Cog. Engineer Signature & Date	12d. Restored to Original Condition (Temp. or Standby ECN only) N/A Design Authority/Cog. Engineer Signature & Date
---	---	--	--

13a. Description of Change  
WHC-SD-W087-ATR-001 was revised to add as follows:  
Change the document number to HNF-SD-W087-ATR-001 Rev. 1  
Add "Appendix A Retest of the Leak Detection System to the table of contents.  
Add Appendix A which is the results of the retest of the Leak Detection system.

13b. Design Baseline Document?  Yes  No SC-3

14a. Justification (mark one)

Criteria Change <input type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input type="checkbox"/>	Facility Deactivation <input type="checkbox"/>
As-Found <input type="checkbox"/>	Facilitate Const <input type="checkbox"/>	Const. Error/Omission <input checked="" type="checkbox"/>	Design Error/Omission <input type="checkbox"/>

14b. Justification Details  
The Retest of the Leak Detection System was required by Surveillance ISR-2W-96-12

15. Distribution (include name, MSIN, and no. of copies)

FDNW DISTRIBUTION	L. D. Goodwin-RFSH	T6-12
● Const Doc Control	O. A. Halvorson-LMHC	T4-07
	P. F. Kison-LMHC	T4-07
DISTRIBUTION	T. G. Montgomery-RFSH	T6-12
M. A. Cahill-RFSH	M. J. Sutey-LMHC	T4-08
J. N. Doeler-LMHC	D. M. Thornton-RFSH	T6-06
	R. P. Tucker-LMHC	T4-08

RELEASE STAMP

JUN 10 1997

DATE: HANFORD

STA: RELEASE ID:

34

19

# ENGINEERING CHANGE NOTICE

<b>16. Design Verification Required</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>17. Cost Impact</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">ENGINEERING <b>TBD</b></td> <td style="width: 50%;">CONSTRUCTION <b>TBD</b></td> </tr> <tr> <td>Additional <input type="checkbox"/> \$</td> <td>Additional <input type="checkbox"/> \$</td> </tr> <tr> <td>Savings <input type="checkbox"/> \$</td> <td>Savings <input type="checkbox"/> \$</td> </tr> </table>	ENGINEERING <b>TBD</b>	CONSTRUCTION <b>TBD</b>	Additional <input type="checkbox"/> \$	Additional <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$	<b>18. Schedule Impact (days)</b> <b>TBD</b> Improvement <input type="checkbox"/> Delay <input type="checkbox"/>
ENGINEERING <b>TBD</b>	CONSTRUCTION <b>TBD</b>							
Additional <input type="checkbox"/> \$	Additional <input type="checkbox"/> \$							
Savings <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$							

**19. Change Impact Review:** Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DDD <input type="checkbox"/>	Seismic/Stress Analysis <input type="checkbox"/>	Tank Calibration Manual <input type="checkbox"/>
Functional Design Criteria <input type="checkbox"/>	Stress/Design Report <input type="checkbox"/>	Health Physics Procedure <input type="checkbox"/>
Operating Specification <input type="checkbox"/>	Interface Control Drawing <input type="checkbox"/>	Spares Multiple Unit Listing <input type="checkbox"/>
Criticality Specification <input type="checkbox"/>	Calibration Procedure <input type="checkbox"/>	Test Procedures/Specification <input type="checkbox"/>
Conceptual Design Report <input type="checkbox"/>	Installation Procedure <input type="checkbox"/>	Component Index <input type="checkbox"/>
Equipment Spec. <input type="checkbox"/>	Maintenance Procedure <input type="checkbox"/>	ASME Coded Item <input type="checkbox"/>
Const. Spec. <input type="checkbox"/>	Engineering Procedure <input type="checkbox"/>	Human Factor Consideration <input type="checkbox"/>
Procurement Spec. <input type="checkbox"/>	Operating Instruction <input type="checkbox"/>	Computer Software <input type="checkbox"/>
Vendor Information <input type="checkbox"/>	Operating Procedure <input type="checkbox"/>	Electric Circuit Schedule <input type="checkbox"/>
OM Manual <input type="checkbox"/>	Operational Safety Requirement <input type="checkbox"/>	ICRS Procedure <input type="checkbox"/>
FSAR/SAR <input type="checkbox"/>	IEFD Drawing <input type="checkbox"/>	Process Control Manual/Plan <input type="checkbox"/>
Safety Equipment List <input type="checkbox"/>	Cell Arrangement Drawing <input type="checkbox"/>	Process Flow Chart <input type="checkbox"/>
Radiation Work Permit <input type="checkbox"/>	Essential Material Specification <input type="checkbox"/>	Purchase Requisition <input type="checkbox"/>
Environmental Impact Statement <input type="checkbox"/>	Fac. Proc. Samp. Schedule <input type="checkbox"/>	Tickler File <input type="checkbox"/>
Environmental Report <input type="checkbox"/>	Inspection Plan <input type="checkbox"/>	<input type="checkbox"/>
Environmental Permit <input type="checkbox"/>	Inventory Adjustment Request <input type="checkbox"/>	<input type="checkbox"/>

**20. Other Affected Documents:** (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision

**21. Approvals**

Signature	Date	Signature	Date
222-S Laboratory		Design Agent <i>AK Spool</i>	<u>5-2-97</u>
Design Authority <i>AK Spool</i>	<u>5/27/97</u>	PE <i>N/A</i>	_____
Cog. Eng. <i>M. R. ...</i>	<u>5/4/97</u>	QA <i>N/A</i>	_____
Cog. Mgr. <i>...</i>	<u>5/16/97</u>	Safety <i>N/A</i>	_____
QA	_____	Design <i>David M. Blue</i>	<u>5-2-97</u>
Safety	_____	Environ. <i>N/A</i>	_____
Environ.	_____	Other	_____
Tank Farms:			
Design Authority <i>...</i>	<u>5/16/97</u>		
Cog Engineer Jeff Doeler <i>JH Doeler</i>	<u>5/22/97</u>		
Cog Eng Manager	_____		

*\* Signatures were switched* (circled)

**DEPARTMENT OF ENERGY**  
Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

## W-087 Acceptance Test Report

**A. W. Joshi**

Fluor Daniel Northwest, Richland, WA 99352  
U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: W-087-77            UC:N/A  
Org Code: 476                Charge Code: CR1508  
B&R Code: 39EW21303        Total Pages: 53


Key Words: Acceptance Test Report for Project W-087 underground transfer line from 219S to 244S.

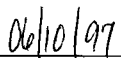
Abstract: An Acceptance Test Report for the controls and pumps of an underground transfer line.

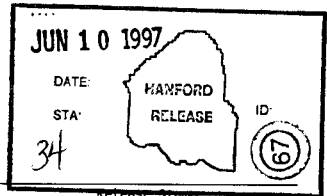
---

**TRADEMARK DISCLAIMER.** 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.

Printed in the United States of America. To obtain copies of this document, contact: Document Control Services, P.O. Box 950, Mailstop H6-08, Richland WA 99352, Phone (509) 372-2420; Fax (509) 376-4989.

  
Release Approval

  
Date



**Approved for Public Release**

RECORD OF REVISION

(1) Document Number  
 HNF-SD-W087-ATR-001

Page 1

(2) Title  
 W-087 Acceptance Test Report

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog. Engr.	(6) Cog. Mgr.	Dat
0	(7) Initial Issue EDT #607285	L Goodwin	S Brey	
1 <del>0</del>	Incorporate ECN W-087-77	<i>[Signature]</i>	<i>[Signature]</i>	6/19/87

ACCEPTANCE TEST PROCEDURE WHC-SD-W087-ATR/OTF-001

TEST TITLE Radioactive Waste Transfer Line Equipment, Leak Detection System, and Transfer Pump

LOCATION 219-S, 242-S, 244-S, 222-S Room 3B

PROJECT NUMBER W-087 WORK ORDER \_\_\_\_\_

PROJECT TITLE Radioactive Waste Transfer Line Replacement

Prepared By  
ICF Kaiser Hanford Company  
Richland, Washington

For Westinghouse Hanford Company  
Subcontract WHC 380393

PROCEDURE APPROVAL

ICF KAISER HANFORD COMPANY (ICF KH)

<u>Ann N Joshi</u> Author	<u>5/10/96</u> Date	<u>Robert B. Williams</u> Technical Documents	<u>5-10-96</u> Date
<u>C.L. Manno</u> Checker	<u>5/10/96</u> Date	<u>NA</u> Safety	_____ Date
<u>NA</u> Environmental	_____ Date	<u>NA</u> Quality Engineering	_____ Date
<u>David McShane</u> Project Management	<u>5-10-96</u> Date	<u>ORC Jones</u> PCO	<u>5-10-96</u> Date

Westinghouse Hanford Company (WHC)

<u>D.V. Buellee</u> Projects Department	<u>5/13/96</u> Date	<u>W. D. Hamilton</u> Quality Assurance	<u>5/13/96</u> Date
<u>SEE EDT 615120</u> Safety	<u>5/13/96</u> Date	<u>W. D. Hamilton</u> Tank Farm Operations	<u>5/13/96</u> Date
<u>SEE EDT 615120</u> Analytical Services	<u>5/13/96</u> Date	<u>W. D. Hamilton</u> Quality Assurance - Tank Farm	<u>5/13/96</u> Date

EXECUTION AND TEST APPROVAL

EXECUTED BY

<u>Arun Joshi / Doug Spenser</u> Test Director/Organization	<u>5/17/96</u> Date	<u>John Stillwaugh WTR</u> Test Operator/Organization	<u>10/14/96</u> Date
<u>Cliff Larsen ICF Kaiser</u> Recorder/Organization	<u>10/14/96</u> Date		

WITNESSES

<u>Dave McShane ICF Kaiser</u> Witness/Organization	<u>10/14/96</u> Date	<u>Cliff Larsen ICF Kaiser</u> Title III Inspector	<u>10-14-96</u> Date
<u>Dave Berg Westinghouse</u> Witness/Organization	<u>10/14/96</u> Date	<u>Bob Shaff Westinghouse</u> Witness/Organization	<u>10-14-96</u> Date

A-E APPROVAL

ICF Kaiser Hanford Company (ICF KH)

Without exceptions  With exceptions resolved  With exceptions outstanding

<u>Cliff Larsen</u> Acceptance Inspection	<u>10/14/96</u> Date	<u>ANN JESLO</u> Design Engineer	<u>12/5/96</u> Date
<u>Dave McShane</u> Project Manager	<u>11/26/96</u> Date		

TEST APPROVAL AND ACCEPTANCE

Westinghouse Hanford Company (WHC)

Without exceptions  With exceptions resolved  With exceptions outstanding

<u>[Signature]</u> <Title or Department>	<u>12/4/96</u> Date	<u>[Signature] Eng WTR</u> <Title or Department>	<u>12/3/96</u> Date
<u>[Signature]</u> <Title or Department>	<u>12/4/96</u> Date	<u>Warren Brown WTR Design Authority</u> <Title or Department>	<u>12/1/96</u> Date
<u>[Signature]</u> D. OPS MGR + SHIFT MGR	<u>12/4/96</u> Date		

TABLE OF CONTENTS

Section	Page
TITLE/PROCEDURE APPROVAL	1
EXECUTION AND TEST APPROVAL	2
TABLE OF CONTENTS	3
1 PURPOSE	4
2 REFERENCES	5
3 RESPONSIBILITIES	6
4 CHANGE CONTROL	9
5 EXECUTION	9
6 EXCEPTIONS	10
7 PREREQUISITES, EQUIPMENT/INSTRUMENTS, COMPONENT LOCATIONS, AND ABBREVIATIONS	11
8 LEAK DETECTION AND MONITORING SYSTEM	13
9 TRANSFER PUMP P1 SPEED CONTROL	16
10 MOTOR OPERATED VALVES HV-P1 AND HV-305	19
11 INTEGRATED SYSTEM (DRY) TEST AND INTERLOCK VERIFICATION	22
EXCEPTION FORM	25
APPENDIX A Retest of Leak Detection System.	

NOTE: At completion of test, enter pages added during performance of test to this Table of Contents.

1 PURPOSE

This Acceptance Test Procedure/Operational Test Procedure (ATP/OTP) has been prepared to demonstrate that the Electrical/Instrumentation and Mechanical systems function as required by project criteria and to verify proper operation of the integrated system including the interlocks.

The equipment to be tested includes the following:

- a. Leak detection system operation and controls.
- b. Electrical interlocks.
- c. Transfer pump operation.
- d. Vacuum breaker system interlocks.

The following tests will ensure the operation of the equipment used in support of radioactive liquid transfer from 222-S Laboratory Facility to 219-S, 242-S, and then to 244-S. This test will include checks on associated annunciator systems.

The leak detection system uses 3 leak detector elements (LDEs) to monitor the entire length of pipe installed between 219-S and 244-S.

