

18

STA. 02

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(G)	(H)	(J) Name	(K) Signature (M) MSIN	(L) Date	(J) Name	(K) Signature (M) MSIN	(L) Date	Rea-son	Dis-p.
1		Cog.Eng.: G.E. ENTROP	<i>G.E. Entrop</i>	11/16/94	CENTRAL FILES		L8-04	3	
1		Cog. Mgr.: D.W. Wilson	<i>D.W. Wilson</i>	11/16/94	OSTI (2)		L8-07	3	
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18. G.E. ENTROP <i>G.E. Entrop</i> 11/19/94 Signature of EDT Date Originator	19. _____ Authorized Representative Date for Receiving Organization	20. D. W. Wilson <i>D.W. Wilson</i> Cognizant Manager Date 11/16/94	21. DOE APPROVAL (if required) Ctrl. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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RELEASE AUTHORIZATION

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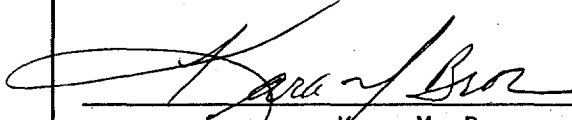
Document Title: Operability Test Procedure for 211BA Flow Proportional Sampler

Release Date: November 18, 1994

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:


Kara M. Broz

November 18, 1994

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SUPPORTING DOCUMENT

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Operability Test Procedure for 211BA Flow Proportional Sampler

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PUBLIC RELEASE**

7. Abstract

This operability test procedure will verify that the 211-BA flow proportional sampler functions as intended by design. The sampler was installed by Project W-007H and is part of BAT/AKART for the BCE liquid effluent stream.

8. RELEASE STAMP

OFFICIAL RELEASE	18
BY WHC	
DATE NOV 21 1994	
STA. # 2	

OPERABILITY TEST PROCEDURE
FOR
211-BA FLOW
PROPORTIONAL SAMPLER

Prepared by R. D. Weissenfels
B Plant Environmental Engineering

November 11, 1994

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TEST EXECUTION SHEET

OPERABILITY TEST PROCEDURE WHC-SD-WM-OTP-163 REV 0 DATE November 11, 1993

TEST TITLE Operability Test Procedure for 211-BA Flow Proportional Sampler

LOCATION Building 211-BA

PROJECT NUMBER W-007H

PROJECT TITLE B Plant Process Condensate Treatment Facility

EXECUTED BY

Project/Cog Engineer	Organization	Date	Test Director	Organization	Date
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Test Witness	Organization	Date	Test Recorder	Organization	Date
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Test Operator	Organization	Date
---------------	--------------	------

TEST APPROVAL AND ACCEPTANCE

Without exceptions _____	With exceptions resolved _____	With exceptions outstanding _____
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Safety	Date	Quality Assurance Engineer	Date
--------	------	----------------------------	------

B Plant Transition Operations	Date	Project/Cog Engineer	Date
-------------------------------	------	----------------------	------

Cognizant Engineer Manager	Date
----------------------------	------

TEST EXCEPTION SHEET

Exception No.: _____

Recorded By: _____ Date: _____

Step. No.: _____ Requirement: _____

Objectors: _____

Description of Problem: _____

Planned Action: _____

Action Taken: _____

RETEST EXECUTION AND ACCEPTANCE

Retest Approved and Accepted _____ Exception Approved as-is _____ Other _____

Transition Operations Org Date Project/Cog Engineer Org Date

Test Director Org Date Test Witness Org Date

Quality Assurance Engineer Date

Explanation of Acceptance: _____

1.0 TEST PLAN

1.1 PURPOSE OF OPERABILITY TEST

The purpose of this Operability Test Procedure (OTP) is to verify the 211-BA flow proportional sampler system and components function correctly as intended by design.

1.2 SCOPE

System test will include the sampling system, all associated instrumentation, and Facility Process Monitor and Control System (FPMCS).

