S

SEP 22 2000

START 4 (4)

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 629697

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	DST Maintenance & Reliability Eng	N/A
5. Proj./Prog./Dept./Div.:	**6. Design Authority/Design Agent/Cog. Engr.:**	**7. Purchase Order No.:**
RPP Corrosion Probe	EC Norman Resp.	N/A
8. Originator Remarks:		**9. Equip./Component No.:**
This report documents the satisfactory operation of the corrosion monitoring cabinet destined for operation on tank 241-AN-104		N/A
		10. System/Bldg./Facility:
		N/A
		12. Major Assm. Dwg. No.:
		N/A
11. Receiver Remarks:	**11A. Design Baseline Document?** ☐ Yes ☒ No	**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 Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	RPP-7035		0	Acceptance Test Report for	N/A	1	1	
				Fourth-Generation				
				Hanford Corrosion				
				Monitoring Cabinet				

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 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed 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
		Design Authority				1	1	EA Fredenburg	E. Fredenburg	9/20/00	
		Design Agent									
1	1	Cog. Eng. EC Norman	E.C. Norman	9/20/00							
1	1	Cog. Mgr. DH Shuford	DH Shuford 25Sep2000								
		QA									
		Safety									
		Env.									

18. E.C. Norman 9/20/00
EC Norman — Date
Signature of EDT Originator

19. [signature] 9/12/00
GE Rupcab — Date
Authorized Representative for Receiving Organization

20. DH Shuford 25 Sep 2000
DH Shuford — Date
Design Authority/ Cognizant Manager
Responsible

21. DOE APPROVAL (if required)
Ctrl No. _____
☐ Approved
☐ Approved w/comments
☐ Disapproved w/comments

DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	DST Maintenance & Reliability Eng	Date September 20, 2000
Project Title/Work Order Acceptance Test Report for Fourth-Generation Hanford Corrosion Monitoring Cabinet		EDT No. 629697 ECN No.

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
GP Duncan	R3-72	X			
EA Fredenburg, CHG	R1-04	X			
EC Norman, CHG	R1-04	X			
GL Edgemon, Hiline	R1-56	X			
JL Castleberry	R3-83	X			

A-6000-135 (10/97)

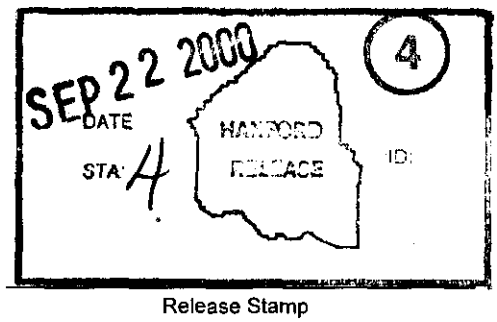
Acceptance Test Report for Fourth-Generation Hanford Corrosion Monitoring Cabinet

E. C. Norman
CH2M HILL Hanford Group, Inc.
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: 629697 UC: 2030
Org Code: 74700 Charge Code: 112671
B&R Code: EW4010000 Total Pages: 28
PF 9-22-00

Key Words: corrosion monitoring/control, corrosion probe

Abstract: This report documents the satisfactory operation of the corrosion monitoring cabinet destined for operation on tank 241-AN-104.



9-22-00
Release Approval Date

Release Stamp

Approved For Public Release

ACCEPTANCE TEST REPORT FOR FOURTH-GENERATION CORROSION MONITORING CABINET

G. L. Edgemon
Hiline Engineering & Fabrication, Inc.
2105 Aviator Drive
Richland, Washington 99352

1.0 PURPOSE

This Acceptance Test Plan (ATP) will document the satisfactory operation of the third-generation corrosion monitoring cabinet (Hiline Engineering Part #0004-CHM-072-C01). This ATP will be performed by the manufacturer of the cabinet prior to delivery to the site.

2.0 TEST OBJECTIVES

The objective of this procedure is to demonstrate and document the acceptance of the corrosion monitoring cabinet. The test will consist of a continuity test of the cabinet wiring from the end of cable to be connected to corrosion probe, through the appropriate intrinsic safety barriers and out to the 15 pin D-shell connectors to be connected to the corrosion monitoring instrument. Additional testing will be performed using a constant current and voltage source provided by the corrosion monitoring hardware manufacturer to verify proper operation of corrosion monitoring instrumentation.

3.0 RESPONSIBILITIES

3.1 TEST COORDINATION AND PERFORMANCE

A representative from the receiving organization will be responsible for the coordination, scheduling, performance, and documentation of this test procedure.

3.2 TEST WITNESSES

A representative from the receiving organization will perform the function of test witness. All testing shall be witnessed, verified and approved with the Test Engineer's signature.

3.2 RECEIPT INSPECTION

Cabinets will be subjected to receipt inspection and inspection by a certified National Electric Code (NEC) inspector from the appropriate organizations within the Hanford Site prior to acceptance by the Hanford Site.

4.0 DOCUMENTATION

4.1 TEST RECORD

Any personnel involved in the performance of this test including the Test Engineer shall fill out a line in Section 7.0 RECORDS.

Test results shall be recorded by the Test Engineer. Unacceptable conditions or readings are to be referred to Section 8.0 EXCEPTIONS. A complete working copy of this procedure and all exception records shall be maintained as lifetime records in accordance with RPP-PRO-222, Rev. 0, Quality Assurance Records Standards.

