



4-16

TITLE: LOOP II SAFE SHUTDOWN COOLING POWER OPERATED VALVE TESTS

DEPARTMENT PDR OPERATION # 86-1602, 87-1293

ISSUANCE AUTHORIZED BY: Art Fuller

FORC REVIEW: EOBC 8 6 2 FEB 2 6 1986 EFFECTIVE DATE: 3-5-86

Scheduled Date _____ Week # _____
Late Date _____ Sch. Clerk _____

This procedure cannot be run in its entirety for the following reasons:

1. This system is not operating.
2. This system is not required to be operating and has a frequency of one month or less (reference Technical Specification, paragraph 2.18).
3. Reactor is in "scrammed" condition.
4. Loop I is in "Loop Shutdown" condition.
5. Loop II is in "Loop Shutdown" condition.
6. 1A Helium circulator is in "tripped condition".
7. 1B Helium circulator is in "tripped condition".
8. 1C Helium circulator is in "tripped condition".
9. 1D Helium circulator is in "tripped condition".
10. Other _____
11. Reschedule test for _____

THIS PROCEDURE IS TO BE TEMPORARILY CONTROLLED FROM 4/21/87 THRU 5/21/87 FOR WORK ASSOCIATED WITH _____

(S) _____ (DATE) _____

THIS PROCEDURE IS TO BE TEMPORARILY CONTROLLED FROM 3/11/87 THRU 3/11/87 FOR WORK ASSOCIATED WITH _____

(SIGNATURE) _____ (DATE) 3/11/87

Department Supervisor _____

IR. NO. 87-0805 Superior 4/21/87



1.0 PURPOSE

Loop II valves required for actuation of the Safe Shutdown Cooling mode of operation shall be tested annually, or at the next scheduled plant shutdown if they have not been tested during the previous year. This test includes power operated valves (pneumatic, hydraulic, and electric) required to operate, and normally closed check valves required to open (if testing is practical). *This test also includes those valves operated by the steam line Rupture Detection/Isolation System.*

2.0 PRECAUTIONS, LIMITATIONS, AND SPECIAL ASSISTANCE

Loop II is shutdown and both circulators 1C and 1D are self-turbining, *OR SHUT DOWN AND ISOLATED.*

3.0 PREREQUISITES

See PRR 87-1543

3.1 Test Equipment

TDI 3-30-87

Name	Identification No.	Last Calibration Date
Timing Device	<i>EMS-1435</i> <i>Osc-144765</i>	<i>10-25-86</i> <i>1-23-87</i>
Current Source	<i>Osc-144660</i>	<i>7-9-86</i>
Pressure Gauge		
Gas Bottle		

3.2 References PI-21 series; PI-22 series

4.0 AUTHORIZATIONS

4.1 Departmental Approval

A.E. Moor 3-6-87
Dept. Supervisor Date

4.2 Mech/Elec Clearance Issued, if required: Number Not Required

4.3 Radiation Work Permit Issued, if required: Number Not Required

4.4 Permission to initiate test

A.E. Moor 3-6-87
Shift Supervisor Date

SHEET # 86-1602
 INITIALS *AK*
 DATE *12-3-86*



TABLE I
LOOP II POWER OPERATED VALVE COVERED BY TECH SPEC SR 5.3.4 AND TESTED
PER THIS PROCEDURE

<u>Valve No.</u>	<u>Stroke Time Test</u>	<u>SR 5.3.4b1-A Section</u>
SV-2106	O:C	5.2
SV-2110	---	5.3
HV-2110-1	---	5.3
-2	---	5.3
SV-2112	O:C	5.4
SV-2116	---	5.5
HV-2116-1	---	5.5
-2	---	5.5
HV-2188-1	---	5.18
-2	---	5.18
-4	---	5.18
-5	---	5.18
-6	---	5.18
-7	---	5.18
-8	---	5.18
HV-2190-1	---	5.19
-2	---	5.19
-4	---	5.19
-5	---	5.19
-6	---	5.19
-7	---	5.19
-8	---	5.19
HV-21192-1	---	5.18
-2	---	5.18
-3	---	5.18
-4	---	5.18
HV-21194-1	---	5.19
-2	---	5.19
-3	---	5.19
-4	---	5.19
HV-21204-1	---	5.18
-2	---	5.18
-3	---	5.18
-4	---	5.18

O:C = OPEN TO CLOSED

C:O = CLOSED TO OPEN



TABLE I (CONT.)

LOOP II POWER OPERATED VALVE COVERED BY TECH SPEC SR 5.3.4 AND TESTED PER THIS PROCEDURE

<u>Valve No.</u>	<u>Stroke Time Test</u>	<u>SR 5.3.4b1-A Section</u>
HV-21206-1		19
-2		19
-3		19
-4		19
PV-21244		3
LV-21246		20
HV-21258		3
HV-21260		3
HV-21277-6		6
HV-21277-7		6
FV-21298		17
V-211217		20
HV-2202	0:C	9
HV-2204	C:0 and 0:C	9
FV-2206	0:C	7
HV-2224	0:C	6
PV-2230	C:C	12
HV-2238		10
FV-2240		16
HV-2242	0:C	14
PV-2244	C:C	15
HV-2246		2
HV-2248		4
HV-2250	0:C	2
HV-2252	0:C	4
HV-2254	0:C	13
PV-2268		16
HV-2290		16
HV-2292	0:C	11
PV-22130		12
PV-22130-1		11
HV-22132		11
PV-22154		13

SEE PAGE 7 EG-1602
INITIALS AK
DATE 12-3-86

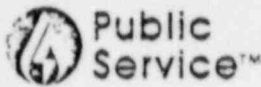


TABLE II

LOOP II POWER OPERATED VALVES COVERED BY TECH SPEC SR 5.3.4
(NOT TESTED BY THIS PROCEDURE)

LV-2136-1	Exempt - normally operates
LV-2136-2	Exempt - normally operates
HV-2154-1	Exempt - normally operates
HV-2154-2	Exempt - normally operates
PDV-2176	Exempt - normally operates
PDV-2178	Exempt - normally operates
LV-21114 (LI/LII)	Exempt - normally operates
PV-21120 (LI/LII)	Tested per SR 5.2.7a1-A/5.3.4a1-A
LV-21130 (LI/LII)	Tested per SR 5.2.7cd-Q
PCV-21131 (LI/LII)	Tested per SR 5.2.7cd-Q
HV-21186	Exempt - normally operates
HV-21188	Exempt - normally operates
HV-21277-1 (LI/LII)	Exempt - normally operates
HV-21277-2 (LI/LII)	Exempt - normally operates
PDV-21286-1	Tested per SR 5.2.9-M
PDV-21286-2	Tested per SR 5.2.9-M
LV-21304	Exempt - normally operates
LV-21306	Exempt - normally operates
FV-21333 (LI/LII)	Tested per SR 5.2.8a-Q
HV-21416-1	Tested per SR 5.2.9-M
HV-21416-2	Tested per SR 5.2.9-M
HV-2216	Tested per SR 5.3.1-Q
HV-2218	Tested per SR 5.3.1-Q

