

18

STP. 52

ENGINEERING DATA TRANSMITTAL

1. EDT 606974

DEC 21 1994

2. To: (Receiving Organization) B Plant Complex Operations	3. From: (Originating Organization) B Plant Environmental Engineering	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: W-007H	6. Cog. Engr.: G. E. Entrop	7. Purchase Order No.: N/A
8. Originator Remarks: The document being submitted for approval is the Operability Test for the TK-900B and related valving installed in the east end of the 221B electrical gallery under Project W-007H.		9. Equip./Component No.: N/A
11. Receiver Remarks:  <b>RECEIVED</b> <b>JAN 24 1995</b> <b>OSTI</b>		10. System/Bldg./Facility: 24J/211-B/2B
		12. Major Assm. Dwg. No.: H-2-818347
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: N/A

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	WHC-SD-WM-OTP-107 171 Raw		0	Operability test procedure for the TK-900 Effluent Monitoring Station	S, E, Q	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)	(H)	(J) Name	(K) Signature (M) MSIN	(L) Date	(J) Name	(K) Signature (M) MSIN	(L) Date	Rea - son	Dis p.
1	1	Cog. Eng. G. E. Entrop	<i>G. Entrop</i>	S6-70 12/20/94	Central Files		L8-04	3	
1	1	Cog. Mgr. D. W. Wilson	<i>D. Wilson</i>	S6-70 12/20/94	OSTI (2)		L8-07	3	
1	1	QA W. F. Witherell	<i>W. Witherell</i>	S4-69 12/20/94					
1	1	Safety W. P. Nelson	<i>W. Nelson</i>	S6-21 12/20/94					
1	1	Env. D. W. Wilson	<i>D. Wilson</i>						

18. Signature of EDT Date Originator <i>G. E. Entrop</i> 12/21/94	19. Authorized Representative Date for Receiving Organization <i>Ken Leonard</i> 12/21/94	20. Cognizant Manager Date <i>D. W. Wilson</i> 12/20/94	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

Document Number: WHC-SD-WM-OTP-<sup>171</sup>~~107~~<sup>POW</sup>, REV.0

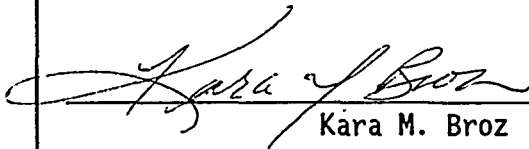
Document Title: Operability Test Procedure for the TK-900 Effluent Monitoring Station

Release Date: December 21, 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

December 21, 1994

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**SUPPORTING DOCUMENT**

1. Total Pages *29*

2. Title

Operability Test Procedure for the TK-900 Effluent Monitoring Station

3. Number

WHC-SD-WM-OTP-171 REV 0

4. Rev No.

0

5. Key Words

OTP/211BA/Electrical Gallery/TK900B

6. Author

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Signature

Organization/Charge Code 16610/KBEPS

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*KMB 12/21/94*

7. Abstract

This operability test procedure will verify that the 221-B liquid effluent monitoring system, installed near the east end of the six inch chemical sewer header, functions as intended by design. TK-900B was installed near stairwell three in the 221-B electrical gallery by Project W-007H. The system is part of BAT/AKART for the BCE liquid effluent system.

8. RELEASE STAMP

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



**OPERABILITY TEST PROCEDURE  
FOR THE  
TK-900 EFFLUENT MONITORING STATION  
MANUALLY FROM FPMCS/SKID**

Prepared by R. D. Weissenfels  
B Plant Environmental Engineering

December 1994

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**MASTER**

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## TEST EXECUTION SHEET

OPERABILITY TEST PROCEDURE WHC-SD-WM-OTP-107 REV 0 DATE December , 1994

TEST TITLE Operability Test Procedure For The TK-900 Effluent Monitoring Station

LOCATION Building 221-B Electrical Gallery

PROJECT NUMBER W-007H

PROJECT TITLE B Plant Process Condensate Treatment Facility

EXECUTED BY

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

**TEST APPROVAL AND ACCEPTANCE**

Without exceptions _____	With exceptions resolved _____	With exceptions outstanding _____
--------------------------	--------------------------------	-----------------------------------

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 TK-900 monitoring system and components function correctly as intended by design.