- a. LDE-306A monitors approximately 925 feet of pipe between 219-S and LDE-306A.
- b. LDE-306B monitors approximately 1000 feet of pipe between LDE-306A and LDE-306B.
- c. LDE 306C monitors approximately 1005 feet of pipe between LDE-306B and LDE-306C.

The leak detectors are connected to leak detection panels mounted locally. The signals are transmitted to control panels located at 219-S, 242-S and 244-S. Leak detection annunciation is provided at 219-S, 222-S Room 3B, 242-S and 244-S; and has capability to connect to Central Alarm Surveillance System (CASS).

The leak detection signals are connected to the transfer pump interlock. The pump interlocks are arranged such that evidence of leak in any section of the pipe, or a pump diaphragm leak, or a manual override by the DENY pushbutton will stop pump operation.

The transfer pump is air operated diaphragm type, operated by pneumatic controller. Air supply to the pump is controlled by an in line motor operated valve. If leak detection system is activated, the pump interlock circuit will prevent pump operation. In addition, if pump diaphragm should leak, pump interlock circuit will prevent pump operation.



2 REFERENCES

2.1 DRAWINGS

2.1.1 Project W-087 Drawings

H-2-820841, Sh 1 and 2, Rev 0	Instrumentation Conn. Diagrams
H-2-820842, Sh 1, Rev. 0	242-S Panel A Modifications
H-2-820843, Sh 1, Rev. 0	242-S Panel A Interconn. Diagram
H-2-820848 Sh 1, Rev 0	Leak Detection, Elem. Diagram

2.1.2 Project W-178 Drawings Showing Interface with Project W-087

H-2-825536, Sh 1, Rev. 0	Cell A & Operating Gallery
H-2-825549 Sh 1, Rev 0	Leak Detection Panel IP2
H-2-825550 Sh 1, Rev 0	Control Panel IP3

2.2 SPECIFICATIONS

W-087-C1, Rev 0	Construction Specification
W-087-C2, Rev 0	Construction Specification

2.3 VENDOR INFORMATION

- a. Leak detection system (B/W Magnatek): VI 22687, Supplement No. 8.
- b. Diaphragm pump and diaphragm leak detection and speed control unit (Sandpiper): VI 22687, Supplement No. 1.
- c. Motor operated valve (MOV) actuator (Worcester): VI 22687, Supplement No. 9.

2.4 OTHER

- a. Tank Farm Operating Procedure TO-410-950 (Draft).
- b. Safety Manual, WHC-CM-1-10.
- c. Building Emergency Plan, WHC-IP-0263-TF.
- d. Industrial Hygiene Manual, WHC-CM-1-11.
- e. Tank Farm Health and Safety Plan (HASP), WHC-SD-WM-HSP-002.
- f. Hanford Site Radiological Control Manual (HSRCM).
- g. Environmental Compliance Manual, WHC-CM-7-5.
- h. Standard Engineering Practices, WHC-CM-6-1, EP-2.2.

2.5 ENGINEERING CHANGE NOTICES (ECNS)

ECN W-087-12	ECN-W-087-61
ECN W-087-23	63
ECN W-087-26	65
ECN W-087-46	66
ECN W-087-50	

Prior to final test approval, enter ECNs written against this ATP/OTP.

3 RESPONSIBILITIES

3.1 GENERAL

Each company or organization participating in this ATP will designate personnel to assume the responsibilities and duties as defined herein for their respective roles. The designees shall become familiar with this ATP and the systems involved to the extent that they can perform their assigned duties.

3.2 WHC PROJECT ENGINEER

- 3.2.1 Designates a Test Director.
- 3.2.2 Distributes the approved testing schedule before start of testing.
- 3.2.3 Schedules and conducts a pretest kickoff meeting with test participants when necessary.
- 3.2.4 Schedules prejob safety meetings.
- 3.2.5 Schedules a dry run when necessary.
- 3.2.6 Notifies concerned parties when a change is made in the testing schedule.
- 3.2.7 Notifies the persons supporting the test 2 days before the start of testing.
- 3.2.8 Coordinates testing with the 219-S, 222-S, 242-S, 244-S, 200-West Area, Tank Farm Managers, Tank Farm Operations Cognizant Engineer, and Shift Manager.
- 3.2.9 Acts as liaison between the participants in acceptance testing.
- 3.2.10 Signs Execution and Test Approval page when test is approved and accepted.
- 3.2.11 Takes necessary action to clear exceptions to the test.
- 3.2.12 Signs Exception Form when exception has been resolved.
- 3.2.13 Provides a distribution list for the approved and accepted ATP(ATR).

3.3 TEST DIRECTOR

- 3.3.1 Coordinates and directs acceptance testing.
- 3.3.2 Confirms that field testing and inspection of the system or portion of the system to be tested has been completed.

- 3.3.3 Stops any test which, in his or her judgment, may cause damage to the system until the problem has been resolved.
  - 3.3.4 After verifying there is no adverse impact, may alter the sequence in which systems or subsystems are tested.
  - 3.3.5 Ensures that required environmental conditions are maintained.
  - 3.3.6 If a test is to be suspended for a period of time, ensures that the system is left in a safe mode.
  - 3.3.7 Before restarting suspended test, reverifies the test prerequisites.
  - 3.3.8 Initiates ECNs to document required changes to the ATP.
  - 3.3.9 Reviews recorded data, discrepancies, and exceptions.
  - 3.3.10 Obtains information or changes necessary to clear or resolve objections during the performance of the test.
  - 3.3.11 Signs Execution and Test Approval page when test has been performed.
  - 3.3.12 Signs Exception Form when exception has been resolved.
  - 3.3.13 Obtains required signatures on the ATP Master prior to reproduction and distribution.
- 3.4 WITNESSES (Provided by Participating Organizations. One witness shall be a Title III acceptance inspector.)
- 3.4.1 Witness the tests.
  - 3.4.2 Review results of testing.
  - 3.4.3 Assist the Test Director when requested.
  - 3.4.4 Sign Execution and Test Approval page when test has been performed.
  - 3.4.5 Sign Exception Form when exception has been resolved.
- 3.5 RECORDER (Provided by ICF KH)
- 3.5.1 Prepares a Field copy from the ATP Master.
  - 3.5.2 Records printed names, titles, and initials of all designated personnel on Field copy of ATP prior to start of testing.
  - 3.5.3 Records test instrument identification numbers and calibration expiration dates, as required.
  - 3.5.4 Initials and dates every test step on the Field copy as it is completed next to the step number or on a data sheet, when provided. Records test data. On data sheets where there is not room for both the initial and date, date may be entered at bottom of column.

- 3.5.5 Records objections and exceptions on an Exception form. Uses additional Exception forms as needed. Notifies the Test Director at time the objection is made.
  - 3.5.6 Signs Execution and Test Approval page when test has been performed.
  - 3.5.7 After test is finished, assigns alpha numeric page numbers to added data sheets and Exception forms. Records page numbers in the Table of Contents.
  - 3.5.8 Transfers Field copy entries for each step to the Master in ink or type, signs, and dates. Transmits the completed Master to the Test Director for approval signature routing. Transmits the Field copy to Construction Document Control for inclusion in the official project file.
  - 3.5.9 Signs Exception Form when exception has been resolved and transmits to Test Director.
- 3.6 TEST OPERATOR
- 3.6.1 Performs test under direction of the Test Director.
  - 3.6.2 Provides labor, equipment, and test instruments required for performing tests which have not been designated as being provided by others.
  - 3.6.3 Requests in writing from the Test Director those services, materials, or equipment that have been designated as being supplied by others.
  - 3.6.4 Confirms that all equipment required for performing test will be available at the start of testing.
  - 3.6.5 Signs the Execution and Test Approval page.
- 3.7 A-E ACCEPTANCE INSPECTION, DESIGN ENGINEER, AND PROJECT MANAGER
- 3.7.1 Evaluate results.
  - 3.7.2 Sign for A-E Approval on Execution and Test Approval page.
- 3.8 TANK FARM SHIFT OPERATIONS MANAGER
- 3.8.1 Designates an operator to witness and/or complete the ATP/OTP for Tank Farms.
  - 3.8.2 Assumes responsibility for the safe conduct of the ATP/OTP within Tank Farms.
  - 3.8.3 Authorizes the start of the ATP/OTP for Tank Farms.
  - 3.8.4 Signs Execution and Test Approval page when test is approved and accepted.
  - 3.8.5 Signs exception Form when exception has been resolved.

3.9 TANK FARM OPERATOR

- 3.9.1 Witnesses the test for Tank Farms.
- 3.9.2 Operates equipment as designated by the Test Director.
- 3.9.3 Signs Execution and Test Approval page when test has been completed.
- 3.9.4 Signs Exception Form when exception has been resolved.

3.10 TANK FARM COGNIZANT ENGINEER

- 3.10.1 Approves modifications to the ATP/OTP.
- 3.10.2 Signs Execution and Test Approval page when test has been completed.
- 3.10.3 Signs Exception Form when exception has been resolved.
- 3.10.4 Reviews recorded data, discrepancies, and exceptions.

4 CHANGE CONTROL

Required changes to this ATP must be processed on ECNs in accordance with company procedures. If a need for change is discovered in the course of running the test, the test director shall review the change(s) required to the procedure and discuss with the design engineer or representative. If the changes required do not affect the configuration, the changes shall be redlined and signed by the design engineer and the test director for incorporation into an ECN. During this resolution, other portions of the test, unaffected by the change, may proceed.

5 EXECUTION

5.1 OCCUPATIONAL SAFETY AND HEALTH

Individuals shall carry out their assigned work in a safe manner to protect themselves and others from undue hazards and to prevent damage to property and environment. Facility line managers shall assure the safety of activities within their areas to prevent injury, property damage, or interruption of operation. Performance of test activities shall always include safety and health aspects.

5.2 PERFORMANCE

- 5.2.1 Conduct testing in accordance with ICF KH Procedure CON 3.5 (Performance and Recording of Acceptance Test Procedures).
- 5.2.2 Perform test following the steps and requirements of this procedure.

6 EXCEPTIONS

6.1 GENERAL

Exceptions to the required test results are sequentially numbered and recorded on individual Exception forms. This enables case-by-case resolution and approval of each exception.

Errors/exceptions in the ATP itself shall NOT be processed as test exceptions (see Section 4 CHANGE CONTROL).

6.2 RECORDING

6.2.1 Number each exception sequentially as it occurs and record it on an Exception Form (KEH-428), sample appended.

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

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

6.3 RETEST/RESOLUTION

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

6.3.1 When action taken results in an acceptable retest, sign and date Retest Execution and Acceptance section of the Exception Form.

6.3.2 When action taken does not involve an acceptable retest, strike out the Retest Execution and Acceptance section of the Exception Form.

6.4 APPROVAL AND ACCEPTANCE

The customer provides final approval and acceptance of exceptions by checking one of the following on Exception Form:

6.4.1 Retest Approved and Accepted: Applicable when Retest Execution and Acceptance section is completed.

6.4.2 Exception Accepted-As-Is: Requires detailed explanation.

6.4.3 Other: Requires detailed explanation.

The customer signs and dates the Exception Form and obtains other customer internal approvals, if required.

6.5 DISTRIBUTION

A copy of the approved Exception Form is distributed to each participant. The signed original is attached to the ATP Master.

7 PREREQUISITES, EQUIPMENT/INSTRUMENTS, COMPONENT LOCATIONS, AND ABBREVIATIONS

7.1 PREREQUISITES

The following conditions shall exist at start of testing for that portion of the system being tested.

- 7.1.1 Systems have been inspected for compliance with construction documents.
- 7.1.2 Vendor data and operating instructions are at hand for each installed instrument, pump, and valve.
- 7.1.3 Reference documents (including this ATP) have been verified for correct revision number and outstanding ECNs.
- 7.1.4 A Job Safety Analysis has been prepared by ICF KH and a Prejob Safety Meeting has been conducted.
- 7.1.5 Test instruments have a valid calibration stamp attached. Test instrument identification numbers and calibration expiration dates have been recorded in Para 7.2.
- 7.1.6 Methods of water disposal have been approved by Facilities Management.
- 7.1.7 Power is available to energize the system: *Circuit #24 at 244-S, Circuit #3 at 242-S, Circuits #7, #8, #7 at 211-S and Fuse at Annunciator in Run 3*
- 7.1.8 Annunciator lights have been tested. *at 222-S. ECN-6566*
- 7.1.9 Voice communications are available between 219-S, 222-S, 242-S, 244-S, leak detection sensor locations, and other locations determined to be appropriate by the test director.
- 7.1.10 Radiation Work Permits (RWPs) have been approved by the Operating Contractor. Attach RWPs to ATP.
- 7.1.11 Pump P1 spool piece is disconnected from Tank 102.
- 7.1.12 Project equipment and instruments have been identified by tag numbers.
- 7.1.13 Shop test results for Panels IP1, IP2, and IP3 are on file, for record, with ATP/OTP.

7.2 EQUIPMENT/INSTRUMENTS

Supplied by Test Operator unless otherwise noted.