5.0 PROCEDURE

5.1 PRELIMINARY CHECKS

5.1.1 Verify that Loop II is shutdown and isolated, and that both circulators 1C and 1D are self-turbining, *OR SHUTDOWN AND ISOLATED.* Verify cold reheat header depressurized. *SEE PDR #87-1543 TOL 3-30-87*

✓

CAUTION: Some of the valve testing performed by this procedure will de-isolate the loop. Be assured prior to testing that the operations involved can be accomplished safely.

5.2 TEST PROCEDURE - CIRCULATOR 1C STEAM DRIVE VALVES HV-2246, HV-2250 and SV-2106

- 5.2.1 a) Open HV-2246.
- b) At reactor plant MCC-6, OPEN valve breaker section 4.
- c) RACK OUT HV-2246 breaker.

✓

✓

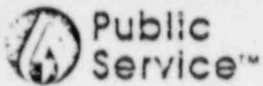
✓

H. P. R. [Signature]
Test Conductor Signature

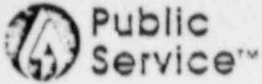
9-7-87
Date



	d)	CLOSE valve breaker section 4.	<u>✓</u>
	e)	At HV-2246, engage the hand jack and CLOSE the valve.	<u>✓</u>
	f)	Disengage the hand jack.	<u>✓</u>
	g)	Set HS-2246 to the CLOSE position.	<u>✓</u>
	h)	OPEN valve breaker section 4 at RMCC-6.	<u>✓</u>
	i)	At reactor plant MCC-6, RACK IN HV-2246 breaker.	<u>✓</u>
	j)	RECLOSE valve breaker section 4.	<u>✓</u>
QC WITNESS POINT	k)	Verify that HV-2246 remains CLOSED.	<u>✓</u>
5.2.2	a)	Set SC-2106 in MANUAL, close if necessary.	<u>✓</u>
		<u>H. J. R. [Signature]</u>	<u>4-7-87</u>
		Test Conductor Signature	Date



	b)	Reset XCR-93138 A & B, if necessary.	<u>✓</u>
	c)	Using HS-2250 OPEN HV-2250.	<u>✓</u>
	d)	OPEN SV-2106.	<u>✓</u>
QC WITNESS POINT	5.2.3 a)	Physically observe that HV-2250 is OPEN.	<u>✓</u>
	b)	Verify the position indicating lights at I-05. RED Light: ON GREEN Light: OFF	<u>✓</u> <u>✓</u>
	c)	Verify the position indicating lights at I-49. RED Light: ON GREEN Light: OFF	<u>✓</u> <u>✓</u>
	5.2.4 a)	Physically observe that SV-2106 is OPEN.	<u>✓</u>
	b)	Verify that ZI-2106-1 at I-05 indicated the valve is OPEN.	<u>✓</u>
		<u>H. R. Re</u>	<u>4-7-87</u>
		Test Conductor Signature	Date



1

NOTE: If a stroke time value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.2.5.

WITNESS POINT

5.2.5 Trip the circulator steam drive valves and measure the AS FOUND stroke time.

a) HV-2250 Acceptance Criteria \leq 1.5 Sec.

AS FOUND .30 Sec
AS LEFT .30 Sec / 1.53 SSR-875046
4.15 87

b) SV-2106 Acceptance Criteria \leq 1.0 Sec.

AS FOUND 2.05 Sec
AS LEFT .82 Sec SSR-87504367
HR
4-3-87

5.2.6 a) Physically observe that HV-2250 is CLOSED.

✓

b) Verify the position indicating light at I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

c) Verify the position indicating light at I-49.

RED Light: OFF

✓

GREEN Light: ON

✓

H. J. Ruler 4-7-87
Test Conductor Signature Date
H. J. Ruler 4-13-87



WITNESS
POINT

5.2.7 a) Physically observe that SV-2106 is CLOSED.

✓ HZ 4-7-87

b) Verify that ZI-2106-1 at I-05 indicates the valve is CLOSED.

✓ HZ 4-7-87

5.3 TEST PROCEDURE - CIRCULATOR IC WATER TURBINE DRIVE VALVES HV-2110-1, HV-2110-2, SV-2110, HV-21258, HV-21277-6 and PV-21244

NOTE: V-211616 is located upstream of PV-21244 on Level 2, southeast.

5.3.1 a) Verify that the emergency feedwater header is depressurized, if not CLOSE V-211616 to isolate the emergency feedwater supply to the water turbine.

QC
WITNESS
POINT

b) Verify CLOSED or CLOSE HV-21258 to isolate emergency condensate supply to the water turbine.

✓ WW 4/6/87

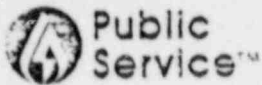
5.3.2 a) Set HS-2110-1 and HS-2110-2 to the CLOSED position.

✓ WW 4/6/87

✓ WW 4/6/87

H. J. Rubin
Test Conductor Signature

4-7-87
Date



~~CANCEL
25 Feb
7:30 AM
W. R. Wilson
10/1/87~~

b) Physically observe that HV-2110-1 is CLOSED.

✓ W

c) Verify the position indicating lights at I-05.

RED Light : OFF

✓ W

GREEN Light: ON

✓ W

d) Verify the position indicating lights at I-49.

RED Light: OFF

✓ W

GREEN Light: ON

✓ W

5.3.3 a) Physically observe that HV-2110-2 is CLOSED.

✓ W

b) Verify the position indicating lights at I-05.

RED Light : OFF

✓ W

GREEN Light: ON

✓ W

5.3.4 a) Reset XCR-93240 A & B, if necessary.

✓ W

5.3.5 Set HS-2110-1 and 2110-2 to the OPEN position

✓ W

5.3.6 a) Physically observe that HV-2110-1 is OPEN.

✓ W

W. R. Wilson
Test Conductor Signature

4/6/87
Date

b) Verify the position indicating lights at I-05.

