MAR 27 1996

ENGINEERING DATA TRANSMITTAL

Page 1 of

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16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
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1	1	Cog.Eng. D. C. DeRosa	DC DeRosa	3/29/96	X3-85	Project Files			X3-85	3	
1	1	Cog. Mgr. D. S. Takasumi	DS Takasumi	3/18/96	X3-85						
1	1	QA J. T. DIEHL	J. T. Diehl	3-18-96	X3-80						
1	1	Safety	Daniel R. Rees	3/29/96	X3-80						
		Env. N/A									
3		J. M. Kurta			X3-74						
3		S. P. Burke			X3-74						

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D. C. DeRosa DC DeRosa 2/27/96 Signature of EDT Originator Date	D. S. Takasumi DS Takasumi 3/18/96 Authorized Representative for Receiving Organization Date	D. S. Takasumi DS Takasumi 3/18/96 Cognizant Manager Date	[] Approved [] Approved w/comments [] Disapproved w/comments

BD-7400-172-2 (04/94) GEF097

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KE Basin Recirculation/Skimmer/IX Systems Restart Acceptance Test Report

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U.S. Department of Energy Contract DE-AC06-87RL10930

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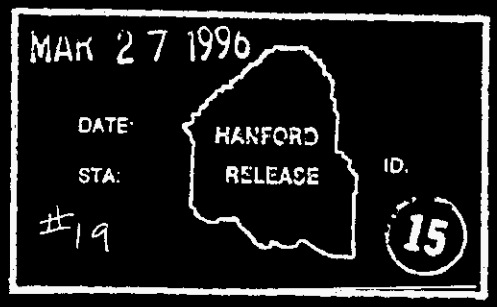
Key Words: 105 KE Basin Recirculation, Skimmer System, IXM, Upgrades, Acceptance Test Report

Abstract: The 105 KE Basin Recirculation System and Skimmer Loop have been upgraded to provide the flexibility to run the Ion Exchange Modules on either system to support spent fuel removal for the Spend Nuclear Fuel Project. This Acceptance Test Report provides the documentation of the leak testing for the construction work associated with the IXM inlet and outlet piping, places the cartridge filters back in service and provides the functional testing of the IXM's on the recirculation and skimmer systems.



Janis Braden 3/27/96
Release Approval Date
Release Stamp

Approved for Public Release

KE BASIN RECIRCULATION/SKIMMER/IX SYSTEMS RESTART ACCEPTANCE TEST REPORT

WESTINGHOUSE HANFORD COMPANY

FEBRUARY 1996

For the U.S. Department of Energy
Contract DE-AC06-87RL10930

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CONTENTS

KE BASIN RECIRCULATION/SKIMMER/IX SYSTEMS RESTART ACCEPTANCE TEST PROCEDURE

1.0 INTRODUCTION

1.1 Background

The KE Basin is equipped with two separate recirculation loops, the "main recirculation loop" and the "skimmer loop." The main recirculation loop consists of two redundant recirculation pumps and a refrigerated heat exchanger. Roughly half of the total flow is forced through the heat exchanger, while the remainder is bypassed around the exchanger before both streams are returned to the basin. The original main recirculation loop configuration also included cartridge filters and ion exchange columns.

Recently, the main loop has only been operated to remove heat from the pool because of unacceptable radiation exposure to personnel during change-outs of the ion exchange columns and cartridge filters, and because the resultant waste forms are no longer acceptable for burial and/or storage.

The skimmer loop consists of a single pump (no installed backup) that draws water from the surface of the basin and discharges it to a backwashable sand filter. A portion of the filtered water then flows through a concrete shielded, mixed bed ion exchange module (IXM) where some of the basin's radioactive (mostly Cs and Sr) and non-radioactive ions are removed before the water is discharged back to the basin.

Because the skimmer loop's sand filter is much less effective than the main recirculation loop's cartridge filters were, the resultant alpha contamination of the basin water is much higher following sludge pumping or similar basin work; therefore, it is desirable to restart the main loop's cartridge filters.

The KE Basin main recirculation and skimmer loops will be shut down and modified. Modifications will provide for:

- Increased overall basin filtration rates
- Normal operation of either, or both, ion exchange modules (IXMs) on the main recirculation loop. One IXM will be capable of being operated while the other is being changed out.
- The less reliable skimmer loop to be either relegated to stand-by service or operated in parallel with the main recirculation loop.

1.2 Purpose

This procedure will provide the instructions to restart the primary recirculation and skimmer systems following modification and to determine if each system is operating within required parameters following modification.

1.3 Scope

This procedure covers the mechanical aspects of the systems. Instrument upgrades will be acceptance tested using a separate document (WHC-SD-SNF-ATP-012).

2.0 RESPONSIBILITIES

2.1 Test Director (Operations PIC)

The Test Director is responsible for the following:

- Functioning as the Person In Charge (PIC) for performance as delineated in this procedure.
- Controlling testing activities
- Assigning responsibilities.
- Monitoring testing for compliance with the test procedures.
- Ensuring Hanford Job Hazards Analysis checklist is complete.
- Conducting prejob briefing/readiness review prior to initiating test and at the beginning of each shift.

The Test Director for this activity is: PHILLIP SHEELY. T.J. RUANE FOR 12.12.95

2.2 Test Engineer (K Basins Projects)

The Test Engineer is responsible for the following:

- Providing project engineering support during testing activities.
- Preparing acceptance test documentation (test procedure and test report).

- Providing liaison with Quality Assurance for testing activities, as required.
- Reviewing test results.
- Ensuring all items requiring acceptance testing per this procedure are acceptance tested.

The Test Engineer for this activity is: FRANK MULLER

DAVE DeROSE

2.3 Test Performer(s)

Test Performers are responsible for performing test activities in accordance with this procedure.

Test Performers for this activity are identified in Appendix A.

2.4 Quality Control Inspector

A Quality Control (QC) Inspector is responsible for leak checking new welds following restart of the recirculation loops. Leak checks will be performed after at least 30 minutes after the system is restarted and again after at least 24 hours after the system is restarted.

3.0 PREREQUISITES

All personnel initialing in this procedure must sign Appendix A.

3.1 Completion of Modifications

The following activities must be complete to the point of supporting this procedure (i.e., cleanup, etc. is not required to be complete) prior to beginning this procedure:

1. Inlet piping modifications as indicated in JCS Work Package 1K-95-00752.
2. Outlet piping modifications and instrument upgrades as identified in JCS Work Package 1K-95-00751.

11/16/95

Lead Project Engineer Date

3. Bypass applicable alarms per Operating Procedure 59/60-02-2, *Operate Annunciator Bypass System for 105KE/KW Basins*. (Use new procedure and validate with this ATP.)

P Shuly 11/12/95 # 18644
Test Director Date

3.2 Safety

- At the beginning of each shift, conduct a prejob safety meeting to discuss RWP, JHA, other permits/limits, and the work anticipated during the shift.
- Comply with applicable RWPs and approved Radiation Area Entry Permit.
- Valve persuaders may be used to open hard to open valves. Report hard to open valves.
- It is anticipated that some leakage may occur which requires corrective action such as general tightening. Treat all leaking water around systems as contaminated until checked by a Radiation Control Technician (RCT).

3.3 Special Tools, Equipment, and Supplies

- Operating Procedure 59/60-43-15, *Collect Special Water Samples at Routine Sample Locations*
- Valve Persuaders
- Water hose (if skimmer pump needs to be primed)
- Communication with personnel in the Control Room or Room 7 for convenience in monitoring alarms, pressures, and flows.
- Operating Procedure 59-43-7, *Operate Demin Water Supply*
- Adequate spill cleanup material
- Sample containers, as required

4.0 TEST CONTROL

At the discretion of the Test Director, some procedure sections may be performed out of order.

4.1 Test Discrepancies

The following instructions apply for any discrepancy discovered during the performance of the ATP. A discrepancy is any step that can not be performed as specified in the test instructions.

NOTE: It should be noted that completing a test discrepancy form is the preferred method of changing the test procedure instructions. In this case, the instructions in section 4.2 apply.

1. Record the discrepancy in the discrepancy log (Appendix B).

2. Immediately correct the discrepancy, accept as is or postpone correction to a later date. Record decision for disposition in the space provided on the discrepancy form (Appendix B).

3. Record justification for disposition in the space provided.

4. Obtain necessary signatures to postpone correction or accept condition as is. Corrections performed immediately (within same shift) do not require approval signatures.

5. Obvious typographical or other clerical errors may be corrected immediately without completing a discrepancy sheet by simply crossing out and initialing by the test engineer.

4.2 Test Changes

Changes to test instructions may be performed in the field by performing the following instructions.

1. Test instructions may be changed using the test discrepancy method or by using the ECN method. The test discrepancy method is preferred due to the ease of implementing the change in the field. It should be noted that the field copy of the ATP (including all discrepancy reports) will be released as an Acceptance Test Report (ATR); therefore, issuance of an ECN against the original ATP would duplicate the effort involved in releasing the ATR.

2. See Appendix B for the test discrepancy form and specific instructions related to the form.

3. Obtain all required signatures as specified in WHC-CM-6-1, *Standard Engineering Practices*, Section EP-2.2, "Change Control." Minimum requirements are specified on the Appendix B, Test Discrepancy Form.

4. Obvious typographical or other clerical errors may be corrected immediately without completing a discrepancy sheet by simply crossing out and initialing by the Test Engineer.

4.3 Test Failures

Test steps that fail to meet required testing criteria are dispositioned per the instructions listed below.

1. All test failures are test discrepancies and as such require the completion of a test discrepancy form (Appendix B), unless the failure is immediately corrected (within the same shift).

2. A discrepancy that halts the performance of the ATP or otherwise adversely affects the performance schedule will be immediately reported to the Test Director.

3. A discrepancy correction must meet the original goal of the ATP step unless authorized by the test discrepancy form.

4.4 Test Log

4.4.1 A test log (Appendix E) will be maintained by the Test Engineer.

4.4.2 The test log will be a running narrative of test activities and status.

5.0 PROCEDURE

NOTE: Sections 5.1 thru 5.8 may be performed prior to cartridge filter replacement. Sections 5.9 thru 5.22 shall be performed after cartridge filter replacement.

Sections 5.1 and 5.2 allow startup of the skimmer system and the primary recirculation system in a circulation mode with cooling. Section 5.2 also provides for performing a leak check where the downcomer flowmeter locations were capped and the location where the new pressure indicator was installed.

Sections 5.3 and 5.4 provide for bringing IXM-1 online and performing leak checks of IXM inlet and outlet piping which was modified.

Sections 5.5 and 5.6 should be used as necessary. Both steps may be omitted or repeated as necessary depending on IXM status.

Section 5.7 allows for a flush of the "dead leg" prior to running flow from the primary recirculation system through a new IXM.

Section 5.8 returns IXM service to the skimmer system. This section also provides provisions for returning flow from both the skimmer system and the primary recirculation system to the basin depending on IXM availability.

Sections 5.9 through 5.11 provide for startup and acceptance testing of the cartridge filters.

Sections 5.12 through 5.21 are used to gather system data associated with the various primary recirculation system configurations for engineering purposes; therefore, these sections are considered operational testing rather than acceptance testing. During this phase of the ATP, IXM samplers 15, 16, and 17 may be left ON and the times which the IXM is in service shall be documented. Samples will be obtained at the request of K Basin Cognizant Engineering.

Samplers 4 and 5 will be turned ON during performance of Section 5.9 and left ON during the performance of Sections 5.9 through 5.21. A composite sample will be obtained from each sampler when testing is complete. Additional composite samples may be obtained as the request of K Basin Cognizant Engineering.

5.1 Startup Skimmer Pump and Sand Filter

IF breaker maintenance is being performed on MCC-1, CONTINUE with step 5.1.1 and NA step 5.1.3; otherwise, GO to step 5.1.2.