### 1.2 SCOPE

The OTP will include the TK-10-1 diverter valve, TK-900A/B selector valve and retention tanks, tank level switches, pumps, and pH monitors, associated instrumentation and valving, and the Facility Process Monitor and Control System (FPMCS) configuration. The operation of the equipment will be conducted manually from the FPMCS via a designated Operator Interface Unit (OIU).

### 1.3 REFERENCES

#### 1.3.1 DRAWINGS

- H-2-818346, REV 0, "P & ID B PLANT COMBINED EFF (BCE) COLLECTION & RAD MONITORING".
- H-2-818347, REV 0, "Piping BCE Diversion & Sampling Plan & Elevation".

#### 1.3.2 PROJECT ENGINEERING CHANGE NOTICES (ECN'S)

- W-007H-10
- W-007H-12
- W-007H-13
- W-007H-22
- W-007H-26

#### 1.3.3 SPECIFICATIONS

- Procurement Spec P1, Rev. 0, "Plastic Tank and Seismic Restraints"
- Procurement Spec P2, Rev. 0, "Beta/Gamma Radiation Liquid Monitoring System"
- Procurement Spec P3, Rev. 0, "General Instrumentation"
- Procurement Spec P4, Rev. 0, "Agitator"

#### 1.3.4 PROCEDURES

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

## 1.4 DESCRIPTION OF SYSTEM

## 1.5 INTERFACE AREAS

The main systems that interface with the TK-900 system are:

1. TK-900A (existing) and TK-900B (new) and each tanks level switches (2 each).
2. Facility Process Monitor and Control System (FPMCS) (reconfigured).
3. B Plant Chemical Sewer - 3 and 6 inch header (existing), and TK-10-1 diverter valve (existing).
4. Beta/Gamma Radiation and pH Monitors, skid mounted (new).
5. Piston operated and manually controlled valves (new).

## 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

- 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.

### 3.10 CHANGE CONTROL

3.10.1 If a need for change is discovered during the course of running the test, the test shall be stopped by the test director. The test director shall evaluate the observation and initiate a red line change to the master copy of the OTP if the observation is determined to be minor.

### 4.0 EQUIPMENT REQUIRED

Supplied by Test Operator unless otherwise noted.

4.1 Two each, two-way radios for communication

4.2 Sample container (bucket or bottle)

### 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 TK-900 monitoring station in 221-B electrical gallery, the B Plant dispatcher, and/or a designated Operator Interface Unit (OIU).

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.

5.1.5 Power is available to components of systems being tested.

- 5.1.6 There is no preferential sequence for the testing of "TK-900A" or "TK-900B" loops. Sequence is generally dependent on which tank has sufficient water for intended loop test. Direction and sequence will be as directed by the test director.
- 5.17 This OTP is intended to test components by manual operation of the FPMCS and also by manual operation at the "skid". Though the FPMCS is capable of automatically controlling the operation of the TK-900 monitoring system, that capability will be input at a latter date.
- 5.18 The OIU station to be utilized for the FPMCS testing will be as designated by the test director.
- 5.19 Confirm Tank A and Tank B sample results (TB, TA, and pH) are within specifications for discharge to 211-BA.

Tank A: Init./Date \_\_\_\_\_

Tank B: Init./Date \_\_\_\_\_

## 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

Manual Operation With FPMCS Support - The activities to be performed are listed below:

- A. Confirm Valve Arrangement, Test TK-900A Agitator, Level Switch, P-900-2 And Route From TK-900A Through Monitor And Return
- B. Test Level Switch, P-900-1, And Route From TK-900A To 211-BA And TK-10-1
- C. Test TK-900B Agitator, Level Switch, P-900-2 And Route From TK-900B Through Monitor And Return
- D. Test Level Switch, P-900-1, And Route From TK-900B To 211-BA And TK-10-1

A. CONFIRM VALVE ARRANGEMENT TEST TK-900A AGITATOR, LEVEL SWITCH, P-900-2 AND ROUTE FROM TK-900A THROUGH MONITOR AND RETURN

1. Ensure TK-900A liquid level is above blades of agitator, then turn on TK-900A agitator by accessing OIU tag Area 2, Group A. Visually confirm agitator is operating and is indicated by OIU tag.

