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22 ENGINEERING DATA TRANSMITTAL

Page 1 of 1

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2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	Tank Farm Restoration and Safe Operation Project/8C610	N/A
5. Proj./Prog./Dept./Div.: W-314/TWRS	6. Design Authority/ Design Agent/Cog. Engr.: D.E. Bowers	7. Purchase Order No.: N/A
8. Originator Remarks: This Specfic Test & Evaluation Plan (STEP) defines the T&E activities performed for the installation of AZ Tank Farm Upgrades for Project W-314		9. Equip./Component No.: N/A 10. System/Bldg./Facility: 200E/W Tank Farms
11. Receiver Remarks: 11A. Design Baseline Document? [ ] Yes [X] No		12. Major Assm. Dwg. No.: N/A 13. Permit/Permit Application No.: N/A 14. Required Response Date: N/A

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Desig-nator	(G) Reason for Trans-mittal	(H) Origi-nator Dispo-sition	(I) Receiv-er Dispo-sition
1	TWR-3093, Rev. 0		0	Project W-314 Specific Test and Evaluation Plan for AZ Tank Farm Upgrades	Q	1,2		

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION
(See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
1	1	Design Authority ~~DE Bowers~~			S5-13						
1	1	Design Agent JT Koberg			B3-12						
1	1	Cog.Eng. WH Hays			B4-57						
1	1	Cog. Mgr. JL Homan		8-12-98	S6-82						
1	1	QA HM Chaffin			R3-25						
1	1	Cheif Test Dir. RL Legg			R4-04						
1	1	RW Jacobson			R2-50						

18.	19.	20.	21. DOE APPROVAL (if required) Ctrl. No.
Signature of EDT Originator / Date	Authorized Representative for Receiving Organization / Date	~~Design Authority~~/ ~~Cognizant~~ Manager / Date	[ ] Approved [ ] Approved w/comments [ ] Disapproved w/comments
8/12/98	N/A	8-12-98	

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Project W-314 Specific Test and Evaluation Plan For AZ Tank Farm Upgrades

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U.S. Department of Energy Contract DE-AC06-96RL13200

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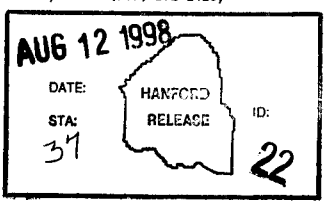
Key Words: Specific Test and Evaluation Plan, Project W-314, AZ Tank Farm Upgrade

Abstract: This Specific Test and Evaluation Plan (STEP) defines the test & evaluation activities encompassing the upgrade of AZ Tank Farm Project.



Release Stamp

Christine Willingham 8-12-98
Release Approval Date

Approved for Public Release

PROJECT W-314

SPECIFIC TEST AND EVALUATION PLAN

FOR

AZ TANK FARM UPGRADES

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1.0 PURPOSE

The purpose of this Specific Test and Evaluation Plan (STEP) is to provide a detailed written plan for the systematic testing of modifications made by the addition of the SN-631 transfer line from the AZ-01A pit to the AZ-02A pit by the W-314 Project. The STEP develops the outline for test procedures that verify the system's performance to the established Project design criteria. The STEP is a "lower tier" document based on the W-314 Test & Evaluation Plan (TEP).

2.0 SCOPE

This STEP encompasses all testing activities required to demonstrate compliance to the project design criteria as it relates to the addition of transfer line SN-631 and associated pit modifications in AZ-01A and AZ-02A. The Project Design Specifications (PDS) identify the specific testing activities required for the Project. Testing includes Validations and Verifications (e.g., Commercial Grade Item Dedication activities...etc), Factory Tests and Inspections (FTIs), installation tests and inspections, Construction Tests and Inspections (CTIs), Acceptance Test Procedures (ATPs), Pre-Operational Test Procedures (POTPs), and Operational Test Procedures (OTPs). The STEP will be utilized in conjunction with the TEP for verification and validation.

3.0 ADMINISTRATIVE

3.1 Safety Information/Communications

Testing and inspection activities will be performed to the safety and communication procedures of the testing facility (e.g., shop, mockup, tank farm, vendor facility...etc.)

During the performance of the AZ Tank Farm Upgrade ATPs and OTPs, the Operations Test Director will be the direct line of communication with the Shift Office. During abnormal and casualty situations, the Double-Shell Tank Farms Shift Manager will be the building emergency director/event commander.