- 7.2.1 Voltmeters (VOM):  
*950-45-08-018*  
Instrument No. 0054 Expiration Date 3-14-97  
*950-45-08-018* 2-26-97
- ~~7.2.2 Switchable Shorting Jumpers: Length, 1 foot through 6 foot as required. ECN-66~~

ENC 65

- 7.2.3 Pressure Gages: 0-<sup>200</sup>150 psig. Pressure test assembly used for tank trailers may be used for this ATP.
- 7.2.4 Container: To hold water for leak detector tests, approximately 1 gallon capacity.
- 7.2.5 Tubing: 1/4-inch and 1/2-inch tygon.

7.3 COMPONENT LOCATION

Component Identifier	Location
Control Panel IP2	219-S
Control Panel IP3	219-S
Motor Operated Valves HV-P1 and HV-305	219-S
Panelboard (219-SX)	219-S
Leak Detector Elements LDE-306A, 306B, 306C	On the transfer piping between Tank-102 and 244-S
Leak Detector Transmitters LDT-306A, 306B, 306C	Outside, between 219-S and 244-S
Pushbuttons PERMIT and DENY	Control Panel A in 242-S

7.4 ABBREVIATIONS

- CASS Central Alarm Surveillance Systems
- ECN Engineering Change Notice
- LDE Leak Detector Element
- LDT Leak Detector Transmitter
- LDY Leak Detection Relay
- MOV Motor-Operated Valve
- RWP Radiation Work Permit



## LEAK DETECTION AND MONITORING SYSTEM

This test will verify operation of the leak detection system consisting of LDE, leak detection processor, annunciation and control interlock. This system is based upon conductivity principle. When the liquid due to leak contacts both the ground probe and the leak detection probe of the LDE, leak detection relays deenergize and provide annunciation, local indication by beacon light, and interlock outputs.

## 8.1 PREPARATION

CK 10-14-96

CK 8-9-96

CK 10-14-96

CK 8-9-96

CK 10-14-96

CK 8-9-96

CK 10-14-96

CK 8-9-96

8.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met. EACUS

8.1.2 Notify 219-S, 222-S, 242-S, and 244-S Building Managers. *Shift Managers AH*

8.1.3 Notify Tank Farm Operations Manager.

8.1.4 Verify that energized electrical work permits have been obtained.

NOTE: Keep appropriate personnel informed as to test status.

CAUTION: TEST INVOLVES WORKING WITH LIVE CIRCUITS. ENSURE THAT THE IMMEDIATE AREA IS NOT WET. ENSURE THAT HANDS AND APPAREL ARE DRY.

## 8.2 LEAK DETECTION AND MONITORING SYSTEM TEST

Record the following steps for each LDE/LDT loop on Data Sheet 8.2.

8.2.1 Remove LDE from pipe.

8.2.2 Apply power to monitoring units (Circuit 24, Panelboard B at 244-S, Circuit 3 at Panelboard 242-S, and Circuit 27 at 219-S).

8.2.3 Immerse LDE in liquid. 5, 7, 8 EACUS

8.2.4 Verify white indicating beacon light at 244-S is ON.

8.2.5 Verify contact 1-7 of LDT in Panel IP2 at 219-S is CLOSED.

8.2.6 Verify Annunciator Window 1-1, ENCASMENT LEAK on Panel A at 242-S is FLASHING and audible alarm is ON.

8.2.7 Verify Annunciator Window 3-5, TRANSFER LINES TO 244-S on Panel IP3 at 219-S is FAST FLASH and audible alarm is ON.

8.2.8 Verify Group Annunciator AI-38, Window 9, DRAIN LEAK DETECTION at 222-S Room 3B is FLASHING and audible alarm is ON.

~~8.2.9 Verify leak indicating light at LDT on Panel IP2 is ON. EACUS~~

8.2.10 Verify leak indicating light at Panel IP3 is ON.

8.2.11 Depress ACKNOWLEDGE pushbutton at 219-S and verify Annunciator Window 3-5 is STEADY ON and audible alarm is OFF.

- 8.2.12 Depress ACKNOWLEDGE pushbutton at 242-S and verify Annunciator Window 1-1 is STEADY ON and audible alarm is OFF.
- 8.2.13 Depress ACKNOWLEDGE pushbutton at 222-S, Room 3B and verify Annunciator Window 9 is STEADY ON and audible alarm is OFF.
- 8.2.14 Remove LDE from liquid and dry it off.
- 8.2.15 Verify white indicating beacon light at 244-S is OFF.
- 8.2.16 Verify leak indicating light at LDT on Panel IP2 is OFF.
- 8.2.17 Verify Annunciator Window 3-5 at Panel IP3 is SLOW FLASH and audible alarm is ON.
- 8.2.18 Depress RESET pushbutton at Panel IP3 and verify Annunciator Window 3-5 and audible alarm are OFF.
- 8.2.19 Verify Group Annunciator A1-3B Window 9 at 222-S Room 3B is OFF.
- 8.2.20 Verify Annunciator Window 1-1 at 242-S is OFF.
- 8.2.21 Reinstall LDE in pipe.

DATA SHEET 8.2

STEP	PERFORM/VERIFY	LDE/LDT		
		306A	306B	306C
8.2.1	Remove LDE from pipe	✓	✓	✓
8.2.2	Apply power to monitoring units	✓	✓	✓
8.2.3	Immerse LDE in liquid	✓	✓	✓
8.2.4	Verify white beacon light at 244-S is ON	✓	✓	✓
8.2.5	Verify Contact 1-7 of LDT at Panel IP2 is CLOSED	✓	✓	✓
8.2.6	Verify 242-S Annunciator Window 1-1 is FLASHING and audible alarm is ON	✓	✓	✓
8.2.7	Verify 219-S Annunciator Window 3-5 is FAST FLASH and audible alarm is ON	✓	✓	✓
8.2.8	Verify 222-S Group Annunciator Window 9 is FLASHING and audible alarm is ON	✓	✓	✓
8.2.9	<del>Verify leak indicating light at LDT on Panel IP2 is ON</del>	✓	✓	✓
8.2.10	Verify leak indicating light at Panel IP3 is ON	✓	✓	✓
8.2.11	Depress ACKNOWLEDGE pushbutton at 219-S and verify Annunciator Window 3-5 is ON and audible alarm is OFF	✓	✓	✓
8.2.12	Depress ACKNOWLEDGE pushbutton at 242-S and verify Annunciator Window 1-1 is STEADY ON and audible alarm is OFF	✓	✓	✓
8.2.13	Depress ACKNOWLEDGE pushbutton at 222-S Room 3B and verify Annunciator window 9 is STEADY ON and audible alarm is OFF.	✓	✓	✓
8.2.14	Remove LDE from liquid and dry it off	✓	✓	✓
8.2.15	Verify white beacon light at 244-S is OFF	✓	✓	✓
8.2.16	Verify leak indicating light at LDT on Panel IP2 is OFF	✓	✓	✓
8.2.17	Verify Annunciator Window 3-5 at Panel IP3 is SLOW FLASH and audible alarm is ON	✓	✓	✓
8.2.18	Depress RESET pushbutton at Panel IP3 and verify Annunciator Window 3-5 and audible alarm are OFF	✓	✓	✓
8.2.19	Verify Group Annunciator Window 9 at 222-S Room 3B is OFF	✓	✓	✓
8.2.20	Verify Annunciator Window 1-1 at 242-S is OFF	✓	✓	✓
8.2.21	Reinstall LDE in pipe	✓	✓	✓

END  
65

All three Leak Detection elements Test accept table  
C. J. Stander 8-9-96

END  
65

8.2.20a Deenergize Circuit 24 @ 2445.  
8.2.21a Energize Circuit 24 @ 2445. END OF SECTION B

✓ ✓ ✓  
✓ ✓ ✓

9 TRANSFER PUMP P1 SPEED CONTROL

This test will verify speed control operation of Pump P-1 in 219-S.

9.1 PREPARATION

- Ch 10-1491 9.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met.
- Ch 10-1491 9.1.2 Notify 219-S<sup>222S</sup> and 242-S<sup>224S</sup> Building Managers, & Shift Managers *ECN 65*
- Ch 10-1491 9.1.3 Notify Tank Farms Operations and Shift Manager.
- Ch 10-1491 9.1.4 Verify that energized electrical work permits have been obtained.

NOTE: Keep appropriate personnel informed as to test status.

CAUTION: TEST INVOLVES WORKING WITH LIVE CIRCUITS. ENSURE THAT THE IMMEDIATE AREA IS NOT WET. ENSURE THAT HANDS AND APPAREL ARE DRY.

9.2 TRANSFER PUMP P1 SPEED CONTROL TEST

- Ch 10-1491 9.2.1 Verify Air Valve CA-V-6600<sup>7</sup> is CLOSED. *ECN 65*
- Ch 10-1491 9.2.2 Energize Circuit 3 for Panel A from Panelboard C at 242-S.
- Ch 10-1491 9.2.3 Energize Panels IP2 and IP3 at 219-S.
- Ch 10-1491 9.2.4 Pull to reset DENY switch.
- Ch 10-1491 9.2.5 Press and release PERMIT pushbutton.
- Ch 10-1491 9.2.6 Verify TRANSFER PUMP P-1 indicating light on 242-S is ON.
- Ch 10-1491 9.2.7 Rotate pump speed control knob to 0% position.

CAUTION: High pressure air may be present. Perform following operation slowly.

- Ch 10-1491 9.2.8 Disconnect instrument air tubing at the outlet of Regulator HY301.
- Ch 10-1491 9.2.9 Install a tee fitting between the regulator outlet and the process tubing. Connect an instrument pressure gauge to the remaining end of the tee fitting.

NOTE: Readings taken from this pressure gauge, and recorded in this ATP/OTP, are for information only and have no bearing on the acceptance of this test.

- Ch 10-1491 9.2.10 Verify Valve HV-305 OPEN (red) indicating light on Panel IP3 is ON and Valve HV-P1 CLOSED (green) indicating light on Panel IP3 is ON.
- Ch 10-1491 9.2.11 Verify pump speed control knob is turned to 0% position.
- Ch 10-1491 9.2.12 Apply power to the electropneumatic controller (Circuit 8 at 219-SX).
- Ch 10-1491 9.2.13 Open Air Valve CA-V-6600<sup>7</sup>. *ECN 65*

- Ch10-1496 9.2.14 Record reading on the pressure gauge. 0 psi
- Ch10-1496 9.2.15 Turn Hand Switch HS-305 to CLOSE position and hold while verifying the following.
- Ch10-1496 9.2.15.1 As the valve travels toward the closed position, verify both OPEN (red) and CLOSED (green) indicating lights are ON.
- Ch10-1496 9.2.15.2 When the valve reaches the fully closed position, verify OPEN indicating light is OFF and CLOSED indicating light is ON.
- ~~9.2.16 Release Hand Switch HS-305 to AUTO position. ECU 65~~
- Ch10-1496 9.2.17 Turn Hand Switch HS-P1 to OPEN position and hold while verifying the following.
- Ch10-1496 9.2.17.1 As the valve travels toward the open position, verify both OPEN (red) and CLOSED (green) indicating lights are ON.
- Ch10-1496 9.2.17.2 When the valve reaches the fully open position, verify CLOSED indicating light is OFF and OPEN indicating light is ON.
- Ch10-1496 9.2.18 Release Hand Switch HS-P1 to AUTO position.
- Ch10-1496 9.2.19 Slowly rotate pump speed control knob clockwise to 50% position.
- Ch10-1496 9.2.20 Record reading on the pressure gauge. 10 psi
- NOTE: This reading should be higher than that taken with pump speed control knob at 0%.
- Ch10-1496 9.2.21 Slowly rotate pump speed control knob to 100% position.
- Ch10-1496 9.2.22 Record reading on the pressure gauge. 22 psi
- NOTE: This reading should be higher than that taken with pump speed control knob at 50%.
- Ch10-1496 9.2.23 Slowly rotate pump speed control knob back to 0% position.
- Ch10-1496 9.2.24 Record reading on the pressure gauge. 0 psi.
- NOTE: This reading should be approximately the same as that taken when pump speed control knob was first at 0% position.
- Ch10-1496 9.2.25 Turn Hand Switch HS-P1 to CLOSE position and verify the following.
- Ch10-1496 9.2.25.1 As the valve travels toward the closed position, verify both OPEN and CLOSED indicating lights are ON.
- Ch10-1496 9.2.25.2 When the valve reaches the fully closed position, verify CLOSED indicating light is ON and OPEN indicating light is OFF.
- Ch10-1496 9.2.25.3 Verify the closing of Valve HV-P1 has caused Valve HV-305 to OPEN.
- Ch10-1496 9.2.26 Close Air Valve CA-V-660<sup>7 ECU 65</sup>.

CAUTION: HIGH PRESSURE AIR MAY BE PRESENT. PERFORM FOLLOWING OPERATION SLOWLY.

- ~~9.2.27 Reconnect the tubing to outlet side of Regulator HY301. ECWGS~~
- 0610-1496 9.2.28 Remove power from Regulator HY301.

