Watts Bar Nuclear Plant

Unit 1

System Operating Instruction

SOI-27.03

Supplemental Condenser Circulating Water System

Revision 0025

Non-Quality Related

Level of Use: Continuous Use

Effective Date: 10-04-2007

Responsible Organization: OPS, Operations

Prepared By: R. E. Bates

Approved By: A. K. Keefer

Revision Log

Revision or Change Number	Effective Date	Affected Page Numbers	Description of Revision/Change
18	09/23/05	1, 2, 25	Added Caution to Section 8.8 to monitor Cond. Vac. during Bromination. PER 87617
19	03/03/06	2,6,11, 14-16,20-24	For TACF 1-06-0004-027-R2, added 3.0H, 5.2[16], 7.1[7], 8.1[4], 8.2[6], 8.4[3], 8.8[2], 8.6[4], 8.7[8], 8.8[6].
20	04/11/06	2,6,11, 14-16,20-24	For TACF 1-06-0004-027-R2, deleted 3.0H, 5.2[16], 7.1[7], 8.1[4], 8.2[6], 8.4[3], 8.5[2], 8.6[4], 8.7[8], 8.8[6].
21	08/08/06	All 28 22	This procedure was converted from Word 95 to Word 2002 (XP) using Rev 20, By Barbara Perry. Steps 8.8[9] and 8.8[10]. Changed action from OPEN to THROTTLE OPEN. Added N/A option to valves not manipulated in Step 8.3[10].PER 100332
22	11/15/06	9, 12	Incorporated DCN 52075, which, added more Trash Racks in the Cooling Tower #1 Basin. Added monitoring/action steps.
23	04/12/07	2, 19	Added step to throttle open selected screen wash pump discharge valve prior to starting pump.
24	07/13/07	2,3,5,7,14, 15,17,18, 28,30	Replaced “summer ops/winter ops” reference with "normal ops/bypass ops". Added note on page 28.
25	10/04/07	2, 28-33	Modified Section 8.8 to include additional operator actions for periods of bromination. This helps prevent cooling tower level from becoming too high or low when brominating. PER 130054.

Table of Contents

1.0 INTRODUCTION 5
1.1 Purpose 5
1.2 Scope 5
1.3 Definitions 5
2.0 REFERENCES 6
2.1 Performance References 6
2.2 Developmental References 6
3.0 PRECAUTIONS AND LIMITATIONS 7
4.0 PREREQUISITE ACTIONS 8
4.1 Preliminary Actions 8
4.2 Field Preparations 8
4.3 Approvals and Notifications 8
5.0 STARTUP 9
5.1 Filling SCCW Supply Line From Hydro 9
5.2 Placing SCCW In Service 12
6.0 NORMAL OPERATION 15
6.1 Supply 15
6.2 Discharge 15
6.3 Bypass Operation 15
6.4 Traveling Screen Operation 15
7.0 SHUTDOWN 16
7.1 Shutdown 16
8.0 INFREQUENT OPERATIONS 17
8.1 SCCW Bypass Operations 17
8.2 SCCW Normal Operations 18
8.3 Operation of Screen Wash Pumps and Traveling Screens 19
8.4 Isolation of SCCW Supply Line From Hydro 24
8.5 Response to High Discharge Temperature 25
8.6 Response to Cooling Tower Basin Level Changes 26
8.7 Cooling Tower Basin Makeup With SCCW Shutdown 27

Table of Contents (continued)

8.8 SCCW Operations for Chemical Injection 28
8.9 Cleaning Intake Screens 34

9.0 RECORDS 44
9.1 QA Records 44
9.2 Non-QA Records 44

Checklist 1: SCCW Power Alignment 45

Checklist 2: SCCW Valve Alignment 48

Source Notes 50

1.0 INTRODUCTION

1.1 Purpose

This Instruction provides detailed steps for operation of the Supplemental Condenser Circulating Water (SCCW) System that provides a source of cooler water to the cooling tower flume.

1.2 Scope

This Instruction includes the following operations of the SCCW System:

A. System filling and venting.

B. Normal Operation.

C. Bypass Operation.

D. Screenhouse Equipment Operation.

1.3 Definitions

A. Normal Operation:
From the beginning of June until the beginning of November

B. Bypass Operation:
From the beginning of November until the beginning of June, UNLESS actual river conditions permit normal operation as determined by the Environmental Supervisor (in conjunction with River System Operations).

2.0 REFERENCES

2.1 Performance References

None

2.2 Developmental References

A. 0-PI-ENV-3.1, NPDES Plant Effluents

B. ECM-3.0, National Pollutant Discharge Elimination System (NPDES) Program

C. TVA Drawings:

1. 1-45W760-27-6
2. 1-47W610-27-1
3. 35W712
4. 35W808-1
5. 35W808-4
6. 35W(B)735-4

D. WB-DC-40-37, “Heat Rejection System”

3.0 PRECAUTIONS AND LIMITATIONS

A. At normal summer river level, the SCCW is designed to supply approximately 135,000 gpm of supplementary cooling water to the Unit 1 condenser via the Unit 2 cooling tower basin, a weir between the Unit 2 and Unit 1 flumes, and the Condenser Circulating Water (CCW) System.

B. The 42" SCCW bypass valve should be open during bypass operation (See Sec. 1.3) to satisfy thermal environmental permitting requirements for the Watts Bar Fossil Plant discharge channel.

C. The following guidance will prevent excessive thermal rate of change at the discharge into the river during system evolutions:

1. After initiating discharge flow for system startup:

   a. Ensure bypass valve remains open for at least 1 hour.

   b. Ensure river flow >3500 cfs (one hydro unit in service) continues for at least 2 hours.

2. Ensure river flow ≥3500 cfs (one hydro unit in service) continues for at least 1 hour after changing from normal to bypass operation or returning from bypass to normal operation.

3. At least 1 hour prior to terminating flow for system shutdown, ensure bypass valve is open and river flow ≥3500 cfs (one hydro unit in service).

D. The OUTSIDE SCREEN GATES should be opened last during filling and closed first during isolation of the supply line. The screen gates are for isolation of the traveling screens. The outside gates are qualified as a river barrier while the inside gates are designed to isolate the screens from the charged supply line.

E. SCCW discharge flow must be terminated during extended low river flow conditions (shutdown of hydro units for greater than 18 hours).