RED Light : ON

✓ LWL 4/6/87

GREEN Light: OFF

✓ LWL 4/6/87

c) Verify the position indicating lights at I-49.

RED Light: ON

✓ LWL 4/6/87

GREEN Light: OFF

✓ LWL 4/6/87

5.3.7 a) Physically observe that HV-2110-2 is OPEN.

b) Verify the position indicating lights at I-05.

RED Light : ON

✓ LWL 4-6-87

GREEN Light: OFF

✓ LWL 4-6-87

NOTE: HV-21277-7 is located on Level 4, north.

5.3.8 Physically verify that nitrogen pressurization valve HV-21277-7 is OPEN.

✓ LWL 4-6-87

5.3.9 Place SC-2110 in the MANUAL position and increase the controller output to 100 percent.

✓ LWL 4-6-87

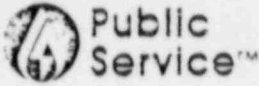
QC
WITNESS
POINT

5.3.10 Physically observe that SV-2110 is OPEN.

✓ LWL 4-6-87

L. Loomis
Test Conductor Signature

4-6-87
Date



~~5.3.11 Decrease the generator
output to zero power.~~

See Next Page For Step 5.3.11.

5.3.12 Physically observe that
SV-2110 is CLOSED.

~~5.3.13 Return HS 2110-1 and
HS 2110-2 to the CLOSED
position.~~

5.3.¹³ Verify that:

- a) HV-2110-1 is CLOSED.
- b) HV-2110-2 is CLOSED.
- c) SV-2110 remains CLOSED.
- d) HV-21277-7 is CLOSED.

See Next Page For Steps 5.3.14 thru 5.3.16.

5.3.¹⁴ Set HS-2110-2 to the OPEN
position.

NOTE: HV-21258 is located on
Level 3, southeast.

5.3.¹⁸ Physically observe that
HV-21258 is CLOSED.

5.3.¹⁹ Set HS-21258 to the OPEN
position.

5.3.²⁰ Physically observe HV-21258
is OPEN.

L. Loman
Test Conductor Signature

4-6-87
Date

SEE FORM # 87-1293
EQUIPMENT
DATE 3-4-87
OK

NOTE: If the value is not within the acceptance criteria, initiate an SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.3.11.

NOTE: HV-2110-1 is interlocked with HV-2110-2 so that HV-2110-1 will close before HV-2110-2. Therefore, the stroke time will be measured for the combination of these two valves.

QC
WITNESS
POINT

5.3.11 Trip the circulator water drive valves and measure the AS FOUND stroke times.

a) SV-2110 Acceptance Criteria \leq 2 sec.

AS FOUND 1.9 sec.

AS LEFT 1.9 sec.

b) HV-2110-1 plus HV-2110-2 Acceptance Criteria \leq 10 sec.

AS FOUND 9.32 sec.

AS LEFT 9.32 sec.

5.3.14 Decrease the controller output to zero percent.

✓

5.3.15 Return HS-2110-1 to the CLOSE position.

✓

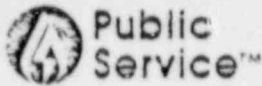
5.3.16 Reset XCR-93240A and XCR-93240B.

✓

5.3.4b2-A
PDR # 87-1293
OK
3-4-87

L. Looney
Test Conductor Signature

4-6-87
Date



WITNESS POINT

5.3.21 CLOSE HV-21258 using HS-21258.

NOTE: PV-21244 is located on Level 2, southeast.

5.3.22 Physically observe that PV-21244 is OPEN.

5.3.23 a) OPEN V-211616, if it was CLOSED in STEP 5.3.1a. N/A if section 5.4 is to be done at this time.

b) V-211616 independently verified open.

5.4 TEST PROCEDURE - CIRCULATOR 10 STEAM DRIVE VALVES HV-2248, HV-2252 and SV-2112

5.4.1 a) Open HV-2248.

b) At reactor plant MCC-6, OPEN valve breaker section 5.

c) RACK OUT HV-2248 breaker.

d) CLOSE valve breaker section 5.

✓
LWL
4-6-87

✓
LWL
4-6-87

✓
LWL
4-6-87

✓
LWL
4-6-87

✓

✓

✓

✓

T. J. Stutz
Conductor Signature
H. Lawrence
(5.3.21-25)

3-30-87
Date
4-6-87

87-1293
DATE 3-4-87

T-1 3-30-87
T-0 3-30-87
T-1 3-30-87
T-1 3-30-87



e)	At HV-2248, engage the hand jack and CLOSE the valve.	<u>✓</u>
f)	Disengage the hand jack.	<u>✓</u>
g)	Set HS-2248 to the CLOSE position.	<u>✓</u>
h)	OPEN valve breaker section 5 at RMCC-6.	<u>✓</u>
i)	At reactor plant MCC-6, RACK IN HV-2248 breaker.	<u>✓</u>
j)	RECLOSE valve breaker section 5.	<u>✓</u>
k)	Verify that HV-2248 remains CLOSED.	<u>✓</u>
5.4.2 a)	Set SC-2112 in MANUAL, close if necessary.	<u>✓</u>
b)	Reset XCR-90160 A & B, if necessary.	<u>✓</u>

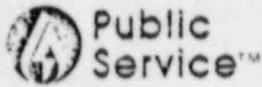
T. D. Hutz 3-30-87
 Conductor Signature Date



WITNESS
SIGNATURE

- c) Using HS-2252 OPEN HV-2252. ✓
- d) OPEN SV-2112. ✓
- 5.4.3 a) Physically observe that HV-2252 is OPEN. ✓
- b) Verify the position indicating lights at I-05.
RED Light: ON ✓
GREEN Light: OFF ✓
- c) Verify the position indicating lights at I-49.
RED Light: ON ✓
GREEN Light: OFF ✓
- 5.4.4 a) Physically observe that SV-2112 is OPEN. ✓
- b) Verify that ZI-2112-1 at I-05 indicated the valve is OPEN. ✓

T. D. [Signature] 3-30-87
Conductor Signature Date



1

NOTE: If a stroke time value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.4.5.

RC
WITNESS
POINT

5.4.5 Trip the circulator steam drive valves and measure the AS FOUND stroke time.

a) HV-2252 Acceptance Criteria \leq 1.5 Sec.

AS FOUND 0.646Sec
AS LEFT 0.646Sec

0.935
SSR # 87504621

b) SV-2112 Acceptance Criteria \leq 1.0 Sec.