END OF SECTION 9

10 MOTOR OPERATED VALVES HV-P1 AND HV-305

These tests will verify that Motor Operated Valves HV-P1 and HV-305 operate in accordance with their respective elementary (control) diagram requirements.

HV-P1 is controlled by a 3 position (OPEN-AUTO-CLOSE) control switch which can be maintained in either AUTO or CLOSE position but will spring-return from OPEN to AUTO.

HV-305 is controlled by a 3 position (CLOSE-AUTO-OPEN) control switch which can be maintained in either AUTO or OPEN position but will spring-return from CLOSE to AUTO.

Operation of HV-P1 is dependent on the operation of HV-305. HV-P1 is designed as automatic CLOSE and manual override CLOSE while HV-305 is designed as automatic OPEN and manual override OPEN. In other words, HV-P1 will not OPEN unless HV-305 is CLOSED.

*see ECN 5  
6-8  
66*

10.1 PREPARATION

- Ch 10-14-91 10.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met.
- Ch 10-14-96 10.1.2 Notify 219-S<sup>2225 + 2445 #165</sup> and 242-S Building Managers.
- Ch 10-14-96 10.1.3 Notify Tank Farm Operations and Shift Manager.
- Ch 10-14-96 10.1.4 Verify that energized electrical work permits have been obtained.

NOTE: Keep appropriate personnel informed as to test status.

CAUTION: TEST INVOLVES WORKING WITH LIVE CIRCUITS. ENSURE THAT THE IMMEDIATE AREA IS NOT WET. ENSURE THAT HANDS AND APPAREL ARE DRY.

10.2 MOTOR OPERATED VALVE HV-P1 AND HV-305 TEST

- Ch 10-14-91 10.2.1 Place Circuit Breaker 7 in Panelboard 219-SX, at Building 219-S, in the OFF position.
- Ch 10-14-96 10.2.2 Verify there is NO VOLTAGE across Terminals TB2-205 and TB2-206 at Panel IP3.
- Ch 10-14-96 10.2.3 Place Circuit Breaker 7 in Panelboard 219-SX, at Building 219-S, in the ON position.
- Ch 10-14-91 10.2.4 Place Circuit Breaker 27 in Panelboard 219-S, at Building 219-S, in the ON position.
- Ch 10-14-91 10.2.5 Place Circuit No. 3 in Panelboard C, at Building 242-S, in the ON position.
- Ch 10-14-91 10.2.6 Verify DENY pushbutton in Panel A, at Building 242-S, is in PULL TO RESET position.
- Ch 10-14-1991 10.2.7 Press and release PERMIT pushbutton in Panel A at Building 242-S.
- Ch 10-14-96 10.2.8 Using VOM verify 120 V ac across Terminals TB2-201 and TB1-7N2.

- Ch 10-14-95 10.2.9 Verify PERMITTED indicating light on Panel IP3 is ON.
- Ch 10-14-96 10.2.10 Verify TRANSFER PUMP P-1 indicating light on Panel A, in 242-S, is ON.
- Ch 10-14-96 10.2.10a Turn and Hold selector switch for HV-305 to CLOSE. <sup>ECN 66</sup>
- Ch 10-14-96 10.2.10b Verify that HV-305 is CLOSED. <sup>ECN 66</sup>
- Ch 10-14-96 10.2.10c Turn and Hold selector switch for HV-P1 to OPEN. <sup>ECN 66</sup>
- Ch 10-14-96 10.2.10d Verify that HV-P1 is OPENED. <sup>ECN 66</sup>
- Ch 10-14-96 10.2.10e Release selector switch for HV-305 to AUTO. <sup>ECN 66</sup>
- Ch 10-14-96 10.2.10f Release selector switch for HV-P1 to AUTO. <sup>ECN 66</sup>
- Ch 10-14-96 10.2.11 Turn selector switch for Valve HV-305 on Panel IP3 to OPEN.
- Ch 10-14-96 10.2.12 Verify Valve HV-305 position handle at top of valve actuator indicates OPEN and valve CLOSED (green) indicating light on Panel IP3 is OFF and valve OPEN (red) indicating light is ON.
- Ch 10-14-96 10.2.12a <sup>12.4</sup> Verify that HV-P1 closes. <sup>12.4</sup> <sup>ECN 66</sup>
- ~~Ch 10-14-96 10.2.13 Verify HV-P1 starts to close. <sup>ECN 65</sup> <sup>66</sup> deletes~~
- Ch 10-14-96 10.2.14 Verify valve HV-P1 position handle at top of valve actuator indicates CLOSE and valve CLOSED indicating light on Panel IP3 is ON.
- Ch 10-14-96 10.2.15 Using VOM verify Relay K-V on Panel IP2 is ENERGIZED.
- Ch 10-14-96 10.2.16 Turn selector switch for HV-P1 from CLOSE to AUTO.
- Ch 10-14-96 10.2.17 Verify Valve HV-P1 position handle at top of valve actuator continues to indicate CLOSE and valve CLOSED indicating light on Panel IP3 remains ON.
- Ch 10-14-96 10.2.18 Turn and hold selector switch for HV-P1 in OPEN position.
- Ch 10-14-96 10.2.19 As Valve HV-P1 travels toward the open position, verify both OPEN and CLOSED indicating lights are ON.
- Ch 10-14-96 10.2.20 When Valve HV-P1 reaches the fully open position, verify CLOSED indicating light is OFF and OPEN indicating light is ON.
- Ch 10-14-96 10.2.21 Release selector switch for HV-P1 to AUTO.
- Ch 10-14-96 10.2.22 Verify Valve HV-P1 begins to close.
- Ch 10-14-96 10.2.23 As Valve HV-P1 travels toward the closed position, verify both OPEN and CLOSED indicating lights are ON.
- Ch 10-14-96 10.2.24 When Valve HV-P1 reaches the fully closed position, verify OPEN indicating light is OFF and CLOSED indicating light is ON.

See ECN's  
65  
66  
change in Aut



- Ch 10-14-96 10.2.25 Turn and hold selector switch for HV-305 in CLOSE position.
- Ch 10-14-96 10.2.26 As Valve HV-305 travels toward the closed position, verify both OPEN and CLOSED indicating lights are ON.
- Ch 10-14-96 10.2.27 When valve position handle on Valve HV-305 shows fully closed, verify CLOSED indicating light is ON and OPEN indicating light is OFF.
- Ch 10-14-96 10.2.28 Deleted ECN 65
- Ch 10-14-96 10.2.29 Turn and hold selector switch for HV-P1 in OPEN position.
- Ch 10-14-96 10.2.30 As Valve HV-P1 travels toward the open position, verify both OPEN and CLOSED indicating lights are ON.
- Ch 10-14-96 10.2.31 When valve position handle on Valve HV-P1 shows fully open, verify OPEN indicating light is ON and CLOSED indicating light is OFF.
- Ch 10-14-96 10.2.31a Release selector switch for HV-305 to AUTO. ECN-65
- Ch 10-14-96 10.2.32 Release selector switch for HV-P1 to AUTO position.
- Ch 10-14-96 10.2.33 Turn selector switch for HV-305 to OPEN position.
- Ch 10-14-96 10.2.34 Verify Valve HV-305 starts to OPEN.
- Ch 10-14-96 10.2.35 Verify HV-P1 begins to CLOSE as soon as HV-305 is fully OPEN.
- Ch 10-14-96 10.2.36 Turn and hold selector switch for HV-305 in CLOSE position until HV-305 is CLOSED and Step 10.2.37 is complete. ECN 65
- Ch 10-14-96 10.2.37 Turn and hold selector switch for HV-P1 in OPEN position until HV-P1 is OPEN.
- Ch 10-14-96 10.2.37a Release selector switch for HV-305 to AUTO. ECN 65
- Ch 10-14-96 10.2.37b Release selector switch for HV-P1 to AUTO.
- Ch 10-14-96 10.2.38 Depress DENY switch to Push to Deny position on Panel A in 242-S Control Room.
- Ch 10-14-96 10.2.39 Verify PERMITTED indicating light on Panel IP3 is OFF.
- Ch 10-14-96 10.2.40 Verify TRANSFER PUMP P-1 indicating light on Panel A in 242-S is OFF.
- Ch 10-14-96 10.2.41 Pull DENY switch to Pull to Reset position on Panel A in 242-S.
- Ch 10-14-96 10.2.42 Verify HV-P1 begins to CLOSE. ECN 65
- Ch 10-14-96 10.2.43 Verify HV-305 begins to OPEN. ECN 65
- Ch 10-14-96 10.2.44 Using VOM verify Relay K-P on Panel IP2 is ENERGIZED.
- Ch 10-14-96 10.2.45 Verify HV-305 position handle at top of valve actuator is in OPEN position.

END OF SECTION 10

## INTEGRATED SYSTEM (DRY) TEST AND INTERLOCK VERIFICATION

This test will demonstrate overall system operation by verifying the various interlocks perform the design functions. During this test no liquid will be pumped out of the tanks. Pump vendor assures that the pump can be run "DRY" for certain time duration.

## 11.1 PREPARATION

- Ch 10-14-96 11.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met. EWC 65
- Ch 10-14-96 11.1.2 Notify 219-S, 222-S, 242-S, and 244-S Building Managers. *4 shift managers.*
- Ch 10-14-96 11.1.3 Notify Tank Farm Operations and Shift Manager.
- Ch 10-14-96 11.1.4 Verify that energized electrical work permits have been obtained.
- NOTE: Keep appropriate personnel informed as to test status.
- Ch 10-14-96 11.1.5 Verify all previous ATP sections have been completed satisfactorily.

## 11.2 SYSTEM TEST

- Ch 10-14-96 11.2.1 Verify Panel IP2 is ENERGIZED.
- Ch 10-14-96 11.2.2 Verify Panel IP3 is ENERGIZED.
- Ch 10-14-96 11.2.3 Verify Panel A in 242-S is ENERGIZED. *Verify speed control unit is energized EWC 65*
- Ch 10-14-96 11.2.4 Close Air Inlet Valve CA-V-660B. *EWC 65*
- Ch 10-14-96 11.2.5 Verify DENY switch in Panel A at 242-S is in Pull to Reset position.
- Ch 10-14-96 11.2.6 Press and release PERMIT pushbutton in Panel A at 242-S.
- Ch 10-14-96 11.2.7 Verify TRANSFER PUMP P-1 indicating light at Panel A, 242-S is ON.
- Ch 10-14-96 11.2.8 Verify PERMITTED indicating light on Panel IP3 is ON.
- Ch 10-14-96 11.2.9 Verify Siphon Valve HV-305 is OPEN.
- ~~Ch 10-14-96 11.2.10 Verify leak detection indicating light on Panel IP2 is OFF.~~ EWC 65
- Ch 10-14-96 11.2.11 Verify leak detection indicating light on Panel IP3 is OFF.
- Ch 10-14-96 11.2.12 Verify pump diaphragm leak indicating light on Panel IP3 is OFF.
- Ch 10-14-96 11.2.13 Verify Pump P1 (air inlet) hand switch on Panel IP3 is in CLOSE position.
- Ch 10-14-96 11.2.14 Turn HV-P1 hand switch to OPEN and hold it momentarily in that position.
- Ch 10-14-96 11.2.15 Verify HV-P1 begins to OPEN as indicated by both RED and GREEN indicating lights ON.

- CH 10-14-96 11.2.15 Verify HV-P1 begins to OPEN as indicated by both RED and GREEN indicating lights ON.
- CH 10/14/96 11.2.16 Release HV-P1 hand switch allowing it to return to AUTO.
- CH 10/14/96 11.2.17 Verify HV-P1 begins to Close.  
11.2.17a Open air valve CA-V-6607 ECWUS
- CH 10/14/96 11.2.18 Turn and Hold selector switch for Siphon Valve HV-305 to CLOSE.
- CH 10/14/96 11.2.19 Deleted
- CH 10/14/96 11.2.20 Verify HV-305 is CLOSE as indicated by indicating light.
- CH 10/14/96 11.2.21 Deleted
- CH 10/14/96 11.2.22 Turn and hold HV-P1 hand switch on Panel IP3 to OPEN.
- CH 10/14/96 11.2.23 Deleted
- CH 10/14/96 11.2.23a Release selector switch for HV-305 to AUTO. ECWUS
- CH 10/14/96 11.2.24 Release HV-P1 hand switch to AUTO. ECWUS
- CH 10/14/96 11.2.24a Open Air Valve CA-V-6607. ECWUS
- CH 10/14/96 11.2.24b Rotate speed control knob until it reads approximately 10 psig on pressure gauge.
- CH 10/14/96 11.2.25 Verify Pump P1 continues to run as indicated by indicating OPEN light.
- CH 10/14/96 11.2.26 Lift wire marked LD-306A-4 at terminal 7 at panel IP2. ECWUS
- CH 10/14/96 11.2.27 Verify valve HV-P1 starts to CLOSE. ECWUS
- CH 10/14/96 11.2.28 Verify siphon Valve HV-305 starts to OPEN. ECWUS
- CH 10/14/96 11.2.28a Observe LEAK DETECTED indicating light is illuminated, TRANSFER LINE TO 244-S LEAK annunciator FAST FLASH and audible ON. ECWUS
- CH 10/14/96 11.2.28b Acknowledge annunciator. ECWUS
- CH 10/14/96 11.2.29 Reconnect wire at terminal 7 at panel IP2. ECWUS
- CH 10/14/96 11.2.30 Verify Pump P1 remains STOPPED.
- CH 10/14/96 11.2.31 Turn and Hold selector switch for HV-305 to CLOSE. ECWUS
- CH 10/14/96 11.2.32 Turn and Hold selector switch for HV-P1 to OPEN. ECWUS
- CH 10/14/96 11.2.33 Verify Pump P1 STARTS.
- CH 10/14/96 11.2.33a Release selector switch for HV-305 to AUTO. ECWUS
- CH 10-14-96 11.2.34 Release selector switch for HV-P1 to AUTO. ECWUS

See EEW  
45866  
Change in  
Italics.