F. The basin flume levels should be approximately equal any time the stoplog gate between Unit 1 and Unit 2 cooling towers (0-GATE-27-625) is to be moved.

G. Do **NOT** remove debris from the traveling screen by hand while the traveling screen is moving.

Date_____ **INITIALS**

4.0 PREREQUISITE ACTIONS

NOTE
Throughout this instruction, Concurrent Verification (CV) may be marked **N/A** for breaker or fuse steps where no manipulation is performed.

4.1 Preliminary Actions

NOTE
Signoffs/information in unused Sections may be left blank.

[1] **INDICATE** Section to be performed, and reason for use.

5.0	Startup	_____	7.0	Shutdown	_____
6.0	Normal Operation	N/A	8.0	Infrequent Operations	_____

Subsection/ Reason/ Remarks: _____

_____

_____

_____

4.2 Field Preparations

None

4.3 Approvals and Notifications

[1] **COORDINATE** system operations/manipulations with UO. _____

[2] **COORDINATE** any planned system manipulations with Watts Bar Hydro Operator. _____

[3] **NOTIFY** River System Operations when any flow is to be started, changed, or stopped (phone 632-7063, River Scheduling, Lead Engineer). _____

Date_____ **INITIALS**

5.0 STARTUP

5.1 Filling SCCW Supply Line From Hydro

NOTES

1) This Section should be used to remove air pockets any time the SCCW supply line is **NOT** completely filled to the 42" Bypass valve and the 90" Supply valve.
2) If desired or intake screen fouling suspected, performance of Section 8.9 to clear intake screens may be performed prior to placing SCCW in service.

CAUTION

SCCW line must be filled and vented slowly to prevent the back rush of air which will cause damage at the Hydro Screen House. The screen house door should remain open at all times.

[1] **ENSURE** Section 4.0, Prerequisites COMPLETE. _____

[2] **CHECK** Unit 1 cooling tower basin free of debris or in service. _____

[3] **CHECK** Unit 1 cooling tower trash rack screens are free of debris. _____

[4] **CHECK** Unit 2 cooling tower basin free of debris or in service. _____

[5] **CHECK** Unit 2 cooling tower trash racks/screens are free of debris. _____

[6] **ENSURE** 0-DRV-27-605, SUPPLY LINE DRAIN, CLOSED [south of the heavy equipment machine shop near the instrumentation pit]. _____

NOTE

Screen gate motors at the Hydro screenhouse may thermal out during travel. Reset button located with gate controls can be utilized after cooldown.

[7] **OPEN** all INSIDE SCREEN GATES 10, 11 and 12. _____

[8] **THROTTLE OPEN** one OUTSIDE SCREEN GATE 4, 5 or 6. _____

Date_____ **INITIALS**

5.1 Filling SCCW Supply Line From Hydro (continued)

NOTE

The bypass valve piping is at midplane of the supply line. After the supply line is half full, air venting must continue thru the supply valve and the bypass valve can be closed.

[9] **THROTTLE OPEN** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

CAUTION

The following step will allow water flow into the Unit 2 basin.

[10] **THROTTLE OPEN** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL. _____

[11] **CHECK** supply line high point air relief valve functioning properly (no continuous water flow) [south of Fossil Plant coal yard]. _____

[12] **ADJUST** Bypass Valve, Supply Valve and Screen Gate during fill to ensure air is slowly forced through Bypass and/or Supply valves. _____

[13] **MONITOR** Unit 2 cooling tower basin level. _____

[14] **WHEN** supply line has been vented, **THEN**

CLOSE 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL to isolate flow to Unit 2 basin. _____

[15] **WHEN** fill is complete, **THEN**

[15.1] **ENSURE** all INSIDE SCREEN GATES 10, 11 and 12 are OPEN**.** _____

[15.2] **ENSURE** the selected OUTSIDE SCREEN GATE 4, 5 or 6 is OPEN. _____

[15.3] **OPEN** the remaining OUTSIDE SCREEN GATES 4, 5 and 6. _____

Date_____ **INITIALS**

5.1 Filling SCCW Supply Line From Hydro (continued)

[16] **IF** SCCW system to be placed in service, **THEN**

GO TO Section 5.2. _____

[17] **IF** SCCW system to remain out of service, **THEN**:

[17.1] **CLOSE** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

[17.2] **ENSURE** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, CLOSED. _____

Date_____ **INITIALS**

5.2 Placing SCCW In Service

CAUTION

Watts Bar Hydro must be in service to provide ≥3500 cfs river flow for thermal mixing during alignment changes. This mixing flow must continue for at least one hour after the final system lineup and flow are stabilized.

[1] **ENSURE** Section 4.0, Prerequisites COMPLETE. _____

[2] **COORDINATE** with Watts Bar Hydro Operator to ensure at least one unit will be in service to maintain river flow requirement during and after startup. _____

[3] **NOTIFY** River System Operations that SCCW will be placed in service. _____

[4] **ENSURE** SCCW supply line filled and vented (Section 5.1). _____

NOTE

Screen gate motors at the Hydro screenhouse may thermal out during travel. Reset button located with gate controls can be utilized after cooldown

[5] **ENSURE** the INSIDE SCREEN GATES 10, 11 and 12 OPEN. _____

[6] **ENSURE** the OUTSIDE SCREEN GATES 4, 5 and 6 OPEN. _____

[7] **ENSURE** 0-DRV-27-606, DISCHARGE LINE DRAIN, CLOSED [south of the heavy equipment machine shop near the instrumentation pit]. _____

[8] **ENSURE** both gloryhole weir drain valves are CLOSED [SCCW discharge pond]. _____

[9] **CHECK** Unit 1 cooling tower basin free of debris or in service. _____

[10] **CHECK** Unit 1 cooling tower trash rack screens are free of debris. _____

[11] **CHECK** Unit 2 cooling tower basin free of debris or in service. _____

[12] **CHECK** Unit 2 cooling tower trash racks/screens are free of debris. _____

Date_____ **INITIALS**

5.2 Placing SCCW In Service (continued)

NOTE

Cooling tower basin flume levels must be approximately equal prior to lifting stoplog.

[13] **ENSURE** 0-GATE-27-625, stoplog between cooling tower basin flumes OPEN. _____

[14] **OPEN** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

NOTE

SCCW supply and discharge valves should be operated concurrently.