AS FOUND 1.37Sec
AS LEFT .93 Sec

5.4.6 a) Physically observe that HV-2252 is CLOSED.

~~SSR 87504621~~ TLA
4-8-87

✓

b) Verify the position indicating light at I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

c) Verify the position indicating light at I-49.

RED Light: OFF

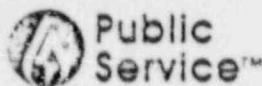
✓

GREEN Light: ON

✓

Richard Allen
Test Conductor Signature

4-2-87
Date



5.4.7 a) Physically observe that SV-2112 is CLOSED.

✓

TOB
3-30-87

b) Verify that ZI-2112-1 at I-05 indicates the valve is CLOSED.

✓

TOB
3-30-87

5.5 TEST PROCEDURE - CIRCULATOR 1D WATER TURBINE DRIVE VALVES HV-2116-1, HV-2116-2, SV-2116, HV-21260, HV-21277-7

NOTE: V-211616 is located upstream of PV-21244 on Level 2, southeast.

5.5.1 a) Verify that the emergency feedwater header is depressurized, if not CLOSE V-211616 to isolate the emergency feedwater supply to the water turbine.

✓

b) Verify CLOSED or CLOSE HV-21260 to isolate emergency condensate supply to the water turbine.

LWL
4-7-87

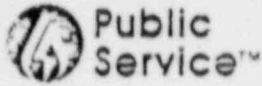
5.5.2 a) Set HS-2116-1 and HS-2116-2 to the CLOSED position.

✓
LWL
4-7-87

✓
LWL
4-7-87

T. O. Staley
Chief Conductor Signature
L. Loomer
4551-5525

3-30-87
Date
4-7-87

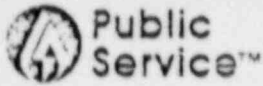


20
WITNESS
POINT

- b) Physically observe that HV-2116-1 is CLOSED. ✓
- c) Verify the position indicating lights at I-05.
 - RED Light : OFF ✓
 - GREEN Light: ON ✓
- d) Verify the position indicating lights at I-49.
 - RED Light: OFF ✓
 - GREEN Light: ON ✓
- 5.5.3 a) Physically observe that HV-2116-2 is CLOSED. ✓
- b) Verify the position indicating lights at I-05.
 - RED Light : OFF ✓
 - GREEN Light: ON ✓
- 5.5.4 a) Reset XCR-93242 A & B, if necessary. ✓
- 5.5.5 Set HS-2116-1 and HS-2116-2 to the OPEN position ✓
- 5.5.6 a) Physically observe that HV-2116-1 is OPEN.

H. Thomas
Test Conductor Signature

4-6-87 4-6-87
Date
SK 4/16/87



TO
VALVE
POINT

b) Verify the position
indicating lights at
I-05.

RED Light : ON

✓

GREEN Light: OFF

✓

c) Verify the position
indicating lights at
I-49.

RED Light: ON

✓

GREEN Light: OFF

✓

5.5.7 a) Physically observe
that HV-2116-2 is
OPEN.

b) Verify the position
indicating lights at
I-05.

RED Light : ON

✓

GREEN Light: OFF

✓

NOTE: HV-21277-6 is located
on Level 4, north.

5.5.8 Physically verify that
nitrogen pressurization valve
HV-21277-6 is OPEN.

✓

5.5.9 Place SC-2116 in the MANUAL
position and increase the
controller output to 100
percent.

✓

5.5.10 Physically observe that
SV-2116 is OPEN.

✓

L. Loomis
Test Conductor Signature

4-6-87
Date

~~5.5.11 Set base the control
output to zero percent.~~

See Next Page For Step 5.5.11.

~~X~~

5.5.12 Physically observe that
SV-2116 is CLOSED.

✓

~~5.5.13 Return HS-2116-1 and
HS-2116-2 to the CLOSE
position.~~

~~X~~

5.5.13 Verify that:

- a) HV-2116-1 is CLOSED.
- b) HV-2116-2 is CLOSED.
- c) SV-2116 remains CLOSED.
- d) HV-21277-6 is CLOSED.

✓
✓
✓
✓

See Next Page For Steps 5.5.14 thru 5.5.16.

5.5.17 Set HS-2116-2 to the OPEN
position.

✓

NOTE: HV-21260 is located on
Level 3, northeast.

5.5.18 Physically observe that
HV-21260 is CLOSED.

✓

5.5.19 Set HS-21260 to the OPEN
position.

✓

5.5.20 Physically observe HV-21260
is OPEN.

✓

L. Loman
Test Conductor Signature

4-7-87
Date

WORK ORDER # 87-1293
DATE 00K
3-4-87

NOTE: If the value is not within the acceptance criteria, initiate an SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.5.11.

NOTE: HV-2116-1 is interlocked with HV-2116-2 so that HV-2116-1 will close before HV-2116-2. Therefore, the stroke time will be measured for the combination of these two valves.

20
WV 7. 005
P-0111C

5.5.11 Trip the circulator water drive valves and measure the AS FOUND stroke times.

a) SV-2116 Acceptance Criteria \leq 2 sec.

AS FOUND 2.0 sec.

AS LEFT 2.0 sec.

b) HV-2116-1 plus HV-2116-2 Acceptance Criteria \leq 10 sec.

AS FOUND 8.03 sec.

AS LEFT 8.03 sec.

5.5.14 Decrease the controller output to zero percent.

✓

5.5.15 Return HS-2116-1 to the CLOSE position.

✓

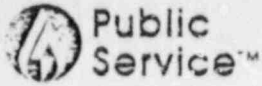
5.5.16 Reset XCR-93242A and XCR-93242B.

✓

SEE PDR # 87-1293
INITIALS AW
DATE 3-4-87

LW Loomans
Test Conductor Signature

4-7-87
Date



3-4-87
 OK
 01473

5.5.1²¹ CLOSE HV-21260 using HS-21260.

5.5.2²² a) OPEN V-211616 if was CLOSED in STEP 5.3.1a or 5.5.1a.

b) V-211616 independently verified OPEN.

5.6 TEST PROCEDURE - MAIN STEAM STOP CHECK VALVE HV-2224

5.6.1 Reset XCR-93168 A & B and XCR-93211 A & B if necessary.

5.6.2 OPEN HV-2224 using HS-2224.

5.6.3 a) Physically observe that HV-2224 is OPEN.

b) Verify the position indicating light at I-05.

