AY 1 9 1998	ENGINEE	RING	DATA	TRANS	MITTAL			-		1. EDT	Page 1	of_
sta: 57	<u> </u>										0210	501
2. To: (Receiving Org SEE DISTRIBUTION	anization)		3. From Tank Opera	: (Origin Farm Re tion Pr	<sup>ating Org</sup> storati oject/8	anizati on ar C610	ion) id Safe		4. Re	lated E	N/A	
5. Proj./Prog./Dept./D	iv.:		6. Desi	gn Authori Rowons	ty/ Desig	n Agent	/Cog. Engr.		7. Pu	rchase (	Order No.	:
W-314/IWKS			D.L.	Dower 3					0 5		N/A	
This Specific Te	st & Evalu	ation	Plan nstal	(STEP)	define	s the	e T&E		9. EC		N/A	0.:
transfer line fo	r Project	W-314	·.	i de l'on v		511-00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		20	DOE/W	Tank F	arms
11. Receiver Remarks:	_11A. Desi	gn Base	eline Do	cument?	[ ]Yes	[X]	No		12. M	ajor Ass	sm. Dwg.	No.:
	e . 1 * 25.	ang i						L			N/A	¢ ,
									13. P	ermit/Pe	ermit App	licatio
											N/A	
								F	14. R	equired	Response	Date:
15		DATA	TRANSMI	TTED					. T	(0)	(11)	(1)
(0)		(0)	(0)							Reason	Origi-	Receiv
Item (B) Document/I No.	Drawing No.	Sheet No.	Rev. No.	(E) Title or	r Description	of Data	Transmitted	Dea	sig- tor	for Trans- mittal	nator Dispo- sition	er Dispo sition
1 TWR-2612		-	0	Projec	t W-314	Spe	cific	. (		1	1	-
	ана ай			Test A for SN and SN Tie In	nd Eva]  -635 Tr  -633 Tr	uati ransf ransf	on Plan er Line er Line					
16.				к	ΈY							<u> </u>
Approval Designator (F)		Reason f	for Transm	ittal (G)		1		Disp	osition	(H) & (I)		
E, S, Q, D or N/A see WHÇ-CM-3-5, Sec:12.7)	1. Approval 2. Release 3. Information	4. Revie 5. Post- 6. Dist.	ew -Review . (Receipt ,	Acknow, Req	(uired)	1. Ap 2. Ap 3. Dis	proved proved w/com sapproved w/co	ment ommen	4. 5. t 6,	Reviewed Reviewed Receipt a	no/comme w/comme cknowledge	nt nt ed
		(	17 See Appro	. SIGNATUR val Designat	E/DISTRIBU	TION d signat	ures)					
(G) (H) Rea- son Disp. (J) Nar	ne (K) Signa	ture (L)	) Date (I	M) MSIN	(G) Rea- son	(H) Disp.	(J) Name		(K) Sig	nature (l	) Date (I	N) MSIN
1 Design Au	uth., D.E. Bowe	ers XI	Boucer	) \$5-13	1	1	Design Age	ent, .	.т. к	oberg 🥻	ETKS	1 12-50
1   Project I	4-314 PM, J.L.	Homan A	ABor	-1 \$7 90 <b>1</b> 7							/	<u> </u>
1 J QA. H.M.	Chafin Lou	M.Cl.	W) real	1-00-25								
1 I ETF ODS	H.K. Ravencrat	Count	# 519	1885-07								
1 I ETF Ops,	R.A. Dodd	K.	JJ/	s5-07								
1 / Ops Integ	gration, R.W.	Jacobso	fur 1	R1598/9	72							
1 I St Mgmt.	st Director, R.		Atr	RZ-50 48	P							
18.	19.				20.			21	. DOE Ctr	APPROVA	L (if re	quired)
<u>EDT Originator</u> S.K. Kujak	Ate Authorize Represent	ed tative tion	for Rece	Date piving	Manager J.L. Homa	JLH	5/18/98 Date		Appr Appr Disa	oved oved w/c pproved	omments w/commen	ts