1.3 REFERENCES

1.3.1 DRAWINGS

- H-2-77735, REV 2, "BCE RADIATION MONITOR & SAMPLER"
- H-2-818314, REV 0, "Electrical/Instm Conduit Plan"
- H-2-818313, REV 0, "Electrical Elementary/Wiring Diagram"
- H-2-818310, REV 0, "Electrical Instm Wire Run List"
- H-2-818332, REV 0, "Instrumentation Interconn. Diagram BCE Chemical Sewer"

1.3.2 SPECIFICATIONS

TN Technologies, Inc. Operation and Maintenance Manual for Model 6900 Sampler.

1.3.3 PROCEDURES

- WHC-SD-W007H-ATP-002, "BCE Selector Valve and Flow Proportional Sampler"

1.4 DESCRIPTION OF SYSTEM

The combined chemical sewer stream from B Plant flows through sump 211BA-SMP-01 located in 211-BA and is continuously monitored for gamma and beta radiation and pH. 211-BA has been upgraded to include a flow proportional sampler. The sampler is a TN Technologies, Incorporated, Model 6900 sampler. A specified sample volume will be withdrawn at programmed intervals from the 211BA sump and deposited in a 19 liter (5 gal.) plastic carboy.

The sampler will be programmed per the vendor installation and operations manual by B Plant instrument maintenance personnel. Samples will be taken during five consecutive sample cycles with the sample volumes and sample frequencies recorded for comparison purposes. Additional tests related to the sampler include the alarm circuitry for loss of power and failure to obtain sample.

1.5 INTERFACE AREAS

The main systems that interface with the 211-BA Sampler system are:

1. 211-BA flow monitor (existing)
2. Facility Process Monitor and Control System (FPMCS)
3. B Plant Chemical Sewer

2.0 OCCUPATIONAL SAFETY AND HEALTH

Individuals shall carry out their assigned work in a safe manner to protect themselves, others and the equipment from undue hazards and to prevent damage to property and environment. Facility line managers shall assure the safety of all activities within their areas to prevent injury, property damage, or interruption of operation. Performance of test activities shall always include safety and health aspects as delineated in the Operations Manuals. Provisions of Industrial Safety Manual, WHC-CM-4-3, Vol 1-3, also are significant in the performance of this procedure.

3.0 RESPONSIBILITIES

3.1 GENERAL

Each organization participating in this OTP will designate personnel to assume the responsibilities and duties as defined below for their respective roles. The designees shall become familiar with the test and the systems involved to the extent that they can perform their assigned duties. The name of these designees shall be provided to the Recorder for listing on the Recorder's copy of the Test Execution sheet prior to the performance of any part of this OTP.

3.2 PROJECT/COGNIZANT ENGINEER

- 3.2.1 Designate a Test Director.
- 3.2.2 Coordinate testing with B Plant Operations.
- 3.2.3 Act as liaison between the participants in the testing.
- 3.2.4 Conduct a pretest kickoff meeting with test participants.
- 3.2.5 Take necessary action to clear exceptions to the test.
- 3.2.6 Sign Test Execution sheet when test has been performed.
- 3.2.7 Sign Test Exception sheet when exceptions have been resolved.
- 3.2.8 Provide a distribution list for the approved and accepted OTP.

3.2.9 Initiate ECNs to document required field changes to the OTP to accommodate existing field conditions.

3.3 TEST DIRECTOR

3.3.1 Coordinate and direct all testing.

3.3.2 Designate Test Recorder.

3.3.3 Stop any test which, in the judgment of the Director, 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 of steps in testing.