- Ch 10-14-96 11.2.35 Verify Pump P1 continues to run as indicated by OPEN light.
- Ch 10-14-96 11.2.36 Depress DENY switch to Push to Deny position at 242-S Panel A.
- Ch 10-14-96 11.2.36a Verify HV-P1 starts to CLOSE. *EN 45*
- Ch 10-14-96 11.2.37 Verify Pump P1 cannot START when Pump P1 hand switch is turned to OPEN.
- Ch 10-14-96 11.2.38 Verify Siphon valve is OPEN as indicated by indicating light ON.
- Ch 10-14-96 11.2.39 Pull DENY switch to Pull to Reset position.
- Ch 10-14-96 11.2.40 Deleted *EN 45*
- Ch 10-14-96 11.2.41 Press and release PERMIT pushbutton at 242-S Panel A.

*see ECA  
65  
6C  
changes  
in table*

- Ch 10-14-96 11.2.42 Verify TRANSFER PUMP P-1 indicating light is ON at 242-S Panel A.
- Ch 10-14-96 11.2.43 Verify PERMITTED indicating light on Panel IP3 is ON.
- Ch 10-14-96 11.2.43a Turn and hold selector switch for HV-305 in the close position. ECN 65
- Ch 10-14-96 11.2.43b Verify that HV-305 is CLOSED. ECN 65
- Ch 10-14-96 11.2.43c Turn and hold selector switch for HV-P1 in the OPEN position. ECN 65
- Ch 10-14-96 11.2.44 Verify pump P1 starts.
- Ch 10-14-96 11.2.44a Release selector switch for HV-305. ECN 65
- Ch 10-14-96 11.2.44b Release selector switch HV-P1. ECN 65
- Ch 10-14-96 11.2.45 Simulate a leak in the P1 diaphragm at LDY-P1 by disconnecting power at TBI-8H1. ECN 66
- Ch 10-14-96 11.2.45a Verify DIAPH LEAK indicating light at IP3 is illuminated. ECN 65
- Ch 10-14-96 11.2.45b Verify TANK 102 Pump P1 DIAPH LEAK annunciator window FAST FLASH and audible ON. ECN 65
- Ch 10-14-96 11.2.45c Acknowledge annunciator. Verify annunciator window STEADY ON and audible OFF. ECN 65
- Ch 10-14-96 11.2.46 Verify Pump P1 air inlet valve starts to CLOSE.
- Ch 10-14-96 11.2.47 Verify valve HV-305 opens.
- Ch 10-14-96 11.2.48 Return LDY-P1 to the Normal Mode by reconnecting power at TBI-8H1. ECN 66
- Ch 10-14-96 11.2.48a Verify DIAPH LEAK indicating light is not illuminated. ECN 65
- Ch 10-14-96 11.2.48b Verify TANK 102 PUMP P1 DIAPH LEAK annunciator window SLOW FLASH and audible ON. ECN 65
- Ch 10-14-96 11.2.48c Reset annunciator. ECN 65
- Ch 10-14-96 11.2.49 Close air valve CA-V-660B. ECN 65
- Ch 10-14-96 11.2.50 Return system to normal and safe configuration. ECN 66

See ECN 65 & 66  
Changes in italics.

END OF SECTION 11

## **APPENDIX A**

### **Retest of leak detection**

Explanation of Appendix A: Surveillance ISR 2W-96-12 identified some wiring for the leak detection system that had the wrong colored insulation. This wiring was changed. In this appendix is the retest of the leak detection system. Only Sections 1 thru 8 were performed. Sections 9 thru 11 were unaffected by the surveillance. The testing was successful and the leak detection system is operational.

**Appendix A**  
**EXECUTION AND TEST APPROVAL**

**EXECUTED BY**

<u><i>R.V. Buckley</i> FDNW</u>	<u>4/3/97</u>	<u><i>[Signature]</i> FDNW</u>	<u>4-3-97</u>
Test Director/Organization	Date	Test Operator/Organization	Date
<u><i>Mark H Brown</i> / FDNW-AI</u>	<u>4-3-97</u>		
Recorder/Organization	Date		
Mark H Brown (MHB) For Para. 1 thru 8.2.21a only			

**WITNESSES**

<u><i>[Signature]</i> WTFPE</u>	<u>4/3/97</u>	<u><i>Mark H Brown</i></u>	<u>4-3-97</u>
Witness/Organization	Date	Title III Inspector	Date
<u><i>[Signature]</i> WTFPE</u>	<u>4/3/97</u>	<u><i>[Signature]</i> RFSH</u>	<u>4/17/97</u>
Witness/Organization	Date	Witness/Organization	Date
		<u>For m subject <i>[Signature]</i> 4/21/97</u>	<u>4/21/97</u>

**A-E APPROVAL**

ICF Kaiser Hanford Company (ICF KH)

Without exceptions       With exceptions resolved       With exceptions outstanding

<u><i>Mark H Brown</i></u>	<u>4-8-97</u>	<u><i>[Signature]</i></u>	<u>4/23/97</u>
Acceptance Inspection	Date	Design Engineer	Date
<u><i>Ronald V. Buckley</i></u>	<u>4/3/97</u>		
Project Manager	Date		

**TEST APPROVAL AND ACCEPTANCE**

Westinghouse Hanford Company (WHC)

Without exceptions       With exceptions resolved  *-22S*      With exceptions outstanding  *-TFPE*

<u><i>[Signature]</i></u>	<u>4/24/97</u>	<u><i>[Signature]</i></u>	<u>4/24/97</u>
<Title or Department>	Date	<Title or Department>	Date
<u><i>[Signature]</i></u>	<u>4/24/97</u>	<u><i>[Signature]</i> WFC-SOM</u>	<u>4-23-97</u>
<Title or Department>	Date	<Title or Department>	Date

Appendix A  
TABLE OF CONTENTS

Section		Page
	TITLE/PROCEDURE APPROVAL	A-1
	EXECUTION AND TEST APPROVAL	A-2
	TABLE OF CONTENTS	A-3
1	PURPOSE	A-4
2	REFERENCES	A-5
3	RESPONSIBILITIES	A-6
4	CHANGE CONTROL	A-9
5	EXECUTION	A-9
6	EXCEPTIONS	A-10
7	PREREQUISITES, EQUIPMENT/INSTRUMENTS, COMPONENT LOCATIONS, AND ABBREVIATIONS	A-11
8	LEAK DETECTION AND MONITORING SYSTEM	A-13
9	TRANSFER PUMP P1 SPEED CONTROL	A-16
10	MOTOR OPERATED VALVES HV-P1 AND HV-305	A-19
11	INTEGRATED SYSTEM (DRY) TEST AND INTERLOCK VERIFICATION	A-22
	EXCEPTION FORM	A-25

NOTE: At completion of test, enter pages added during performance of test to this Table of Contents.



## Appendix A

### 1 PURPOSE

This Acceptance Test Procedure/Operational Test Procedure (ATP/OTP) has been prepared to demonstrate that the Electrical/Instrumentation and Mechanical systems function as required by project criteria and to verify proper operation of the integrated system including the interlocks.

The equipment to be tested includes the following:

- a. Leak detection system operation and controls.
- b. Electrical interlocks.
- c. Transfer pump operation.
- d. Vacuum breaker system interlocks.

The following tests will ensure the operation of the equipment used in support of radioactive liquid transfer from 222-S Laboratory Facility to 219-S, 242-S, and then to 244-S. This test will include checks on associated annunciator systems.

The leak detection system uses 3 leak detector elements (LDEs) to monitor the entire length of pipe installed between 219-S and 244-S.

- a. LDE-306A monitors approximately 925 feet of pipe between 219-S and LDE-306A.
- b. LDE-306B monitors approximately 1000 feet of pipe between LDE-306A and LDE-306B.
- c. LDE 306C monitors approximately 1005 feet of pipe between LDE-306B and LDE-306C.

The leak detectors are connected to leak detection panels mounted locally. The signals are transmitted to control panels located at 219-S, 242-S and 244-S. Leak detection annunciation is provided at 219-S, 222-S Room 3B, 242-S and 244-S; and has capability to connect to Central Alarm Surveillance System (CASS).

The leak detection signals are connected to the transfer pump interlock. The pump interlocks are arranged such that evidence of leak in any section of the pipe, or a pump diaphragm leak, or a manual override by the DENY pushbutton will stop pump operation.

The transfer pump is air operated diaphragm type, operated by pneumatic controller. Air supply to the pump is controlled by an in line motor operated valve. If leak detection system is activated, the pump interlock circuit will prevent pump operation. In addition, if pump diaphragm should leak, pump interlock circuit will prevent pump operation.

## Appendix A

### 2 REFERENCES

#### 2.1 DRAWINGS

##### 2.1.1 Project W-087 Drawings

H-2-820841, Sh 1 and 2, Rev 0	Instrumentation Conn. Diagrams
H-2-820842, Sh 1, Rev. 0	242-S Panel A Modifications
H-2-820843, Sh 1, Rev. 0	242-S Panel A Interconn. Diagram
H-2-820848 Sh 1, Rev 0	Leak Detection, Elem. Diagram

##### 2.1.2 Project W-178 Drawings Showing Interface with Project W-087

H-2-825536, Sh 1, Rev. 0	Cell A & Operating Gallery
H-2-825549 Sh 1, Rev 0	Leak Detection Panel IP2
H-2-825550 Sh 1, Rev 0	Control Panel IP3

#### 2.2 SPECIFICATIONS

W-087-C1, Rev 0	Construction Specification
W-087-C2, Rev 0	Construction Specification

#### 2.3 VENDOR INFORMATION

- a. Leak detection system (B/W Magneatek): VI 22687, Supplement No. 8.
- b. Diaphragm pump and diaphragm leak detection and speed control unit (Sandpiper): VI 22687, Supplement No. 1.
- c. Motor operated valve (MOV) actuator (Worcester): VI 22687, Supplement No. 9.

#### 2.4 OTHER

- a. Tank Farm Operating Procedure TO-410-950 (Draft).
- b. Safety Manual, WHC-CM-1-10.
- c. Building Emergency Plan, WHC-IP-0263-TF.
- d. Industrial Hygiene Manual, WHC-CM-1-11.
- e. Tank Farm Health and Safety Plan (HASP), WHC-SD-WM-HSP-002.
- f. Hanford Site Radiological Control Manual (HSRCHM).
- g. Environmental Compliance Manual, WHC-CM-7-5.
- h. Standard Engineering Practices, WHC-CM-6-1, EP-2.2.

#### 2.5 ENGINEERING CHANGE NOTICES (ECNS)

ECN W-087-12	ECN - W087 - 61
ECN W-087-23	ECN - W087 - 63
ECN W-087-26	ECN - W-087-65
ECN W-087-46	ECN - W087 - 66
ECN W-087-50	

## Appendix A

ECN W-087-54

Prior to final test approval, enter ECNs written against this ATP/OTP.

### 3 RESPONSIBILITIES

#### 3.1 GENERAL

Each company or organization participating in this ATP will designate personnel to assume the responsibilities and duties as defined herein for their respective roles. The designees shall become familiar with this ATP and the systems involved to the extent that they can perform their assigned duties.

#### 3.2 WHC PROJECT ENGINEER

- 3.2.1 Designates a Test Director.
- 3.2.2 Distributes the approved testing schedule before start of testing.
- 3.2.3 Schedules and conducts a pretest kickoff meeting with test participants when necessary.
- 3.2.4 Schedules prejob safety meetings.
- 3.2.5 Schedules a dry run when necessary.
- 3.2.6 Notifies concerned parties when a change is made in the testing schedule.
- 3.2.7 Notifies the persons supporting the test 2 days before the start of testing.
- 3.2.8 Coordinates testing with the 219-S, 222-S, 242-S, 244-S, 200-West Area, Tank Farm Managers, Tank Farm Operations Cognizant Engineer, and Shift Manager.
- 3.2.9 Acts as liaison between the participants in acceptance testing.
- 3.2.10 Signs Execution and Test Approval page when test is approved and accepted.
- 3.2.11 Takes necessary action to clear exceptions to the test.
- 3.2.12 Signs Exception Form when exception has been resolved.
- 3.2.13 Provides a distribution list for the approved and accepted ATP(ATR).