BD-7400-172-2 (05/96) GEF097

TWR-2612, Rev. 0

PROJECT W-314

# SPECIFIC TEST AND EVALUATION PLAN

FOR SN-635 TRANSFER LINE (241-AY-01A TO 241-AY-02A) AND SN-633 TRANSFER LINE TIE IN

William H Hays Numatec Hanford Company, Richland, WA 99352 U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: 621867 UC: 2030 Org Code: 8C610 Charge Code: N314K B&R Code: EW3130010 Total Pages: 14-jap15

Key Words: Specific Test and Evaluation Plan, Project W-314, SN-635 Transfer Line

Abstract: This Specific Test and Evaluation Plan (STEP) defines the test & evaluation activities encompassing the installation of the SN-635 transfer line for the W-314 Project.

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.



Uar Release Approval Date

**Approved for Public Release** 

S

A-6400-073 (01/97) GEF321

# PROJECT W-314

# SPECIFIC TEST AND EVALUATION PLAN

## FOR

# SN-635 TRANSFER LINE (241-AY-01A TO 241-AY-02A)

## AND

## **SN-633 TRANSFER LINE TIE IN**

1.0	PURPOSE	•		• •		•		•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	·	•	4
2.0	SCOPE .							•	•		•	•	•	•	•	•	•	•	•	•	•	•	•		•		•		•	•		•		4
3.0	ADMINIST	TR/	٩TI	٧E			• •		•		•			•	•	•	•		•	•	•		•	•			•		•	•				4
	3.1	S	AFE	ΤY	INF	°OR	MAT	10	I/C	DMM	UN	IC/	\TI	0	IS		•	•			•	•	•			•	•	•	•	•	•	•		4
4.0	GENERAL	I	(FO	RMA	TIO	N	and	PR	ER	EQU	ISI	TE	S	•	•	•	•	•	•		•	•	•	•		•	•	•	•	•	•			5
	4.1 4.2 4.3 4.4 4.5	I F T E	NIT NST UNC Emp QUI	IAL RUM TIO ORA PME	CO Ent Nal Ry NT	ND AT . T Mo An	ITI ION EST DIF D M	ONS AN S IC/		CON ONS Als	ITR(	DL																			•	•		5 5 5 5 5 5 5
5.0	ASSIGNME	ENI	ſS	OF I	RES	PO	NSI	BIL	IT	( .		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		5
	5.1 5.2	J T	DIN Est	T T CO	EST NFI	R GU	EVI RAT	EW	GR( I C(	DUP DNT	ROI	•	•	•		•	:	:	:	•	:	:	:	:	:	:		:	•	:		:	:	6 6
6.0	SYSTEM B	BOL	JND	ARII	ES	•		•		•	•	•		•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•				6
	6.1 6.2 6.3 6.4	OI Di Ai S'	BJE ESC DMI YST	CTI RIP NIS EM	VE TIO TRA TUR	N ITI RNO	· · Ve Ver	CON	i TR	DLS																								6 6 8
7.0	TEST AND	D #	ICC	ЕРТ/	ANC	E				•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			8
	7.1 7.2 7.3 7.4 7.5 7.6 7.7	VI CI CI AI OI SI	ERI DMM ACT DNS CCE PER N-6	FIC ERC ORY TRU PTA ATI 35	ATI IAL TE CTI NCE ONA TRA	ON G ST ON T L	& RAD S A TE EST TES FER	VAL ND STS ING TING	ID/ TEI IN: AI IG INE	ATI SPE ND TE	ON ED CT IN	ICA ION 5PE -	IS CT		NS		•						· · · ·						•				1 1 1	8 9 0 1 1
REFERE	ENCES .					•		•		•							•	•										•		•			1	2
SN-635	5 TRANSFE	ER	LI	NE	TES	т	COM	PLE	TIC	N	CHE	CK	LI	st										•		•			•				1	3