3.3.5 Ensure that required environmental conditions are maintained.

3.3.6 If a test is to be suspended for a period of time, ensure that the system is left in a safe mode.

3.3.7 Before restarting suspended test, reverify the test prerequisites.

3.3.8 Evaluate recorded data, discrepancies, and exceptions.

3.3.9 Obtain information or changes necessary to clear or resolve objections during the performance of the test.

3.3.10 Sign Test Execution sheet when test has been performed.

3.3.11 Sign Test Exception sheet when exceptions have been resolved.

3.3.12 Obtain required signatures on the master prior to reproduction and distribution.

3.4 TEST RECORDER (Designated by Test Director)

3.4.1 Designate a master copy.

3.4.2 Record names of all designated personnel on master copy of OTP prior to start of testing.

3.4.3 Observe tests and record test data.

3.4.4 Initial and date each procedure step on the master copy as it is completed.

3.4.5 Record objections and exceptions on an Exception sheet.

3.4.6 Notify the Test Director at time the objection is made.

- 3.4.7 Sign Test Execution sheet when test has been performed.
- 3.4.8 Sign Test Exception sheet when exceptions have been resolved.
- 3.4.9 After test is finished, assign alpha numeric page numbers to added data sheets and Test Exception forms.
- 3.4.10 Submit the completed master copy to the Test Director.

3.5 TEST WITNESS (QUALITY CONTROL)

- 3.5.1 Witness, initial and date each test on the master copy next to the step number.
- 3.5.2 Initial and date each minor "inked in change" made in the field.
- 3.5.3 Sign Test Execution sheet when test has been performed.
- 3.5.4 Sign Test Exception sheet when exceptions have been resolved.

3.6 QUALITY ASSURANCE ENGINEER

Discrepancies, deviations, or irregularities involving OTP and equipment performance noted on the Exception List are jointly resolved between the cognizant engineer and the Quality Assurance engineer.

- 3.6.1 Sign Test Execution sheet when test has been performed.
- 3.6.2 Sign Test Exception sheet when exceptions have been resolved.

3.7 TEST OPERATOR

- 3.7.1 Perform test under direction of the Test Director.
- 3.7.2 Provide labor, equipment, and test instruments required for performing tests which have not been designated as being provided by others.
- 3.7.3 Sign Test Execution sheet when test has been performed.

3.8 B PLANT TRANSITION OPERATIONS

- 3.8.1 Operate and monitor the Facility Process Monitor and Control System (FPMCS).
- 3.8.2 Establish a communication link for the test.
- 3.8.3 Sign Test Execution sheet when test has been performed.
- 3.8.4 Sign Test Exception sheet when exception has been resolved.

3.9 CRAFT SUPPORT

3.9.1 Provide necessary support as required during testing.

3.9.2 Provide labor, equipment, and test instruments required for performing tests which have not been designated as being provided by others.

4.0 EQUIPMENT REQUIRED

Supplied by Test Operator unless otherwise noted.

4.1 Sample container: one (1) 50 ml graduated cylinder or approved equal measuring device.

4.2 Miscellaneous craft tools as required.

4.3 19 liter carboy.

5.0 PRE-TEST REQUIREMENTS

5.1 GENERAL

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

5.1.1 Conduct pre-job meeting to familiarize all participating personnel with test objectives.

5.1.2 Voice communications are available between 211-BA, the B Plant dispatcher, and (if necessary) Room 201 in Building 271-B.

5.1.3 B Plant dispatcher has been notified of intended activity.

5.1.4 Equipment and component labeling is in place with permanent or temporary labels. Where temporary labels exist, verify work requests are in place or initiated by Project engineer.

5.1.5 Power is available to components of systems being tested.

5.1.6 Verify sampler has been pre-programmed to take a sample every 12,300 liters (3,250 gallons), or at an interval designated by Test Director.

6.0 RECORDING AND RESOLVING EXCEPTIONS

6.1 GENERAL

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

6.2 RECORDING

- 6.2.1 Number each exception sequentially as it occurs and record it on a Test Exception form.
- 6.2.2 Enter name 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 Test Exception sheet.
- 6.3.2 When action taken does not involve an acceptable retest, and does not resolve exception, strike out the Retest Execution and Acceptance section of the Test Exception sheet.