4.0 GENERAL INFORMATION AND PREREQUISITES

4.1 Initial Conditions

Prerequisite tests and all required construction, specific to the test, shall be completed prior to beginning any test. Test boundaries shall be verified as being appropriate and secure. Required locks and tags shall be correctly placed to allow performance of the test without disturbing the lock and tag. Required personnel shall be available and briefed on the steps of the test (a pre-job briefing is a prerequisite that must be satisfied before performing a Construction Work Package (CWP), ATP, and/or OTP). Required test apparatus shall be functional and set up in a safe configuration for the test. Installed and existing equipment, required for the test, shall be verified to be ready to operate in the test conditions.

4.2 Measurement & Test Equipment

Instruments used will be specified per the test document and controlled per the performing agency's Measurement & Test Equipment program.

4.3 Functional Tests

Functional tests, when required for calibration of equipment, will be performed prior to the associated ATP or OTP. Functional tests will be performed to approved documents.

4.4 Temporary Modifications

Temporary modifications may be required in 241-AZ Tank Farm. Temporary modifications will be made per HNF-IP-0842, Vol. IV, section 4.5.

4.5 Equipment and Materials

Equipment installed by the project that fails during testing, or existing equipment that is damaged by testing, will be the responsibility of the construction contractor. Existing facility SSCs, not damaged but found defective, will be the responsibility of Double-Shell Tanks organization. Initiation of repairs will be accomplished by the creation of either a work package, using JCS, or a Construction Work Package (CWP).

5.0 ASSIGNMENTS OF RESPONSIBILITY

The design agent (FDNW) will provide test directors for the Acceptance Test Procedures. Tank Farm Operations will provide a qualified Tank Farm Shift Manager or Operations Engineer who will be the Test Directors for all OTPs. This representative will accept the results of the ATPs for Tank Farm Operations. Roles and responsibilities for construction, TWRS Operations, TFRSO Startup Group, W-314 Project Management, Acceptance Inspection, and Quality Assurance are defined in the W-314 TEP, Chapter three.

5.1 Joint Test Review Group

The JTRG will consist of the Chief Test Director (from the TWRS Testing and Systems Readiness organization), Engineering manager (of the facility that will operate the equipment), W-314 Startup Manager, the Design Authority, applicable Test Director for each ATP & OTP, and W-314 Project Manager. The JTRG provides Tank Farm Operations with a high level of confidence that the test can be performed safely and efficiently. The review by the JTRG provides a basis for test procedure approval and release. The JTRG conducts thorough reviews of ATPs and OTPs to ensure compliance with applicable procedural requirements, to ensure they can be performed safely, and to ensure the scope of testing and inspections provide a product that satisfies operational and safety requirements. The JTRG reviews test procedure data, and provides their recommendation concerning the final acceptance that test results satisfy the design specifications as stated in the ATPs, OTPs, or test plans.

5.2 Test Configuration Control

Testing shall be conducted using detailed test procedures and the latest versions of all ECNs and Drawings for the Project. Configuration control shall conform to HNF-PRO-440 and HNF-PRO-226. Drawings shall be retained in project status by the W-314 Project until such time as all work on the AZ Tank Farm Upgrade is complete and accepted.

6.0 SYSTEM BOUNDARIES

6.1 Objective

Specific system boundaries are identified for use in planning and implementing the various tests listed in this STEP. These system boundaries will provide safe work boundaries which allow testing to proceed in a safe environment, isolated from facility hazards.

6.2 Administrative Controls

Where actual physical isolations are not possible (e.g., pit nozzles...etc), Lock and Tag system (HNF-IP-0842, Vol. II, Sections 4.9.1 and 4.10.1), as a minimum, will be utilized to establish the required administrative controls.

6.3 Description

The table below lists the work and test boundaries for AZ Tank Farm Upgrade work. These boundaries are estimates and may be modified at the time of execution to match current conditions in the farm and the job. This table will not be modified to reflect those changes.