[15] **OPEN** 0-FCV-27-111, SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL. _____

[16] **OPEN** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL. _____

[17] **MONITOR** cooling tower basin levels. _____

[18] **OPEN** 0-BYV-27-500, CT FLUME EQUALIZING SLUICE GATE. _____

NOTE

There should be a water level differential of between 6 and 12 inches from the Unit 1 cooling tower basin into the SCCW discharge structure. Less than 6 inches differential indicates air is trapped in the discharge piping, which may cause an overflow and environmental noncompliance.

[19] **IF** water level differential from Unit 1 basin into SCCW discharge is less than 6 inches, **THEN**:

[19.1] **ADJUST** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, to maintain levels. _____

[19.2] **MONITOR** cooling tower basin levels and water level differential. _____

Date_____ **INITIALS**

5.2 Placing SCCW In Service (continued)

[20] **WHEN** water level differential from Unit 1 basin into SCCW discharge is between 6 and 12 inches, **THEN**

ENSURE 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, is OPEN. _____

CAUTION

Watts Bar Hydro must be in service to provide ≥3500 cfs river flow for thermal mixing for at least one hour after the final system lineup and flow are stabilized.

[21] **IF** placing SCCW in normal operation (See Sec. 1.3), **THEN**:

[21.1] **OPERATE** with bypass valve open for at least one hour to comply with thermal discharge rate of change limits. _____

[21.2] **CLOSE** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

[22] **IF** placing SCCW in bypass operation (See Sec. 1.3), **THEN**

ENSURE 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL, OPEN. _____

6.0 NORMAL OPERATION

6.1 Supply

Supplemental Condenser Circulating Water (SCCW) originates from upstream of the Watts Bar Hydro with a set of three parallel traveling screen units, associated screen gates, screen wash pumps and stop log assemblies. The supply line is routed around the Watts Bar Fossil Plant to the Unit 2 cooling tower basin. SCCW supply water flows from the Unit 2 cooling tower across a weir into the Unit 1 cooling tower basin, mixing cooler water into the CCW Pump suction. The normal supply line flow is approximately 130,000 gpm at nominal Watts Bar Lake elevation of 740.5 feet.

6.2 Discharge

The Unit 1 cooling tower basin weir allows equal overflow which returns through the discharge isolation valve 0-FCV-27-111, to the Watts Bar Fossil Plant discharge channel and into the river. SCCW parameters and river data are monitored and recorded via remote telemetry (data available in ICS). This data is required to demonstrate environmental compliance of the discharge flow.

6.3 Bypass Operation

During bypass operation (See Sec. 1.3) the bypass valve 0-FCV-27-110 will be opened to bypass flow directly from the supply line into the discharge line. This mixed flow mitigates the temperature differentials between the river and the discharge flow to the river and satisfies the environmental permitting requirements for the Watts Bar Fossil discharge channel. The bypass valve will remain closed during normal operation, unless needed to cool the discharge flow.

The Environmental Supervisor will maintain appropriate contact with River System Operation to provide timely notification to the SM of any required SCCW realignment.

6.4 Traveling Screen Operation

Auto functions are disabled. Screen operation is manual only.

Date_____ **INITIALS**

7.0 SHUTDOWN

7.1 Shutdown

CAUTION

Watts Bar Hydro must be in service to provide ≥3500 cfs river flow for thermal mixing during alignment changes.

[1] **COORDINATE** with Watts Bar Hydro Operator to ensure at least one unit will be in service to maintain river flow requirement during shutdown. _____

[2] **NOTIFY** River System Operations of planned system manipulations (phone 632-7063, River Scheduling, Lead Engineer). _____

[3] **IF** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL is CLOSED**, THEN**:

[3.1] **OPEN** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

[3.2] **OPERATE** with bypass valve open for at least one hour to comply with thermal discharge rate of change limits. _____

NOTE

SCCW supply and discharge valves should be operated concurrently and verified full closed prior to closing the bypass valve.

[4] **CLOSE** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL. _____

[5] **CLOSE** 0-FCV-27-111, SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL. _____

[6] **CLOSE** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

Date_____ **INITIALS**

8.0 INFREQUENT OPERATIONS

8.1 SCCW Bypass Operations

NOTE

The 42" SCCW bypass valve should be open to allow flow during bypass operation (See Sec. 1.3) to satisfy environmental permitting requirements for the Watts Bar Fossil Plant discharge channel.

[1] **NOTIFY** River System Operations of planned system manipulations (phone 632-7063, River Scheduling, Lead Engineer). _____

[2] **COORDINATE** with Watts Bar Hydro Operator to ensure at least one unit will be in service to maintain river flow requirement during alignment. _____

[3] **IF** SCCW is in bypass operation (See Sec. 1.3), **THEN**

OPEN 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

NOTE

The following step may be **N/A'd** or deferred based on the current or projected CTBD flow rate.

[4] **ENSURE** Unit 2 blowdown line entrance sluice gate, 2-GATE-27-624 removed. _____

Date_____ **INITIALS**

8.2 SCCW Normal Operations

NOTE

The 42" SCCW bypass valve should be closed during normal operation (See Sec. 1.3) for maximum SCCW efficiency.

[1] **NOTIFY** River System Operations of planned system manipulations (phone 632-7063, River Scheduling, Lead Engineer). _____

[2] **COORDINATE** with Watts Bar Hydro Operator to ensure at least one unit will be in service to maintain river flow requirement during alignment. _____

[3] **ENSURE** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, is OPEN. _____

[4] **ENSURE** 0-FCV-27-111, SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL, is OPEN. _____

[5] **IF** SCCW is in normal operation (See Sec. 1.3), **THEN**

CLOSE 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

NOTE

The following step may be **N/A'd** or deferred based on the current or projected CTBD flow rate.

[6] **ENSURE** Unit 2 blowdown line entrance sluice gate, 2-GATE-27-624 installed. _____

Date_____ **INITIALS**

8.3 Operation of Screen Wash Pumps and Traveling Screens

NOTE
If debris buildup on the intake screens (trash racks outboard the outside gates) is suspected, Section 8.9 may by performed.