6.4 APPROVAL AND ACCEPTANCE

The Cognizant Engineer provides final approval and acceptance of the exceptions by checking one of the following on Test Exception sheet:

- 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 Cognizant Engineer signs and dates the Test Exception sheet and obtains other approvals, if required.

6.5 DISTRIBUTION

A copy of the approved Test Exception sheet is distributed to each participant. The signed original is attached to the master OTP.

7.0 TEST EXECUTION

7.1 WITHOUT EXCEPTION

- 7.1.1 Check applicable space on Test Execution Sheet to show that the OTP has been performed and no exceptions have been recorded.
- 7.1.2 Sign and date Test Execution Sheet.
- 7.1.3 Return master OTP to the Cognizant Engineer.

7.2 WITH EXCEPTIONS RESOLVED

- 7.2.1 Check applicable space on Test Execution Sheet to show that the OTP has been performed with exceptions recorded and resolved.
- 7.2.2 Return master OTP to the Cognizant Engineer.

7.3 WITH EXCEPTIONS OUTSTANDING

- 7.3.1 Check applicable space on Test Execution Sheet to show that the OTP has been performed with exceptions recorded.
- 7.3.2 Sign and date Test Execution Sheet in the space provided.
- 7.3.3 Return master OTP to the Cognizant Engineer.

8.0 PROCEDURE STEPS

- 1. In 211-BA, verify that the sampler POWER light is illuminated and the MISSED SAMPLE light is OFF.
Init./Date _____
- 2. *Collect a minimum of five consecutive samples into the volumetric measuring container (be sure to allow the contents of the tube to completely drain). Record the volume collected for each sample to the nearest ml. Record the time and flowrate at each sampling cycle. Flowrate can be represented by percent as indicated on flowmeter.*

<u>Volume</u>	<u>Time</u>	<u>Flowrate</u>	<u>Initial</u>
Sample No. 1 _____ ml.	_____	_____	_____
Sample No. 2 _____ ml.	_____	_____	_____
Sample No. 3 _____ ml.	_____	_____	_____
Sample No. 4 _____ ml.	_____	_____	_____
Sample No. 5 _____ ml.	_____	_____	_____
Sample No. 6 _____ ml.	_____	_____	_____
Sample No. 7 _____ ml.	_____	_____	_____
Sample No. 8 _____ ml.	_____	_____	_____
Sample No. 9 _____ ml.	_____	_____	_____
Sample No. 10 _____ ml.	_____	_____	_____

- Verify that the volume of sample collected for each sample is 40+/-5ml.
Init./Date _____

If any sample volumes exceeded the allowed volume range, recalibrate the primary sampler per sampler Installation and Operation Manual. Continue collecting samples and recalibrating the sampler as necessary until 5 consecutive samples are collected with volumes ranging between 35 ml and 45 ml.

- When the sampling volume has been verified, test for a missed sample by disconnecting the sample transport line at a quick disconnect. Allow the sampler to progress through a sampling cycle. Verify that the MISSED SAMPLE light has illuminated.
Init./Date _____

- Confirm FPMCS receives system failure alarm on OIU, Tag No., XFA-BCE, in Area 2, Group A.
Init./Date _____

- Reconnect the sample transport tubing. Allow the sampler to cycle through another sampling series. Verify that the MISSED SAMPLE light is OFF.
Init./Date _____

- Verify FPMCS alarm, XFA-BCE, clears.
Init./Date _____

8. Request electrician to interrupt power to sampler by opening circuit breaker 23 in lighting panel 211BA-LP-A.

Init./Date_____

9. Confirm POWER light on sampler is OFF.

Init./Date_____

10. Confirm FPMCS OIU receives power failure alarm on OIU Tag JFA-BCE in Area 2, Group A.

Init./Date_____

11. Restore power to sampler via circuit breaker 23 in lighting panel 211BA-LP-A.

Init./Date_____

12. Confirm FPMCS alarm JFA-BCE clears.

Init./Date_____

13. Notify B Plant Operations that the sampler Operability Test Procedure has been completed. Note any exceptions.

Init./Date_____