TABLE 5-1 AZ TANK FARM UPGRADE WORK AND TEST BOUNDARIES

WORK ACTIVITY	PROJECT DRAWING	ESSENTIAL DRAWING	LOCK & TAG LOCATION	COMMENTS
Excavation for Transfer line installation	*H-14_ *H-14- *H-14-	H-2-68335	Lock and Tags to be determined based on exact areas to be excavated and results of surface scan	
Excavation for conduit installation	*H-14- *H-14-			
Tie in SN-631 to 241-AZ-02A Pit Nozzle	H-14-102644 H-14-102650	H-2-64400, sh 6 H-14-101047, sh 1		
Tie in SN-631 to 241-AZ-01A Pit Nozzle				
Leak Detection System Connections in 801-AZ				
Cathodic Protection Modifications	*H-14-		Lock and Tag Rectifier	
Pressure Test of Installed line and Encasement Line Pressure Test Encasement Pressure Test	*H-14-			After completion of the final pressure test, drain test water to AY-101 as directed by operations.

SPECIFIC BOUNDARIES / ISOLATION POINTS WILL BE IDENTIFIED UPON COMPLETION OF THE AZ DESIGN REVIEW AND DRAWING LIST.

6.4 System Turnover

Following completion and acceptance of all the required testing and testing data within a given boundary, the systems and equipment in that area will be ready for release to operations for their control and use. The SSC(s) will be released to TWRS Operations by using the Acceptance for Beneficial Use process described in the W-314 TEP (HNF-SD-W314-TEP-001).

7.0 TEST AND ACCEPTANCE

The Project W-314 AZ Tank Farm Upgrade STEP includes design verifications performed by various methods including engineering analysis, Vendor data review, FTIs and CTIs performed in accordance with Procurement/Construction Specifications, drawings, and system functional tests performed in accordance with ATPs and OTPs. These verifications and tests will be documented in the W-314 Project AZ Tank Farm Upgrades Requirements Verification Report (RVR), HNF-3219, Rev.0, and in specific test documentation (e.g., ATRs, OTRs, CWP...etc.) as listed in the STEP completion checklist. In addition, approved calibration and functional test procedures will be performed in preparation for the above listed tests.

7.1 Validation and Verification

All design requirements listed in the Project Development Specifications are formally reviewed by analysis, test, demonstration, or examination for project compliance. Commercial grade items utilized in Safety Class applications, will be qualified per FDNW Practice 134.200 1026, A03. Equipment used in non-safety class applications will be verified using vendor data to ensure the design requirements of the application are met. These reviews are documented in the AY Tank Farm Upgrades RVR. This report is listed in the reference section of this document.

7.2 Commercial Grade Item Dedication

The following table lists the testing that will be performed to satisfy the Commercial Grade Item Dedication requirements for the addition of transfer line SN-631 and leak detector modification for AZ-01A & 02A pits. Note that acceptance criteria are included in the individual drawings, specifications, procedures, and CWPs.

TABLE 7-2

COMMERCIAL GRADE ITEM DEDICATION ACTIVITIES					
TEST NUMBER	TEST NAME	REFERENCE DOCUMENT	LOCATION	TEST DOCUMENT	INTERDEPENDENCIES
1.4.D.K.CG.1	Steel Plate, bar and shape Tensile test and physical Inspection	W-314-C4, section 05500, 1.3.2.1	Shop	Test Report	Test reports must be in place prior to installing any items for which testing was required.
1.4.D.K.CG.2	Commercial Grade Dedication for Piping Materials, verify pipe size	W-314-C4, section 15493, 1.2.3.1 and 2.4; PDS-001, 3.2.2.6	Shop	Test Report	Test Reports must be accepted prior to fabrication of piping spools.
1.4.D.K.CG.3	Commercial Grade Dedication for instrumentation	W-314-C4, section 13440, 2.3.2; PDS-003, 3.3.5.1	Shop	Test Report	Tests must be documented as acceptable prior to installing any components in field locations
1.4.D.K.CG.4	Commercial Grade Dedication for Electrical	W-314-C4, section 16400, 2.4.1	Shop	Test Report	Tests must be documented as acceptable prior to installing any components in field locations

7.3 Factory Tests and Inspections

It has been determined that factory tests and inspections will not be required for AZ Tank Farm Upgrade.

7.4 Construction Testing and Inspection

The table below lists the construction tests performed during fabrication, modification and installation to verify functionality of structures, systems and components following installation. AI inspection activities performed during construction are referenced in "ACCEPTANCE INSPECTION PLAN", W-314-C4-1, REV. 0. Note that acceptance criteria are included in the individual test drawings, specifications, procedures, and CWPs. All CWPs will be reviewed and approved by the Lead Startup Engineer, Construction QA, and Construction Management.