5.1.1 Ensure that electrical power is available to the skimmer pump.

Test Director Initials/Date: P Shelby

5.1.2 Verify that lockout tags have been removed from the skimmer pump local disconnect.

Initials/Date: P Shelby

5.1.3 Verify that skimmer pump breaker P-6 on MCC-1 in No. 1 electrical equipment room is on.

Initials/Date: P Shelby

5.1.4 Ensure all three skimmer weirs have adequate flow over screens.

Initials/Date: P Shelby

5.1.5 Ensure all three skimmer weirs are clear of debris.

Initials/Date: P Shelby

5.1.6 Ensure skimmer pump inlet valve BV-60 is OPEN.

Initials/Date: P Shelby

5.1.7 Ensure uni-lever valve is in the vertical (up) position.

Initials/Date: P Shelby

5.1.8 Ensure the following valves are closed:

Valve	Function	Closed (✓)
BV-45	Well Car Water Eductor System Block Valve	✓
BV-54	Return to Primary Recirculation System	✓
BV-62	Skimmer Pump Inlet Valve from North Loadout/Backwash Pit	✓
BV-93	Sand Filter Pressure Relief Bypass Valve	✓
IXMV-203	IXM Intake/Diverter Valve	✓
BV-49	Basin Return Valve	✓

Initials/Date: P Shedy 11/16/93

5.1.9 Verify that the following valves are closed and locked:

Valve	Function	Closed/Locked (✓)
IXMV-202	IXM Intake/Diverter Valve	✓
IXMV-226	IXM Intake/Diverter Valve	✓

Initials/Date: P Shedy 11/16/93

5.1.10 Ensure IXMV-201 is OPEN.

Initials/Date: P Shedy 11/16/93

NOTE: Discharge to the basin is the preferred alternative.

5.1.11 Ensure valve GLV-64 is CLOSED and valve IXMV-213 is OPEN one 1 full turn.

Valve	Skimmer Pump Discharge to:	Open 1 Turn (✓)	Closed (✓)
GLV-64	South Loadout Pit	NA	✓
IXMV-213	Basin	✓	NA

Initials/Date: [signature] 11/16/95

5.1.12 Crack OPEN sand filter inlet valve BV-61.

Initials/Date: [signature] 11/16/95

5.1.13 Set skimmer pump breaker on local panel to ON.

Initials/Date: [signature] 11/16/95

5.1.14 Depress and hold skimmer pump START button.

Initials/Date: [signature]

5.1.15 Verify that the skimmer pump pressure gage PI-204-1 increases to at least 25 psig, then release the START button.

IF skimmer pump pressure does NOT increase to at least 25 psig, GO to step 5.1.16 to prime skimmer pump; otherwise, NA step 5.1.16 and GO to step 5.1.17.

Initials/Date: [signature]

NOTE: RCT must be present when priming skimmer pump.

5.1.16 Perform the following substeps to prime the skimmer pump.

RCT Initials/Date: N/A

5.1.16.1 Ensure primer valve on pump casing is CLOSED.

Initials/Date: N/A

5.1.16.2 Connect water primer hose to hose fitting on skimmer pump casing.

Initials/Date: N/A

5.1.16.3 OPEN demin water supply valve.

Initials/Date: N/A

5.1.16.4 OPEN primer valve on pump casing and fill casing for approximately 5 minutes.

Initials/Date: N/A

5.1.16.5 CLOSE primer valve on pump casing.

Initials/Date: N/A

5.1.16.6 CLOSE demin water supply valve and disconnect primer hose. GO to step 5.1.14.

Initials/Date: N/A

CAUTION: Sand filter inlet pressure must NOT rise above 60 psig during startup. The skimmer pump discharge pressure may rise above the specified range of 90 to 100 psig during startup.

5.1.17 Simultaneously perform the following substeps to maintain the skimmer pump discharge pressure at 95 ±5 psig (90 to 100 psig) and sand filter inlet pressure at no more than 60 psig:

5.1.17.1 Slowly OPEN BV-61 in small increments until the sand filter fills with water. When the sand filter is full, there will be an increase in sand filter discharge pressure (PI-204-3).

5.1.17.2 Adjust BV-61 to maintain skimmer pump discharge pressure at 95 ±5 psig (90 to 100 psig) as read on skimmer pump discharge gage PI-204-1.

5.1.17.3 Adjust IXMV-213 to maintain sand filter inlet pressure at no more than 60 psig as read on sand filter inlet pressure gage PI-204-2.

Initials/Date: [signature] 11/14/95

NOTE: The pump should continue to operate. There is an adjustable Mercoid to trip the pump if pressure decreases below 25 psig. Normal operating pressure is 95 ±5 psig (90 to 100 psig).

5.1.18 Simultaneously perform the following substeps to maintain the skimmer pump discharge pressure at 95 ±5 psig (90 to 100 psig) and maintain sand filter inlet pressure up to 50 ±10 psig (40 to 60 psig):

5.1.18.1 Adjust IXMV-213 to maintain sand filter inlet pressure at 50 ±10 psig (40 to 60 psig) as read on the sand filter inlet pressure gage PI-204-2.

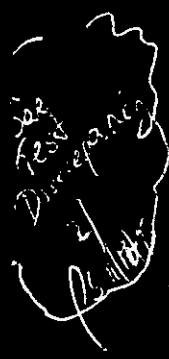
5.1.18.2 Adjust BV-61 to maintain skimmer pump discharge pressure at 95 ±5 psig (90 to 100 psig) as read on skimmer pump discharge gage PI-204-1.

Initials/Date: [signature] 11/16/95

5.1.19 Ensure all three weirs have adequate flow over screens and are clear of debris.

Initials/Date: [signature] 11/16/95 (1)

(1) Skimmer weir #2 has restricted flow



5.2 Startup Primary Recirculation Pumps Using Skimmer Pump to Prime System

5.2.1 OPEN cartridge filter bypass valve GV-20.

Initials/Date: C Shelly 11/16/95 PS 11/17/95

5.2.2 Verify basin discharge valves are OPEN (these valves will need to be throttled to maintain recirculation pump pressure).

Valve	Open (✓)
GLV-1	✓
GLV-2	✓
GLV-3	✓

Initials/Date: PS 11/16/95 C 11/17/95

5.2.3 OPEN primary recirculation pump inlet valve for the pump to be placed into service and verify that the other valve is CLOSED.

Pump	Valve	Open (✓)	Closed (✓)
P-1A	GV-10	✓	
P-1C	GV-12		✓

✓ Open ✓ Closed

Initials/Date: C Shelly 11/16/95 PS 11/17/95

5.2.4 Ensure GV-15 is OPEN.

Initials/Date: C Shelly 11/16/95 PS 11/17/95

5.2.5 Crack OPEN discharge valve for primary recirculation pump to be placed into service. Verify that other valve is CLOSED.

Pump	Valve	Cracked Open (✓)	Closed (✓)
P-1A	GV-13	✓	
P-1C	RBW-V300		✓

Initials/Date: C Shelly 11/16/95 PS 11/17/95

5.2.6 CLOSE two of the three recirculation pump inlet valves.

Valve	Open (✓)	Closed (✓)
AV-1		✓
AV-2		✓
AV-3	✓	

Initials/Date: PS 11/16/95 PS 11/17/95

5.2.7 Verify the following valves are CLOSED:

Valve	Closed (✓)
GV-16	✓
GV-17	✓
GV-18	✓
GV-19	✓
GV-6	✓
GLVGV-8	✓
GV-21	✓
GV-23	✓
Discharge Chute Clarifier Valves	✓

Initials/Date: PS 11/16/95 PS 11/17/95

5.2.8 Verify the following valves are OPEN:

Valve	Open (✓)
BW-V-327	✓
BW-V-328	✓
BW-V-329	✓

Initials/Date: [illegible] 11/16/95 [illegible] 11/17/95

5.2.9 Divert flow from the skimmer pump to the primary pump suction line by slowly opening valve BV-54 until skimmer pump discharge pressure (as read on PI-204-1) is lowered to between 35 and 40 psig.

Initials/Date: [illegible] 11/16/95 [illegible] 11/17/95

IF skimmer pump pressure drops below 25 psig, skimmer pump will shut down.

IF skimmer pump shuts down on low pressure, GO to step 5.2.10; OTHERWISE, NA step 5.2.10 and GO to step 5.2.11.

5.2.10 Restart skimmer pump per section 5.1.

Initials/Date: N/A

5.2.11 Wait approximately 5 to 10 minutes for the primary recirculation pump suction line to fill.

Initials/Date: N/A

CAUTION **Do NOT exceed 5-minutes while attempting to start pump as seal damage may occur.**

5.2.12 Start selected pump by depressing and holding the START button until the local discharge pressure gage reads greater than 30 psig.

Initials/Date: N/A

IF primary pump discharge pressure does not reach 30 psig within 5 minutes, GO to step 5.2.13; OTHERWISE, NA step 5.2.13 and GO to step 5.2.14.

5.2.13 Release START button and contact on duty Shift Manager to investigate system failure. Resume ATP when corrective action is complete.

Initials/Date: N/A

5.2.14 Release START button as discharge pressure stabilizes at 30 psig or greater.

Initials/Date: P Shealy 11/16/95 11/17/95

5.2.15 OPEN recirculation pump inlet valves that are not already OPEN.

Valve	Open (✓)
AV-1	✓
AV-2	✓
AV-3	✓

Initials/Date: 11/17/95 11/16/95

NOTE: The pump may shut down if the discharge pressure drops below 20 psig.

5.2.16 Slowly OPEN the appropriate primary pump discharge valve, maintaining 30 psig or greater on local pressure gage, until discharge valve is fully OPEN.

Pump	Valve	Open (✓)	Closed (✓)
P-1A	GV-13	✓	
P-1C	RBW-V300		✓

Initials/Date: 11/16/95 11/17/95

5.2.17 Adjust GLV-1, GLV-2, and/or GLV-3 to obtain a pump discharge pressure of 40-60 psig.

Initials/Date: 11/17/95

5.2.18 Verify that the primary pump discharge pressure then stabilizes between 40 and 60 psig.

Initials/Date: [illegible] 11/17/95

5.2.19 CLOSE BV-54 and verify skimmer pump pressure reads 95 ±5 psig (90 to 100 psig).

Initials/Date: [illegible] 11/17/95

IF skimmer pump shuts down or does not stabilize between 90 and 100 psig, GO to step 5.2.20; otherwise, NA step 5.2.20 and GO to Step 5.2.21.

5.2.20 Depress STOP button and contact on duty Shift Manager to investigate system failure. Resume ATP when corrective action is complete.

Initials/Date: N/A

see discrepancy # [illegible]

5.2.21 Adjust valve BW-V-327 to maintain chiller flow at 250±15 gpm (235 to 265 gpm) as indicated on FI-225-1.

Initials/Date: [illegible] 11/17/95

5.2.22 Check all three primary water discharge flow meters (FIT-203-1, FIT-203-2, FIT-203-3). The three primary water discharge readings should be approximately 150 gpm each and the total primary water discharge should be approximately 450 gpm.

Initials/Date: [illegible] 11/17/95

5.2.23 Perform primary recirculation pump status testing per the following substeps.

5.2.23.1 Verify the pump mimic for the associated pump is white on all screens that contain the mimic.

5.2.23.2 Place the associated bypass switch for the non-running pump in the RUN position.

5.2.23.3 Verify that the recirculation pump failure alarm is received.

5.2.23.4 Place the associated bypass switch for the non-running pump in the BYPASS position.

Initials/Date: [illegible] 11/17/95

Cont'd

5.2.24 Observe the items identified in Appendix C and verify that there are no leaks. IF leaks are identified, contact the on-duty shift manager and resume the ATP when corrective action is complete.

Initials/Date: JS 11/17/95

5.2.25 After at least 30 minutes of operation, perform leak check of recirculation piping in accordance with Appendix C.

Initials/Date: JS 11/17/95 QC JK 11/20/95

IF leaks are observed, GO to step 5.2.27; otherwise, CONTINUE with step 5.2.26.

5.2.26 After at least 24 hours of operation, perform leak check of recirculation piping in accordance with Appendix C.

Initials/Date: JS 11/21/95 QC JK 11/21/95

IF there are no leaks identified after at least 24 hours of operation, NA step 5.2.27 and GO to section 5.3.

5.2.27 Contact the on-duty Shift Manager. Resume the ATP when corrective action is complete.

Initials/Date: JShirley 11/21/95

5.3 Startup IXM in Position 1 from Skimmer System

NOTE: Steps 5.3.1 thru 5.3.15 may be performed in any order.