Init./Date\_\_\_\_\_

2. Turn off TK-900A agitator.

Init./Date\_\_\_\_\_

3. In electrical gallery, between TK-900A and TK-900B, at North wall, set agitator Tank A motor starter HAND-OFF-AUTO switch to H.

4. Confirm TK-900A agitator operates and ON light is illuminated.

Init./Date\_\_\_\_\_

5. If TK-900A is full, confirm TK-900A level alarm, LA-900-1 area 2, group A, is activated.

Init./Date\_\_\_\_\_

6. Confirm valve position and configuration for the following:

OIU TAG	POSITION	FPMCS INIT/DATE	SKID INIT/DATE
S-900-1	Tank A		
S-900-1	Tank B		
S-900-2	Tank A		
S-900-2	Tank B		
S-900-3	Tank A		
S-900-3	Tank B		
S-900-4	To A		
S-900-4	To B		
S-900-5	211BA		
S-900-5	TK-10-1		



10. Access area 2, group A, start P-900-2, and confirm the following:

a. Pressure Indicator, PI-\*-2, located on skid, is operating. Record reading.

\_\_\_\_\_ Init./Date \_\_\_\_\_  
Pressure

\*\*\*\*\*

**QC HOLD POINT**

\*\*\*\*\*

b. Pump is operating and waste water is discharging to TK-900A.

QC Verfication \_\_\_\_\_ Init./Date \_\_\_\_\_

c. Confirm pH monitor PHI-900, area 2, group A, has cleared and is operating. Confirm pH at skid is also functioning. Record pH readings.

\_\_\_\_\_ Init./Date \_\_\_\_\_  
FPMCS pH SKID pH

d. Stop pump P-900-2, area 2, group A. Confirm OIU indication is correct.

Init./Date \_\_\_\_\_

e. Check HAND-OFF-AUTO (H-O-A) operation of P-900-2.

1. At skid, set P-900-2 power switch to ON.

2. Set pump P-900-2 H-O-A switch to H, confirm pump operation, then return H-O-A switch to OFF, then to AUTO.

Init./Date \_\_\_\_\_



\*\*\*\*\*  
**QC HOLD POINT**  
 \*\*\*\*\*

- b. Prior to starting transfers to 211-BA via the 3-inch drain header, confirm steam traps discharging to the header are functioning and not "blowing through". If not functioning properly, restore to normal operation.  
 Init./Date\_\_\_\_\_

TRAP NUMBER	LOCATION	QC VERIFICATION
B-68	Operating Gallery / North Wall / Cell 7	
B-175 =	Electrical Gallery / North Wall / Cell 15-16 (hump)	
B-104	Pipe Gallery / North Wall / Cell 20-21	
Unknown	Pipe Gallery / South Wall / Cell 15-16	
Unknown	Pipe Gallery / North Wall / Cell 15-16	

- c. Access area 2, group A, start P-900-1, and confirm the following:
1. Record volume of tank at beginning of transfer.  
 Volume\_\_\_\_\_ Init./Date\_\_\_\_\_
  2. Request dispatcher to provide BCE flow rate at 211-BA.  
 \_\_\_\_\_ Init./Date\_\_\_\_\_  
 Flow Rate
  3. Pump and Pressure Indicator PI-\*-1, on skid, is operating. Record pressure.  
 \_\_\_\_\_ Init./Date\_\_\_\_\_  
 Pressure
  4. Continue pumping and monitoring for:
    - a) TK-900A liquid level decrease.
    - b) 211-BA flow rate increase of approximately 20 gpm.
  5. If liquid level drops below TK-900A low level alarm, access OIU tag

LSL-900A, area 2, group B, and confirm and acknowledge low level alarm is functioning properly.

Init./Date \_\_\_\_\_

- 6. When test director determines that sufficient volume has been pumped to confirm 4(a) or 4(b) and/or when TK-900A, has been emptied, shut off pump P-900-1, area 2, group A.

Init./Date \_\_\_\_\_

- 7. Engineering complete step 7. Record final TK-900A volume and final 211-BA peak flow rate.