TABLE 7-4

CONSTRUCTION TESTS AND INSPECTIONS

TEST NUMBER	TEST	REFERENCE DOCUMENT	LOCATION	TEST DOCUMENT	INTERDEPENDENCIES	1) REVIEW, 2) APPROVAL, & 3) WITNESS RESPONSIBILITIES
1.4.D.K.C.1	In-Place Density Test	W-314-C4, section 02220, 3.1.7.1	Field	CWP	Required prior to excavation for all excavations	QC-3
1.4.D.K.C.2	Backfill Density Test	W-314-C4, section 02220, 3.3, 3.4, 3.5, 3.6.1, 3.7.1.1; PDS-001, 3.3.1.6, 3.3.1.7	Field	CWP	During & after backfill	QC-3
1.4.D.K.C.3	Structural Weld Examinations	W-314-C4, section 05500, 3.4.1,	Shop, Field	CWP	Prior to coating any structural pieces.	QC-3
1.4.D.K.C.4	Holiday Testing of Piping Protective Coatings	W-314-C4, section 15493, 3.1.6.2	Field	CWP	Prior to Backfill.	QC-3
1.4.D.K.C.5	Expansion Anchor Inspections	W-314-C4, section 05055, 3.4.1	Field	CWP	During anchor installation	QC-3
1.4.D.K.C.6	Cover Block Special Protective Coating Application	W-314-C4, section 09855, 3.4; PDS-005, 3.2.2.1, 3.2.2.2, 3.2.2.8, 3.2.4, 3.3.1.2.2	Shop, Field	CWP	During application of each coat	QC-3
1.4.D.K.C.7	Welding Non-Destructive Examination	W-314-C4, section 15493, 3.2.1; PDS-001, 3.3.1.5, 3.3.4; PDS-002, 3.3.4.1	Shop, Field	CWP	Prior to any form of pressure testing painting or coating.	QC-3
1.4.D.K.C.8	Piping Fabrication Cleanliness Inspection	W-314-C4, section 15493, 3.2.3.5; PDS-001, 3.3.4	Shop	CWP	Prior to any form of pressure testing	QC-3
1.4.D.K.C.9	Piping Fabrication Pressure Tests	W-314-C4, section 15493, 3.2.4; PDS-001, 3.3.1.2	Shop	CWP	Prior to installation	QC-3 Lead Test Engr...-3
1.4.D.K.C.10	Piping Installation Cleanliness Inspection	W-314-C4, section 15493, 3.2.3.5; PDS-001, 3.3.4	Field	CWP	Prior to any form of pressure testing	QC-3
1.4.D.K.C.11	Piping Installation Pressure Tests	W-314-C4, section 15493, 3.2.4; PDS-001, 3.3.1.2	Field	CWP	Prior to backfill	QC-3 Lead Test Engr...-3
1.4.D.K.C.12	Piping Configuration Verification	PDS-001, 3.2.2.1, 3.2.2.7, 3.2.2.8, 3.2.2.9, 3.2.2.10, 3.3.1.1, 3.3.1.8	Shop, Field	CWP	Prior to installation of the wall nozzles and piping	QC-3
1.4.C.K.C.13	Jumper Pressure Tests	W-314-C4, section 15493, Appendix A, 3.6 & 4.3	Shop	CWP	Test all Jumpers prior to installation in the valve pit	QC-3 Lead Test Engr. -3
1.4.C.A.C.14	Jumper In service Leak Test & Pit Configuration Verification	HNF-SD-BIO-001, section 5.3.2.18, TSR-006, AC 5.12.2.a	Field	CWP and Leak Test Procedure	Installation of all jumpers and required changes at associated tank central pump pits.	QC-3 Lead Test Engr -2,3 Operations -2,3 Cog. Engr. -2