5.3.1 Ensure the following module vent valves are OPEN on IXM-1.

Valve	Open (✓)
MV-V-201-1	✓
MV-V-202-1	✓
MV-V-203-1	✓
MV-V-204-1	✓
MV-V-205-1	✓
MV-V-206-1	✓
MV-V-208-1	✓
MV-V-210-1	✓

Initials/Date: JS 11/17/95

5.3.2 Ensure IXM-1 module vent valve MV-V-207-1 is CLOSED.

Initials/Date: JS 11/17/95

5.3.3 Ensure IXM-2 module vent valve MV-V-207-2 is CLOSED.

Initials/Date: JS 11/17/95

5.3.4 OPEN module vent valve MV-V-211-1.

Initials/Date: JS 11/17/95

5.3.5 Ensure IXM-1 drain valve IXMV-211 is CLOSED.

Initials/Date: JS 11/17/95

5.3.6 Ensure IXM-2 drain valve IXMV-212 is CLOSED.

Initials/Date: JS 11/17/95

5.3.7 Ensure IXM-1 outlet valve IXM-217 (near quick connect) is OPEN.

Initials/Date: JS 11/17/95

5.3.8 Ensure IXM-1 inlet valve IXMV-206 (near quick connect) is OPEN.

Initials/Date: [illegible]

5.3.9 Ensure IXM-2 outlet valve IXMV-218 is CLOSED.

Initials/Date: [illegible]

5.3.10 Ensure IXM-2 inlet valve IXMV-205 is CLOSED.

Initials/Date: [illegible]

5.3.11 Ensure air return valve ~~MV-V-212~~ is CLOSED. MV-V-212-1

Initials/Date: [illegible]

See discrepancy #1 [illegible]

5.3.12 Ensure IXM discharge header valve IXMV-209 is OPEN.

Initials/Date: [illegible]

5.3.13 Ensure IXM-1 inlet valve IXMV-204 is OPEN.

Initials/Date: [illegible]

5.3.14 Remove lockout from the supply header isolation valve IXMV-202; then, slowly, fully OPEN valve IXMV-202.

Initials/Date: [illegible]

IF new piping/valves leak, GO to step 5.4.3; otherwise, CONTINUE with step 5.3.15.

5.3.15 OPEN IXM outlet valve IXMV-216.

Initials/Date: [illegible]

NOTE: **Steps 5.3.16 thru 5.3.18 are performed simultaneously to divert sand filter discharge from basin to IXM system while maintaining skimmer pump pressure at 95 ± 5 psig (90 to 100 psig).**

See discrepancy #2 [illegible]

5.3.16 Slowly OPEN intake/diverter valve IXMV-203.

5.3.16A (formerly 5.3.19)/5.3.16B (formerly 5.3.20)/5.3.16C (formerly 5.3.12) IXMV-209 open In.Date/Init

5.3.17 Adjust IXMV-213 to maintain sand filter inlet pressure at 50 ± 10 psig (40 to 60 psig) as read on sand filter inlet pressure gage PI-204-2.

5.3.18 Adjust BV-61 to maintain skimmer pump discharge pressure at 95 ± 5 psig (90 to 100 psig) as read on skimmer pump discharge pressure gage PI-204-1.

Initials/Date: CS 11/21/95

5.3.19 Ensure sample jugs are installed in composite sample stations 15, 16, and 17.

Initials/Date: CS 11/21/95

5.3.20 Ensure IXM composite sampler station AS-15 inlet valves (WSV-203 and WSV-202) and station AS-16 inlet valves (WSV-201-1 and WSV-204-1) are OPEN. Verify AS-17 sample inlet valves (WSV-201-2 and WSV-204-2) are CLOSED.

See Discrepancy #1 Sheet 1 of 5

Initials/Date: CS 11/21/95

5.3.21 Set sample station ON/OFF switches for composite sampler 15 and composite sampler 16 to ON.

Initials/Date: CS 11/21/95

NOTE: When the in-service IXM module is full, the sightglasses located in line with MV-V-201 and MV-V-202 will fill with water. The in-service MV-V-209 valve will automatically close when the air has been expelled.

WHEN the sightglasses have filled with water, GO to step 5.3.22.

5.3.22 Observe for 10 minutes. Verify there are no leaks and flow on flow meter FIT-220-2(A) has stabilized at 150 to 160 gpm. Flow may be adjusted by throttling IXMV-209 to ensure flow to composite samplers.

Initials/Date: CS 11/21/95

IF leaks are observed, GO to step 5.4.8; OTHERWISE, continue with step 5.3.23.

5.3.23 Record time and date IXM system was placed in service.

Time: 10:30 am Date: 11/21/95

NOTE: IXM IN POSITION #1 IS - E95-18 NICHOLSON SN-031

Initials/Date: JAM 11-21-95

5.4 Leak Check/Recovery IXM-1 and IXM-2

5.4.1 Ensure the following valves are closed.

Valve	Closed (✓)
IXMV-207	
IXMV-219	

Initials/Date: _____

5.4.2 Ensure sample station #17 is turned OFF and isolation valves (WSV-201-2 and WSV-204-2) are CLOSED.

Initials/Date: _____

5.4.3 Slowly OPEN IXM-2 inlet valve IXMV-205.

Initials/Date: _____

5.4.4 Slowly OPEN IXM-2 outlet valve IXMV-218.

Initials/Date: _____

5.4.5 For at least 10 minutes, observe the IXM inlet and outlet piping for leaks.

Initials/Date: _____

IF leaks are observed, GO to step 5.4.8; otherwise, CONTINUE with step 5.4.6.

5.4.6 After at least 30 minutes and perform leak check of IXM inlet piping and outlet piping in accordance with Appendix C.

Initials/Date: _____ QC _____

IF leaks are observed, GO to step 5.4.8; otherwise, CONTINUE with step 5.4.7.

5.4.7 After at least 24 hours, perform leak check of IXM inlet piping and outlet piping in accordance with Appendix C.

Initials/Date: _____ QC _____

IF leaks are observed, CONTINUE with step 5.4.8; otherwise, GO to step 5.4.12.

IF valve IXMV-202 is not accessible due to leakage, GO to step 5.4.9 otherwise, CONTINUE with step 5.4.10.

WHEN repairs are complete and leak check is satisfactory, RESTART the skimmer pump and recirculation pump in accordance with sections 5.1 and 5.2 and CONTINUE with step 5.4.11.

5.4.8 CLOSE valve IXMV-202.

Initials/Date: _____

5.4.9 Depress skimmer pump STOP button.

Initials/Date: _____

5.4.10 Contact the on-duty Shift Manager. Resume the ATP when corrective action is complete.

Initials/Date: _____

5.4.11 CLOSE IXM-2 outlet valve IXMV-218.

Initials/Date: _____

5.4.12 CLOSE IXM-2 inlet valve IXMV-205.

Initials/Date: _____

5.5 Switch Service From IXM-1 to IXM-2

5.5.1 Collect IXM-1 inlet (sample point 15) and outlet (sample point 16) samples shutoff composite samples per operating procedure 59/60-43-15, *Collect Special Water Samples from Routine Sample Locations*.

SEE DISCREPANCY #7 11/21/95

Initials/Date: _____

5.5.2 Open IXM-2 module vent valve MV-V-211-2.

Initials/Date: 11/21/95

5.5.3 Ensure the following module vent valves are open on IXM-2.

Valve	Open (✓)
MV-V-201-2	✓
MV-V-202-2	✓
MV-V-203-2	✓
MV-V-204-2	✓
MV-V-205-2	✓
MV-V-206-2	✓
MV-V-208-2	✓
MV-V-210-2	✓

Initials/Date: 11/21/95

5.5.4 Ensure IXM-2 drain valve IXMV-212 is CLOSED.

Initials/Date: 11/21/95

5.5.5 Ensure IXM-2 outlet valve IXMV-219 (near quick connect) is OPEN.

Initials/Date: 11/21/95

5.5.6 Ensure IXM-2 inlet valve IXMV-207 (near quick connect) is OPEN.

Initials/Date: 11/21/95

5.5.7 Slowly OPEN IXM-2 inlet valve IXMV-205.

Initials/Date: 11/21/95

5.5.8 Slowly OPEN IXM-2 outlet valve IXMV-218.

Initials/Date: 11/21/95

5.5.9 Ensure sample jugs are installed in composite sample stations 15 and 17.

Initials/Date: 11/21/95

5.5.10 Ensure IXM composite sampler station AS-15 inlet valves (WSV-203 and WSV-202) and station AS-17 inlet valves (WSV-201-2 and WSV-204-2) are OPEN. Verify AS-16 sample inlet valves (WSV-201-1 and WSV-204-1) are CLOSED.

Initials/Date: 11/21/95

5.5.11 Set sample station ON/OFF switches for composite sampler 15 and composite sampler 17 to ON.

Initials/Date: 11/21/95

NOTE: When the in-service IXM module is full, the sightglasses located in line with MV-V-201 and MV-V-202 will fill with water. The in-service MV-V-209 valve will automatically close when the air has been expelled.

WHEN the sightglasses have filled with water, GO to step 5.5.12.

5.5.12 Observe for approximately 10 minutes. Verify there are no leaks and flow on flow meter FIT-220-1(B) has stabilized at 150 to 160 gpm. Adjust GLV-1, GLV-2, GLV-3 and IXMV-209 as necessary.

Initials/Date: 11/21/95

IF leaks are observed, GO to section 5.4.8; otherwise, CONTINUE with step 5.5.13.

5.5.13 Record time and date IXM-2 was placed in service.

Time: 1452 Date: 11/21/95

Initials/Date: AJW 11-21-95 NOTE: IXM #2 THAT WAS PUT INTO POSITION IS E95-19.

5.5.14 Ensure IXM-1 module vent valve MV-V-207-1 is CLOSED.

Initials/Date: JS 11/21/95

5.5.15 Slowly CLOSE IXM-1 outlet valve IXMV-216.

Initials/Date: JS 11/21/95

5.5.16 Slowly CLOSE IXM-1 inlet valve IXMV-204.

Initials/Date: JS 11/21/95

5.5.17 Record time and date IXM-1 was removed from service.

Time: 1512 Date: 11/21/95

Initials/Date: FJM 11-21-95

5.5.18 Record flow rate and inlet pressure below:

Flow Rate (FIT-220-2A) ~~120 gpm~~ 84 lb/hr gpm (local indication)

Inlet Pressure (PI-220-15) 183 psi

Initials/Date: FJM 11-21-95

5.6 Switch Service from IXM-2 to IXM-1

5.6.1 Collect IXM-2 inlet (sample point 15) and outlet (sample point 17) shutoff composite samples per operating procedure 59/60-43-15, *Collect Special Water Samples at Routine Sample Locations.*

See Discrepancy # 1 11/27/95

Initials/Date: _____

5.6.2 OPEN IXM-1 vent valve MV-V-211-1.

Initials/Date: _____ 11/27

5.6.3 Ensure the following module vent valves are OPEN on IXM-1.

Valve	Open (✓)
MV-V-201-1	✓
MV-V-202-1	✓
MV-V-203-1	✓
MV-V-204-1	✓
MV-V-205-1	✓
MV-V-206-1	✓
MV-V-208-1	✓
MV-V-210-1	✓

Initials/Date: _____ 11/27

5.6.4 Ensure IXM-1 drain valve IXMV-211 is CLOSED.

Initials/Date: _____ 11/27

5.6.5 Ensure IXM-1 outlet valve IXMV-217 (near quick connect) is OPEN.

Initials/Date: _____ 11/27

5.6.6 Ensure IXM-1 inlet valve IXMV-206 (near quick connect) is OPEN.

Initials/Date: _____ 11/27

5.6.7 Slowly OPEN IXM-1 inlet valve IXMV-204.

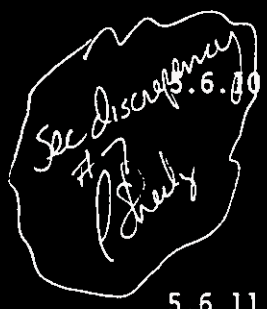
Initials/Date: _____ 11/27

5.6.8 Slowly OPEN IXM-1 outlet valve IXMV-216.

Initials/Date: 11/27

5.6.9 Ensure sample jugs are installed in composite sample stations 15 and 16.

Initials/Date: 11/27



5.6.10 Ensure IXM composite sampler station AS-15 inlet valves (WSV-203 and WSV-202) and station AS-16 inlet valves (WSV-201-1 and WSV-204-1) are OPEN. Verify AS-17 sample inlet valves (WSV-201-2 and WSV-204-2) are CLOSED.