## TWR-2612, REV. 0

## TABLE OF CONTENTS (CONT.)

## LIST OF TABLES

TABLE 5-1	SN-635 TRANSFER LINE WORK AND TEST BOUNDARIES
TABLE 7-2	COMMERCIAL GRADE ITEM DEDICATION ACTIVITIES
TABLE 7-4	CONSTRUCTION TESTS AND INSPECTIONS
TABLE 7-5	ACCEPTANCE TEST PROCEDURES
	LIST OF FIGURES
FIGURE 1	SN-635 TRANSFER LINE LOGIC DIAGRAM

### 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-635 transfer line and the tie in of SN-633 to the AY-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-635 and the tie in of SN-633. 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). It should be noted that POTPs are not required for testing of the transfer line addition. 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 SN-635 transfer line ATPs and OTPs (including the tie in of SN-633), 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-AY 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

#### 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 SN-635 transfer line 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 transfer line SN-633 and SN-635 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.

## TWR-2612, REV. 0

### TABLE 5-1 SN-633 AND SN-635 TRANSFER LINE WORK AND TEST BOUNDARIES

WORK ACTIVITY	PROJECT DRAWING	ESSENTIAL DRAWING	LOCK & TAG LOCATION	COMMENTS
The following work boundaries are based on the AY-01A and AY-02A Pump Pit work boundaries being established prior to or at the same time as this work is started in the vicinity of each pit.				
Expandion for Transfer line installation	H-14_102844 H-14-102662, sh 1,2 H-14-102660	H-2-64400	Look and Tags to be determined based on exact areas to be excavated and results of surface scan.	
Cut & Cap PSW-S503 Near AY-01A Pump PIT	H-14-102662, sh 1 H-14-101116, sh 1&5	H-2-64400, sh 3,5	Line blanked at sluce bransfer box 241-AY-152 and at 241-AY 01D skace pit	
Tie in SN+633 to 241-AY-02A PR Nozzle US and USA.	H-14-102644 H-14-102660	H-2-64400, sh 6 H-14-101047, sh 1	If jumper is installed at AX-B, then WT-V-208 shall be locked closed and WT-V-205 shall be locked in the "8" position (flow from WT-V-203 to WT-V-210).	
Cut and cap PSW-S505 near AY-02A pump pit.	H-14_102882, sh 2	H-2-64400, sh 3,6	Line blanked at skinding transfer box 241-AY-152 and at 241-AY-02B skince pit.	
Cathodic Protection Modifications	H-14-102626, sh 182-5	H-2-91049, sh 1,2,15	Lock and Tag Rectifier 31 for anode lead tie in at ADB (31-4).	
Pressure Text of Installed line and Encatement Line Pressure Text Encasement Pressure Test	H-14-102844			After completion of the final pressure test, dmin test water to AY-101 as directed by operations.

#### 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-O01).

#### 7.0 TEST AND ACCEPTANCE

The Project W-314 SN-635 transfer line 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 AY Tank Farm Upgrades Requirements Verification Report (RVR), HNF-2700, Rev.0, and in specific test documentation (e.g., ATRs, OTRs, CWP...etc.). 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-635 including SN-633 tie in. Note that acceptance criteria are included in the individual drawings, specifications, procedures, and CWPs.

TABLE	7-2
-------	-----

	COMMER	RCIAL GRADE I	TEM DEDIC	ATION ACTIVIT	IES
TEST NUMBER	TEST NAME	REFERENCE DOCUMENT	LOCATION	TEST DOCUMENT	INTERDEPENDENCIES
1.4.G.K.CG.1	Steel Plate, bar and shape Tensile test and physical Inspection	W-314-C3, 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.G.K.CG.2	Commercial Grade Dedication for Piping Materials, verify pipe size	W-314-C3, section 15493, 1.2.3.1 and 2.4; RVR APP.A 3.2.2.6	Shop	Test Report	Test Reports must be accepted prior to fabrication of piping spools.

## 7.3 Factory Tests and Inspections

It has been determined that factory tests and inspections will not be required for SN-633 tie in and transfer line SN-635.