CONSTRUCTION TESTS AND INSPECTIONS						
TEST NUMBER	TEST	REFERENCE DOCUMENT	LOCATION	TEST DOCUMENT	INTERDEPENDENCIES	1) REVIEW, 2) APPROVAL, & 3) WITNESS RESPONSIBILITIES
1.4.D.K.C.15	Cathodic Protection	W-314-C4, section 16640, 3.3.1.1, 3.3.2, PDS-001,3.7.1.2.1, 3.7.1.2.2	Field	CWP	After piping installation and prior to application of protective coating on pipe. Test station location and conductivity after test station installation.	QC-3
1.4.D.K.C.16	Leak Detector Fabrication Wiring Continuity	W-314-C4, section 13440, 3.2.1.1 & section 16400, 3.3.2	Shop, Field	CWP	Complete prior to performing ATP.	QC-3
1.4.D.K.C.17	Leak Detector Cabinet Wiring Continuity	W-314-C4, section 13440, 3.2.1.1 & section 16400, 3.3.2	Shop, Field	CWP	Complete prior to performing ATP.	QC-3
1.4.D.K.C.18	Cover Block Installation Wiring Continuity	W-314-C4, section 13440, 3.2.1.1 & section 16400, 3.3.2	Shop, Field	CWP	Complete prior to performing ATP.	QC-3
1.4.D.K.C.19	Terminal Box Conduit & Cable Installation Wiring Continuity	W-314-C4, section 13440, 3.2.1.1 & section 16400, 3.3.2	Shop, Field	CWP	Complete prior to performing ATP.	QC-3
1.4.D.K.C.20	Leak Detector Installation Wiring Continuity	W-314-C4, section 13440, 3.2.1.1 & section 16400, 3.3.2	Shop, Field	CWP	Complete prior to performing ATP.	QC-3
1.4.D.K.C.21	Leak Detector Fabrication Voltage Verification	W-314-C4, section 16400, 3.3.2	Field	CWP	Prior to energizing equipment.	QC-3
1.4.D.K.C.22	Leak Detector Installation Voltage Verification	W-314-C4, section 16400, 3.3.2	Field	CWP	Prior to energizing equipment.	QC-3
1.4.D.K.C.23	Leak Detector Cabinet Installation Electrical & Instrumentation Configuration & Code Compliance	W-314-C4, section 16400, 3.3.1; PDS-001, 3.3.1.10, 3.3.1.11, 3.3.1.12, PDS-003 3.3.1.1, 3.3.1.2	Field	CWP	Prior to performing OTP	NEC Insp. -2,3
1.4.D.K.C.24	Terminal Box Conduit & Cable Installation Electrical & Instrumentation Configuration & Code Compliance	W-314-C4, section 16400, 3.3.1; PDS-001, 3.3.1.10, 3.3.1.11, 3.3.1.12, PDS-003, 3.3.1.1, 3.3.1.2	Field	CWP	Prior to performing OTP	NEC Insp. -2,3

7.5 Acceptance Testing

Acceptance testing will be conducted by utilizing ATPs. ATPs are separate documents which obtain their requirements from the applicable PDS, drawings, and vendor data. ATPs will ensure that the SSCs are fabricated and/or installed properly per the design. Detailed ATPs will be required after the CTI functional checks and/or inspections are completed and, will validate overall SSC installation as a whole. The acceptance criteria shall be specified in the test procedures. These tests will be performed on components in their installed condition but may not exercise the entire system as an operational unit. The table below describes the ATPs that will be performed to accept the installation of the AZ Tank Farm Upgrade. Acceptance testing of SN-631 consists of testing the modifications to the Cathodic Protection system and the pit and encasement leak detectors. The cathodic protection testing will be accomplished using a modified version of the existing cathodic protection survey procedure. A specific ATP will be written for the leak detector modifications. An Acceptance Test Report (ATR) will be generated for each test when all test exceptions have been cleared and the test has been successfully completed. Note that acceptance criteria are included in the individual test document.

TABLE 7-5

ACCEPTANCE TEST PROCEDURES					
TEST DOCUMENT	TEST DESCRIPTION	REFERENCE DOCUMENT	LOCATION	INTERDEPENDENCIES	1) REVIEW, 2) APPROVAL, & 3) WITNESS RESPONSIBILITIES
TWR-XXX	Cathodic Protection	PDS-001, 3.2.3.2, 3.7.1.1.1.1	Field	After Installation and Engineering of Cathodic Protection System	Design Agent-1,2 Design Authority-1,2,3 Lead Test Engineer-1,3 Const Mgmt-1 QC-2,3
TWR-XXX	Pit Leak Detection	PDS-001, 3.3.2, 3.7.2.1.2.1, 3.7.2.1.2.2, 3.7.2.1.2.3, 3.7.2.1.3.1, 3.7.2.1.3.2, 3.7.2.1.3.3, PDS-002 3.3.2, PDS-003, 3.2.2.5, 3.3.2	Field	Leak Detector installed and energized	Design Agent - 1,2 Design Authority - 1,2 W-314 PM - 1,2 W-314 QA - 1,2 QC-2 Lead Test Engineer - 1 Construction Mgmt. - 1 Chief Test Director - 1,2