#### 3.3 TEST DIRECTOR

- 3.3.1 Coordinates and directs acceptance testing.
- 3.3.2 Confirms that field testing and inspection of the system or portion of the system to be tested has been completed.

## Appendix A

- 3.3.3 Stops any test which, in his or her judgment, may cause damage to the system until the problem has been resolved.
- 3.3.4 After verifying there is no adverse impact, may alter the sequence in which systems or subsystems are tested.
- 3.3.5 Ensures that required environmental conditions are maintained.
- 3.3.6 If a test is to be suspended for a period of time, ensures that the system is left in a safe mode.
- 3.3.7 Before restarting suspended test, re verifies the test prerequisites.
- 3.3.8 Initiates ECNs to document required changes to the ATP.
- 3.3.9 Reviews recorded data, discrepancies, and exceptions.
- 3.3.10 Obtains information or changes necessary to clear or resolve objections during the performance of the test.
- 3.3.11 Signs Execution and Test Approval page when test has been performed.
- 3.3.12 Signs Exception Form when exception has been resolved.
- 3.3.13 Obtains required signatures on the ATP Master prior to reproduction and distribution.
- 3.4 WITNESSES (Provided by Participating Organizations. One witness shall be a Title III acceptance inspector.)
  - 3.4.1 Witness the tests.
  - 3.4.2 Review results of testing.
  - 3.4.3 Assist the Test Director when requested.
  - 3.4.4 Sign Execution and Test Approval page when test has been performed.
  - 3.4.5 Sign Exception Form when exception has been resolved.
- 3.5 RECORDER (Provided by ICF KH)
  - 3.5.1 Prepares a Field copy from the ATP Master.
  - 3.5.2 Records printed names, titles, and initials of all designated personnel on Field copy of ATP prior to start of testing.
  - 3.5.3 Records test instrument identification numbers and calibration expiration dates, as required.
  - 3.5.4 Initials and dates every test step on the Field copy as it is completed next to the step number or on a data sheet, when provided. Records test data. On data sheets where there is not room for both the initial and date, date may be entered at bottom of column.

## Appendix A

- 3.5.5 Records objections and exceptions on an Exception form. Uses additional Exception forms as needed. Notifies the Test Director at time the objection is made.
  - 3.5.6 Signs Execution and Test Approval page when test has been performed.
  - 3.5.7 After test is finished, assigns alpha numeric page numbers to added data sheets and Exception forms. Records page numbers in the Table of Contents.
  - 3.5.8 Transfers Field copy entries for each step to the Master in ink or type, signs, and dates. Transmits the completed Master to the Test Director for approval signature routing. Transmits the Field copy to Construction Document Control for inclusion in the official project file.
  - 3.5.9 Signs Exception Form when exception has been resolved and transmits to Test Director.
- 3.6 TEST OPERATOR
- 3.6.1 Performs test under direction of the Test Director.
  - 3.6.2 Provides labor, equipment, and test instruments required for performing tests which have not been designated as being provided by others.
  - 3.6.3 Requests in writing from the Test Director those services, materials, or equipment that have been designated as being supplied by others.
  - 3.6.4 Confirms that all equipment required for performing test will be available at the start of testing.
  - 3.6.5 Signs the Execution and Test Approval page.
- 3.7 A-E ACCEPTANCE INSPECTION, DESIGN ENGINEER, AND PROJECT MANAGER
- 3.7.1 Evaluate results.
  - 3.7.2 Sign for A-E Approval on Execution and Test Approval page.
- 3.8 TANK FARM SHIFT OPERATIONS MANAGER
- 3.8.1 Designates an operator to witness and/or complete the ATP/OTP for Tank Farms.
  - 3.8.2 Assumes responsibility for the safe conduct of the ATP/OTP within Tank Farms.
  - 3.8.3 Authorizes the start of the ATP/OTP for Tank Farms.
  - 3.8.4 Signs Execution and Test Approval page when test is approved and accepted.
  - 3.8.5 Signs exception Form when exception has been resolved.

## Appendix A

### 3.9 TANK FARM OPERATOR

- 3.9.1 Witnesses the test for Tank Farms.
- 3.9.2 Operates equipment as designated by the Test Director.
- 3.9.3 Signs Execution and Test Approval page when test has been completed.
- 3.9.4 Signs Exception Form when exception has been resolved.

### 3.10 TANK FARM COGNIZANT ENGINEER

- 3.10.1 Approves modifications to the ATP/OTP.
- 3.10.2 Signs Execution and Test Approval page when test has been completed.
- 3.10.3 Signs Exception Form when exception has been resolved.
- 3.10.4 Reviews recorded data, discrepancies, and exceptions.

## 4 CHANGE CONTROL

Required changes to this ATP must be processed on ECNs in accordance with company procedures. If a need for change is discovered in the course of running the test, the test director shall review the change(s) required to the procedure and discuss with the design engineer or representative. If the changes required do not affect the configuration, the changes shall be redlined and signed by the design engineer and the test director for incorporation into an ECN. During this resolution, other portions of the test, unaffected by the change, may proceed.

## 5 EXECUTION

### 5.1 OCCUPATIONAL SAFETY AND HEALTH

Individuals shall carry out their assigned work in a safe manner to protect themselves and others from undue hazards and to prevent damage to property and environment. Facility line managers shall assure the safety of activities within their areas to prevent injury, property damage, or interruption of operation. Performance of test activities shall always include safety and health aspects.

### 5.2 PERFORMANCE

- 5.2.1 Conduct testing in accordance with ICF KH Procedure CON 3.5 (Performance and Recording of Acceptance Test Procedures).
- 5.2.2 Perform test following the steps and requirements of this procedure.

## Appendix A

### 6 EXCEPTIONS

#### 6.1 GENERAL

Exceptions to the required test results are sequentially numbered and recorded on individual Exception forms. This enables case-by-case resolution and approval of each exception.

Errors/exceptions in the ATP itself shall NOT be processed as test exceptions (see Section 4 CHANGE CONTROL).

#### 6.2 RECORDING

6.2.1 Number each exception sequentially as it occurs and record it on an Exception Form (KEH-42B), sample appended.

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

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

#### 6.3 RETEST/RESOLUTION

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

6.3.1 When action taken results in an acceptable retest, sign and date Retest Execution and Acceptance section of the Exception Form.

6.3.2 When action taken does not involve an acceptable retest, strike out the Retest Execution and Acceptance section of the Exception Form.

#### 6.4 APPROVAL AND ACCEPTANCE

The customer provides final approval and acceptance of exceptions by checking one of the following on Exception Form:

6.4.1 Retest Approved and Accepted: Applicable when Retest Execution and Acceptance section is completed.

6.4.2 Exception Accepted-As-Is: Requires detailed explanation.

6.4.3 Other: Requires detailed explanation.

The customer signs and dates the Exception Form and obtains other customer internal approvals, if required.

#### 6.5 DISTRIBUTION

A copy of the approved Exception Form is distributed to each participant. The signed original is attached to the ATP Master.

Appendix A

7 PREREQUISITES, EQUIPMENT/INSTRUMENTS, COMPONENT LOCATIONS, AND ABBREVIATIONS

7.1 PREREQUISITES

The following conditions shall exist at start of testing for that portion of the system being tested.

- 7.1.1 Systems have been inspected for compliance with construction documents.
- 7.1.2 Vendor data and operating instructions are at hand for each installed instrument, pump, and valve.
- 7.1.3 Reference documents (including this ATP) have been verified for correct revision number and outstanding ECNs.
- 7.1.4 A Job Safety Analysis has been prepared by ICF KH and a Prejob Safety Meeting has been conducted.
- 7.1.5 Test instruments have a valid calibration stamp attached. Test instrument identification numbers and calibration expiration dates have been recorded in Para 7.2.
- 7.1.6 Methods of water disposal have been approved by Facilities Management.
- 7.1.7 Power is available to energize the system, *Circuit 24 @ 244-S, Circuit #3 @ 242-S, Circuit #5, 7, 8, and 27 at 219-S* | ECN 6
- 7.1.8 Annunciator lights have been tested. *Fuse at Annunciator in Rm 3B @ 222-S*
- 7.1.9 Voice communications are available between 219-S, 222-S, 242-S, 244-S, leak detection sensor locations, and other locations determined to be appropriate by the test director.
- 7.1.10 Radiation Work Permits (RWPs) have been approved by the Operating Contractor. Attach RWPs to ATP.
- 7.1.11 Pump P1 spool piece is disconnected from Tank 102. *(exception #1)*
- 7.1.12 Project equipment and instruments have been identified by tag numbers.
- 7.1.13 Shop test results for Panels IP1, IP2, and IP3 are on file, for record, with ATP/OTP.

7.2 EQUIPMENT/INSTRUMENTS

Supplied by Test Operator unless otherwise noted.

- 7.2.1 Voltohmmeters (VOM):  
*ACB-45-CE-663* *7/24 4-4-97*  
 Instrument No.                      Expiration Date 8-5-97 *9/10 4-4-97*  
*950-45-CE-C15* *7-26-97*
- 7.2.2 Switchable Shorting Jumpers: Length, 1 foot through 6 foot as required.



## Appendix A

- 200 | ECN 65
- 7.2.3 Pressure Gages: 0-150 psig. Pressure test assembly used for tank trailers may be used for this ATP.
- 7.2.4 Container: To hold water for leak detector tests, approximately 1 gallon capacity.
- 7.2.5 Tubing: 1/4-inch and 1/2-inch tygon.

### 7.3 COMPONENT LOCATION

Component Identifier	Location
Control Panel IP2	219-S
Control Panel IP3	219-S
Motor Operated Valves HV-P1 and HV-305	219-S
Panelboard (219-SX)	219-S
Leak Detector Elements LDE-306A, 306B, 306C	On the transfer piping between Tank-102 and 244-S
Leak Detector Transmitters LDT-306A, 306B, 306C	Outside, between 219-S and 244-S
Pushbuttons PERMIT and DENY	Control Panel A in 242-S

### 7.4 ABBREVIATIONS

CASS	Central Alarm Surveillance Systems
ECN	Engineering Change Notice
LDE	Leak Detector Element
LDT	Leak Detector Transmitter
LDY	Leak Detection Relay
MOV	Motor-Operated Valve
RWP	Radiation Work Permit

Appendix A

8 LEAK DETECTION AND MONITORING SYSTEM

This test will verify operation of the leak detection system consisting of LDE, leak detection processor, annunciation and control interlock. This system is based upon conductivity principle. When the liquid due to leak contacts both the ground probe and the leak detection probe of the LDE, leak detection relays deenergize and provide annunciation, local indication by beacon light, and interlock outputs.

8.1 PREPARATION

97270  
4-4-97  
97270  
4-4-97  
97270  
4-4-97  
97270  
4-3-97

- 8.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met. - See test exception 1
- 8.1.2 Notify 219-S, 222-S, 242-S, and 244-S Building Managers, AND SHIFT MANAGER ECN 6
- 8.1.3 Notify Tank Farm Operations Manager.
- 8.1.4 Verify that energized electrical work permits have been obtained.

NOTE: Keep appropriate personnel informed as to test status.

CAUTION: TEST INVOLVES WORKING WITH LIVE CIRCUITS. ENSURE THAT THE IMMEDIATE AREA IS NOT WET. ENSURE THAT HANDS AND APPAREL ARE DRY.

8.2 LEAK DETECTION AND MONITORING SYSTEM TEST

Record the following steps for each LDE/LDT loop on Data Sheet 8.2.

- 8.2.1 Remove LDE from pipe.
- 8.2.2 Apply power to monitoring units (Circuit 24, Panelboard B at 244-S, Circuit 3 at Panelboard 242-S, and Circuit 27 at 219-S). ECN 65
- 8.2.3 Immerse LDE in liquid. 25, 7, 8, and
- 8.2.4 Verify white indicating beacon light at 244-S is ON.
- 8.2.5 Verify contact 1-7 of LDT in Panel IP2 at 219-S is CLOSED.
- 8.2.6 Verify Annunciator Window 1-1, ENCASMENT LEAK on Panel A at 242-S is FLASHING and audible alarm is ON.
- 8.2.7 Verify Annunciator Window 3-5, TRANSFER LINES TO 244-S on Panel IP3 at 219-S is FAST FLASH and audible alarm is ON.
- 8.2.8 Verify Group Annunciator AI-3B, Window 9, DRAIN LEAK DETECTION at 222-S Room 3B is FLASHING and audible alarm is ON.
- 8.2.9 ~~Verify leak indicating light at LDT on Panel IP2 is ON.~~ ECN 65
- 8.2.10 Verify leak indicating light at Panel IP3 is ON.
- 8.2.11 Depress ACKNOWLEDGE pushbutton at 219-S and verify Annunciator Window 3-5 is STEADY ON and audible alarm is OFF.