### 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-C3-1, 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.

TAD	 7 /
	 / 4
1/10/	 

	CONSTRUCTION TESTS AND INSPECTIONS											
TEST NUMBER	TEST	REFERENCE DOCUMENT	LOCATION	TEST DOCUMENT	INTERDEPENDENCIES	1) REVIEW, 2) APPROVAL, & 3) WITNESS RESPONSIBILITIES						
1.4.G.K.C.1	In-Place Density Test	W-314-C3, section 02220, .3.1.7.1	Field	CWP	Required prior to excavation for all excavations	QC-3						
1.4.G.K.C.2	Backfill Density Test	W-314-C3, section 02220, 3.3, 3.4, 3.5, 3.6.1, 3.8.1; RVR APP.A, 3.3.1.6, 3.3.1.7	Field	CWP	During & after backfill	QC-3						
1.4.G.K.C.3	Structural Weld Examinations	W-314-C3, section 05500, 3.4.1,	Shop, Field	CWP	Prior to coating any structural pieces.	QC-3						
1.4.G.K.C.4	Holiday Testing of Piping Protective Coatings	W-314-C3, section 15493, 3.1.6.2	Field	CWP	Prior to Backfill.	QC-3						
1.4.G.K.C.5	Welding Non-Destructive Examination	W-314-C3, section 15493, 3.2.1; RVR APP.A 3.3.1.5, 3.3.4; RVR APP.B 3.3.4.1	Shop, Field	CWP	Prior to any form of pressure testing.	QC-3						
1.4.G.K.C.6	Piping Fabrication Cleanliness Inspection	W-314-C3, section 15493, 3.2.3.5; RVR APP.A 3.3.4	Shop	CWP	Prior to any form of pressure testing	QC-3						
1.4.G.K.C.7	Piping Fabrication Pressure Tests	W-314-C3, section 15493, 3.2.4; RVR APP A 3.3.1.2	Shop	CWP		QC-3 Lead Test Engr2						
1.4.G.K.C.8	Piping Installation Cleanliness Inspection	W-314-C3, section 15493, 3.2.3.5; RVR APP.A 3.3.4	Field	CWP	Prior to any form of pressure testing	QC-3						
1.4.G.K.C.9	Piping Installation Pressure Tests	W-314-C3, section 15493, 3.2.4; RVR APP A 3.3.1.2	Field	CWP		QC-3 Lead Test Engr2,3						
1.4.G.K.C.10	Piping Configuration Verification	RVR APP A 3.2.2.1, 3.2.2.7, 3.2.2.8, 3.2.2.9, 3.2.2.10, 3.3.1.8	Shop, Field	CWP	Prior to installation of the wall nozzles and piping	QC-3						
1.4.G.K.C.11	Cathodic Protection	W-314-C3, section 16640, 3.3.1, 3.3.2	Field	CWP	After piping installation and prior to application of protective coating on pipe	QC-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 ATP that will be performed to accept the installation of the SN-635 transfer line. Acceptance testing of SN-633 tie in and SN-635 consists of testing the modifications to the Cathodic Protection system and; therefore, will be accomplished using a modified version of the existing cathodic protection survey procedure. An Acceptance Test Report (ATR) will be generated 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.

	TA	BL	E	7-	-5
--	----	----	---	----	----

		ACCEPTA	NCE TEST	PROCEDURES	
TEST DOCUMENT	TEST DESCRIPTION	REFERENCE DOCUMENT	LOCATION	INTERDEPENDENCIES	1) REVIEW, 2) APPROVAL, & 3) WITNESS RESPONSIBILITIES
TWR-XXX	Cathodic Protection	RVR APP.A 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-1,2,3 Const Mgmt-1,2 QC-3

### 7.6 Operational Testing

Transfer line hydro tests constitute the operational tests for SN-635 but will be performed as CTIs. Cathodic protection will be tested in-service as part of Acceptance testing. No additional operational testing will be conducted for SN-633 tie in and SN-635.

#### 7.7 SN-635 Transfer Line Test Completion

Transfer line SN-633 tie in and SN-635 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 SN-635 ABU (HNF-SD-W314-ABU-O11) 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-PR0-572, Project Acceptance and Closeout, Fluor Daniel Hanford Company, Richland, Washington.