7.6 Operational Testing

Transfer line hydro tests constitute the operational tests for SN-631 but will be performed as CTIs. Cathodic protection will be tested in-service as part of Acceptance testing. An operational test procedure will be written for the final acceptance of the pit and encasement leak detection modifications. The following table describes the OTP for AZ Tank Farm Upgrades. Note that acceptance criteria are included in the individual test document.

TABLE 7-6

OPERATIONAL TEST PROCEDURE						
Test Section	Test Description	Reference Document	Location	Test Document	Interdependencies	1) REVIEW, 2) APPROVAL, & 3) WITNESS RESPONSIBILITIES
	Leak Detector Operation: This section verifies the operation of the leak detector and the drain plug by adding water to the pit until the leak detector actuates the alarms at 801-AZ and all other appropriate locations, and actuates the master pump shutdown. Acceptance criteria for operation is the amount and rate of water that the system should detect per the design verification report. This detection test shall be repeated no less than three (3) times).	PDS-003, 3.2.4.4	Field	OTP-314-001	All equipment in place, current calibration of the leak detector and the master pump shutdown system not in alarm.	Design Agent -1,2 Design Authority-1,2 W-314 PM-1,2 W-314 QA-1,2 Lead Test Engineer-1,2 Const Mgmt-1,2 Chief Test Director-1,2 TF Ops-1,2,3

7.7 AZ Tank Farm Upgrade Test Completion

AZ Tank Farm Upgrade testing will be considered successfully completed when the **TEST COMPLETION CHECKLIST** (attached to the end of this STEP) is completely signed off. This checklist is a "stand alone" document that will be listed on the AZ TANK FARM UPGRADES ABU (HNF-SD-W314-ABU-007) and included in the turnover of documents. This checklist will be completed by the W-314 Startup Manager or his designee.

REFERENCES

HNF-PRO-229, *Technical Procedure Standard*, Fluor Daniel Hanford Company, Richland, Washington.

HNF-PRO-242, Rev. 1, *Engineering Drawing Requirements*, Fluor Daniel Hanford Company, Richland, Washington.

HNF-PRO-440, *Engineering Document Change Control Requirements*, Fluor Daniel Hanford Company, Richland, Washington.

HNF-PRO-446, *Testing Practices Requirements*, Fluor Daniel Hanford Company, Richland, Washington.

HNF-PRO-572, *Project Acceptance and Closeout*, Fluor Daniel Hanford Company, Richland, Washington.

W-314-C4, *Construction Specification for Tank Farm Restoration and Safe Operations AZ Tank Farm Upgrades*, Fluor Daniel Northwest, Inc., Richland, Washington.

HNF-SD-W314-PDS-001, Rev. 0, *Project Development Specification - Transfer Piping*, Fluor Daniel Northwest, Inc., Richland, Washington.

HNF-SD-W314-PDS-003, Rev. 0, *Project Development Specification for Pit Leak Detection*, Fluor Daniel Northwest, Inc., Richland, Washington.

HNF-SD-W314-PDS-005, Rev. 0, *Project Development Specification for Special Protective Coating*, Fluor Daniel Northwest, Inc., Richland, Washington.

HNF-3219, Rev. 0, *Requirements Verification Report for AZ Tank Farm Upgrades (WBS 1.4.D)*, Fluor Daniel Northwest, Inc., Richland, Washington.

HNF-SD-W314-ABU-007, Rev. 0, *AZ Tank Farm Upgrades Acceptance For Beneficial Use*, Rev. 0, Numatec Hanford Corporation, Richland, Washington.

HNF-SD-W314-TEP-001, Rev. 1, *Test and Evaluation Plan for W-314 Tank Farm Restoration and Safe Operations*, Numatec Hanford Corporation, Richland, Washington.

HNF-CM-3-5, *Document Control and Records Management*, Fluor Daniel Hanford Company, Richland, Washington.

HNF-IP-0842, *TWRS Administration*, Fluor Daniel Hanford Company, Richland, Washington.

HNF-IP-1266, *Tank Farm Operations Administrative Controls*, Fluor Daniel Hanford Company, Richland, Washington.