Appendix A

- 8.2.12 Depress ACKNOWLEDGE pushbutton at 242-S and verify Annunciator Window 1-1 is STEADY ON and audible alarm is OFF.
- 8.2.13 Depress ACKNOWLEDGE pushbutton at 222-S, Room 3B and verify Annunciator Window 9 is STEADY ON and audible alarm is OFF.
- 8.2.14 Remove LDE from liquid and dry it off.
- 8.2.15 Verify white indicating beacon light at 244-S is OFF.
- 8.2.16 Verify leak indicating light at LDT on Panel IP2 is OFF.
- 8.2.17 Verify Annunciator Window 3-5 at Panel IP3 is SLOW FLASH and audible alarm is ON.
- 8.2.18 Depress RESET pushbutton at Panel IP3 and verify Annunciator Window 3-5 and audible alarm are OFF.
- 8.2.19 Verify Group Annunciator A1-3B Window 9 at 222-S Room 3B is OFF.
- 8.2.20 Verify Annunciator Window 1-1 at 242-S is OFF.
- 8.2.20a DEENERGIZE Circuit 24 on Panel B in 244-S
- 8.2.21 Reinstall LDE in pipe.
- 8.2.21a ENERGIZE Circuit 24 on Panel B in 244-S

ECN 65

Appendix A

DATA SHEET 8.2				
STEP	PERFORM/VERIFY	LDE/LDT		
		306A	306B	306C
8.2.1	Remove LDE from pipe	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.2	Apply power to monitoring units	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.3	Immerse LDE in liquid	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.4	Verify white beacon light at 244-S is ON	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.5	Verify Contact 1-7 of LDT at Panel IP2 is CLOSED	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.6	Verify 242-S Annunciator Window 1-1 is FLASHING and audible alarm is ON	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.7	Verify 219-S Annunciator Window 3-5 is FAST FLASH and audible alarm is ON	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.8	Verify 222-S Group Annunciator Window 9 is FLASHING and audible alarm is ON	4-4-97 772.0	4-4-97 772.0	4-4-97 772.0
8.2.9	Verify leak indicating light at LDT on Panel-IP2 is ON... FUDGE	---	---	---
8.2.10	Verify leak indicating light at Panel IP3 is ON	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.11	Depress ACKNOWLEDGE pushbutton at 219-S and verify Annunciator Window 3-5 is ON and audible alarm is OFF	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.12	Depress ACKNOWLEDGE pushbutton at 242-S and verify Annunciator Window 1-1 is STEADY ON and audible alarm is OFF	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.13	Depress ACKNOWLEDGE pushbutton at 222-S Room 3B and verify Annunciator window 9 is STEADY ON and audible alarm is OFF.	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.14	Remove LDE from liquid and dry it off	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.15	Verify white beacon light at 244-S is OFF	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.16	Verify leak indicating light at LDT on Panel IP2 is OFF	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.17	Verify Annunciator Window 3-5 at Panel IP3 is SLOW FLASH and audible alarm is ON	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.18	Depress RESET pushbutton at Panel IP3 and verify Annunciator Window 3-5 and audible alarm are OFF	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.19	Verify Group Annunciator Window 9 at 222-S Room 3B is OFF	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.20	Verify Annunciator Window 1-1 at 242-S is OFF	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97
8.2.21	Reinstall LDE in pipe	772.0 4-4-97	772.0 4-4-97	772.0 4-4-97

8.2.20a DEENERGIZE CIRCUIT 24 @ 244-5  
 8.2.21a ENERGIZE CIRCUIT 24 @ 244-5  
 END OF SECTION B

N/A N/A N/A } see test exception #2  
 N/A N/A N/A

## Appendix A

### 9 TRANSFER PUMP P1 SPEED CONTROL

This test will verify speed control operation of Pump P-1 in 219-S.

#### 9.1 PREPARATION

- N/A 9.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met.
- N/A 9.1.2 Notify 219-S and 242-S Building Managers.
- N/A 9.1.3 Notify Tank Farms Operations and Shift Manager.
- N/A 9.1.4 Verify that energized electrical work permits have been obtained.

NOTE: Keep appropriate personnel informed as to test status.

CAUTION: TEST INVOLVES WORKING WITH LIVE CIRCUITS. ENSURE THAT THE IMMEDIATE AREA IS NOT WET. ENSURE THAT HANDS AND APPAREL ARE DRY.

#### 9.2 TRANSFER PUMP P1 SPEED CONTROL TEST

- N/A 9.2.1 Verify Air Valve CA-V-6600 is CLOSED.
  - N/A 9.2.2 Energize Circuit 3 for Panel A from Panelboard C at 242-S.
  - N/A 9.2.3 Energize Panels IP2 and IP3 at 219-S.
  - N/A 9.2.4 Pull to reset DENY switch.
  - N/A 9.2.5 Press and release PERMIT pushbutton.
  - N/A 9.2.6 Verify TRANSFER PUMP P-1 indicating light on 242-S is ON.
  - N/A 9.2.7 Rotate pump speed control knob to 0% position.
- CAUTION: High pressure air may be present. Perform following operation slowly.
- N/A 9.2.8 Disconnect instrument air tubing at the outlet of Regulator HY301.
  - N/A 9.2.9 Install a tee fitting between the regulator outlet and the process tubing. Connect an instrument pressure gauge to the remaining end of the tee fitting.
- NOTE: Readings taken from this pressure gauge, and recorded in this ATP/OTP, are for information only and have no bearing on the acceptance of this test.
- N/A 9.2.10 Verify Valve HV-305 OPEN (red) indicating light on Panel IP3 is ON and Valve HV-P1 CLOSED (green) indicating light on Panel IP3 is ON.
  - N/A 9.2.11 Verify pump speed control knob is turned to 0% position.
  - N/A 9.2.12 Apply power to the electropneumatic controller (Circuit 8 at 219-SX).
  - N/A 9.2.13 Open Air Valve CA-V-6600.

\* Ref ATP dated 10-14-96

m.v.B  
4-3-97

Appendix A

- N/A 9.2.14 Record reading on the pressure gauge. \_\_\_\_\_ psi
- N/A 9.2.15 Turn Hand Switch HS-305 to CLOSE position and hold while verifying the following.
- N/A 9.2.15.1 As the valve travels toward the closed position, verify both OPEN (red) and CLOSED (green) indicating lights are ON.
- N/A 9.2.15.2 When the valve reaches the fully closed position, verify OPEN indicating light is OFF and CLOSED indicating light is ON.
- N/A 9.2.16 Release Hand Switch HS-305 to AUTO position.
- N/A 9.2.17 Turn Hand Switch HS-P1 to OPEN position and hold while verifying the following.
- N/A 9.2.17.1 As the valve travels toward the open position, verify both OPEN (red) and CLOSED (green) indicating lights are ON.
- N/A 9.2.17.2 When the valve reaches the fully open position, verify CLOSED indicating light is OFF and OPEN indicating light is ON.
- N/A 9.2.18 Release Hand Switch HS-P1 to AUTO position.
- N/A 9.2.19 Slowly rotate pump speed control knob clockwise to 50% position.
- N/A 9.2.20 Record reading on the pressure gauge. \_\_\_\_\_ psi
- NOTE: This reading should be higher than that taken with pump speed control knob at 0%.
- N/A 9.2.21 Slowly rotate pump speed control knob to 100% position.
- N/A 9.2.22 Record reading on the pressure gauge. \_\_\_\_\_ psi
- NOTE: This reading should be higher than that taken with pump speed control knob at 50%.
- N/A 9.2.23 Slowly rotate pump speed control knob back to 0% position.
- N/A 9.2.24 Record reading on the pressure gauge. \_\_\_\_\_ psi.
- NOTE: This reading should be approximately the same as that taken when pump speed control knob was first at 0% position.
- N/A 9.2.25 Turn Hand Switch HS-P1 to CLOSE position and verify the following.
- N/A 9.2.25.1 As the valve travels toward the closed position, verify both OPEN and CLOSED indicating lights are ON.
- N/A 9.2.25.2 When the valve reaches the fully closed position, verify CLOSED indicating light is ON and OPEN indicating light is OFF.
- N/A 9.2.25.3 Verify the closing of Valve HV-P1 has caused Valve HV-305 to OPEN.
- N/A 9.2.26 Close Air Valve CA-V-6600.

\* Ref. ATP dated 10-14-96

1/14/98  
4-3-97

Appendix A

CAUTION: HIGH PRESSURE AIR MAY BE PRESENT. PERFORM FOLLOWING OPERATION SLOWLY.

N/A 9.2.27 Reconnect the tubing to outlet side of Regulator HY301.

N/A 9.2.28 Remove power from Regulator HY301.

\* Ref. ATP dated 10-14-96

END OF SECTION 9

amx

4-3-97

## Appendix A

10

### MOTOR OPERATED VALVES HV-P1 AND HV-305

These tests will verify that Motor Operated Valves HV-P1 and HV-305 operate in accordance with their respective elementary (control) diagram requirements.

HV-P1 is controlled by a 3 position (OPEN-AUTO-CLOSE) control switch which can be maintained in either AUTO or CLOSE position but will spring-return from OPEN to AUTO.

HV-305 is controlled by a 3 position (CLOSE-AUTO-OPEN) control switch which can be maintained in either AUTO or OPEN position but will spring-return from CLOSE to AUTO.

Operation of HV-P1 is dependent on the operation of HV-305. HV-P1 is designed as automatic CLOSE and manual override CLOSE while HV-305 is designed as automatic OPEN and manual override OPEN. In other words, HV-P1 will not OPEN unless HV-305 is CLOSED.

10.1

### PREPARATION

- N/A 10.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met.
- N/A 10.1.2 Notify 219-S and 242-S Building Managers.
- N/A 10.1.3 Notify Tank Farm Operations and Shift Manager.
- N/A 10.1.4 Verify that energized electrical work permits have been obtained.

NOTE: Keep appropriate personnel informed as to test status.

CAUTION: TEST INVOLVES WORKING WITH LIVE CIRCUITS. ENSURE THAT THE IMMEDIATE AREA IS NOT WET. ENSURE THAT HANDS AND APPAREL ARE DRY.

10.2

### MOTOR OPERATED VALVE HV-P1 AND HV-305 TEST

- N/A 10.2.1 Place Circuit Breaker 7 in Panelboard 219-SX, at Building 219-S, in the OFF position.
- N/A 10.2.2 Verify there is NO VOLTAGE across Terminals TB2-205 and TB2-206 at Panel IP3.
- N/A 10.2.3 Place Circuit Breaker 7 in Panelboard 219-SX, at Building 219-S, in the ON position.
- N/A 10.2.4 Place Circuit Breaker 27 in Panelboard 219-S, at Building 219-S, in the ON position.
- N/A 10.2.5 Place Circuit No. 3 in Panelboard C, at Building 242-S, in the ON position.
- N/A 10.2.6 Verify DENY pushbutton in Panel A, at Building 242-S, is in PULL TO RESET position.
- N/A 10.2.7 Press and release PERMIT pushbutton in Panel A at Building 242-S.
- N/A 10.2.8 Using VOM verify 120 V ac across Terminals TB2-201 and TB1-7N2.

\* Ref. ATP dated 4-3-96

1/1/97  
4-3-97

A-19

HNF-SD-W087-ATR-001  
Rev. 1  
4/28/97



Appendix A

- N/A 10.2.9 Verify PERMITTED indicating light on Panel IP3 is ON.
- N/A 10.2.10 Verify TRANSFER PUMP P-1 indicating light on Panel A, in 242-S, is ON.
- N/A 10.2.11 Turn selector switch for Valve HV-305 on Panel IP3 to OPEN.
- N/A 10.2.12 Verify Valve HV-305 position handle at top of valve actuator indicates OPEN and valve CLOSED (green) indicating light on Panel IP3 is OFF and valve OPEN (red) indicating light is ON.
- N/A 10.2.13 Turn selector switch for Valve HV-P1 on Panel IP3 to CLOSE.
- N/A 10.2.14 Verify valve HV-P1 position handle at top of valve actuator indicates CLOSE and valve CLOSED indicating light on Panel IP3 is ON.
- N/A 10.2.15 Using VOM verify Relay K-V on Panel IP2 is ENERGIZED.
- N/A 10.2.16 Turn selector switch for HV-P1 from CLOSE to AUTO.
- N/A 10.2.17 Verify Valve HV-P1 position handle at top of valve actuator continues to indicate CLOSE and valve CLOSED indicating light on Panel IP3 remains ON.
- N/A 10.2.18 Turn and hold selector switch for HV-P1 in OPEN position.
- N/A 10.2.19 As Valve HV-P1 travels toward the open position, verify both OPEN and CLOSED indicating lights are ON.
- N/A 10.2.20 When Valve HV-P1 reaches the fully open position, verify CLOSED indicating light is OFF and OPEN indicating light is ON.
- N/A 10.2.21 Release selector switch for HV-P1 to AUTO.
- N/A 10.2.22 Verify Valve HV-P1 begins to close.
- N/A 10.2.23 As Valve HV-P1 travels toward the closed position, verify both OPEN and CLOSED indicating lights are ON.
- N/A 10.2.24 When Valve HV-P1 reaches the fully closed position, verify OPEN indicating light is OFF and CLOSED indicating light is ON.
- N/A 10.2.25 Turn and hold selector switch for HV-305 in CLOSE position.
- N/A 10.2.26 As Valve HV-305 travels toward the closed position, verify both OPEN and CLOSED indicating lights are ON.
- N/A 10.2.27 When valve position handle on Valve HV-305 shows fully closed, verify CLOSED indicating light is ON and OPEN indicating light is OFF.
- N/A 10.2.28 Release selector switch for HV-305 to AUTO position.
- N/A 10.2.29 Turn and hold selector switch for HV-P1 in OPEN position.
- N/A 10.2.30 As Valve HV-P1 travels toward the open position, verify both OPEN and CLOSED indicating lights are ON.