[1] **ENSURE** selected screen wash pump filled and vented using service water connection at pump suction and pump casing vent. _____

[2] **THROTTLE** selected Pump discharge valve (**N/A** pump **NOT** selected):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1 DISCHARGE ISOL VALVE	2 TURNS OPEN	0-ISV-27-614	
SCREEN WASH PUMP #2 DISCHARGE ISOL VALVE	2 TURNS OPEN	0-ISV-27-613	

[3] **START** selected pump (**N/A** pump **NOT** started):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1	START	0-HS-27-611	
SCREEN WASH PUMP #2	START	0-HS-27-610	

Date_____ **INITIALS**

8.3 Operation of Screen Wash Pumps and Traveling Screens (continued)

[4] **OPEN** selected Pump discharge valve (**N/A** pump **NOT** selected):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1 DISCHARGE ISOL VALVE	OPEN	0-ISV-27-614	
SCREEN WASH PUMP #2 DISCHARGE ISOL VALVE	OPEN	0-ISV-27-613	

[5] **ENSURE** service water connection at pump suction CLOSED. _____

NOTES

1) Opening all screen isolation valves maximizes flow in the wash channel to prevent clogging.
2) Washing Screen #6 last will help flush debris from the wash channel.

[6] **ENSURE** ALL Traveling Screen isolation valves are OPEN**:**

NOMENCLATURE	POSITION	UNID	PERF INITIAL
TRAVELING SCREEN #4 ISOLATION VALVE	OPEN	0-ISV-27-607	
TRAVELING SCREEN #5 ISOLATION VALVE	OPEN	0-ISV-27-608	
TRAVELING SCREEN #6 ISOLATION VALVE	OPEN	0-ISV-27-609	

Date_____ **INITIALS**

8.3 Operation of Screen Wash Pumps and Traveling Screens (continued)

NOTE
Traveling screens should initially be washed one at a time.

[7] **PERFORM** the following on 0-PNL-27-600 to START selected Traveling Screen:

[7.1] **PULL** to reset STOP pushbutton**.**

[7.2] **ENSURE** HS in HAND.

[7.3] **PUSH** START pushbutton**.**

NOMENCLATURE	POSITION	PERF INITIAL
TRAVELING SCREEN #4	START	
TRAVELING SCREEN #5	START	
TRAVELING SCREEN #6	START	

Date_____ **INITIALS**

8.3 Operation of Screen Wash Pumps and Traveling Screens (continued)

NOTE

During times of a heavy load on the screens (e.g. during a shad run) it is permissible to leave the screens in wash. After the first screen is washed then the second and third screens may be washed consecutively. When the load is back to normal then steps 8.3[8] - 8.3[11] should be completed.

[8] **WHEN** Traveling Screen rotates at least one full rotation (approximately 15 minutes)

OR when desired to stop, **THEN**

PUSH STOP pushbutton**.**

NOMENCLATURE	POSITION	PERF INITIAL
TRAVELING SCREEN #4	STOP	
TRAVELING SCREEN #5	STOP	
TRAVELING SCREEN #6	STOP	

[9] **IF** more Traveling Screens are to be washed, **THEN**

REPEAT Steps 8.3[7], & 8.3[8]. _____

Date_____ **INITIALS**

8.3 Operation of Screen Wash Pumps and Traveling Screens (continued)

NOTE
After the last screen is stopped, the wash channel should continue to be flushed to remove debris from the screen house.

[10] **WHEN** Traveling Screens are stopped **AND** wash channel is flushed, **THEN**

PERFORM the following (**N/A** pump **NOT** stopped):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1	STOP	0-HS-27-611	
SCREEN WASH PUMP #2	STOP	0-HS-27-610	

[11] **CLOSE** Screen Wash Pump discharge valves (**N/A** valves **NOT** manipulated):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1 DISCHARGE ISOL VALVE	CLOSED	0-ISV-27-614	
SCREEN WASH PUMP #2 DISCHARGE ISOL VALVE	CLOSED	0-ISV-27-613	

Date_____ **INITIALS**

8.4 Isolation of SCCW Supply Line From Hydro

NOTE

The filled SCCW supply line also supplies service water to the Fossil Plant. Establishing another supply must be coordinated prior to closing the Screen Gates at the Hydro Screenhouse.

[1] **COORDINATE** isolation of SCCW supply line with Watts Bar Hydro Operator. _____

NOTE

Screen gate motors at the Hydro screenhouse may thermal out during travel. Reset button located with gate controls can be utilized after cooldown.

[2] **CLOSE** the OUTSIDE SCREEN GATES 4, 5 and 6. _____

[3] **IF** supply line is to be drained, **THEN**

[3.1] **COORDINATE** with Environmental to determine drainage path. _____

[3.2] **OPEN** 0-DRV-27-605, SUPPLY LINE DRAIN [south of the heavy equipment machine shop near the instrumentation pit]. _____

NOTE

The INSIDE SCREEN GATES should be left open during draining to provide a high point vent.

[4] **CLOSE** the INSIDE SCREEN GATES 10, 11 and 12. _____

Date_____ **INITIALS**

8.5 Response to High Discharge Temperature

NOTES

1) 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL, should be opened only as far as necessary to reduce the discharge temperature to within limit.
2) 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL, may be operated electrically and stopped at the desired throttle position.
3) 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL, may be left throttled (up to the full open position) indefinitely, and may be adjusted as required to control discharge temperature

[1] **IF** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL is CLOSED**, THEN**:

THROTTLE OPEN 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

NOTE

Cooling Tower discharge temperature must be taken locally at the basin discharge weir.

[2] **WHEN** Basin discharge temperature lowers to within allowable limit, **THEN**:

CLOSE 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW _____

Date_____ **INITIALS**

8.6 Response to Cooling Tower Basin Level Changes

[1] **ADJUST** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, as necessary to control cooling tower basin water levels. _____

[2] **ADJUST** 0-FCV-27-111, SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL, as necessary to control discharge flow and Unit 1 cooling tower basin water level. _____

NOTES

1) The following substeps for water level differential may be N/A'd when valves are adjusted to raise the Unit 1 cooling tower basin level (e.g. to raise blowdown flow).
2) There should be a water level differential of between 6 and 12 inches from the Unit 1 cooling tower basin into the SCCW discharge structure. Less than 6 inches differential may indicate air is trapped in the discharge piping, which may cause an overflow and environmental noncompliance.