HNF-SD-WM-BIO-001, *TWRS Basis for Interim Operation*, Fluor Daniel Hanford Corporation, Richland, Washington.

W-314-C4-1, Rev. 0, *Acceptance Inspection Plan for AY Tank Farm Upgrades*, Fluor Daniel Hanford Corporation, Richland, Washington.

AZ TANK FARM UPGRADE TEST COMPLETION CHECKLIST PAGE __ OF __

TEST NUMBER	TEST NAME	TEST PROCEDURE/DOCUMENT NUMBER	DATE TEST COMPLETED	TEST COMPLETED AND RESULTS ACCEPTED (i.e., ALL EXCEPTIONS RESOLVED)	
				PRINT NAME	SIGNATURE
COMMERCIAL GRADE ITEM DEDICATION ACTIVITIES					
1.4.D.K.CG.1	Steel Plate, bar and shape Tensile test and physical Inspection				
1.4.D.K.CG.2	Commercial Grade Dedication for Piping Materials				
1.4.D.K.CG.3	Chimerical Grade Dedication for Instrumentation				
1.4.D.K.CG.4	Chimerical Grade Dedication for Electrical				
CONSTRUCTION TESTS AND INSPECTIONS					
1.4.D.K.C.1	In-Place Density Test				
1.4.D.K.C.2	Backfill Density Test				
1.4.D.K.C.3	Structural Weld Examinations				
1.4.D.K.C.4	Holiday Testing of Piping Protective Coatings				
1.4.D.K.C.5	Expansion Anchor Inspections				
1.4.D.K.C.6	Cover Block Special Protective Coating Application				
1.4.D.K.C.7	Welding Non-Destructive Examination				
1.4.D.K.C.8	Piping Fabrication Cleanliness Inspection				
1.4.D.K.C.9	Piping Fabrication Pressure Tests				

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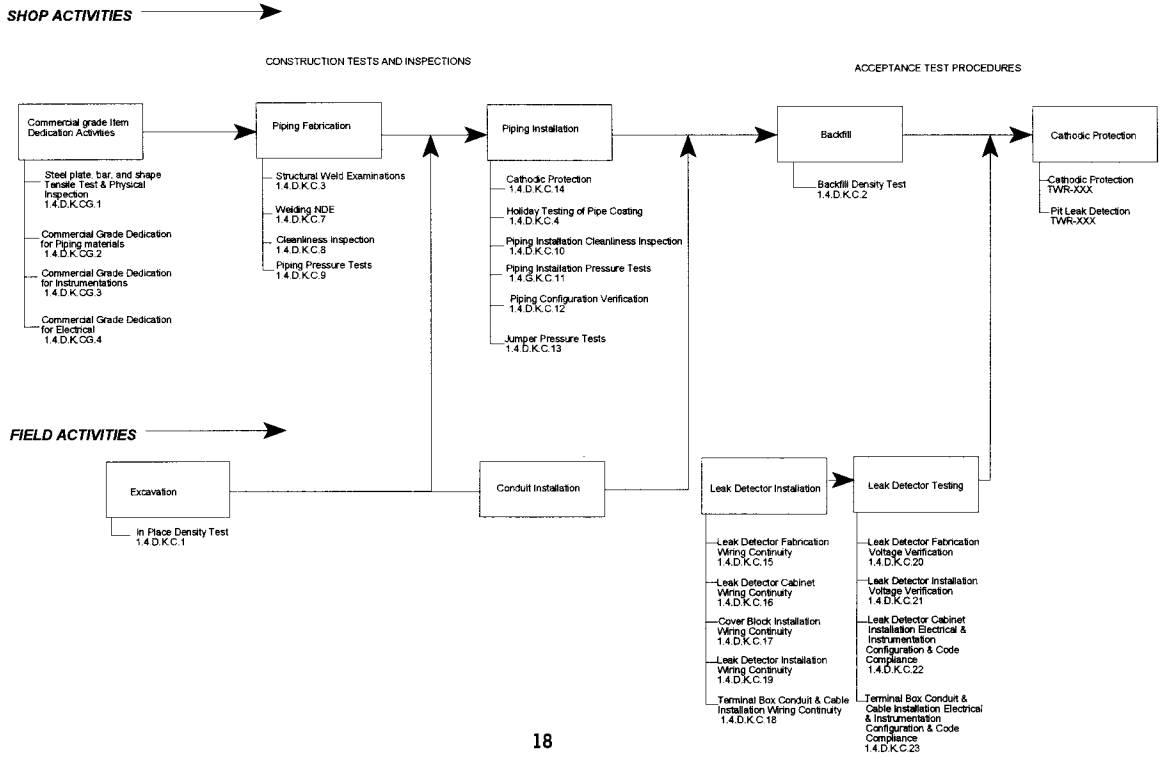
TEST NUMBER	TEST NAME	TEST PROCEDURE/DOCUMENT NUMBER	DATE TEST COMPLETED	TEST COMPLETED AND RESULTS ACCEPTED (i.e., ALL EXCEPTIONS RESOLVED)	
				PRINT NAME	SIGNATURE
1.4.D.K.C.10	Piping Installation Cleanliness Inspection				
1.4.D.K.C.11	Piping Installation Pressure Tests				
1.4.D.K.C.12	Piping Configuration Verification				
1.4.D.K.C.13	Jumper Pressure Tests				
1.4.D.K.C.14	Jumper in Service Leak Test & Pit Configuration Verification				
1.4.D.K.C.15	Cathodic Protection				
1.4.D.K.C.16	Leak Detector Fabrication Wiring Continuity				
1.4.D.K.C.17	Leak Detector Cabinet Wiring Continuity				
1.4.D.K.C.18	Cover Block Installation Wiring Continuity				
1.4.D.K.C.19	Terminal Box Conduit & Cable Installation Wiring Continuity				
1.4.D.K.C.20	Leak Detector Installation Wiring Continuity				
1.4.D.K.C.21	Leak Detector Fabrication Voltage Verification				
1.4.D.K.C.22	Leak Detector Installation Voltage Verification				
1.4.D.K.C.23	Leak Detector Cabinet Installation Electrical & Instrumentation Configuration & Code Compliance				
1.4.D.K.C.24	Terminal Box Conduit & Cable Installation Electrical & Instrumentation Configuration & Code Compliance				