W-314-C3, Construction Specification for Tank Farm Restoration and Safe Operations AY 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-002, Rev. 0, Project Development Specification for Valve Pit Manifold, 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-2700, Rev. 0, *Requirements Verification Report for AY Tank Farm Upgrades (WBS 1.4.G)*, Fluor Daniel Northwest, Inc., Richland, Washington.

HNF-SD-W314-ABU-011, Rev. 0, SN-635 Transfer Line (A-B to AX-B) Acceptance For Beneficial Use, Rev. 0, Numatec Hanford Corporation, Richland, Washington.

HNF-SD-W314-TEP-001, Rev. 0, 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-OOI, Rev. F, *TWRS Basis for Interim Operation*, Fluor Daniel Hanford Corporation, Richland, Washington.

W-314-C3-1, Rev. 0, Acceptance Inspection Plan for AY Tank Farm Upgrades, Fluor Daniel Hanford Corporation, Richland, Washington.

## SN-635 TRANSFER LINE TEST COMPLETION CHECKLIST

PAGE \_\_\_\_\_ OF \_\_\_\_

	TEST	TEST	DATE TEST	TEST COMPLETED AND RESUL	IS ACCEPTED (I.e., ALL EXCEPTIONS RESOLVED)
TEST NUMBER	NAME	NUMBER	COMPLETED	PRINT NAME	SIGNATURE
		COMMERCIAL G	RADE ITEM	DEDICATION ACTIVITIES	
1.4.G.K.CG.1	Steel Plate, bar and shape Tensile test and physical Inspection				
1.4.G.K.CG.2	Commercial Grade Dedication for Piping Materials				
		CONSTRUC	TION TESTS	AND INSPECTIONS	
1.4.G.K.C.1	In-Place Density Test				
1.4.G.K.C.2	Backfill Density Test				
1.4.G.K.C.3	Structural Weld Examinations				
1.4.G.K.C.4	Holiday Testing of Piping Protective Coatings				
1.4.G.K.C.5	Welding Non-Destructive Examination		*		
1.4.G.K.C.6	Piping Fabrication Cleanliness Inspection				
1.4.G.K.C.7	Piping Fabrication Pressure Tests				
1.4.G.K.C.8	Piping Installation Cleanliness Inspection				
1.4.G.K.C.9	Piping Installation Pressure Tests				
1.4.G.K.C.10	Piping Configuration Verification				
1.4.G.K.C.11	Cathodic Protection	-			
		ACC	EPTANCE TE	ST PROCEDURE	
TWR-XXXX	Cathodic Protection				