[3] **IF** water level differential from Unit 1 basin into SCCW discharge is less than 6 inches, **THEN**:

[3.1] **ADJUST** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, to maintain levels. _____

[3.2] **ADJUST** 0-FCV-27-111, SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL, to control discharge flow. _____

[3.3] **MONITOR** cooling tower basin levels and water level differential. _____

Date_____ **INITIALS**

8.7 Cooling Tower Basin Makeup With SCCW Shutdown

NOTE

This section can be used to establish basin level, supplement normal basin makeup or replace normal makeup during off-normal alignments.

[1] **ENSURE** SCCW supply line filled and vented (Section 5.1). _____

NOTE

Screen gate motors at the Hydro screenhouse may thermal out during travel. Reset button located with gate controls can be utilized after cooldown.

[2] **ENSURE** at least two INSIDE SCREEN GATES 10, 11 and 12 OPEN. _____

[3] **ENSURE** at least two associated OUTSIDE SCREEN GATES 4, 5 and 6 OPEN. _____

[4] **CHECK** Unit 1 cooling tower basin free of debris or in service. _____

[5] **CHECK** Unit 2 cooling tower basin free of debris or in service. _____

NOTES

1) The following step may be **N/A'd** when establishing level in Unit 2 basin.
2) Cooling tower basin flume levels must be approximately equal prior to lifting stoplog.

[6] **ENSURE** 0-GATE-27-625, stoplog between cooling tower basin flumes OPEN. _____

[7] **MONITOR** cooling tower basin levels. _____

[8] **ADJUST** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, as necessary to control cooling tower basin water levels. _____

Date_____ **INITIALS**

8.8 SCCW Operations for Chemical Injection

CAUTIONS

1) Watts Bar Hydro must be in service to provide ≥3500 cfs river flow for thermal mixing during alignment changes.
2) SCCW taken out of service for Bromination may result in reduced Condenser Vacuum and may require increased monitoring of Condenser Vacuum.

[1] **COORDINATE** with Watts Bar Hydro Operator to ensure at least one unit will be in service to maintain river flow requirement during shutdown. _____

[2] **NOTIFY** River System Operations of planned system manipulations (phone 632-7063, River Scheduling, Lead Engineer). _____

[3] **IF** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL is CLOSED**, THEN**:

[3.1] **OPEN** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

[3.2] **OPERATE** with bypass valve open for at least one hour to comply with thermal discharge rate of change limits. _____

[4] **MONITOR** cooling tower basin and **ENSURE** unit 1 cooling tower basin level has stabilized. _____

[5] **CONSULT** with Chemistry/System Engineer/Shift Manager to determine if ERCW flow should be diverted to the Yard Holding Pond. _____

Date_____ **INITIALS**

8.8 SCCW Operations for Chemical Injection (continued)

[6] **IF** flow is to be diverted to the yard holding pond, **THEN** **RECORD** ERCW flow from the following (**N/A** if **NOT** diverting): _____

- 1-FI-67-61, 1A ERCW SUP HDR FLOW _____
- 1-FI-67-62, 1B ERCW SUP HDR FLOW _____
- 2-FI-67-61, 2A ERCW SUP HDR FLOW _____
- 2-FI-67-62, 2B ERCW SUP HDR FLOW _____

[7] **TOTALIZE** ERCW flow from 8.8[6]: _____ _____
(**N/A** if **NOT** diverting)
(This is the flow lost to cooling tower makeup if ERCW discharge header divert valves are closed).

CAUTION

Basin levels should be maintained so that the basin does not overflow. The basin levels shall be maintained to keep the CCW pump suction pressure above 2.8 psi.

[8] **RECORD** CCW pumps suction pressure: _____
(Use most limiting)
1-A _____
1-B _____
1-C _____
1-D _____

CAUTION

Performance of next step may result in discharge of water from the ERCW discharge header vents if header venting is in progress.

[9] **IF** ERCW flow is to be diverted to the Discharge Overflow Structure/Yard Holding Pond, **THEN** **PERFORM** the following (**N/A** if **NOT** diverting):

- **CLOSE** 0-FCV-67-362 [0-M-27A]. _____
- **CLOSE** 0-FCV-67-360 [0-M-27A]. _____

Date_____ **INITIALS**

8.8 SCCW Operations for Chemical Injection (continued)

NOTES

1) Opening 0-FCV-27-112 approximately 11% open provides approximately 2250 gpm. Opening 0-FCV-27-112 approximately 22% open provides approximately 9,000 gpm. Opening 0-FCV-27-112 approximately 33% open provides approximately 21,000 gpm.
2) Cooling tower basin level is approximately 79,000 gallons per inch.
3) SCCW Supply and Discharge Valves may be operated concurrently to prevent overfilling Cooling Tower Basin.
4) 2 AUOs may be required during chemical injection with communication established: one at cooling tower and one at the CCW pumping station.

[10] **CLOSE** 0-FCV-27-111, SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL. _____

Record time closed _____

[11] **ADJUST** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, as necessary to control cooling tower basin water levels and CCW pump suction pressure. _____

[12] **CLOSE** diffuser discharge valves [1-M-15]:

[12.1] 0-FCV-27-100 _____

[12.2] 0-FCV-27-101 _____

Record time closed _____

[13] **ENSURE** unit 1 cooling tower basin level has stabilized. _____

NOTE

When bromination initiated, algae may be released from the cooling tower fill plates potentially plugging the screens. Due to potential screen fouling, operators should consider starting chemical addition with initial cooling tower level at a level which will provide time to respond to a potential rising cooling tower basin level.

[14] **MONITOR** cooling tower basin level, flume level, and CCW pump suction pressures during chemical injection period. _____

[15] **NOTIFY** Chem Lab SCCW in proper alignment for chemical injection. _____

Date_____ **INITIALS**

8.8 SCCW Operations for Chemical Injection (continued)

[16] **DO NOT CONTINUE** this instruction until notified by Chem Lab residual is low enough to place SCCW back in service. _____

[17] **IF** flow was diverted to the yard holding pond in step 8.8[9], **THEN**
PERFORM the following (**N/A** if **NOT** diverting):

- **OPEN** 0-FCV-67-362 [0-M-27A]. _____
_____ IV

- **OPEN** 0-FCV-67-360 [0-M-27A]. _____
_____ IV

[18] **IF** ERCW discharge header flow was returned normal in Step 8.8[17], **THEN**
PERFORM the following within one hour
(**N/A** if **NOT** diverting):

[18.1] **RECORD** the A ERCW 30” discharge header level within 1 hour
_____ inches _____

