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ENGINEERING DATA TRANSMITTAL

STA# 4

Page 1 of 1
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2. To: (Receiving Organization) Distribution		3. From: (Originating Organization) DST Maintenance & Reliability Eng		4. Related EDT No.: N/A							
5. Proj./Prog./Dept./Div.: RPP Corrosion Probe		6. Design Authority/Design Agent/Cog. Engr.: EC Norman Resp.		7. Purchase Order No.: N/A							
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11. Receiver Remarks: 11A. Design Baseline Document? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
15. DATA TRANSMITTED						(F)	(G)	(H)	(I)		
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted		Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition		
1	RPP-7034		0	Acceptance Test Plan for Fourth-Generation Corrosion Monitoring Cabinet		N/A	1	1			
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
1		Design Authority RS Nicholson	<i>RS Nicholson</i>			1	1	EA Fredenburg	<i>EA Fredenburg</i>	9/14/00	
		Design Agent									
1	1	Cog. Eng. EC Norman	<i>EC Norman 9/14/00</i>								
1	1	Cog. Mgr. DH Shuford	<i>DH Shuford 21 Sep 2000</i>								
		QA									
		Safety									
		Env.									
18. <i>E.C. Norman</i> EC Norman 9/14/00		19. <i>MP</i> MP Dinger 9/12/00	20. <i>DH Shuford</i> DH Shuford 21 Sep 2000		21. DOE APPROVAL (if required)						
Signature of EDT Originator		Date	Authorized Representative for Receiving Organization		Date	Design Authority/Competent Manager		Ctrl No. _____			
								<input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments			

DISTRIBUTION SHEET

Acceptance Test Plan for Fourth-Generation Corrosion Monitoring Cabinet

E. C. Norman

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

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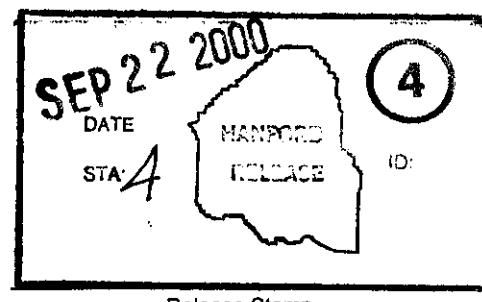
Key Words: corrosion monitoring/control, corrosion probe

Abstract: This Acceptance Test Plan (ATP) will document the satisfactory operation of the corrosion monitoring cabinet destined for operation on tank 241-AN-104.

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E. C. Norman 9-22-00
Release Approval Date



Release Stamp

Approved For Public Release

**ACCEPTANCE TEST PLAN 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: _____ SN: _____

Calibration Expiration Date:

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

<u>Conductor</u>	<u>Continuity</u>
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.

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: _____ SN: _____

Calibration Expiration Date:

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

Instrument: _____ SN: _____

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	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
6	_____	_____	_____	_____
7	_____	_____	_____	_____
8	_____	_____	_____	_____

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

Test Engineer _____ Date _____

7.0 RECORDS

TEST ENGINEER

Test Engineer Sign In:

Test Engineer Date

TEST WITNESSES

8.0 EXCEPTIONS

ITEM	STEP	DESCRIPTION	DISPOSITION

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

Test Engineer _____ **Date** _____

9.0 TEST EXECUTION RECORD

Section	Accept/Reject	Remarks
6.1		
6.2		

Test Engineer _____ Date _____