### SN-635 TRANSFER LINE LOGIC DIAGRAM (SEE TEP FIGURE B-3 FOR HIGHER LEVEL LOGIC)



ToFrom Tank Farm Restoration and SafePage 1 of 1DISTRIBUTIONTank Farm Restoration and Safe Operation Project/8C610Date 5/13/98Project Title/Work OrderEDT No. 621867Tank Farm Restoration and Safe Operation Project/8C610EDT No. 621867NameMSINText With All Attach.EDT No. 621867D. I. AllenR2-50xK. A. BoesR3-25x (5 copies)D. E. BowersS5-50xR. L. BrownR3-38xH. M. ChafinR2-50xD. DobsonR2-50xJ. D. GalbraithH5-49xP. A. HaringB4-57xJ. L. HomanR2-58xJ. L. HomanR2-58xJ. L. LeckbandR3-47xJ. L. LeggR2-50xJ. L. LeckbandR3-47xJ. L. KarenR3-25xJ. L. HomanR2-58xJ. L. JonanR2-50xJ. L. KarenS4-67xJ. L. HomanR2-58xJ. L. LeckbandR3-47R. LaPointeR2-88xS. L. LeckbandR3-47R. NunamakerT4-07T. K. RavencraftS5-04R. NunamakerT4-07R. NunamakerS5-13R. NunamakerS5-13R. NunamakerS5-13R. K. RavencraftS5-13S. C. A. RieckS2-48M. D. RickenbachG3-27 K2M. D. RickenbachG3-12<		DISTRIBU	ITION S	HEET				
DISTRIBUTIONTank Farm Restoration and Safe Operation Project/8C610Date 5/13/98Project Title/Work Order Tank Farm Restoration and Safe Operation Project/8C610EDT No. 621867Restoration and Safe Operation Project/8C610EDT No. 621867NameMSINWith All Attach.EDT/K AppendixNameMSINText With All Attach.Text Only Attach./ AppendixEDT/K OnlyD. I. AllenR2-50 K. A. BoesR2-50 S-13 KXF. L. BrownR3-38 S-50 XXForpies)D. D. DobsonR2-50 K. A. DoddS5-50 S-70 XXD. O. DobsonR2-50 KXXP. A. HaineR3-47 KXXE. A. HardingB4-57 K-71 KXXJ. D. GalbraithH5-49 KXXH. HaysB4-57 KXXJ. L. HomanR2-58 R-2-88 KXXR. LaPointeR2-88 R-2-88 KXXJ. L. LeggR2-50 R-2-50 KXXJ. L. LeggR2-50 R-2-50 KXXJ. L. LeggR2-50 R-2-50 KXXD. R. NunamakerT4-07 R-2-88 R-2-50 RXJ. R. NunamakerR3-47 R-2-88 RXJ. L. LeggR2-50 RXJ. L. LeggR2-50 RXJ. L. LeggR2-50 RXJ. R. NunamakerR-07 RK. Ravencraft RS5-04 RX <td>То</td> <td>From</td> <td></td> <td></td> <td></td> <td>Pa</td> <td>ge l of l</td> <td></td>	То	From				Pa	ge l of l	
Project Title/Work OrderTank Farm Restoration and Safe Operation Project/8C610EDT No. 621867NameMSINWith All Attach.Text Only Attach./ Appendix OnlyD. I. AllenR2-50xK. A. BoesR3-25x (5 copies)E. BowersS5-13xR. L. BrownR3-38xH. M. ChafinR3-25xD. O. DobsonR2-50xR. A. DoddS5-07xJ. D. GalbraithH5-49xP. A. HardingB4-57xC. E. HatchS4-49xW. H. HaysB4-57xJ. L. HomanR2-58xR. L. LeggG3-12xJ. L. AllerR2-50xJ. KobergG3-12xJ. R. LaPointeR2-50xR. LapointeR2-58xR. LackbandR3-47xL. LeckbandR3-47xR. LapointeR2-50xJ. L. McGrewR3-25xP. C. MillerR1-51R. NunamakerT4-07xL. ArequetR3-77K. RavencraftS5-04xJ. W. RebergerS5-13xL. SyversonG3-12xL. SyversonG3-12x	DISTRIBUTION	Tank Farm Operation	Restora Project,	Da	Date 5/13/98			