[18.1.1] **IF** A ERCW 30” discharge header level ≤ 26” or ultrasonics is not available, **THEN**,

PERFORM SOI-67.01, Appendix A. _____

[18.2] **RECORD** the B ERCW 30” discharge header level within 1 hour
_____ inches _____

[18.2.1] **IF** B ERCW 30” discharge header level ≤ 26”or ultrasonics is not available, **THEN**

PERFORM SOI-67.01, Appendix B. _____

Date_____ **INITIALS**

8.8 SCCW Operations for Chemical Injection (continued)

[18.3] **RECORD** the B train 12" ERCW to AFW pumps header level within 1 hour:
_____ inches _____

[18.3.1] **IF** B train 12" ERCW to AFW pumps header ≤10”or ultrasonics is not available, **THEN**

PERFORM SOI-67.01, Appendix B. _____

[19] **OPEN** diffuser discharge valves [1-M-15]:

[19.1] 0-FCV-27-100 _____

[19.2] 0-FCV-27-101 _____

CAUTION

Watts Bar Hydro must be in service to provide ≥3500 cfs river flow for thermal mixing during alignment changes. This mixing flow must continue for at least one hour after the final system lineup and flow are stabilized.

NOTE

SCCW supply and discharge valves should be operated concurrently.

[20] **THROTTLE OPEN** 0-FCV-27-111, SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL, as required. _____

[21] **THROTTLE OPEN** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, as required. _____

[22] **MONITOR** cooling tower basin levels. _____

Date_____ **INITIALS**

8.8 SCCW Operations for Chemical Injection (continued)

NOTE

There should be a water level differential of between 6 and 12 inches from the Unit 1 cooling tower basin into the SCCW discharge structure. Less than 6 inches differential indicates air is trapped in the discharge piping, which may cause an overflow and environmental noncompliance.

[23] **IF** water level differential from Unit 1 basin into SCCW discharge is less than 6 inches, **THEN**:

[23.1] **ADJUST** 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, to maintain levels. _____

[23.2] **MONITOR** cooling tower basin levels and water level differential. _____

[24] **WHEN** water level differential from Unit 1 basin into SCCW discharge is between 6 and 12 inches, **THEN**

ENSURE 0-FCV-27-112, SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL, is OPEN. _____

CAUTION

Watts Bar Hydro must be in service to provide ≥3500 cfs river flow for thermal mixing for at least one hour after the final system lineup and flow are stabilized.

[25] **IF** placing SCCW in normal operation (See Sec. 1.3), **THEN**:

[25.1] **OPERATE** with bypass valve open for at least one hour to comply with thermal discharge rate of change limits. _____

[25.2] **CLOSE** 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL**.** _____

[26] **IF** placing SCCW in bypass operation (See Sec. 1.3), **THEN**

ENSURE 0-FCV-27-110, SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL, OPEN. _____

Date_____ **INITIALS**

8.9 Cleaning Intake Screens

NOTES

1) A service air bubbling system is available to help clear debris from the trash racks when needed. Operation of the air system by Nuclear Plant personnel must be coordinated through the Hydro Control Room. Operation of the large air compressor should be requested.
2) The preferred sequence is from the "outside-to-inside" for those intakes in service to SCCW (i.e. intake screens for outside gates 6, 5, then 4). This is to clear the trash racks and screens suspected of the highest fouling first. This sequence may be adjusted based on observed fouling. This section assumes traveling screens are **NOT** in service prior to starting this section.

CAUTIONS

1) Only one trash rack should be blown at a time to minimize air demand and only one gate should be closed at a time when SCCW is in service.
2) Do NOT remove debris from the traveling screen by hand while the traveling screen is moving.

[1] **SELECT the intake screen(s) to be cleaned**:

Screen outboard Gate 6 ☐

Screen outboard Gate 5 ☐

Screen outboard Gate 4 ☐

Screen outboard Gate 3 ☐

Screen outboard Gate 2 ☐

Screen outboard Gate 1 ☐

_____

[2] **OBTAIN** permission from Hydro plant operator to use air to blow trash racks. _____

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

NOTES

1) Screen gate motors at the Hydro screenhouse may thermal out during travel. Reset button located with gate controls can be utilized after cooldown.
2) The following step is **N/A** if cleaning trash racks associated with gates 1, 2, or 3, which normally remain CLOSED and are **NOT** used to support SCCW operations. These racks are cleaned only to minimize fouling to screens 4, 5, and 6.
3) If the outside gate(s) are inoperable in open position or tagged open, the inside gate may be closed to blow the trash rack. The outside gate must be verified open and the screen house door blocked open prior to blowing using the inside gate to prevent over pressurizing the screen house.

[3] **ENSURE** the breaker for selected intake screen'(s) gate is ON:

NOTE

Concurrent verification does **NOT** apply to the following devices

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIALS
PWR TO OUTSIDE SCREEN GATE #4	0-PNL-27-612 BKR #5	ON	0-BKR-27-601	
PWR TO OUTSIDE SCREEN GATE #5	0-PNL-27-612 BKR #6	ON	0-BKR-27-602	
PWR TO OUTSIDE SCREEN GATE #6	0-PNL-27-612 BKR #7	ON	0-BKR-27-603	
PWR TO INSIDE SCREEN GATE #10	0-PNL-27-612 BKR #8	ON	0-BKR-27-604	
PWR TO INSIDE SCREEN GATE #11	0-PNL-27-612 BKR #9	ON	0-BKR-27-605	
PWR TO INSIDE SCREEN GATE #12	0-PNL-27-612 BKR #10	ON	0-BKR-27-606	

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

CAUTION

Only one trash rack should be blown at a time to minimize air demand and only one gate should be closed at a time when SCCW is in service.

NOTE

The following step is **N/A** if performance is part of SCCW startup or if cleaning trash racks associated with gates 1, 2, or 3, which normally remain CLOSED and are **NOT** used to support SCCW operations. These racks are cleaned only to minimize fouling to screens 4, 5, and 6.