Initials/Date: 11/27

5.6.11 Set sample station ON/OFF switches for composite sampler 15 and composite sampler 16 to ON.

Initials/Date: 11/27

NOTE: When the in-service IXM module is full, the sightglasses located in line with MV-V-201 and MV-V-202 will fill with water. The in-service MV-V-209 valve will automatically close when the air has been expelled.

WHEN the sightglasses have filled with water, GO to step 5.6.12.

5.6.12 Observe for approximately 10 minutes. Verify there are no leaks and flow on flow meter FIT-220-1(B) has stabilized at 150 to 160 gpm. Adjust GLV-1, GLV-2, GLV-3, and IXMV-209 as necessary.

Initials/Date: 11/27

IF leaks are observed, CONTINUE with step 5.6.13; OTHERWISE, GO to step 5.6.14.

5.6.13 Contact the on-duty Shift Manager.

Initials/Date: 11/27

5.6.14 Record time and date IXM-1 was placed in service.

Time: 1130 Date: 11/27/95

Initials/Date: [illegible] 11/27

5.6.15 Ensure IXM-2 module vent valve MV-V-207-2 is CLOSED.

Initials/Date: [illegible]

5.6.16 Slowly CLOSE IXM-2 outlet valve IXMV-218.

Initials/Date: [illegible]

5.6.17 Slowly CLOSE IXM-2 inlet valve IXMV-205.

Initials/Date: [illegible]

5.6.18 Record time and date IXM-2 was removed from service.

Time: 1300 Date: 11/27/95

Initials/Date: [illegible]

5.6.19 Record IXM-1 flow rate and inlet pressure below:

Flow Rate (FIT-220-2A) 137

Inlet Pressure (PI-220-15) 36

Initials/Date: [illegible] 11/27/95

5.6.20 Have shift manager record time and date IXM-1 was placed in service in IXM Logbook.

Initials/Date: [illegible] 11/27/95

5.7 Switch IXM-1 Service from Skimmer System to the Primary Recirculation System

NOTE: Steps 5.7.1 thru 5.7.3 are performed simultaneously to divert sand filter discharge from IXM system to basin while maintaining skimmer pump pressure at 95 ±5 psig (90 to 100 psig)

5.7.1 Slowly CLOSE valve IXMV-202.

Initials/Date: JS 11/27/95

5.7.2 Adjust IXMV-213 to maintain sand filter inlet pressure at 50 ±10 psig (40 to 60 psig) as read on sand filter inlet gage PI-204-2.

Initials/Date: JS 11/27/95

5.7.3 Adjust BV-61 to maintain skimmer pump discharge pressure at 95 ±5 psig (90 to 100 psig) as read on the skimmer pump discharge pressure gage PI-204-1.

Initials/Date: JS 11/27/95

5.7.4 Lock valve IXMV-202 CLOSED.

Initials/Date: JS 11/27/95

5.7.5 Remove lock valve IXMV-226.

Initials/Date: JS 11/27/95

NOTE: Steps 5.7.6 and 5.7.7 are performed simultaneously to divert flow from the primary loop through the IXMs while maintaining proper pressure.

5.7.6 Slowly OPEN valve IXMV-226.

Initials/Date: JS 11/27/95

5.7.7 Adjust valve GLV-1, GLV-2, and GLV-3 to maintain a pressure of 40 to 60 psig on the primary recirculation system.

Initials/Date: JS 11/27/95

IF necessary, perform step 5.7.8; otherwise, NA step 5.7.8 and GO to Section 5.8.

5.7.8 Adjust IXMV-209, GLV-1, GLV-2, and GLV-3 to maintain a flow rate of 150 to 160 gpm through IXM-1.

Initials/Date: DS 11/27/95

5.7.9 Allow system to flush for 2 hours.

Initials/Date: DS 11/27/95

5.7.10 Collect IXM-1 inlet (sample point I5) and outlet (sample point I6) composite samples per operating procedure 59/60-43-15, *Collect Special Water Samples at Routine Sample Locations.*

Initials/Date: DS 11/27/95

See Discrepancy 2 11/27/95

5.8 Switch IXM-1 Service from Primary Recirculation System to Skimmer System

NOTE: Steps 5.8.1 and 5.8.2 are performed simultaneously to divert flow from the primary loop to the basin while maintaining proper pressure.

5.8.1 Slowly CLOSE valve IXMV-226.

Initials/Date: LS 11/27/95

5.8.2 Adjust valves GLV-1, GLV-2, and GLV-3 to maintain a pressure of 40 to 60 psig on the primary recirculation system.

Initials/Date: Steady 11/27/95

5.8.3 Lock valve IXMV-226 CLOSED.

Initials/Date: LS 11/27/95

IF IXM is not available (i.e., both IXMs are spent), the ATP may be STOPPED at this point and resumed when IXM service becomes available.

NOTE: Steps 5.8.4 thru 5.8.6 are performed simultaneously to divert sand filter discharge from IXM system to basin while maintaining skimmer pump pressure at 95 ±5 psig (90 to 100 psig)

5.8.4 Remove lock from valve IXMV-202.

Initials/Date: LS 11/27/95

5.8.5 Slowly OPEN valve IXMV-202.

Initials/Date: LS 11/27/95

5.8.6 Adjust IXMV-213 to maintain sand filter inlet pressure at 50 ±10 psig (40 to 60 psig) as read on sand filter inlet gage PI-204-2.

Initials/Date: LS 11/27/95

5.8.7 Adjust BV-61 to maintain skimmer pump discharge pressure at 95 ±5 psig (90 to 100 psig) as read on the skimmer pump discharge pressure gage PI-204-1.

Initials/Date: LS 11/27/95

5.9 Startup Cartridge Filter 1A

IF new cartridge filters have been installed, CONTINUE with step 5.9.1; otherwise, return system to service with IXMs on skimmer loop and cartridge filters bypassed/locked out. Resume ATP when cartridge filters are installed and at least one recirculation pump is running.

5.9.1 Flush sample piping for sample stations 4 and 5 into the existing sample containers for five minutes.

Initials/Date: _____

5.9.2 Dump flush water from sample containers into the basin.

Initials/Date: _____

5.9.3 Install NEW sample containers at sample stations 4 and 5.

Initials/Date: _____

5.9.4 Turn ON sample stations 4 and 5.

Initials/Date: _____

5.9.5 OPEN Filter 1A vent valve.

Initials/Date: _____

5.9.6 Slowly OPEN filter 1A outlet valve GV-18.

Initials/Date: _____

5.9.7 Slowly OPEN filter 1A inlet valve GV-16.

Initials/Date: _____

5.9.8 Slowly CLOSE cartridge filter bypass valve GV-20.

Initials/Date: _____

5.9.9 Slowly CLOSE filter 1A vent valve.

Initials/Date: _____

5.9.10 Visually inspect cartridge filter lid-to-housing gasketed joint for bubbling or any other obvious signs of leakage.

Initials/Date: _____

IF leakage is observed, GO to step 5.9.11; otherwise, NA step 5.9.11 and GO to Step 5.9.12.

5.9.11 Contact the on-duty Shift Manager.

Initials/Date: _____

5.9.12 Record recirculation pump outlet pressure (PIT-207-9) for the pump which is running.

Running Pump: P-1A or P-1C (circle one)

Pump Outlet Pressure: _____ psig

Initials/Date: _____

5.9.13 Record filter 1A outlet pressure (PIT-208-1).

Filter 1A Outlet Pressure: _____ psig

Initials/Date: _____

5.9.14 Check all three primary water discharge flow meters (FI-203-3, FI-203-4, and FI-203-5). The three primary water discharge readings should be approximately 150 gpm each and the total primary water discharge should be approximately 450 gpm.

Initials/Date: _____

5.9.15 After at least 30 minutes of operation, perform leak check of cartridge filter instrumentation in accordance with Appendix C.

Initials/Date: _____ QC _____

IF leaks are observed, GO to step 5.9.17; otherwise, CONTINUE with step 5.9.16.

5.9.16 After at least 24 hours of operation, perform leak check of cartridge filter instrumentation in accordance with Appendix C.

Initials/Date: _____ QC _____

IF there are no leaks identified after at least 24 hours of operation, NA step 5.9.17 and GO to section 5.10.

5.9.17 Contact the on-duty Shift Manager. Resume the ATP when corrective action is complete.

Initials/Date: _____

5.10 Switch to Cartridge Filter 1B

5.10.1 Slowly OPEN cartridge filter bypass valve GV-20.

Initials/Date: _____

5.10.2 Slowly CLOSE filter 1A inlet valve GV-16.

Initials/Date: _____

5.10.3 Slowly CLOSE filter 1A discharge valve GV-18.

Initials/Date: _____

5.10.4 OPEN filter 1B vent valve.

Initials/Date: ~~TJR 12-12-95~~ TJR 12-12-95

5.10.5 Slowly OPEN filter 1B discharge valve GV-19.

Initials/Date: TJR 12-12-95

5.10.6 Slowly OPEN filter 1B inlet valve GV-17.

Initials/Date: TJR 12-12-95

5.10.7 Slowly CLOSE cartridge filter bypass valve GV-20.

Initials/Date: TJR 12-12-95

5.10.8 Slowly CLOSE filter 1B vent valve.

Initials/Date: _____

5.10.9 Visually inspect cartridge filter lid-to-housing gasketed joint for bubbling or any other obvious signs of leakage.

Initials/Date: TJR 12-12-95

IF leakage is observed, GO to step 5.10.10; otherwise, NA step 5.10.10 and GO to Step 5.10.11.

5.10.10 Contact the on-duty Shift Manager.

Initials/Date: N/A

5.10.11 Record recirculation pump outlet pressure (as read on the local indicator) for the pump which is running.

Running Pump: P-1A or P-1C (circle one)

Pump Outlet Pressure: 46 psig

Initials/Date: TJR 12-12-95

5.10.12 Record filter 1B outlet pressure (PIT-208-2).

Filter 1B Outlet Pressure: 40 psig

Initials/Date: TJR 12-12-95

5.10.13 Check all three primary water discharge flow meters (FI-203-3, FI-203-4, FI-203-5). The three primary water discharge readings should be approximately 150 gpm each and the total primary water discharge should be approximately 450 gpm.

Initials/Date: TJR 12-12-95

5.11 Switch IXM Service from Skimmer System to the Primary Recirculation System

NOTE: Steps 5.11.1 thru 5.11.3 are performed simultaneously to divert sand filter discharge from IXM system to basin while maintaining skimmer pump pressure at 95 ±5 psig (90 to 100 psig)

5.11.1 Slowly CLOSE valve IXMV-202.

Initials/Date: TJR 12-12-95

5.11.2 Adjust IXMV-213 to maintain sand filter inlet pressure at 50 ±10 psig (40 to 60 psig) as read on sand filter inlet gage PI-204-2.

Initials/Date: TJR 12-12-95

5.11.3 Adjust BV-61 to maintain skimmer pump discharge pressure at 95 ±5 psig (90 to 100 psig) as read on the skimmer pump discharge pressure gage PI-204-1.

Initials/Date: TJR 12-12-95

5.11.4 Lock valve IXMV-202 CLOSED.

Initials/Date: TJR 12-12-95

5.11.5 Remove lock from valve IXMV-226.

Initials/Date: TJR 12-12-95

NOTE: Steps 5.11.6 and 5.11.7 are performed simultaneously to divert flow from the primary loop through the IXMs while maintaining proper pressure on the primary recirculation pump discharge.

5.11.6 Slowly OPEN valve IXMV-226.

Initials/Date: TJR 12-12-95

5.11.7 Adjust valve GLV-1, GLV-2, and GLV-3 to maintain a pressure of 40 to 60 psig on the primary recirculation system.

Initials/Date: TJR 12-12-95

IF necessary, perform step 5.11.8; otherwise, NA step 5.11.8 and GO to step 5.11.9.