AZ TANK FARM UPGRADE TEST COMPLETION CHECKLIST PAGE __ OF __

TEST NUMBER	TEST NAME	TEST PROCEDURE/DOCUMENT NUMBER	DATE TEST COMPLETED	TEST COMPLETED AND RESULTS ACCEPTED (i.e., ALL EXCEPTIONS RESOLVED)	
				PRINT NAME	SIGNATURE
ACCEPTANCE TEST PROCEDURE					
TWR-XXXX	Cathodic Protection				
TWR-XXX	Pit Leak Detection				
OPERATIONAL TEST PROCEDURE					
TWR-XXX	Pit and Encasement Leak Detection				

AZ TANK FARM UPGRADE LOGIC DIAGRAM
(SEE TEP FIGURE B-3 FOR HIGHER LEVEL LOGIC)



DISTRIBUTION SHEET

To	From	Page 1 of 1
DISTRIBUTION	Tank Farm Restoration and Safe Operation Project/8C610	Date 8/12/98
Project Title/Work Order		EDT No. N/A
Project W-314 Tank Farm Restoration and Safe Operation Project/8C610 STEP for AZ Tank Farm TWR-3093, Rev 0		ECN No. ~~60375~~ 603745

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
K. A. Boes	R3-25	x			
D. E. Bowers	S5-13	x			
S. M. Byers	S1-57	x			
H. M. Chafin	R3-25	x			
F. T. Daniels	H8-66	x			
D. P. Devine	S5-50	x			
D. O. Dobson	R2-50	x			
R. A. Dodd	S5-07	x			
J. L. Gilbert	R3-47	x			
E. A. Harding	B4-57	x			
C. E. Hatch	A3-03	x			
W. H. Hays	B4-57	x			
J. L. Homan	R3-25	x			
R. W. Jacobson	R2-50	x			
J. T. Koberg	G3-12	x			
J. R. LaPointe	R2-88	x			
R. L. Legg	S4-57	x			
D. L. McGrew	R3-25	x			
T. K. Ravencraft	S5-03	x			
M. D. Rickenbach	G3-12	x			
W. J. Rozack	R4-06	x			
B. L. Syverson	G3-12	x			
M. W. Tiffany	R1-49	x			
T. L. Warnick	E6-11	x			
Project Files	G3-11	x			
Construction Document Control	S2-53	x			