[4] **CLOSE** the gate associated with the intake screen to be cleaned:

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIAL
OUTSIDE SCREEN GATE #4	SCREEN HOUSE	CLOSED	0-GATE-27-601	
OUTSIDE SCREEN GATE #5	SCREEN HOUSE	CLOSED	0-GATE-27-602	
OUTSIDE SCREEN GATE #6	SCREEN HOUSE	CLOSED	0-GATE-27-603	
INSIDE SCREEN GATE #10	SCREEN HOUSE	CLOSED	0-GATE-27-604	
INSIDE SCREEN GATE #11	SCREEN HOUSE	CLOSED	0-GATE-27-605	
INSIDE SCREEN GATE #12	SCREEN HOUSE	CLOSED	0-GATE-27-606	

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

NOTE
While there is no time requirement or limit on blowing, 5 minutes should be sufficient unless trash is extremely heavy.

[5] **OPEN** the associated air blowoff valve behind the traveling screen:

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIAL
GATE #6 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	OPEN	NA	
GATE #5 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	OPEN	NA	
GATE #4 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	OPEN	NA	
GATE #3 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	OPEN	NA	
GATE #2 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	OPEN	NA	
GATE #1 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	OPEN	NA	

[6] **IF** cleaning trash racks 1, 2, or 3, **OR**

IF cleaning intake screen as part of SCCW startup, **THEN**

GO TO Step 8.9[12]. _____

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

NOTE

The intent of the following steps is to ensure the traveling screens are clean before opening the associated outside gate, and then opening the outside gate with the traveling screens in service to flush any additional loose debris from the intake screen.

[7] **ENSURE** selected screen wash pump filled and vented using service water connection at pump suction and pump casing vent. _____

[8] **ENSURE** selected pump started (**N/A** pump **NOT** started):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1	START	0-HS-27-611	
SCREEN WASH PUMP #2	START	0-HS-27-610	

[9] **ENSURE** service water connection at pump suction CLOSED. _____

[10] **ENSURE** selected Screen Wash Pump discharge valve open (**N/A** pump **NOT** selected):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1 DISCHARGE ISOL VALVE	OPEN	0-ISV-27-614	
SCREEN WASH PUMP #2 DISCHARGE ISOL VALVE	OPEN	0-ISV-27-613	

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

[11] **PERFORM** the following on 0-PNL-27-600 to START selected Traveling Screen:

[11.1] **PULL** to reset STOP pushbutton**.**

[11.2] **ENSURE** HS in HAND.

[11.3] **PUSH** START pushbutton**.**

		PERF INITIAL
TRAVELING SCREEN #6	START	
TRAVELING SCREEN #5	START	
TRAVELING SCREEN #4	START	

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

[12] **WHEN** the traveling screen rotates at least one full rotation **OR** the intake trash rack has been blown for the desired time, **THEN**

CLOSE the associated air blowoff valve behind the traveling screen. (The traveling screens may **NOT** be in service if cleaning is being performed as part of SCCW startup):

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIAL
GATE #6 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	CLOSED	NA	
GATE #5 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	CLOSED	NA	
GATE #4 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	CLOSED	NA	
GATE #3 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	CLOSED	NA	
GATE #2 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	CLOSED	NA	
GATE #1 INTAKE SCREEN AIR BLOWOFF VALVE	SCREEN HOUSE	CLOSED	NA	

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

NOTE

The following step is **N/A** if performance is part of SCCW startup or if cleaning trash racks associated with gates 1, 2, or 3, which normally remain CLOSED and are **NOT** used to support SCCW operations. These racks are cleaned only to minimize fouling to screens 4, 5, and 6.

[13] **OPEN** the gate associated with the intake screen cleaned in the previous steps:

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIAL
OUTSIDE SCREEN GATE #4	SCREEN HOUSE	OPEN	0-GATE-27-601	
OUTSIDE SCREEN GATE #5	SCREEN HOUSE	OPEN	0-GATE-27-602	
OUTSIDE SCREEN GATE #6	SCREEN HOUSE	OPEN	0-GATE-27-603	
INSIDE SCREEN GATE #10	SCREEN HOUSE	OPEN	0-GATE-27-604	
INSIDE SCREEN GATE #11	SCREEN HOUSE	OPEN	0-GATE-27-605	
INSIDE SCREEN GATE #12	SCREEN HOUSE	OPEN	0-GATE-27-606	

NOTE

The traveling screens will remain in service until all applicable intake screens have been cleaned.

[14] **IF** additional Intake Screens are to be cleaned, **THEN**

REPEAT Steps 8.9[3] through 8.9[13]. _____

[15] **IF** cleaning intake screens was done as part of SCCW startup, (i.e. no gates were open nor traveling screens started), **THEN**

EXIT this section,

OTHERWISE, **N/A**. _____

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

[16] **WHEN** flushing of intake screens is complete, **THEN**

PUSH STOP pushbutton for all screens in service: (**N/A** if **NOT** started)

		PERF INITIAL
TRAVELING SCREEN #6	STOP	
TRAVELING SCREEN #5	STOP	
TRAVELING SCREEN #4	STOP	

NOTE

After the last screen is stopped, the wash channel should continue to be flushed to remove debris from the screen house. Screen wash pumps should run for a minimum of 5 minutes to completely flush the wash channel.

[17] **WHEN** Traveling Screens are stopped **AND** wash channel is flushed, **THEN**

PERFORM the following (**N/A** pump **NOT** stopped):

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1	STOP	0-HS-27-611	
SCREEN WASH PUMP #2	STOP	0-HS-27-610	

Date_____ **INITIALS**

8.9 Cleaning Intake Screens (continued)

[18] **CLOSE** Screen Wash Pump discharge valves:

NOMENCLATURE	POSITION	UNID	PERF INITIAL
SCREEN WASH PUMP #1 DISCHARGE ISOL VALVE	CLOSED	0-ISV-27-614	
SCREEN WASH PUMP #2 DISCHARGE ISOL VALVE	CLOSED	0-ISV-27-613	

[19] **OPEN** the breakers for gate(s) that were closed in step 8.9[3]:

NOTE

Concurrent verification does **NOT** apply to the following devices

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIALS
PWR TO OUTSIDE SCREEN GATE #4	0-PNL-27-612 BKR #5	OFF	0-BKR-27-601	
PWR TO OUTSIDE SCREEN GATE #5	0-PNL-27-612 BKR #6	OFF	0-BKR-27-602	
PWR TO OUTSIDE SCREEN GATE #6	0-PNL-27-612 BKR #7	OFF	0-BKR-27-603	
PWR TO INSIDE SCREEN GATE #10	0-PNL-27-612 BKR #8	OFF	0-BKR-27-604	
PWR TO INSIDE SCREEN GATE #11	0-PNL-27-612 BKR #9	OFF	0-BKR-27-605	
PWR TO INSIDE SCREEN GATE #12	0-PNL-27-612 BKR #10	OFF	0-BKR-27-606	

9.0 RECORDS

9.1 QA Records

No QA records are created by this Instruction.