5.11.8 Adjust GLV-1, GLV-2, GLV-3, and IXMV-209 to maintain a flow rate of 150 to 160 gpm through IXM-1.

Initials/Date: [illegible] 12-12-95

5.11.9 Allow the flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 1.

Initials/Date: [illegible] 12-12-95

5.12 Return Cartridge Filter 1A to Service

5.12.1 OPEN cartridge filter bypass valve GV-20.

Initials/Date: _____

5.12.2 Slowly OPEN cartridge filter 1A outlet valve GV-18.

Initials/Date: _____

5.12.3 Slowly OPEN cartridge filter 1A inlet valve GV-16.

Initials/Date: _____

5.12.4 CLOSE cartridge filter bypass valve GV-20.

Initials/Date: _____

5.12.5 Adjust discharge valves GLV-1, GLV-2, and GLV-3 to maintain a pressure of 40-60 psig on the primary system.

Initials/Date: _____

5.12.6 Allow flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 2.

Initials/Date: _____

5.13 Return IXM in Position 2 to Service

5.13.1 OPEN IXM-2 module vent valve MV-V-211-2.

Initials/Date: _____

5.13.2 Ensure the following module vent valves are open on IXM-2.

Valve	Open (✓)
MV-V-201-2	
MV-V-202-2	
MV-V-203-2	
MV-V-204-2	
MV-V-205-2	
MV-V-206-2	
MV-V-208-2	
MV-V-210-2	

Initials/Date: _____

5.13.3 Ensure IXM-2 drain valve IXMV-212 is CLOSED.

Initials/Date: _____

5.13.4 Ensure IXM-2 outlet valve IXMV-219 (near quick connect) is OPEN.

Initials/Date: _____

5.13.5 Ensure IXM-2 inlet valve IXMV-207 (near quick connect) is OPEN.

Initials/Date: _____

5.13.6 Slowly OPEN IXM-2 inlet valve IXMV-205 and verify sight glasses are full.

Initials/Date: _____

5.13.7 Slowly OPEN IXM-2 outlet valve IXMV-218.

Initials/Date: _____

5.13.8 Adjust discharge valves GLV-1, GLV-2, GLV-3 and IXMV-209 to maintain a pressure of 40-60 psig on the primary system.

Initials/Date: _____

5.13.9 Allow flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 3.

Initials/Date: _____

5.13.10 Record time and date IXM system was placed in service.

Time: _____ Date: _____

Initials/Date: _____

5.14 Remove Cartridge Filter 1B from Service

5.14.1 Slowly OPEN cartridge filter bypass valve GV-20.

Initials/Date: _____

5.14.2 Slowly CLOSE filter 1B inlet valve GV-17.

Initials/Date: _____

5.14.3 Slowly CLOSE filter 1B outlet valve GV-19.

Initials/Date: _____

5.14.4 Slowly CLOSE cartridge filter bypass valve GV-20.

Initials/Date: _____

5.14.5 Allow flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 4.

Initials/Date: _____

5.15 Remove IXM in Position 2 from Service

5.15.1 Ensure IXM-2 module vent valve MV-V-207-2 is CLOSED.

Initials/Date: _____

5.15.2 Slowly CLOSE IXM-2 outlet valve IXMV-218.

Initials/Date: _____

5.15.3 Slowly CLOSE IXM-2 inlet valve IXMV-205.

Initials/Date: _____

5.15.4 Record time and date IXM-2 was removed from service.

Time: _____ Date: _____

Initials/Date: _____

5.16 Startup Second Primary Recirculation Pump

5.16.1 OPEN cartridge filter bypass valve GV-20.

Initials/Date: _____

5.16.2 OPEN primary recirculation pump inlet valve for the pump to be added into service and verify that the other valve is already OPEN.

Pump	Valve	Open (✓)
P-1A	GV-10	
P-1C	GV-12	

Initials/Date: _____

5.16.3 Ensure GV-15 is OPEN.

Initials/Date: _____

5.16.4 Crack OPEN discharge valve for primary recirculation pump to be added into service. Verify that other valve is OPEN.

Pump	Valve	Cracked Open (✓)	OPEN (✓)
P-1A	GV-13		
P-1C	RBW-V300		

Initials/Date: _____

CAUTION: Do not exceed 5 minutes while attempting to start the pump as seal damage may occur.

5.16.5 Start the selected primary pump by depressing and holding the START button until the local discharge pressure gage reads greater than 30 psig.

Initials/Date: _____

IF primary pump discharge pressure does not reach 30 psig within 5 minutes, GO to step 5.16.6; otherwise, NA step 5.16.6 and GO to step 5.16.7.

5.16.6 Release the START button and contact the on-duty shift manager to investigate the system failure.

Initials/Date: _____

5.16.7 Release the START button as the primary pressure stabilizes at 30 psig or greater.

Initials/Date: _____

NOTE: The pump may shut down if the discharge pressure drops below 20 psig.

5.16.8 Slowly OPEN the appropriate discharge valve for the pump being added to service. Maintain 30 psig or greater on local pressure gage until discharge valve is fully OPEN.

Pump	Valve	OPEN (✓)
P-1A	GV-13	
P-1C	RBW-V300	

Initials/Date: _____

5.16.9 Verify that the primary pump discharge pressure stabilizes between 40 and 60 psig on the local pressure gage.

Initials/Date: _____

IF pressure does not stabilize between 40 and 60 psig, ADJUST GLV-1, GLV-2, and GLV-3, as necessary.

IF primary pump shuts down, GO to step 5.16.10; otherwise, NA step 5.16.10 and GO to step 5.16.11.

5.16.10 Depress STOP button and contact the on duty Shift Manager.

Initials/Date: _____

5.16.11 Slowly CLOSE cartridge filter bypass valve GV-20.

Initials/Date: _____

5.16.12 Allow flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 5.

Initials/Date: _____

5.17 Return Cartridge Filter 1B to Service

5.17.1 Slowly OPEN cartridge filter bypass valve GV-20.

Initials/Date: _____

5.17.2 Slowly OPEN filter 1B outlet valve GV-19.

Initials/Date: _____

5.17.3 Slowly OPEN filter 1B inlet valve GV-17.

Initials/Date: _____

5.17.4 Slowly CLOSE cartridge filter bypass valve GV-20.

Initials/Date: _____

5.17.5 Allow flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 6.

Initials/Date: _____

5.18 Return IXM in Position 2 to Service

5.18.1 OPEN IXM-2 module vent valve MV-V-211-2.

Initials/Date: _____

5.18.2 Ensure the following module vent valves are open on IXM-2.

Valve	Open (✓)
MV-V-201-2	
MV-V-202-2	
MV-V-203-2	
MV-V-204-2	
MV-V-205-2	
MV-V-206-2	
MV-V-208-2	
MV-V-210-2	

Initials/Date: _____

5.18.3 Ensure IXM-2 drain valve IXMV-212 is CLOSED.

Initials/Date: _____

5.18.4 Ensure IXM-2 outlet valve IXMV-219 (near quick connect) is OPEN.

Initials/Date: _____

5.18.5 Ensure IXM-2 inlet valve IXMV-207 (near quick connect) is OPEN.

Initials/Date: _____

5.18.6 Slowly OPEN IXM-2 inlet valve IXMV-205.

Initials/Date: _____

5.18.7 Slowly OPEN IXM-2 outlet valve IXMV-218.

Initials/Date: _____

5.18.8 Adjust discharge valves GLV-1, GLV-2, GLV-3 and IXMV-209 to maintain a pressure of 40-60 psig on the primary system.

Initials/Date: _____

5.18.9 Allow flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 7.

Initials/Date: _____

5.18.10 Record time and date IXM-2 was placed in service.

Time: _____ Date: _____

Initials/Date: _____

5.19 Remove Cartridge Filter 1B from Service

5.19.1 Slowly OPEN cartridge filter bypass valve GV-20.

Initials/Date: _____

5.19.2 Slowly CLOSE filter 1B outlet valve GV-19.

Initials/Date: _____

5.19.3 Slowly CLOSE filter 1B inlet valve GV-17.

Initials/Date: _____

5.19.4 Slowly CLOSE cartridge filter bypass valve GV-20.

Initials/Date: _____

5.19.5 Allow flow to stabilize and complete the data sheet provided in Appendix D for Primary Recirculation Loop Configuration 8.

Initials/Date: _____

5.20 Remove IXM in Position 2 from Service

5.20.1 Ensure IXM-2 module vent valve MV-V-207-2 is CLOSED.

Initials/Date: _____

5.20.2 Slowly CLOSE IXM-2 outlet valve IXMV-218.

Initials/Date: _____

5.20.3 Slowly CLOSE IXM-2 inlet valve IXMV-205.

Initials/Date: _____

5.20.4 Record time and date IXM-2 was removed from service.

Time: _____ Date: _____

Initials/Date: _____

5.21 Stop One Recirculation Pump

NOTE: The recirculation pump which was started in section 5.2 should be stopped during performance of step 5.21.1.

5.21.1 Depress STOP button for appropriate recirculation pump to be removed from service.

Initials/Date: _____

5.21.2 CLOSE primary recirculation pump inlet valve for the pump to be placed taken out of service and verify that the other valve is OPEN.

Pump	Valve	Open (✓)	Closed (✓)
P-1A	GV-10		
P-1C	GV-12		

Initials/Date: _____

5.21.3 CLOSE discharge valve for primary recirculation pump being removed from service. Verify that other valve is OPEN.

Pump	Valve	Open (✓)	Closed (✓)
P-1A	GV-13		
P-1C	RBW-V300		

Initials/Date: _____

5.21.4 Perform primary recirculation pump status testing per the following substeps.

5.21.4.1 Verify the pump mimic for the associated pump is white on all screens that contain the mimic.

5.21.4.2 Place the associated bypass switch for the non-running pump in the RUN position.

5.21.4.3 Verify that the recirculation pump failure alarm is received.

5.21.4.4 Place the associated bypass switch for the non-running pump in the BYPASS position.

Initials/Date: _____

5.21.5 Collect cartridge filter inlet (sample point 4) and outlet (sample point 5) shutoff composite samples per operating procedure 59/60-43-15, *Collect Special Water Samples from Routine Sample Locations.*

Initials/Date: _____

APPENDIX A

Test Performers

Following is a listing of test performers for this test:

Name (Print)	Initials
FRANK J MULLER	
R Whitehurst II	
Jerry Kimball	
PHILLIP SHEELY	

APPENDIX B

Test Discrepancy Form

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time 10:30	Date 12/13/95	Test Section Appendix C	Test Discrepancy Number 16
Description: Sample point 17 and associated fittings has not completed a 24 hour leak check. IXM 2 became spent after the 30 minute leak check and has not been changed out. The delay on change out is from a potential USQ regarding the 30 ton crane used during IXM changeout. This potential USQ issue has not been resolved.			
Disposition & Justification: The 24 hour leak check will be completed once the issue is resolved and IXM 2 is placed back in service. This leak check will be transferred to the punchlist.			

Manager	Test Director	Test Engineer	QA	Safety
	P Shelly			
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form				
Time 09:00	Date 12/12/95	Test Section Appendix C	Test Discrepancy Number 15	
Description: Leak check involving PIT-208-2 will be performed for a 12 hour consecutive duration. The fittings have been in intermittent service for 7 days previously with no leaks noticed.				
Disposition & Justification: Intermittent operation of cartridge filter was caused by failure of filter housing gasket and attempts to repair.				
Manager	Test Director	Test Engineer	QA	Safety
				
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time 09:00	Date 12/12/95	Test Section Appendix C	Test Discrepancy Number 14
Description: Leak checks involving 1" Ball Valves, IXMV-211 and 212, 1" sight glass/rotameter flanges, 1" tee flanges and associated fittings on the IXM outlet drain lines do not require a 24 hour leak check. The 1" drain lines are not in pressurized service. Leak check was verified by flowing water in drain lines for approximately 1 minute.			
Disposition & Justification: The IXM drain lines are only in service while IXM's are draining for removal. This drain does not require pressurized service.			