RED Light: ON

GREEN Light: OFF

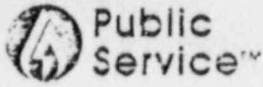
c) Verify the position indicating light at I-49.

RED Light: ON

GREEN Light: OFF

LW Thomas
 Test Conductor Signature
LW Thomas
 (5.5 21 - 22)

3-30-87
 Date
 4-7-87



1

NOTE: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.6.4.

QC
WITNESS
POINT

5.6.4 CLOSE HV-2224 using HS-2224 and measure the AS FOUND valve stroke time.

Acceptance Criteria \leq 5 Sec.

AS FOUND 0.20Sec
AS LEFT 0.20Sec

QC
WITNESS
POINT

5.6.5 a) Physically observe that HV-2224 is CLOSED.

✓

b) Verify the position indicating light at I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

c) Verify the position indicating light at I-49.

RED Light: OFF

✓

GREEN Light: ON

✓

5.7 TEST PROCEDURE - LOOP II FEEDWATER FLOW CONTROL VALVE HV-2206

5.7.1 Reset XCR-95162B, if necessary.

✓

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3-30-87
Date

5.7.2 At I-49, set HS-2206 to the OPEN position.

✓

5.7.3 a) Physically observe that FV-2206 is OPEN.

✓

b) Verify that ZI-2206 at I-05 indicates the valve is OPEN.

✓

c) Have Results place jumper at TB-401, I-9310, from term 78 to term 80.

✓ Results Tech

NOTE: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.7.4.

QC
WITNESS
POINT

5.7.4 Initiate Loop II shutdown by placing RIS-93252-11 (I-10) and RIS-93251-11 to trip adjust.

Acceptance Criteria \leq 2 Sec.

AS FOUND 1.08 Sec
AS LEFT 1.08 Sec

5.7.5 Adjust FC-2206 setpoint in order to maintain FV-2206 CLOSED.

Lu Louma
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✓
3-30-87
Date

5.7.6 Return HS-2206 (I-49) to the NORMAL position.

✓

5.7.7 a) Physically observe that FV-2206 is CLOSED.

✓

b) Verify that ZI-2206 (I-05) indicates the valve is CLOSED.

✓

c) Reset loop shutdown by resetting RIS-93252-11 and RIS-93251-11.

✓

d) Have Results remove jumper installed in STEP 5.7.3.

lwl
Results Tech

5.8 TEST PROCEDURE - FEEDWATER BLOCK VALVE HV-2202

5.8.1 CLOSE or verify CLOSED FV-2206 using FC-2206.

✓

5.8.2 Set HS-2202 to OPEN position.

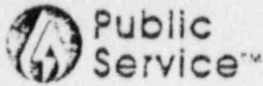
✓

5.8.3 a) Physically observe HV-2202 is OPEN.

✓

lwl
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3-30-07
Date



b) Verify the position
indicating light at
I-05.

RED Light: ON

✓

GREEN Light: OFF

✓

c) Verify the position
indicating light at
I-49.

RED Light: ON

✓

GREEN Light: OFF

✓

NOTE: HV-2202 may be tripped
using XCR-93162A if
Loop I is operating on
feedwater or emergency
feedwater. If Loop I
is operating on
condensate, HV-2202
may be tripped by
setting HS-2204 to
OPEN and HV-2202 to
CLOSE.

NOTE: If the value is not
within the acceptance
criteria, initiate a
SSR. Make the
necessary adjustments,
measure the AS LEFT
stroke time, and
record the value in
STEP 5.3.4.

QC
WITNESS
POINT

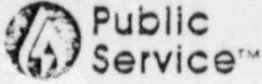
5.3.4 Trip HV-2202 CLOSED and
measure the AS FOUND valve
stroke time.

Acceptance Criteria ≤ 1 Sec.

AS FOUND 0.6 | Sec
AS LEFT 0.6 | Sec

Lee...
Test Conductor Signature

3-30-07
Date



5.8.5 a) Physically observe
HV-2202 is CLOSED.

✓

b) Verify the position
indicating light at
I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

c) Verify the position
indicating light at
I-49.

RED Light: OFF

✓

GREEN Light: ON

✓

5.8.6 If HV-2204 was opened to trip
HV-2202, CLOSE HV-2204.

✓

5.9 TEST PROCEDURE - EMERGENCY FEEDWATER
VALVE HV-2204

5.9.1 CLOSE or verify CLOSED
FV-2206 using FC-2206.

QC
WITNESS
POINT

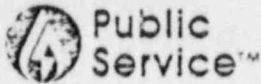
✓

5.9.2 a) Physically observe
HV-2204 is CLOSED.

✓

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3-30-87
Date



b) Verify the position
indicating light at
I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

c) Verify the position
indicating light at
I-49.

RED Light: OFF

✓

GREEN Light: ON

✓

NOTE: FV-2206 trips must be
cleared to allow
opening of HV-2204.

NOTE: If the value is not
within the acceptance
criteria, initiate a
SSR. Make the
necessary adjustments,
measure the AS LEFT
stroke time, and
record the value in
STEP 5.9.3.

QC
WITNESS
POINT

5.9.3 Set HS-2204 to the OPEN
position and measure the AS
FOUND valve stroke time.

Acceptance Criteria \leq 2 Sec.

AS FOUND 1.15 Sec
AS LEFT 1.15 Sec

QC
WITNESS
POINT

5.9.4 a) Physically observe
HV-2204 is OPEN.

✓

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3-30-87
Date



b) Verify the position
indicating light at
I-05.

RED Light: ON

GREEN Light: OFF

c) Verify the position
indicating light at
I-49.

RED Light: ON

GREEN Light: OFF

~~5.9.5 CLOSE HV-2204 using HS-2204.~~

See Next Page For Note
and Step 5.9.5.

5.10 TEST PROCEDURE - EMERGENCY
CONDENSATE VALVE HV-2238

5.10.1 a) CLOSE or verify CLOSED
FV-2206 using FC-2206.

b) CLOSE or verify CLOSED
HV-2202.

c) CLOSE or verify CLOSED
HV-2204.

5.10.2 a) Physically observe
that HV-2238 is
CLOSED.

HW Louisa
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3-30-87
Date

SEE PAGE # 86-1602
INITIALS ALK
DATE 12-3-86

SR 5.3.4b2-A

PDR 86-1602

SEE PDR # 86-1602
INITIALS AK
DATE 12-3-86

NOTE: If the value is not within the acceptance criteria, initiate an SSR. Make the necessary adjustments, measure the AS LEFT stroke time and record the value in Step 5.9.5.