\* Ref ATP dated 10-14-96

gmr  
4-3-97

Appendix A

- N/A 10.2.31 When valve position handle on Valve HV-P1 shows fully open, verify OPEN indicating light is ON and CLOSED indicating light is OFF.
- N/A 10.2.32 Release selector switch for HV-P1 to AUTO position.
- N/A 10.2.33 Turn selector switch for HV-305 to OPEN position.
- N/A 10.2.34 Verify Valve HV-305 starts to OPEN.
- N/A 10.2.35 Verify HV-P1 begins to CLOSE as soon as HV-305 is fully OPEN.
- N/A 10.2.36 Turn and hold selector switch for HV-305 in CLOSE position until HV-305 is CLOSED and then release selector switch to AUTO position.
- N/A 10.2.37 Turn and hold selector switch for HV-P1 in OPEN position until HV-P1 is OPEN.
- N/A 10.2.38 Depress DENY switch to Push to Deny position on Panel A in 242-S Control Room.
- N/A 10.2.39 Verify PERMITTED indicating light on Panel IP3 is OFF.
- N/A 10.2.40 Verify TRANSFER PUMP P-1 indicating light on Panel A in 242-S is OFF.
- N/A 10.2.41 Pull DENY switch to Pull to Reset position on Panel A in 242-S.
- N/A 10.2.42 Verify HV-P1 starts to CLOSE.
- N/A 10.2.43 Verify HV-305 begins to OPEN as soon as HV-P1 is fully CLOSED.
- N/A 10.2.44 Using VOM verify Relay K-P on Panel IP2 is ENERGIZED.
- N/A 10.2.45 Verify HV-305 position handle at top of valve actuator is in OPEN position.

\* Ref. ATP dated 10-14-96

ms+B  
4-3-97

END OF SECTION 10

## Appendix A

### 11 INTEGRATED SYSTEM (DRY) TEST AND INTERLOCK VERIFICATION

This test will demonstrate overall system operation by verifying the various interlocks perform the design functions. During this test no liquid will be pumped out of the tanks. Pump vendor assures that the pump can be run "DRY" for certain time duration.

#### 11.1 PREPARATION

- N/A 11.1.1 Verify all prerequisites of Para 7.1 and 7.2 have been met.
- N/A 11.1.2 Notify 219-S, 222-S, 242-S, and 244-S Building Managers.
- N/A 11.1.3 Notify Tank Farm Operations and Shift Manager.
- N/A 11.1.4 Verify that energized electrical work permits have been obtained.  
NOTE: Keep appropriate personnel informed as to test status.
- N/A 11.1.5 Verify all previous ATP sections have been completed satisfactorily.

#### 11.2 SYSTEM TEST

- N/A 11.2.1 Verify Panel IP2 is ENERGIZED.
- N/A 11.2.2 Verify Panel IP3 is ENERGIZED.
- N/A 11.2.3 Verify Panel A in 242-S is ENERGIZED.
- N/A 11.2.4 Close Air Inlet Valve CA-V-6600.
- N/A 11.2.5 Verify DENY switch in Panel A at 242-S is in Pull to Reset position.
- N/A 11.2.6 Press and release PERMIT pushbutton in Panel A at 242-S.
- N/A 11.2.7 Verify TRANSFER PUMP P-1 indicating light at Panel A 242-S is ON.
- N/A 11.2.8 Verify PERMITTED indicating light on Panel IP3 is ON.
- N/A 11.2.9 Verify Siphon Valve HV-305 is OPEN.
- N/A 11.2.10 Verify leak detection indicating light on Panel IP2 is OFF.
- N/A 11.2.11 Verify leak detection indicating light on Panel IP3 is OFF.
- N/A 11.2.12 Verify pump diaphragm leak indicating light on Panel IP3 is OFF.
- N/A 11.2.13 Verify Pump P1 (air inlet) hand switch on Panel IP3 is in CLOSE position.
- N/A 11.2.14 Turn HV-P1 hand switch to OPEN and hold it momentarily in that position.
- N/A 11.2.15 Verify HV-P1 begins to OPEN as indicated by both RED and GREEN indicating lights ON.

\*Ref. ATP dated 10-14-96

M.M.S.  
4-3-97

## Appendix A

<u>N/A</u>	11.2.16	Release HV-P1 hand switch allowing it to return to AUTO.
<u>N/A</u>	11.2.17	Verify HV-P1 begins to Close.
<u>N/A</u>	11.2.18	Close Siphon Valve HV-305 by turning control switch on Panel IP3 to CLOSE.
<u>N/A</u>	11.2.19	Release Hand Switch for HV-305 allowing it to return to AUTO.
<u>N/A</u>	11.2.20	Verify HV-305 is CLOSE as indicated by indicating light.
<u>N/A</u>	11.2.21	Open Air Valve CA-V-6600.
<u>N/A</u>	11.2.22	Turn and hold HV-P1 hand switch on Panel IP3 to OPEN.
<u>N/A</u>	11.2.23	Verify Pump P1 STARTS as indicated by indicating OPEN light.
<u>N/A</u>	11.2.24	Release HV-P1 hand switch to AUTO.
<u>N/A</u>	11.2.25	Verify Pump P1 continues to run as indicated by indicating OPEN light.
<u>N/A</u>	11.2.26	Simulate leak by connecting shorting jumper at Terminals TB2-207 and TB2-208 on Panel IP3.
<u>N/A</u>	11.2.27	Verify Pump P1 air inlet valve starts to CLOSE.
<u>N/A</u>	11.2.28	Verify Siphon Valve HV-305 starts to OPEN as soon as Pump P1 STOPS.
<u>N/A</u>	11.2.29	Remove shorting jumpers at Terminals TB2-207 and TB2-208.
<u>N/A</u>	11.2.30	Verify Pump P1 remains STOPPED.
<u>N/A</u>	11.2.31	Start CLOSING Siphon Valve HV-305.
<u>N/A</u>	11.2.32	Turn Pump P1 hand switch to OPEN as soon as Siphon Valve HV-305 has closed.
<u>N/A</u>	11.2.33	Verify Pump P1 STARTS.
<u>N/A</u>	11.2.34	Release Pump P1 hand switch to AUTO.
<u>N/A</u>	11.2.35	Verify Pump P1 continues to run as indicated by OPEN light.
<u>N/A</u>	11.2.36	Depress DENY switch to Push to Deny position at 242-S Panel A.
<u>N/A</u>	11.2.37	Verify Pump P1 cannot START when Pump P1 hand switch is turned to OPEN.
<u>N/A</u>	11.2.38	Verify Siphon valve is OPEN as indicated by indicating light ON.
<u>N/A</u>	11.2.39	Pull DENY switch to Pull to Reset position.
<u>N/A</u>	11.2.40	Close Siphon Valve HV-305.
<u>N/A</u>	11.2.41	Press and release PERMIT pushbutton at 242-S Panel A.

\* Ref. ATP dated 10-14-96

MND  
4-3-97

Appendix A

- N/A 11.2.42 Verify TRANSFER PUMP P-1 indicating light is ON at 242-S Panel A.
- N/A 11.2.43 Verify PERMITTED indicating light on Panel IP3 is ON.
- N/A 11.2.44 Verify Pump P1 STARTS by turning HV-P1 hand switch on Panel IP3 to OPEN.
- N/A 11.2.45 Simulate pump diaphragm leak by connecting shorting jumper at Terminals TB2-205 and TB2-206.
- N/A 11.2.46 Verify Pump P1 air inlet valve starts to CLOSE.
- N/A 11.2.47 Verify Siphon Valve HV-305 starts to OPEN as soon as Pump P1 STOPS.
- N/A 11.2.48 Remove shorting jumpers at Terminals TB2-205 and TB2-206.
- N/A 11.2.49 Close air valve CA-V-6600.

\* Ref. ATP dated 10-14-96

mrb 4-3-97

END OF SECTION 11

# Appendix A

EXCEPTION NO. 1		Project No. W-087	ATP No. WHC-SD-W-667-ATP-011	Rev. 0
Recorded by Mark H. Brown		Organization FDNW-AT	Date Recorded 4-3-97	ATP Page No. 11
Step No. 7.1.1	Requirement Pump P1 spool piece is disconnected from Tank 102			
Description of Problem The spool will not be removed, Air Valve No. CA-V-6607 is locked out that controls pump P-1				
Objector 1 (Name/Organization)		Objector 2 (Name/Organization)		
Planned Action None, this section of the ATP (9&10) will not be run.				
Action Taken None.				
RETEST EXECUTION AND ACCEPTANCE				
Retest Installation Contractor	Date	Recorder	Date	
Witness 1 (Name/Organization)	Date	Witness 2 (Name/Organization)	Date	
Field Engineering	Date	Test Director (Name/Organization)	Date	
Design Engineering (Author of ATP)	Date	A/E Project Engineer	Date	
APPROVAL AND ACCEPTANCE - OPERATING CONTRACTOR				
<input type="checkbox"/> Retest Approved and Accepted		<input checked="" type="checkbox"/> Exception Accepted-as-is*		<input type="checkbox"/> Other*
* Explanation ONLY SECTION 8, LDE MONITORING, BEING RUN AT THIS TIME. PURPOSE OF SPOOL PIECE REMOVAL WAS TO ALLOW TRANSFER PUMP TEST IN SECTION 9. LOCKING OUT AIR TO TRANSFER PUMP ASSURES NO PRODUCT WILL BE PUMPED INTO TRANSFER LINE. 4/4/97				
Approver 1 A. Buckle	Date 4/4/97	Approver 2 M. J. Brown	Date 4-4-97	
Approver 3 D. Halpin	Date 4/4/97	Approver 4 [Signature]	Date 4/4/97	
[Signature] 4/15/97		[Signature] 4-15-97		[Signature] 4/14/97

# Appendix A

EXCEPTION NO. <b>2</b>	Project No. <b>W-087</b>	ATP No. <b>WHC-SD-W087-ATP-001</b>	Rev. <b>0</b>
Recorded by <b>M. H. Brown</b>	Organization <b>FDNW</b>	Date Recorded <b>4-4-97</b>	ATP Page No. <b>15</b>
Step No. <b>B-2.20 a (B.2.2)</b>	Requirement <b>Deenergize and Energize circuit 24 @ 244-S for installing LDE in Pipe</b>		
Description of Problem <b>The system is only 9 volts, as discuss in the pre-job safety meeting with on the 9 volt system but is not a safety issue</b>			
Objector 1 (Name/Organization)		Objector 2 (Name/Organization)	
Planned Action <b>None</b>			
Action Taken <b>None</b>			
RETEST EXECUTION AND ACCEPTANCE			
Retest Installation Contractor	Date	Recorder	Date
Witness 1 (Name/Organization)	Date	Witness 2 (Name/Organization)	Date
Field Engineering	Date	Test Director (Name/Organization)	Date
Design Engineering (Author of ATP)	Date	A-E Project Engineer	Date
APPROVAL AND ACCEPTANCE - OPERATING CONTRACTOR			
<input type="checkbox"/> Retest Approved and Accepted <input checked="" type="checkbox"/> Exception Accepted-as-is* <input type="checkbox"/> Other*			
* Explanation <b>AS NOTED IN PROBLEM DESCRIPTION, WORKING WITH LIVE "9 VOLT" SYSTEM IS NOT A SAFETY ISSUE. THEREFORE DE-ENERGIZATION NOT REQUIRED.</b>			
Approver 1 <b>[Signature]</b>	Date <b>4/8/97</b>	Approver 2 <b>[Signature]</b>	Date <b>4-8-97</b>
Approver 3 <b>[Signature]</b>	Date <b>4/15/97</b>	Approver 4 <b>[Signature]</b>	Date <b>4/24/97</b>
<b>[Signature]</b>	<b>4/19/97</b>	<b>[Signature]</b>	<b>Witness 4-24-97</b>

KEH-428 (6-85)