4.2 EXCEPTIONS

Exceptions by step number, and other notes are to be recorded under Section 8.0 EXCEPTIONS. This section must be dispositioned (including the generation of any required ECNs) and signed off by the Test Engineer prior to final ATP acceptance. If no exceptions are encountered, this section shall be so noted and closed out with the signature of the Test Engineer. During the performance of this test errors in text may be encountered which require correction/adjustment to complete the test. The correction is to be noted in the ATP and listed as an exception in Section 8.0 EXCEPTIONS.

4.3 TEST EXECUTION RECORD

Approval of the ATP results shall be accepted by the Test Engineer as indicated by signature in Section 9.0 TEST EXECUTION RECORD.

5.0 TEST EQUIPMENT

- Multimeter
- Constant Voltage/Current Source

6.0 ACCEPTANCE TEST

The complete acceptance test procedure is to be performed on the cabinet.*

6.1 CONTINUITY TEST

Using a standard multimeter, electrical continuity shall be verified on each of the 24 conductors used for picking up signal from corrosion probe electrodes. To perform this continuity check, make the necessary connections between each pin on the connector that will be attached to the corrosion probe and its respective pin in the 15 pin D-type connector that will be attached to the corrosion monitoring hardware. Use the data cable that will be used in the final field installation for this test. The continuity check will be performed starting with channel 1, and ending with channel 8.

6.1.1 Record model, serial number, and calibration expiration date of multimeter below.

Instrument: Fluke Model 87 III SN: 70821340

Calibration Expiration Date: 03/20/01

* The cabinet EIN is: AN104-WST-ENCL-108
EC Homan 9/22/00

6.1.2 Check continuity on each channel. Circle Yes or No in regard to whether continuity exists.

Conductor	Continuity
Channel 1 Working Electrode	Yes/No
Channel 1 Counter Electrode	Yes/No
Channel 1 Reference Electrode	Yes /No
Channel 2 Working Electrode	Yes /No
Channel 2 Counter Electrode	Yes /No
Channel 2 Reference Electrode	Yes /No
Channel 3 Working Electrode	Yes /No
Channel 3 Counter Electrode	Yes /No
Channel 3 Reference Electrode	Yes /No
Channel 4 Working Electrode	Yes /No
Channel 4 Counter Electrode	Yes /No
Channel 4 Reference Electrode	Yes /No
Channel 5 Working Electrode	Yes /No
Channel 5 Counter Electrode	Yes /No
Channel 5 Reference Electrode	Yes /No
Channel 6 Working Electrode	Yes /No
Channel 6 Counter Electrode	Yes /No
Channel 6 Reference Electrode	Yes /No
Channel 7 Working Electrode	Yes /No
Channel 7 Counter Electrode	Yes /No
Channel 7 Reference Electrode	Yes /No
Channel 8 Working Electrode	Yes /No
Channel 8 Counter Electrode	Yes /No
Channel 8 Reference Electrode	Yes /No

6.1.3 Test Engineer sign that steps 6.1.1 through 6.1.2 are complete.

9/19/00

Test Engineer Date

6.2 INSTRUMENTATION FUNCTIONAL TEST

Using a constant current and constant voltage source of between 0.1 – 20 microamps and 0.1 to 200 mV respectively, check operation of corrosion monitoring instrumentation by putting instrumentation in measuring configuration and properly measuring/recording the known signal provided by the source. Constant current and voltage source should be checked for accuracy with calibrated multimeter prior to start of testing. Constant current and voltage source should be measured by corrosion monitoring software/hardware using the actual cables to be used in the final field installation. Constant current and voltage source should be measured after passing through the intrinsic safety barrier system to be used in final field installation.

Connect constant current/voltage source to appropriate pins at end of data cable to be connected to corrosion probe in final field installation. This cable should run back through the intrinsic safety barriers and be properly connected to corrosion monitoring instrumentation per vendor instruction. Launch corrosion monitoring software and record on each channel for a minimum of one minute to verify that known current/voltage signal is being properly recorded by software. Test will be considered a success on each channel if that channel records values within +/- 10% of the source values for current and voltage.

6.2.1 Record model, serial number, and calibration expiration date of multimeter below.

Instrument: Fluke Model 87 III SN: 70821340

Calibration Expiration Date: 03/20/01

6.2.2 Record model and serial number of constant current/voltage source below.

Instrument: CPL Test Box SN: 168 1/1

6.2.3 Check known constant current/voltage signal against measured current/voltage value on corrosion monitoring software/hardware.

Channel	Constant Current Source Value	Constant Voltage Source Value	Instrument Recorded Current Value	Instrument Recorded Voltage Value
1	249 nA	102 mV	248 nA	102 mV
2	249 nA	102 mV	248 nA	102 mV
3	249 nA	102 mV	249 nA	102 mV
4	249 nA	102 mV	250 nA	102 mV
5	249 nA	102 mV	250 nA	102 mV

6	249 nA	102 mV	249 nA	102 mV
7	249 nA	102 mV	250 nA	102 mV
8	249 nA	102 mV	249 nA	102 mV

6.2.3 Test Engineer sign that steps 6.2.1 through 6.2.3 are complete.

9/19/00

Test Engineer Date

7.0 RECORDS

TEST ENGINEER

Test Engineer Sign In:

9/19/00

Test Engineer Date

TEST WITNESSES

Print Name	Signature	Position	Date
Jim L. Castleberry		Engineer	9/19/00

8.0 EXCEPTIONS

ITEM	STEP	DESCRIPTION	DISPOSITION

TEST APPROVED WITH/WITHOUT EXCEPTIONS (CIRCLE WITH OR WITHOUT):

9/19/00

Test Engineer Date

9.0 TEST EXECUTION RECORD

Section	Accept/Reject	Remarks
6.1	Accept	No exceptions
6.2	Aceept	No exceptions

9/19/00

Test Engineer Date