5.9.5 CLOSE HV-2204 using HS-2204 and measure the AS FOUND valve stroke time.

Acceptance Criteria \leq 10 sec.

AS FOUND 1.56 sec.

AS LEFT 1.56 sec.

lew looman 3-30-87

20
VALVE
POSITION

b) Verify the position
indicating light at
I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

5.10.3 Set HS-2238 to the OPEN
position.

✓

5.10.4 a) Physically observe
that HV-2238 is OPEN.

✓

b) Verify the position
indicating light at
I-05.

RED Light: ON

✓

GREEN Light: OFF

✓

5.10.5 Set HS-2238 to the CLOSE
position.

✓

5.10.6 Verify that HV-2238 is
CLOSED.

✓

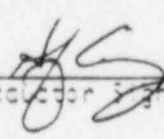
5.11 TEST PROCEDURE - STARTUP BYPASS
VALVES HV-2292 and PV-22130-1

5.11.1 Reset XCR-93162 A & B, if
necessary.

✓

5.11.2 Set HS-2292 to the OPEN
position.

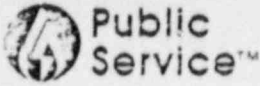
✓



Test Conductor Signature

4-8-87

Date



5.11.3 a) Physically observe that HV-2292 is OPEN.

✓

b) Verify the position indicating light at I-05.

RED Light: ON

✓

GREEN Light: OFF

✓

5.11.4 Place PC-22130-1 in the MANUAL position.

✓

5.11.5 Verify that PV-22130-1 strokes properly when PC-22130-1 output is changed.

✓

5.11.6 Return PC-22130-1 to the NORMAL position.

✓

NOTE: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.11.7.

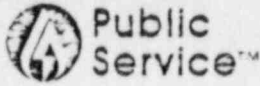
37
WITNESS
POINT

5.11.7 Set HS-2292 to the CLOSE position and measure the AS FOUND valve stroke time.

Acceptance Criteria ≤ 10 Sec.

AS FOUND 6.16 Sec
AS LEFT 6.16 Sec

Tim Looney 3-30-87
Test Conductor Signature Date



5.11.8 a) Physically observe
HV-2292 is CLOSED.

✓

b) Verify the position
indicating light at
I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

NOTE: Closing HV-2292 OPENS
valve PV-22130-1 to
about 50 percent.

5.11.9 Physically observe that
PV-22130-1 is OPEN to about
50 percent.

✓

5.12 TEST PROCEDURE - MAIN STEAM BYPASS
VALVES PV-2230, PV-22130 and
PV-22154

5.12.1 a) CLOSE V-5203 to
isolate bypass flash
tank. If loop is
shutdown and no
feedwater on NA ✓.

✓

b) CLOSE TCV-5208 using
HC-5208 to isolate
desuperheater.

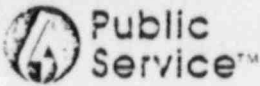
✓

5.12.2 Place PC-2230 in the MANUAL
position, if necessary, and
increase the controller
output to 100 percent.

✓

LW Thomas
Test Conductor Signature

3-30-27
Date



5.12.3	a)	Physically observe that PV-2230 is OPEN.	<input checked="" type="checkbox"/>
	b)	Verify that ZI-2230 (I-05) indicates the valve is OPEN.	<input checked="" type="checkbox"/>
See Next Page For Steps 5.12.4 Through 5.12.6			
		5.12.4 Decrease the controller output to zero percent.	<input checked="" type="checkbox"/>
16 PC-22130 POINT	5.12. ⁷ 3	a) Physically observe that PV-2230 is CLOSED.	<input checked="" type="checkbox"/>
	b)	Verify that ZI-2230 (I-05) indicates the valve is CLOSED.	<input checked="" type="checkbox"/>
	5.12. ⁸ 3	Return PC-2230 to the desired position.	<input checked="" type="checkbox"/> HR 4-7-87
	5.12. ⁹ 3	Place PC-22130 in the MANUAL position, if necessary, and increase the controller output to 100 percent.	<input checked="" type="checkbox"/>
	5.12. ¹⁰ 3	Physically observe that PV-22130 is OPEN.	<input checked="" type="checkbox"/>
	5.12. ¹¹ 3	Decrease the controller output to zero percent.	<input checked="" type="checkbox"/>
		<u>H. L. Rubin</u> Test Conductor Signature	<u>4-7-87</u> Date
		<u>H. L. Rubin</u>	4-7-87

SEE PDR # 86-1602
INITIALS HR
DATE 12-3-86

7-3 4-1-87
See PDR 87-1572
2230

5.12.4 At I-49, set HS-~~2229~~ to the open position.

✓

NOTE: If the value is not within acceptance criteria, initiate an SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record in Step 5.12.6.

5.12.5 Decrease the controller output to zero percent. *See PDR 87-1572 7-1 4-1-87*

✓

5.12.6 At I-49, set HS-~~2229~~ to the NORMAL position and measure the AS FOUND stroke time.

ACCEPTANCE CRITERIA \leq .2 sec.

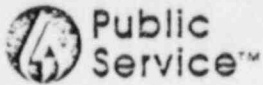
AS FOUND 0.051 sec.

AS LEFT 0.051 sec.

SEE PDR # 86-1602
INITIALS AKK
DATE 12-3-86

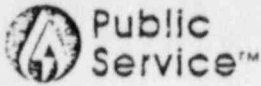
NO
WITNESSED
POINT

7-2. step 4-2-87



WITNESS POINT	5.12.12	Physically observe that PV-22130 is CLOSED.	<input checked="" type="checkbox"/>
	5.12.13	Return PC-22130 to the desired position.	<input checked="" type="checkbox"/>
	5.12.14	Increase HC-22154 output to 100 percent.	<input checked="" type="checkbox"/>
	5.12.15	Physically observe that PV-22154 is OPEN.	<input checked="" type="checkbox"/>
	5.12.16	Decrease HC-22154 output to zero percent.	<input checked="" type="checkbox"/>
	5.12.17	Physically observe that PV-22154 is CLOSED.	<input checked="" type="checkbox"/>
	5.12.18	Return HC-22154 to the desired position.	<input checked="" type="checkbox"/>
	5.12.19	a) OPEN V-5203.	<input checked="" type="checkbox"/>
		b) V-5203 independently verified OPEN.	<input checked="" type="checkbox"/>
		c) Return TOV-5208 to the desired position.	<input checked="" type="checkbox"/>
		<u>Harold Rubin</u>	4-2-87
		Test Conductor Signature	Date

SEE PDR # 86-1602
INITIALS AR
DATE 12-3-86



5.13 TEST PROCEDURE - HOT REHEAT STEAM
STOPCHECK VALVE HV-2254

5.13.1 Reset XCR-93166 A & B, if necessary.

✓

5.13.2 Set HS-2254 to the OPEN position.

✓

20
WITNESS
POINT

5.13.3 a) Physically observe that HV-2254 is OPEN.