Manager	Test Director	Test Engineer	QA	Safety
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager**: Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director**: All discrepancies not completed within 8 hours.
C. **Test Engineer**: All discrepancies.
D. **QA**: For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety**: For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time 21:30	Date 12/12/95	Test Section 5.11	Test Discrepancy Number 13
Description: Step 5.11.8 - Adjust GV-1, GV-2 and GV-3 to maintain flow through the IXM at 100 to 115 GPM.			
Disposition & Justification: The present resin in the Ion Exchange Module requires a lower flow rate for optimum performance.			

Manager	Test Director	Test Engineer	QA	Safety
	[signature]	[signature] 12-12-95		
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. Manager: Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. Test Director: All discrepancies not completed within 8 hours.
C. Test Engineer: All discrepancies.
D. QA: For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. Safety: For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time 2000	Date 12-12-95	Test Section 5.10	Test Discrepancy Number 12
Description: Steps 5.10.1 - 5.10.3. Skip these steps as filter 1-A is not on line at this time. Step 5.10.4 & 5.10.8. Skip these steps. Manual vent valves have been replaced with AVCO vent valves			
Disposition & Justification: The initial steps assumed CAFE filter 1-A would be on line. Section 5.9 (1-A) was moved to the ATP.			

Manager	Test Director	Test Engineer	QA	Safety
12/12	12-12-95	12/12/95		
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. Manager: Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. Test Director: All discrepancies not completed within 8 hours.
C. Test Engineer: All discrepancies.
D. QA: For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. Safety: For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form

Time	Date	Test Section	Test Discrepancy Number
2000	12-12-95	5.9	11

Description: Move steps 5.9.1 through 5.9.17 to the Operational Test Procedure (OTP)

Disposition & Justification: Remove section 5.9 of this ATP in its entirety. This section will be documented in WHC-SD-SNF-OTP-002 Rev. 0 "Operational Test Procedure for K East Basin Primary Recirculation Loop.

Manager	Test Director	Test Engineer	QA	Safety
[illegible] 12/12/95	T Ruane 12-12-95	C Cole 12/12/95		
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time 13:05	Date 12-06-95	Test Section 5.12 - 5.21	Test Discrepancy Number 10
Description: To facilitate close out of the construction/modification portion of the filtaration upgrades project, the WHC-SD-SNF-ATP-013 Steps 5.12 through 5.21 which are used to gather data will be relocated to an Operational Test Procedure.			
Disposition & Justification: Remove sections of this ATP 5.12 through 5.21 in their intireity. These sections will be documented in WHC-SD-SNF-OTP-002, Rev. 0 "Operational Test Procedure for K East Basin Primary Recirculation Loop".			

Manager	Test Director	Test Engineer	QA	Safety
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time 15:00	Date 12-06-95	Test Section 5.3.20	Test Discrepancy Number 9
Description: During operation of IXM-1 sample station 15 was valved in. Leaks were noticed and documented on TD #7. The leaks were not associated with sections of the system the filtration upgrade project worked on.			
Disposition & Justification: The reference on Page C-5 to check AS-15 for leaks after 24 hours will be deleted form this ATP. The AS-15 leaks are going to be fixed and leak checked under work package 1K-95-870. This leak will prevent the further collection of water samples from AS-15 as required by this ATP and these steps or portions of steps will be met by using center of basin grab sampling methods outlined by K Basins Engineering.			

Manager	Test Director	Test Engineer	QA	Safety
Completed			Date	

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time	**Date** 11/22/95	**Test Section**	**Test Discrepancy Number** 8
Description: SAMPLE REQUIRED-MENTS FOR IXM's HAVE BEEN WAIVED DUE TO THE INOPERABILITY OF THE SAMPLERS BECAUSE OF VARIOUS LEAKS			
Disposition & Justification: BASED ON STEVE BURKE'S MEMO DATED 11/11/95 IXM #2 CAN RUN FOR 5 DAYS WITHOUT POSSIBILITY OF CREATING TRU WASTE OR A CRITICALITY PROBLEM (SEE ATTACHED MEMO)			
Manager	**Test Director**	**Test Engineer**	**QA**	**Safety**
		[signature]		
Completed	[signature]		**Date**	11/22/95

WHC-SD-SNF-ATP-ATR-013, Revision 0
TD #8
ATTACHMENT

$= \frac{10^3 \text{ nCi}}{\mu\text{Ci}} * \frac{165 \text{ gal}}{\text{min}} *$

= 11.8 nCi/gm after 5 days

∴ WON'T HAVE TRU WASTE

= 3.6 grams of Pu-239

Limit = 225 g

∴ WON'T GO CRITICAL IN 5 DAYS

BEST AVAILABLE COPY

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. Manager: Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. Test Director: All discrepancies not completed within 8 hours.
C. Test Engineer: All discrepancies.
D. QA: For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. Safety: For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form

Time	Date	Test Section	Test Discrepancy Number
1425	11/21/95	5.3.20	7

Description: PRIOR TO START-UP OF IXM-1 PER ATP-13 SECTION 5.3.20, IXM COMPOSITE SAMPLER AS-15'S ISOLATION VALVES WSV-20L & WSV-20J WERE OPENED. SAMPLER LEAKED SO VALVE WSV-20Z WAS CLOSED. ALSO FOR STEP 5.5.1 TO ALLOW IXM-2 TO RESTART WITHOUT AS-15 IN OPERATION.

Disposition & Justification: ~~PROCESS~~ STANDARD FOR SAMPLING IXM INLET FLOW FOR CHARACTERIZATION PURPOSES WILL BE MET BY USING CENTER OF BASIN SAMPLE. AS-15 WILL REMAIN SHUT-OFF UNTIL REPAIRS CAN BE MADE.

Manager	Test Director	Test Engineer	QA	Safety
	P Shelby	F&M Miller		
Completed	F&M Miller		Date	11/22/95

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form

Time	Date	Test Section	Test Discrepancy Number
1435	11/20/95	5.3	6

Description: Move step 5.3.12 to open IXMV-209 to ~~step~~ follow step 5.3.16 to make step 5.3.16C. Move steps 5.3.19 AND 5.3.20, these steps would become 5.3.16A (5.3.19 → 5.3.16A) and 5.3.16B (5.3.20 → 5.3.16B).

Disposition & Justification: This pressurizes the system to IXMV-209 with no flow through ~~IXMV-209~~ IXM-#1, then checks the auto sampler for leaks (prior to flow through the IXM-1) This technique verifies the auto sampler is online and operable prior to commencing Pu deposition in the IXM which is very close to changeout.

Manager	Test Director	Test Engineer	QA	Safety
	PShealy			
Completed	11/20/95		Date	11/20/95

ATP-12 also required that the flow elements on the discharge of the IXM's be filled with water but with no flow to ∅ (zero) the calibration on the B-2L flow sensors. PShealy 11/21/95 This will be required for IXM-2 also.

Test Discrepancy Form

CONTROLLED COPY

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time: 1430	Date: 11/17/95	Test Section: N/A	Test Discrepancy Number: 5
Description: Restart Air cooled chiller per 59-07 rev 1			
Disposition & Justification: Reduces basin temperature and subsequent Cs-137 leaching into basin water			

Manager	Test Director	Test Engineer	QA	Safety
	[signature]	[signature]		
Completed	[signature]		Date	11/17/95

CONTROLLED COPY

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form

Time	Date	Test Section	Test Discrepancy Number
1400	11/16/95	NA	4

Description: Prior To restart of P-1A establish following conditions ~~Open~~ ~~Closed~~ GLV-1, GLV-2, GLV-3, GV-13 Cracked open, RBW-V300 closed, AV-1, 2 & 3 closed. Pressurize Recirc system via BV-54 to establish 40psi on Recirc Pump P-1A discharge pressure indicator. Leak check Per 1K-54-116/W instructions. Skimmer pump Discharge pressure not to exceed 100psi but sufficient to perform retest ie establish 40psi on P-1A discharge

Disposition & Justification: Allows retest of Newly install AV-2 per 1K-54-116/W, does not deviate from intent of ATP to prime and start a recirculation pump.

Manager	Test Director	Test Engineer	QA	Safety
	[signature]	[signature]		
Completed	[signature]		Date	11/16/95

① ~~±10psi~~ +20 -0psi

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager**: Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director**: All discrepancies not completed within 8 hours.
C. **Test Engineer**: All discrepancies.
D. **QA**: For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety**: For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form				
Time: 1100	Date: 11/16/93	Test Section: 5.1.13	Test Discrepancy Number: 3	
Description: Add step 5.1.13A BV-49 (Skimmer pump discharge/ sand filter bypass) was throttled open and operated as a means to purge air trapped in the pump suction upon skimmer pump initial start.				
Disposition & Justification: This method is used for KW skimmer pump starts.				
Manager	**Test Director**	**Test Engineer**	**QA**	**Safety**
N/A	[signature]	[signature]		
Completed	[signature]		**Date**	11/16/93

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form			
Time 17:15	**Date** 11-16-95	**Test Section** 5.2.14	**Test Discrepancy Number** 2
Description: DURING RECIRCULATION PUMP START-UP, A 3" BLIND FLANGE ON 6" BW-A-16 WHICH WAS USED AS A VENT DURING CONSTRUCTION ON WORK PACKAGE 1K-95-752 DEVELOPED A LEAK.			
Disposition & Justification: DECON AREA PER RCT DIRECTION, REPLACE GASKET AND TIGHTEN FLANGE, RECHECK FOR LEAKS			

Manager	Test Director	Test Engineer	QA	Safety
	[signature]	[signature]		
Completed	[signature]		**Date**	11/17/95

Test Discrepancy Form

Instructions

1. Enter time, date and ATP test section(s).
2. Enter discrepancy number obtained from the test discrepancy log.
3. Enter description and disposition/justification of discrepancy.
4. Obtain applicable approval signatures as described below.
5. Implement the disposition.
6. Test engineer sign and date the "completed" block when disposition has been implemented.

Disposition Approval Signatures

A. **Manager:** Only if disposition does not meet original intent of the ATP or if discrepancy form is being used to change the ATP instructions.
B. **Test Director:** All discrepancies not completed within 8 hours.
C. **Test Engineer:** All discrepancies.
D. **QA:** For center of basin dispositions that do not meet the original intent of the ATP or for changes to the test procedure instructions.
E. **Safety:** For dispositions that change safety related ATP test instructions.

Test Discrepancy Report Form

Time	Date	Test Section	Test Discrepancy Number
10:00	11-16-95	5.2.24	1

Description: INADVERTANT LEAK CHECK MISSING FROM SECTION 5.2.24 REQUIREMENT ON APPENDIX C. PART OF RECIRCULATION PIPING MODIFICATION WILL SEE WATER UPON START-UP OF RECIRCULATION PUMP.

Disposition & Justification: MODIFY APPENDIX C, PAGE C-2 & C-3 TO ADD THE FOLLOWING FOR LEAK CHECKS: (REMOVE FROM C-3 EXCEPT DOWNSTREAM SIDE OF 1XMV 226)

- WELD BETWEEN FLANGE AND 6" BW-A-16 WHERE NEW PIPING SPOOL PIECE TIES INTO RECIRCULATION LINE
- FLANGE CONNECTION AT LOCATION IDENTIFIED ABOVE
- 4" CHECK VALVE 1XMV-225
- 4" VALVE 1XMV-226 (UPSTREAM SIDE OF VALVE)

Manager	Test Director	Test Engineer	QA	Safety
	[signature]	[signature]		
Completed	[signature]		Date	11-16-95

Test Discrepancy Log

Test Discrepancy Log	
Test Discrepancy Number	**Description**
1	ADD LEAK CHECK REQTS FOR NEW PIPING MODIFICATIONS ON RECIRCULATION SYSTEM UPON INITIAL PUMP START-UP
2	DURING RECIRCULATION PUMP START-UP A 3" BLIND FLANGE ON 6" BW-A-116 DEVELOPED A LEAK
3	OPERATION OF BV-49 DURING SKIMMER PUMP RESTART.
4	RETEST OF AV-2 PER 1K-94-116/W.
5	Restart air cooled chiller per 59-07 Rev 1
6	INSURE AUTO-SAMPLER AS-15 IS OPERABLE PRIOR TO RUNNING WATER THROUGH 1XM-1 (ATP STEP MODIFICATION)
7	AS-15 COMPOSITE SAMPLER LEAK CHECK FAILED, MODIFIED ATP TO ALLOW 1XM FLOW W/O COMPOSITE SAMPLING
8	WAIVE COMPOSITE SAMPLER RUNNING REQUIREMENT FOR OPERATION OF 1XMs DURING ATP
9	DOCUMENT AS-15 repair and subsequent leak check ON K-BASIN WORK RELEASE 1K-95-870
10	MOVE ATP STEPS 5.12 THROUGH 5.21 TO AN OPERATION TEST PROCEDURE
11	Move step 5.9.1 – 5.9.17 to Operation Test Proc.
12	START UP 1-B WITHOUT 1-A ON-LINE
13	ADJUST GV-1, GV-2, GV-3 FOR ~~100~~ 105 GPM FLOW THROUGH 1XM
14	1XM 1" Drain Line LEAK check

Test Discrepancy Log

Test Discrepancy Log	
Test Discrepancy Number	**Description**
15	PIT 209-2 LEAK TEST MODIFICATION
16	A/S #17 AND ASSOCIATED FITTINGS 24 HR LEAK CHECK REVISED DUE TO THE FACT THAT 1XM #3 IN #2 POSITION LEAKS BY AND WILL NOT BE CHANGED OUT FOR SEVERAL DAYS.