Tank Farm Restoration and Safe Operation Project/8C610ECN No. N/ANameMSINWith All With All Attach.Text Only Appendix OnlyAttach./ Appendix OnlyD. I. AllenR2-50xK. A. BoesR3-25x (5 copies)D. E. BowersS5-13xR. L. BrownR3-38xH. M. ChafinR3-25xD. O. DobsonR2-50xR. A. DoddS5-07xJ. D. GalbraithH5-49xH. HarineR3-47xE. A. HardingB4-57xJ. L. HomanR2-58xW. H. HaysB4-57xJ. L. LeogG3-12xJ. L. LeggR2-50xD. L. McGrewR3-25xP. C. MillerR1-51xD. L. McGrewR3-47xR. LapointeR3-47xJ. L. HomanR2-58xS. L. LeckbandR3-47xR. LapointeR2-88xS. L. LeckbandR3-47xR. NunamakerT4-07xJ. K. RavencraftS5-04xD. W. RebergerS5-13xM. ReckS2-48xJ. L. SyversonG3-12xM. T. ThomsonG3-12x	Project Title/Work Order	-				ED	T No. 621	867
NameText MSINText With All Attach.Attach./ AppendixEDT/E OnlyD. I. AllenR2-50xK. A. BoesR3-25x (5 copies)D. E. BowersS5-13xR. L. BrownR3-38xH. M. ChafinR3-25xD. DobsonR2-50xR. A. DoddS5-07xJ. D. GalbraithH5-49xP. A. HaineR3-47xE. A. HardingB4-57xJ. L. HomanR2-58xR. W. JacobsonR1-09xJ. L. HomanR2-58xR. L. BrownR3-47xJ. L. HomanR2-58xR. L. BrownR3-47xJ. L. LeggC3-12xJ. R. LaPointeR2-88xS. L. LeckbandR3-47xR. L. LeggR2-50xD. L. McGrewR3-47xP. C. MillerR1-51xD. R. NunamakerT4-07xF. A. PacquetR3-47R. NunamakerT4-07R. NunamakerC3-12R. NunamakerS5-13N. RebergerS5-13M. RickenbachG3-12M. RickenbachG3-12M. RickenbachG3-12M. RickenbachG3-12M. T. ThomsonG3-12M. T. ThomsonG3-12M. T. ThomsonG3-12M. T. ThomsonG3-12M. T. ThomsonG3-12M. T. ThomsonG	Tank Farm Restoration and Safe	Operation P	roject/80	610		EC	N No. N/A	
D. I. Allen R2-50 x K. A. Boes R3-25 x (5 copies) D. E. Bowers S5-13 x R. L. Brown R3-38 x H. M. Chafin R3-25 x D. P. Devine S5-50 x D. O. Dobson R2-50 x R. A. Dodd S5-07 x J. D. Galbraith H5-49 x P. A. Haine R3-47 x E. A. Harding B4-57 x C. E. Hatch S4-49 x W. H. Hays B4-57 x J. L. Homan R2-58 x R. W. Jacobson R1-09 x J. T. Koberg G3-12 x J. L. Leckband R3-47 x R. L. Legg R2-50 x J. L. Homan R2-58 x R. W. Jacobson R1-09 x J. T. Koberg S3-12 x J. L. Homan R3-47 x R. L. Legg R2-50 x J. L. McGrew R3-25 x D. L. McGrew R3-25 x D. C. Miller R1-51 x D. R. Nunamaker T4-07 x E. A. Pacquet R3-47 x T. K. Ravencraft S5-04 x D. W. Reberger S5-13 x M. D. Rickenbach G3-12 x C. A. Rieck S2-48 x M. T. Thomson G3-22 b x	Name	м	SIN Wit Att	ext th All tach.	Text Onl	y	Attach./ Appendix Only	EDT/ECN Only
RI-49xT. L. Warnick $E6-11$ S. U. Zaman $R3-01$ Construction Document Control $S2-53$ Project Files $Ri-7$ -63-11xXX	D. I. Allen K. A. Boes D. E. Bowers R. L. Brown H. M. Chafin D. P. Devine D. O. Dobson R. A. Dodd J. D. Galbraith P. A. Haine E. A. Harding C. E. Hatch W. H. Hays J. L. Homan R. W. Jacobson J. T. Koberg J. R. LaPointe S. L. Leckband R. L. Legg D. L. McGrew P. C. Miller D. R. Nunamaker E. A. Pacquet T. K. Ravencraft D. W. Rickenbach C. A. Rieck B. L. Syverson W. T. Thompson M. W. Tiffany T. L. Warnick S. U. Zaman Construction Document Control	R2 R3 S5 R3 S5 R3 S5 R3 R2 S5 R3 B4 R4 R4 R4 R4 R4 R2 R3 R2 R3 R2 R3 R2 R3 R2 R3 R2 R3 R2 R3 R2 R3 R2 R3 R2 R3 R3 R2 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3	-50 -25 -13 -25 -50 -50 -47 -49 -57 -49 -57 -57 -58 -09 -12 -88 -47 -57 -58 -07 -47 -57 -13 -12 -13 -12 -13 -12 -12 -49 -13 -12 -13 -12 -12 -13 -12 -249 -11 -13 -12 -249 -11 -13 -12 -249 -11 -249 -11 -249 -11 -249 -11 -2111 -2111 -2111 -2111 -2111 -2111 -2111	x (5 c	copies)			

B1-07 x