✓

b) Verify the position indicating light at I-05.

RED Light: ON

✓

GREEN Light: OFF

✓

c) Verify the position indicating light at I-49.

RED Light: ON

✓

GREEN Light: OFF

✓

Lee Looney
Test Conductor Signature

3-30-87
Date



NOTE: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.13.4.

20
WITNESSED
POINT

5.13.4 Set HS-2254 to the CLOSE position and measure the AS FOUND valve stroke time.

Acceptance Criteria \leq 2 Sec.

AS FOUND 1.44 Sec
AS LEFT 1.44 Sec

20
WITNESSED
POINT

5.13.5 a) Physically observe HV-2254 is CLOSED.

✓

b) Verify the position indicating light at I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

c) Verify the position indicating light at I-49.

RED Light: OFF

✓

GREEN Light: ON

✓

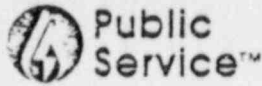
20
WITNESSED
POINT
5.14. TEST PROCEDURE - CIRCULATOR BYPASS
BLOCK VALVE HV-2242

5.14.1 Verify that PV-2244 is CLOSED.

✓

Lu Loman
Test Conductor Signature

3-30-87
Date



5.14.2 Set HS-2242 to the OPEN position.

✓

5.14.3 a) Physically observe that HV-2242 is OPEN.

✓

b) Verify the position indicating light at I-05.

RED Light: ON

✓

GREEN Light: OFF

✓

c) Verify the position indicating light at I-49.

RED Light: ON

✓

GREEN Light: OFF

✓

NOTE: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.14.4.

QC WITNESS POINT

5.14.4 Set HS-2242 to the CLOSE position and measure the AS FOUND valve stroke time.

Acceptance Criteria ≤ 5 Sec.

AS FOUND 3.32Sec
AS LEFT 3.32Sec

5.14.5 a) Physically observe HV-2242 is CLOSED.

✓

Lee Bowman
Test Conductor Signature

3-31-87
Date



b) Verify the position
indicating light at
I-05.

RED Light: OFF

GREEN Light: ON

c) Verify the position
indicating light at
I-49.

RED Light: OFF

GREEN Light: ON

~~5.15. TEST PROCEDURE - CIRCULATOR BYPASS
PRESSURE CONTROL VALVE PV-2244~~

~~5.15.1 Verify that HV-2242 is
CLOSED.~~

See Next 2 Pages For Section

~~5.15.2 Set PV-2244 in the MANUAL
position and increase the
controller output to 100
percent.~~

5.15

~~5.15.3 a) Physically observe
that PV-2244 is OPEN.~~

~~b) Verify that ZI-2244
(I-05) indicates the
valve is OPEN.~~

~~5.15.4 Reduce the controller output
to zero percent.~~

Lee Thomas
Test Conductor Signature

3-31-87
Date

SEE FOR # 86-1602
INITIALS ATK
DATE 12-3-86

5.15 TEST PROCEDURE - CIRCULATOR BYPASS PRESSURE CONTROL VALVE ~~PV-2243~~

36

5.15.1 Verify the valve positions below:

- a) HV-2242 Closed.
- b) HV-2254 Closed.
- c) HV-2292 Closed.
- d) PV-2230 Closed.
- e) FV-2206 Closed.
- f) HV-2202 Closed.
- g) HV-2204 Closed.

5.15.2 Remove fuse F2A from fuse block TB 607 (I-10).

NOTE: Set the oscilloscope for:
 a) Two second time base (full screen).
 b) Single sweep storage.
 c) 400 mV amplitude.

5.15.3 Attach a lead from channel A of a storage oscilloscope to TB-2244A-11 and TB-2244A-12 in the Aux. Electric Room (I-36A).

5.15.4 Attach a lead from the oscilloscope trigger to TB-2244-31 ~~TB-2244-39~~ and ~~TB-2244-40~~ in the Aux. Electric Room (I-36A). ~~TB-2244-32~~
 See PDR 87-1366

See PDR 87-1366

5.15.5 Set PC-2244 in the Manual Position and increase the controller output to 100 percent.

5.15.6 a) Physically verify that PV-2244 is open.

b) Verify that ZI-2244 (I-05) indicates the valve is open.

SEE PDR # 86-1602
 INITIALS AK
 DATE 12-3-86

Leonard Brown

3-31-87

CAUTION: If the valves in Step 5.15.1 are not closed, the next step will automatically cause them to go closed.

NOTE: If the value is not within acceptance criteria, initiate an SSR. Make the necessary adjustments, measure the AS LEFT stroke time and record the value in STEP 5.15.7.

QC
WITNESS
POINT

5.15.7 Attach a jumper from TB-602-45 to Ground in I-10 and measure the AS FOUND valve stroke time.

ACCEPTANCE CRITERIA \leq 1 sec.

AS FOUND 0.33 sec.

AS LEFT 0.33 sec.

5.15.8 a) Physically observe that PV-2244 is closed.

b) Verify that ZI-2244 (I-05) indicates the valve is closed.

5.15.9 Decrease the output of PC-2244 to zero percent.

5.15.10 Remove the jumper that was attached in STEP 5.15.7.

5.15.11 Press HS-93378A (I-06) to reset XCR-9338A.

5.15.12 Verify XCR-9338A (602 P9) is reset.

5.15.13 Press HS-93376A (I-05) to reset XCR-9336A.

5.15.14 Verify XCR-9336A (602 P9) is reset.

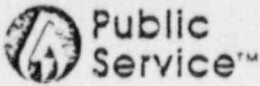
5.15.15 Verify XCR-9334A (602 P9) is reset.