9.2 Non-QA Records

The following documents are non-QA records and are handled in accordance with the Document Control and Records Management (DCRM) program:

Completed Data Packages

Checklist 1
(Page 1 of 3)

SCCW Power Alignment

DATE COMPLETE _____

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIALS	CV INITIALS
480V HYPOCHLORITE BLDG BD					
0-DPL-27-110	C/4D1	CLOSED	0-BKR-27-110		CV
YARD BETWEEN SUPPLY AND DISCHARGE VALVES					
SUPPLEMENTAL CCW SYSTEM BYPASS (0-FCV-27-110)	INSIDE 0-DPL-27-110	CLOSED	0-BKR-27-110A		CV
SUPPLEMENTAL CCW SYSTEM DISCH (0-FCV-27-111)	INSIDE 0-DPL-27-110	CLOSED	0-BKR-27-111		CV
SUPPLEMENTAL CCW SYSTEM SUPPLY (0-FCV-27-112)	INSIDE 0-DPL-27-110	CLOSED	0-BKR-27-112		CV

Checklist 1
(Page 2 of 3)

SCCW Power Alignment

DATE COMPLETE _____

WATTS BAR HYDRO SCREEN HOUSE

NOTES

1) The power supply breakers to the screen wash pumps and the feeder breakers to the screen gate distribution panel transfer switch are controlled by Hydro Operations.
2) Concurrent verification does **NOT** apply to the following devices.

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIALS
MAIN BREAKER	0-PNL-27-612	ON	0-BKR-27-612	
PWR TO TRAVELING SCREEN CTRL PANEL 0-PNL-27-600	0-PNL-27-612 BKR #4	ON	0-BKR-27-600	
PWR TO OUTSIDE SCREEN GATE #4	0-PNL-27-612 BKR #5	OFF	0-BKR-27-601	
PWR TO OUTSIDE SCREEN GATE #5	0-PNL-27-612 BKR #6	OFF	0-BKR-27-602	
PWR TO OUTSIDE SCREEN GATE #6	0-PNL-27-612 BKR #7	OFF	0-BKR-27-603	
PWR TO INSIDE SCREEN GATE #10	0-PNL-27-612 BKR #8	ON	0-BKR-27-604	
PWR TO INSIDE SCREEN GATE #11	0-PNL-27-612 BKR #9	ON	0-BKR-27-605	
PWR TO INSIDE SCREEN GATE #12	0-PNL-27-612 BKR #10	ON	0-BKR-27-606	

Checklist 1
(Page 3 of 3)

SCCW Power Alignment

DATE COMPLETE _____

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIAL
WATTS BAR HYDRO SCREEN HOUSE				
TRANSFER SWITCH FOR 0-PNL-27-612	BESIDE 0-PNL-27-612	Feeder #1	0-XS-27-612	
PANEL 0-PNL-27-600 LOCAL DISCONNECT	0-PNL-27-600	ON	0-HS-27-600	

Checklist 2
(Page 1 of 2)

SCCW Valve Alignment

DATE COMPLETE _____

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIAL
SUPPLEMENTAL CCW DIST PNL 0-DPL-27-110				
SUPPLEMENTAL CCW SYSTEM BYPASS FLOW CONTROL	YARD NE of CT	CLOSED	0-FCV-27-110	
SUPPLEMENTAL CCW SYSTEM DISCHARGE FLOW CONTROL	YARD NE of CT	CLOSED	0-FCV-27-111	
SUPPLEMENTAL CCW SYSTEM SUPPLY FLOW CONTROL	YARD NE of CT	CLOSED	0-FCV-27-112	
YARD - SOUTH OF HEAVY EQUIPMENT SHOP				
SUPPLY LINE DRAIN		CLOSED	0-DRV-27-605	
DISCHARGE LINE DRAIN		CLOSED	0-DRV-27-606	
WATTS BAR HYDRO SCREEN HOUSE				
OUTSIDE SCREEN GATE #4		CLOSED	0-GATE-27-601	
OUTSIDE SCREEN GATE #5		CLOSED	0-GATE-27-602	
OUTSIDE SCREEN GATE #6		CLOSED	0-GATE-27-603	
INSIDE SCREEN GATE #10		CLOSED	0-GATE-27-604	
INSIDE SCREEN GATE #11		CLOSED	0-GATE-27-605	
INSIDE SCREEN GATE #12		CLOSED	0-GATE-27-606	
SCREEN WASH PUMP #1 DISCHARGE ISOL VALVE		CLOSED	0-ISV-27-614	
SCREEN WASH PUMP #2 DISCHARGE ISOL VALVE		CLOSED	0-ISV-27-613	
Screen Wash Pump #1 Service Water Priming Valve		CLOSED	N/A	
Screen Wash Pump #1 Casing Vent Valve		CLOSED	N/A	
Screen Wash Pump #2 Service Water Priming Valve		CLOSED	N/A	
Screen Wash Pump #2 Casing Vent Valve		CLOSED	N/A	

Checklist 2
(Page 2 of 2)

SCCW Valve Alignment

NOMENCLATURE	LOCATION	POSITION	UNID	PERF INITIAL
TRAVELING SCREEN #4 ISOLATION VALVE		OPEN	0-ISV-27-607	
TRAVELING SCREEN #5 ISOLATION VALVE		OPEN	0-ISV-27-608	
TRAVELING SCREEN #6 ISOLATION VALVE		OPEN	0-ISV-27-609	
TRAVELING WATER SCREEN #4 PIT DRAIN	UNDER GRATING	CLOSED	0-DRV-27-601	
TRAVELING WATER SCREEN #5 PIT DRAIN	UNDER GRATING	CLOSED	0-DRV-27-602	
TRAVELING WATER SCREEN #6 PIT DRAIN	UNDER GRATING	CLOSED	0-DRV-27-603	
TRAVELING WATER SCREEN DISCH PLENUM TUNNEL DRN	UNDER GRATING	CLOSED	0-DRV-27-604	

Source Notes
(Page 1 of 1)

Requirements Statement	Source Document	Implementing Statement
None		