	VOLUME TK-900A (gallons)	211-BA FLOW RATE (gpm)	Time (minutes)
Start			
End			

- 2. To check the selector valve and route to TK-10-1 from TK-900A, perform the following:

- a. Confirm manual valves remain as in step B.1.a.
- b. Confirm Selector valves S-900-1 through S-900-4 remain as set in step B.1.a.
- c. Access OIU tag S-900-5, area 2, group B, and select TK-10-1.

- 3. Access area 2, group A, start P-900-1, and confirm the following:

- a. Record volume of TK-900A at beginning of transfer.

Init./Date \_\_\_\_\_

Volume \_\_\_\_\_

- b. Request dispatcher to provide volume of TK-10-1.

Volume \_\_\_\_\_

Time/Date/Init. \_\_\_\_\_

- c. Pump and Pressure Indicator PI-\*-1, on skid, is operating. Record pressure.

Init./Date \_\_\_\_\_

Pressure \_\_\_\_\_



- d. Obtain sample from discharge by opening manual valve V-\*-5. Collect only sufficient sample as directed by test director. Close V-\*-5.

Init./Date \_\_\_\_\_

- e. Continue pumping and monitoring for:

1) Sufficient TK-900A liquid level decrease to ensure system operation. Minimize flow to TK-10-1.

- f. If liquid level drops below TK-900A low level alarm, access OIU tag LSL-900A, area 2, group B, and confirm and acknowledge low level alarm is functioning.

Init./Date \_\_\_\_\_

- g. When sufficient volume has been pumped to confirm e(1) shut off pump P-900-1, area 2, group A.

Init./Date \_\_\_\_\_

- h. Engineering to complete table, step h. Record final TK-900A volume and final TK-10-1 volume.

	VOLUME TK-900A (gallons)	TK-10-1 (gallons)	Time (minutes)
Start			
End			

C. TEST TK-900B AGITATOR, LEVEL SWITCH, P-900-2 AND ROUTE FROM TK-900B THROUGH MONITOR AND RETURN

1. Ensure TK-900B liquid level is above blades of agitator, then turn on TK-900B agitator by accessing OIU tag area 2, group A. Visually confirm agitator is operating and is indicated by OIU tag.

Init./Date\_\_\_\_\_

2. Turn off TK-900B agitator.

Init./Date\_\_\_\_\_

3. In electrical gallery, between TK-900A and TK-900B, at North wall, set agitator Tank B motor starter HAND-OFF-AUTO switch to H.

4. Confirm TK-900B agitator operates and ON light is illuminated.

Init./Date\_\_\_\_\_

5. If TK-900B is full, confirm TK-900B level alarm, LSH-900B area 2, group A, is activated.

Init./Date\_\_\_\_\_

6. For transfer using P-900-2 to monitors and return to TK-900B, access OIU tags in area 2, group B as indicated below. Set manual valves also as indicated below:

OIU tag	POSITION	INIT./DATE
S-900-1	Select A TK-900A	
S-900-2	SELECT A TK-900A	
S-900-3	SELECT B TK-900B	
S-900-4	SELECT B TK-900B	
S-900-5	SELECT B TK-10-1	

MANUAL	POSITION	INIT./DATE
V-*-22	CLOSED	
V-*-20	CLOSED	
V-*-18	CLOSED	
V-*-19	CLOSED	
V-*-21	CLOSED	
V-*-17	CLOSED	
V-*-16	CLOSED	
V-*-7	OPEN	
V-*-8	OPEN	
V-*-11	OPEN	
V-*-23	OPEN	
V-*-4	OPEN	
V-*-5	CLOSED	
V-*-24	CLOSED	
V-*-14	CLOSED	
V-*-2	CLOSED	
V-*-1	CLOSED	
V-*-15	OPEN	

7. Open vent valves V-\*-21 and allow air trapped in lines to be displaced by liquid from TK-900B.
8. Close vent valves V-\*-21. Init./Date \_\_\_\_\_

9. Access area 2, group A, start P-900-2, and confirm the following:

a. Pressure Indicator, PI-\*-2, located on skid, is operating. Record reading.

\_\_\_\_\_ Init./Date \_\_\_\_\_  
Pressure

\*\*\*\*\*  
QC HOLD POINT  
\*\*\*\*\*

b. Pump is operating and waste water is discharging to TK-900B.