APPENDIX C

LEAK CHECKS

LEAK CHECKS

Perform the following leak checks with a recirculation pump in service.

Location	30 Minutes		24 Hours	
	Leaks (✓)	No leaks (✓)	Leaks (✓)	No Leaks (✓)
East Bay Downcomer cap where old flow meter was		✓OK		✓OK
Center Bay Downcomer cap where old flow meter was		✓OK		✓OK
West Bay Downcomer cap where old flow meter was		✓OK		✓OK
PIT-207-9 including associated tubing and valves		✓OK		✓OK
Weld between flange and 6" BW-A-16 where new piping spool piece ties into the recirculation line.		✓OK		✓OK
Flange connection at location identified above.		✓OK		✓OK
4" check valve IXMV-225		✓OK		✓OK
4" valve IXMV-226 (upstream)		✓OK		✓OK

LEAK CHECKS

Perform the following leak checks with a recirculation pump in service.

Location	30 Minutes		24 Hours	
	Leaks (✓)	No leaks (✓)	Leaks (✓)	No Leaks (✓)
East Bay Downcomer cap where old flow meter was				
Center Bay Downcomer cap where old flow meter was				
West Bay Downcomer cap where old flow meter was				
PIT-207-9 including associated tubing and valves				

SEE TEST DISCREPANCY #1

LEAK CHECKS

Perform the following leak checks with IXM-1 in service.

Location	30 Minutes		24 Hours	
	Leaks (✓)	No leaks (✓)	Leaks (✓)	No Leaks (✓)
Weld between flange and 6" BW-A-16 where new piping spool piece ties into the recirculation line.				
Flange connection at location identified above.				
4" check valve IXMV-225				
4" valve IXMV-226				
3" check valve IXMV-227				
4" valve IXMV-203				
4" IXM inlet valve IXMV-204				
Flanged connections to flexible hose (inlet and outlet)				
Pressure indicator PI-220-15 and associated fittings and valve IXMV-214				
Sample station 15, ½" isolation valve				
4" IXM inlet valve IXMV-205				

SEE TEST DISCREPANCY 1

LEAK CHECKS

Perform the following leak checks with IXM-1 in service.

Location	30 Minutes		24 Hours	
	Leaks (✓)	No leaks (✓)	Leaks (✓)	No Leaks (✓)
4" valve IXMV-226 (downstream)		✓OK		✓OK
3" check valve IXMV-227		✓OK		✓OK
4" valve IXMV-203		✓OK		✓OK
4" IXM inlet valve IXMV-204		✓OK		✓OK
Flanged connections to flexible hose (inlet and outlet)		✓OK		✓OK
Pressure indicator PI-220-15 and associated fittings and valve IXMV-214		✓OK		✓OK
Sample station 15, ¼" isolation valve				
4" IXM inlet valve IXMV-205		✓OK		✓OK

LEAK CHECKS

Perform the following leak checks with IXM-1 in service

Location	30 Minutes		24 Hours	
	Leaks (✓)	No Leaks (✓)	Leaks (✓)	No Leaks (✓)
1" Weldolet and associated fittings		✓OK		✓OK
3" Ball Valve, IXMV-216, 3" line		✓OK		✓OK
3/8" Instrument Valve, WSV-201-1, and associated fittings		✓OK		
2" Ball Valve, IXMV-223, 2" line		✓OK		✓OK
2" Ball Valve, IXMV-224, 2" line		✓OK		✓OK
4" Ball Valve, IXMV-209, 4" line		✓OK		✓OK
OPEN IXMV-211 on the 1" Drain Line	NA	NA	NA	NA
★ 1" Ball Valve, IXMV-211		✓OK		
★ 1" Sight-Glass/Rotameter Flanges		✓OK		
★ 1" Tee flanges and associated fittings		✓OK		
★ 1" flange		✓OK		

★ Verified Water Flow And No Leaks For Approx. 1 minute

SEE Test Discrepancy #14

David DeRosa 12/12/95

LEAK CHECKS

Perform the following IXM Sample Station leak check test with IXM-1 in service.

Location	30 Minutes		24 Hours	
	Leaks (✓)	No Leaks (✓)	Leaks (✓)	No Leaks (✓)
Inlet to AS-15, WSV-203 and associated fittings	✓			
Outlet of AS-15, WSV-205 and associated fittings	✓			
3/8" and 1/2" drain tubing at inlet of drain box and associated fittings, elbows and bulkhead unions	✓			
Outlet of drain box, PVC adapter		OK		OK
Drain line, 1 1/4" PVC elbow		OK		OK
Drain line, 1 1/4" PVC elbow		OK		OK
CE 220-1 and associated fittings		OK		OK
Inlet to AS-16, WSV-204-1 and associated fittings		OK		OK
Outlet of AS-16, WSV-206 and associated fittings		OK		OK
3/8" and 1/2" drain tubing at inlet of drain box and associated fittings, elbows and bulkhead unions		OK		OK
3/4" over-flow tubing and associated fittings		OK		OK

SEE TD#7

LEAKS OMISSION OUTSIDE OF SCOPE OF THIS PROJECT SEE WP-IK-AS-

CONTROLLED COPY

LEAK CHECKS

Perform the following leak checks with IXM-2 in service

Location	30 Minutes		24 Hours	
	Leaks (✓)	No Leaks (✓)	Leaks (✓)	No Leaks (✓)
Flanged connection to flexible hose		OK		OK
1" Weldolet and associated fittings		OK		OK
3/8" Instrument Valve, WSV-201-2, and associated fittings		OK		
3" Ball Valve, IXMV-218, 3" line		OK		OK
PG-202, IXMV 215, and associated fittings		OK		OK
OPEN IXMV-212 on the 1" Drain Line	N/A	N/A	N/A	N/A
☆ 1" Ball Valve, IXMV-212		OK		
☆ 1" Sight-Glass/Rotameter Flanges		OK		
☆ 1" Tee flanges and associated fittings		OK		

☆ Verified Water Flow And No Leaks For Approx 1 minute

See Test Discrepancy #14
DJC Deh 12/14/95

LEAK CHECKS

Perform the following IXM Sample Station leak check test with IXM-2 in service.

Location	30 Minutes		24 Hours	
	Leaks (✓)	No Leaks (✓)	Leaks (✓)	No Leaks (✓)
CE 220-2 and associated fittings		✓ gl		✓ gl
Inlet to AS-17, WSV-204-2 and associated fittings		✓ gl		✓ gl
Outlet of AS-17, WSV-210 and associated fittings		✓ gl		✓ gl
3/8" and 1/2" drain tubing at inlet of drain box and associated fittings, elbows and bulkhead unions		✓ gl		✓ gl

CONTROLLED COPY

LEAK CHECKS

See FD #11 D.C. Ahn 12/12/95

Perform the ~~following~~ leak checks with cartridge filters in service.

Location	30 Minutes		24 Hours	
	Leaks	No leaks	Leaks	No Leaks
PIT-208-1 including associated tubing and valves				
PIT-208-2 including associated tubing and valves		N/A		

See FD #15 David Clark 12/12/95

Pit-208-2 was operating @ normal operating pressure For approx. 12 Hours.

P Shelby As 12/06/95 12/13/95

~~Facility Manager~~ Date

TEST DIRECTOR (OPS ASM)

APPENDIX D

DATA SHEETS

RECIRCULATION PUMPING DATA SHEET

Configuration 1: One Pump, 1 Cartridge Filter, 1 IXM

Identify the pump, cartridge filter, and IXM used for configuration 1 by circling one of the selections for each item:

Pump 1A or Pump 1C

CF-1A or CF-1B

IXM-1 or IXM-2

Desired Parameter	Instrument Reading
Recirculation Pump Suction Pressure (PI-207-8)	-10
Recirculation Pump Discharge Pressure (local)	42
Recirculation Pump Discharge Pressure (PIT-207-9)	47
Filter Differential Pressure (F1A DP or F1B DP)	10
Chiller Flow (FT-225-1)	240
Chiller Inlet Pressure (PI-225-1)	39
Chiller Outlet Pressure (PI-225-2)	26
East Bay Flow (FIT-203-1)	211
Center Bay Flow (FIT-203-2)	100
West Bay Flow (FIT-203-3)	0
IXM Flow (FIT-220-2)	1035
IXM Inlet Pressure (PI-220-15)	11
IXM Outlet Pressure (PI-220-14)	10

RECIRCULATION PUMPING DATA SHEET

Configuration 2: One Pump, 2 Cartridge Filters, 1 IXM

Identify the pump and IXM used for configuration 2 by circling one of the selections for each item:

Pump 1A or Pump 1C

IXM-1 or IXM-2

See TD # 10
D.R. LaRosa
12/06/95

Desired Parameter	Instrument Reading
Recirculation Pump Suction Pressure (PI-207-8)	
Recirculation Pump Discharge Pressure (Local)	
Recirculation Pump Discharge Pressure (PIT-207-9)	
Filter Differential Pressure (F1A DP)	
Filter Differential Pressure (F1B DP)	
Chiller Flow (FT-225-1)	
Chiller Inlet Pressure (PI-225-1)	
Chiller Outlet Pressure (PI-225-2)	
East Bay Flow (FIT-203-1)	
Center Bay Flow (FIT-203-2)	
West Bay Flow (FIT-203-3)	
IXM Flow (FIT-220-2)	
IXM Inlet Pressure (PI-220-15)	
IXM Outlet Pressure (PI-220-15)	

RECIRCULATION PUMPING DATA SHEET

Configuration 3: One Pump, 2 Cartridge Filters, 2 IXMs

Identify the pump used for configuration 3 by circling one of the selections:

Pump 1A or Pump 1C

See TD # 10
D Dodson
12/06/95

Desired Parameter	Instrument Reading
Recirculation Pump Suction Pressure (PI-207-8)	
Recirculation Pump Discharge Pressure (Local)	
Recirculation Pump Discharge Pressure (PIT-207-9)	
Filter Differential Pressure (F1A DP)	
Filter Differential Pressure (F1B DP)	
Chiller Flow (FI-225-1)	
Chiller Inlet Pressure (PI-225-1)	
Chiller Outlet Pressure (PI-225-2)	
East Bay Flow (FIT-203-1)	
Center Bay Flow (FIT-203-2)	
West Bay Flow (FIT-203-3)	
IXM-1 Flow (FIT-220-2)	
IXM-2 Flow (FIT-220-2)	
IXM Inlet Pressure (PI-220-15)	
IXM Outlet Pressure (PI-220-14)	

RECIRCULATION PUMPING DATA SHEET

Configuration 4: One Pump, 1 Cartridge Filter, 2 IXMs

Identify the pump and cartridge filter used for configuration 4 by circling one of the selections for each item:

Pump 1A or Pump 1C

CF-1A or CF-1B

Sec + D # 10
P. Peden
12/06/95

Desired Parameter	Instrument Reading
Recirculation Pump Suction Pressure (PI-207-8)	
Recirculation Pump Discharge Pressure (Local)	
Recirculation Pump Discharge Pressure (PIT-207-9)	
Filter Differential Pressure (F1A DP or F1B DP)	
Chiller Flow (FI-225-1)	
Chiller Inlet Pressure (PI-225-1)	
Chiller Outlet Pressure (PI-225-2)	
East Bay Flow (FIT-220-1)	
Center Bay Flow (FIT-220-2)	
West Bay Flow (FIT-203-3)	
IXM-1 Flow (FIT-220-2)	
IXM-2 Flow (FIT-220-2)	
IXM Inlet Pressure (PI-220-15)	
IXM Outlet Pressure (PI-220-14)	

RECIRCULATION PUMPING DATA SHEET

Configuration 5: Two Pumps, 1 Cartridge Filter, 1 IXM

Identify the cartridge filter and IXM used for configuration 5 by circling one of the selections for each item:

CF-1A or CF-1B

IXM-1 or IXM-2

See TD # 10
D. DeFur
12/06/95

Desired Parameter	Instrument Reading
Recirculation Pump 1A Discharge Pressure (Local)	
Recirculation Pump Suction Pressure (PI-207-8)	
Recirculation Pump 1C Discharge Pressure (Local)	
Recirculation Pump Discharge Pressure (PIT-207-9)	
Filter Differential Pressure (F1A DP or F1B DP)	
Chiller Flow (FI-225-1)	
Chiller Inlet Pressure (PI-225-1)	
Chiller Outlet Pressure (PI-225-2)	
East Bay Flow (FIT-203-1)	
Center Bay Flow (FIT-203-2)	
West Bay Flow (FIT-203-3)	
IXM Flow (FIT-220-2)	
IXM Inlet Pressure (PI-220-15)	
IXM Outlet Pressure (PI-220-14)	

RECIRCULATION PUMPING DATA SHEET

Configuration 6: Two Pumps, 2 Cartridge Filters, 1 IXM

Identify the IXM used for configuration 6 by circling one of the selections:

IXM-1 or IXM-2

Desired Parameter	Instrument Reading
Recirculation Pump 1A Discharge Pressure (Local)	
Recirculation Pump Suction Pressure (PI-207-8)	
Recirculation Pump 1C Discharge Pressure (Local)	
Recirculation Pump Discharge Pressure (PIT-207-9)	
Filter Differential Pressure (F1A DP)	
Filter Differential Pressure (F1B DP)	
Chiller Flow (FI-225-1)	
Chiller Inlet Pressure (PI-225-1)	
Chiller Outlet Pressure (PI-225-2)	
East Bay Flow (FIT-203-1)	
Center Bay Flow (FIT-203-2)	
West Bay Flow (FIT-203-3)	
IXM Flow (FIT-220-2)	
IXM Inlet Pressure (PI-220-15)	
IXM Outlet Pressure (PI-220-14)	

See JD # to D.D.A 12/06/95.

RECIRCULATION PUMPING DATA SHEET

Configuration 7: Two Pumps, 2 Cartridge Filter, 2 IXM

Desired Parameter	Instrument Reading
Recirculation Pump 1A Discharge Pressure (Local)	
Recirculation Pump Suction Pressure (PIT-207-8)	
Recirculation Pump 1C Discharge Pressure (Local)	
Recirculation Pump Discharge Pressure (PIT-207-9)	
Filter Differential Pressure (F1A DP)	
Filter Differential Pressure (F1B DP)	
Chiller Flow (FI-225-1)	
Chiller Inlet Pressure (PI-225-1)	
Chiller Outlet Pressure (PI-225-2)	
East Bay Flow (FIT-203-1)	
Center Bay Flow (FIT-203-2)	
West Bay Flow (FIT-203-3)	
IXM-1 Flow (FIT-220-2)	
IXM-2 Flow (FIT-220-2)	
IXM Inlet Pressure (PI-220-15)	
IXM Outlet Pressure (PI-220-14)	

See TD # 10
O. Ochs
12/06/95

RECIRCULATION PUMPING DATA SHEET

Configuration 8: Two Pumps, 1 Cartridge Filter, 2 IXM

Identify the cartridge filter used for configuration 8 by circling one of the selections:

CF-1A or CF-1B

See TD #10
D.D. Ehn
12/06/95

Desired Parameter	Instrument Reading
Recirculation Pump 1A Discharge Pressure (Local)	
Recirculation Pump Suction Pressure (PI-207-8)	
Recirculation Pump Discharge Pressure (Local)	
Recirculation Pump Discharge Pressure (PIT-207-9)	
Filter Differential Pressure (F1A DP or F1B DP)	
Chiller Flow (FI-225-1)	
Chiller Inlet Pressure (PI-225-1)	
Chiller Outlet Pressure (PI-225-2)	
East Bay Flow (FIT-203-1)	
Center Bay Flow (FIT-203-2)	
West Bay Flow (FIT-203-3)	
IXM-1 Flow (FIT-220-2)	
IXM-2 Flow (FIT-220-2)	
IXM Inlet Pressure (PI-220-15)	
IXM Outlet Pressure (PI-220-14)	

APPENDIX E

TEST LOG

Test Log

Time	Test Log	Page 1 Date 11/16/95
8:00	ATP PREJOB GIVEN BY TEST DIRECTOR	
	WENT OVER SKIMMER LOOP RESTART	
11:10	SKIMMER PUMP STARTED IN BY PASS MODE	
11:40	SKIMMER LOOP FULL SYSTEM INITIATED, WALKED	
	DOWN FOR LEAKS NO PIPING SYSTEM LEAKS	
	FOUND; TD #1 WRITTEN AT 10:30 TO INSURE ALL RECIRC PUMP	
1:15	SYSTEM MODIFICATIONS WERE READY FOR LEAK CHECKS SECOND PREJOB GIVEN FOR RECIRC SYSTEM	
	START	
3:00 pm	SKIMMER FLOW INITIATED TO PRIME RECIRC	
	PUMP	
3:45 pm	RECIRCULATION PUMP STARTUP, 3" BLIND	
	FLANGE ON 6" BW-A-16 DEVELOPED A LEAK	
	ALL PERSONNEL LEAVE BASIN.	
4:30 pm	PREJOB GIVEN TO ATP TEAM AND ICF-KH CRAFT ENTER BASIN TO CLEAN UP SPILL	
5:15 pm	TD #2 WRITTEN TO DOCUMENT LEAK	

Test Log

Time	Test Log	Page	2
		Date	11/17/95
8:00	PRE JOB MEETING PERFORMED FOR ATP		
	TEAM WENT OVER REPLACEMENT OF 3" BLIND		
	FLANGE GASKET AFTER DECON. AND WENT		
	OVER RESTART OF RECIRCULATION PUMP (BASIN ON MASK)		
10:00	DECON COMPLETE, ICF-KH CRAFT		
	REPLACED GASKET ON 3"G BLIND ON		
	6" BW-A-16 LINE, REMOVED LOCK & TAKS		
	ON RECIRC PUMP DISCHARGE VALVES.		
10:35	PREJOB ASSIGNMENTS GIVEN TO OPERATNS		
	FOR RESTART OF RECIRCULATION SYSTEM		
11:10	RECIRCULATION PUMP STARTED		
11:20	RECIRCULATION PUMP STOPED, BASIN MONITORING		
	SYSTEM RECEIVED ALARM, WHICH WAS ACKNOWLEDGED		
11:30	RECIRCULATION PUMP RESTARTED		
12:05	LEAK CHECK FOR 30min Completed per section C-2 NO LEAKS		

Test Log

Time	Test Log	Page	3
		Date	11/14/95
1530	Recirc pump P-1A placed online with DV-1, 2, 3 open, flow thru the air cooled chiller AND flow through GLV-1, 2, 3. GV-2D is open		
1000	~~COMPLETED ACCEPTANCE OF TKR-1 & 2 DRAIN LINES AND AS-16 LEAK CHECKS~~ [initials] 11/14/95		

Test Log

Time	Test Log	Page	4
		Date	11/20/95
11:00	PRE JOB HELD, DAYS ACTIVITY WAS DISCUSSED,		
	BRINGING 1XM-1 ON LINE AND LEAK WALKDOWN FOR		
	NEW PIPING. RWP K-680 WAS DISCUSSED AND		
	ATP TEST CREW BROKE FOR LUNCH		
1:00 pm	ATP CREW WENT INTO BASIN. VALVED IN SECTIONS TO		
	INLET OF 1XM-1 AND FILLED 1XM-1 WITH WATER,		
	CHECKED THE OUTLET PIPING TO VALVE 1XM-209		
	INLET VALVES CLOSED AND INLET & OUTLET PIPING SECTIONS		
	DEPRESSURIZED. CREW LEFT BASIN ≈ 2:35 pm		
2:30 pm	WHC CARPENTERS REMOVED PART OF 1K-95-752		
	WORK PACKAGE SCAFFOLDING TO FACILITATE REPLACING		
	1XM-1. COMPLETE WORK DAY 3:10 pm		

Test Log

Time	Test Log	Page	5
		Date	11/21/95
8:00	PRE JOB HELD WITH ATP CREW, P. SHEELY WENT OVER SCOPE AS BRINGING IXM-1 ON LINE AND CHECKING INLET & OUTLET PIPING FOR LEAKS. IT WAS DISCUSSED THAT COMPOSITE SAMPLER AS-15 MUST BE ON LINE AS THE INLET SAMPLE FOR IXM-1.		
10:00	ATP RESTARTED, SAMPLE STATION AS#15 WAS CHECKED AND A LEAK WAS FOUND. P. SHEELY CALLED OUT TO K BASIN SHIFT MGR (JOHN DENT) STATING HE REQUIRED RELIEF FROM PROCESS STANDARD THAT REQUIRED AS-15 OPERATING PRIOR TO RUNNING IXM-1. TED MILLER CALLED AND PROVIDED INFORMATION THAT THE PROCESS STANDARD TO HAVE INLET IXM SAMPLES IN ORDER TO RUN THE IXM COULD BE MET WITH GRAB SAMPLES AND TO CONTINUE WITH THE ATP. JOHN DENT PROVIDED THIS TO PHIL SHEELY AND THE ATP CONTINUED.		
10:30	IXM-1 WAS BROUGHT ON LINE.		
1452	IXM 1 WAS SWITCHED TO IXM 2		
1512	IXM-2 BROUGHT ON LINE BY ITSELF @ ABOUT SKIMMER PUMP FLOW RATE 225 gpm IXM LOCAL FLOW RATE 84 gpm INLET PRESSURE 18-19 psi INLET HEADER AS-17 MINOR LEAKS VALVED OUT AS-16 NO LEAKS VALVED OUT (IXM-1 OFF LINE).		
1530	END OF DAY		

Test Log

Time	Test Log	Page	6
		Date	11/27/95
1030	COMPLETED LEAK REPAIRS ON AUTOSAMPLER #17, AUTOSAMPLER FUNCTIONS NORMALLY		
1100	PLACED IXM-2 & IXM-1 ON IN PARALLEL PER 5.6, AUTO SAMPLER #16 LEAKS REPAIRED		
1200	REPAIRED LEAKS ON AUTOSAMPLER 17 & 16 CONDUCTIVITY PROBES		
1300	IXM-2 REMOVED FROM SERVICE, IXM # 1 NOW ON LINE WITH AUTOSAMPLER # 16 OPERATING		
1915	COMPLETED SECTION 5.7 TO STEP 5.7.8, COMMENCED 2 HOUR RECIRCULATION SYSTEM FLUSH THROUGH IXM-1		
2110	AFTER COMPLETION OF 2 HOUR FLUSH, IXM-1 SHUTOFF GRAB SAMPLE TAKEN, RECIRC SYSTEM SUPPLY TO IXMs		
	IXMV-226 CLOSED AND LOCKED		
2115	IXM's VALVE LINEUP SWAPPED TO PLACE IXM-2 ON LINE		
2130	SKIMMER FLOW IS NOW THROUGH IXM-2, SECTION 5.8 COMPLETED, AUTO SAMPLER #17 IS OPERATING IN AUTO		
			12/7/95
1300	COMPLETED LEAK ACCEPTANCE TEST OF IXM-1, 2 TRAINS AND AS-16		