Init./Date \_\_\_\_\_

c. Confirm pH monitor PHI-900, area 2, group A, has cleared and is operating. Confirm pH at skid is also functioning. Record pH readings.

\_\_\_\_\_ Init./Date \_\_\_\_\_  
FPMCS pH SKID pH

d. Stop pump P-900-2, area 2, group A. Confirm OIU indication is correct.

Init./Date \_\_\_\_\_

e. Check HAND-OFF-AUTO (H-O-A) operation of P-900-2.

1. At skid, set P-900-2 power switch to ON.

2. Set pump P-900-2 H-O-A switch to H, confirm pump operation, then return H-O-A switch to OFF, then to AUTO.

Init./Date \_\_\_\_\_



\*\*\*\*\*  
**QC HOLD POINT**  
 \*\*\*\*\*

- b. Prior to starting transfers to 211-BA via the 3-inch drain header, confirm steam traps discharging to the header are functioning and not "blowing through".

Init./Date \_\_\_\_\_

TRAP NUMBER	LOCATION	QC VERIFICATION
B-68	Operating Gallery / North Wall / Cell 7	
B-175	Electrical Gallery / North Wall / Cell 15-16 (hump)	
B-104	Pipe Gallery / North Wall / Cell 20-21	
Unknown	Pipe Gallery / South Wall / Cell 15-16	
Unknown	Pipe Gallery / North Wall / Cell 15-16	

- c. Access area 2, group A, start P-900-1, and confirm the following:

1. Record volume of tank at beginning of transfer in Table at step c.

Init./Date \_\_\_\_\_

2. Request dispatcher to provide BCE flow rate at 211-BA.

Flow Rate \_\_\_\_\_

Time/Date/Init. \_\_\_\_\_

3. Confirm pump and Pressure Indicator PI-\*-1, on skid, is operating. Record pressure.

Pressure \_\_\_\_\_

Init./Date \_\_\_\_\_

4. Continue pumping and monitoring for:

- a) TK-900B liquid level decrease.
- b) 211-BA flow rate increase of approximately 20 gpm.

5. If liquid level drops below TK-900B low level alarm, access OIU tag

LSL-900B, area 2, group B, and confirm and acknowledge low level alarm.

Init./Date \_\_\_\_\_

6. When test director determines that sufficient volume has been pumped to confirm 4(a) or 4(b), and/or when TK-900B, has been emptied, shut off pump P-900-1, area 2, group A.

Init./Date \_\_\_\_\_

7. Engineering complete step 7. Record final TK-900B volume and final 211-BA peak flow rate.

	VOLUME TK-900B (gallons)	211-BA FLOW RATE (gpm)	Time (minutes)
Start			
End			

2. To check the selector valve and route to TK-10-1 from TK-900B, perform the following:

- a. Confirm manual valves remain as in step D.1.a.
- b. Confirm Selector valves S-900-1 through S-900-4 remain as set in step D.1.a.
- c. Access OIU tag S-900-5, area 2, group B, and select TK-10-1.

3. Access area 2, group A, start P-900-1, and confirm the following:

- a. Record volume of tank at beginning of transfer in Table at step 3g.

\_\_\_\_\_ Init./Date \_\_\_\_\_  
Volume

- b. Request dispatcher to provide volume of TK-10-1.

\_\_\_\_\_ / / \_\_\_\_\_  
Volume Time/Date/Init.

- c. Pump and Pressure Indicator PI-\*-1, on skid, is operating. Record pressure.

\_\_\_\_\_ Init./Date \_\_\_\_\_  
Pressure

- d. Continue pumping and monitoring for:
  - 1) TK-900B liquid level decrease.
  - 2) To ensure system operation. Minimize flow to TK-10-1.
- e. When liquid level drops below TK-900B low level alarm, access OIU tag LSL-900B, area 2, group B, and confirm and acknowledge low level alarm.  
 Init./Date \_\_\_\_\_
- f. When sufficient volume has been pumped to confirm d(1) and d(2) shut off pump P-900-1, area 2, group A.  
 Init./Date \_\_\_\_\_
- g. Engineering to complete table, step g. Record final TK-900B volume and final TK-10-1 volume.

	VOLUME TK-900B (gallons)	TK-10-1 (gallons)	Time (minutes)
Start			
End			