5.15.16 Replace the fuse that was removed in STEP 5.15.2 (F2A in TB 607).

SEE PDR # 86-1602
 INITIALS AK
 DATE 12-3-86

Leonardo Loman

3-31-87



SLE POR # 861602
INITIALS AK
DATE 12-3-86

~~5.15.5 a) Physically observe that PV-2244 is CLOSED.~~

~~X~~

~~b) Verify that Zi-2244 (I-05) indicates the valve is CLOSED.~~

~~X~~

~~5.15.6 Return PC-2244 to the desired position.~~

~~X~~

5.16 TEST PROCEDURE - REHEATER BYPASS
VALVES PV-2268, HV-22132, FV-2240
and HV-2290

5.16.1 Place PC-2268 in MANUAL position and increase the controller output to 100 percent CLOSED.

QC P 4-8-87
WITNESS
POINT

✓

5.15.2 Physically observe that PV-2268 is OPEN.

QC P 4-8-87
WITNESS
POINT

✓

5.16.3 a) Physically observe that HV-22132 is CLOSED.

✓

b) Verify the position indicating light at I-05.

RED Light: OFF

✓

GREEN Light: ON

✓

[Signature]
Test Conductor Signature

4-8-87
Date



5.16.4 Set HS-22132, I-05, to the OPEN position.

✓

5.16.5 Verify that:

a) PV-2268 begins to CLOSE immediately, and

✓

b) HV-22132 begins to OPEN 12-18 sec. later.

✓

CC 4-8-87
WITNESS
POINT

5.16.6 Physically observe that PV-2268 is CLOSED.

✓

5.16.7 a) Physically observe that HV-22132 is OPEN.

✓

b) Verify the position indicating light at I-05.

RED Light: ON

✓

GREEN Light: OFF

✓

5.16.8 Set HS-22132 to the CLOSE position.

✓

5.16.9 Verify that:

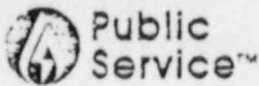
a) HV-22132 begins to CLOSE immediately, and

✓



Test Conductor Signature

4-8-87
Date



6.0 TEST CONDUCTOR'S REPORT

6.1 Were any procedure changes or deviations made to the test and DCCF/PDR initiated? (Attach copies if applicable)

Yes No

6.2 Were all steps successfully completed as stated in the test?

Yes No

6.3 If the answer to 6.2 is NO, notify Shift Supervisor and list conditions and/or SSR number(s):

6.4 Test completed except for items noted in 6.3

S. Hooper
Test Conductor

4/16/87
Date

6.5 Test sheets and data sheets reviewed and approved except for items noted in 6.3

W. Denton
Department Representative

4-17-87
Date

7.0 DEPARTMENT SUPERVISOR/TEST CONDUCTOR'S REVIEW

(If the answer to 6.2 is YES, sections 7.0 and 8.0 are not applicable go to Section 9.0)

7.1 Does the failure described in 6.3 require any action or impose any limit to operation per the applicable LCO(s)?

Yes No N/A

7.2 Applicable LCO(s) _____

Action or Limit _____

7.3 Is the reason test is not being completed at this time due to plant or equipment status?

Yes No N/A

7.4 If the answer to 7.3 is YES, list condition(s) and/or SSR number(s):

7.5 Is retest necessary for items listed in 6.3 and/or 7.4?

Yes No N/A



7.6 If the answer to 7.5 is YES; list specific section(s) or step(s) to be retested.

Department Supervisor/
Test Conductor
Date

8.0 RETEST SECTION

(If the answer to 7.5 is NO go to Section 9.0)

8.1 Verify satisfactory retest of section(s) or step(s) listed in 7.6

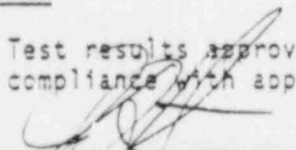
Retest Conductor
Date

8.2 Retest reviewed.

Department Representative
Date

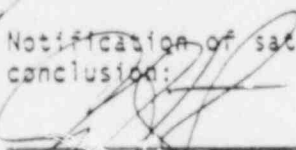
9.0 APPROVALS

9.1 Test results approved. Satisfactory results confirm compliance with applicable LCC(s).



Department Supervisor
Date 4-18-87

9.2 Notification of satisfactory test results and test conclusion:



Shift Supervisor
Date 4-18-87

9.3 Requires Station Manager evaluation:

Department Supervisor
Date

9.4

Station Manager
Date

NRC Report Not Required

NRC Report Required

NRC Report Number _____



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PUBLIC SERVICE COMPANY OF COLORADO

SR 5.3.4b2-A
Issue 5
Page 56 of 56

10.0 DATA SHEETS RECEIVED, VERIFIED SECTION 9.0 COMPLETE, AND
SURVEILLANCE TEST RECORDS UPDATED.

Warrene Horban
Scheduling Technician

4-20-87
Date

11.0 COMMITMENTS

None



PROCEDURE DEVIATION REPORT

PROCEDURE NO.	ISSUE NO.	TITLE	
50-5.3.4b2-d	5	Loop II Soic Shutdown Cooling P... Operated Valve Test	
PAGE NO./ PARA. NO.	CHANGED FROM	CHANGED TO	REASON FOR CHANGE
50/5.20 -5.20-8 and 5.20.15 - 5.20.16	4-9-87 as written	delete	previously performed recently per SR-RE-78-x and is therefore not necessary to strike LV-21246 SR RE requirements solely the intent of SR 5.3.4b2-A

INITIATOR H. K. DATE 4-9-87

YES NO IS PROCEDURE PORC APPROVED?
 YES NO IS EQ REVIEW REQUIRED?
 YES NO IS QC REVIEW REQUIRED?

DEVIATION CATEGORY: TEMPORARY (SINGLE USE)
 LONG TERM TEMPORARY - EXPIRES
 PERMANENT - CCF ATTACHED
 ODR - ODR ATTACHED

APPROVED/PROCEDURE INTENT NOT CHANGED [Signature] DATE 4-9-87
 (SUPERVISOR'S SIGNATURE)

EQ REVIEWER APPROVAL [Signature] DATE 4-9-87
 (REQUIRED FOR ALL MAINTENANCE, RESULTS, TECHNICAL SPECIFICATION SURVEILLANCE, AND ADMINISTRATIVE PROCEDURES)

QUALITY CONTROL APPROVAL [Signature] DATE 4-9-87
 (REQUIRED IF WORK REQUIRES QC OR INVOLVES TESTING OR MAINTENANCE ON SAFETY RELATED EQUIPMENT)

APPROVALS

PLANT MANAGEMENT STAFF - DATE 4-9-87 PLANT MANAGEMENT STAFF - SRO - DATE 4/9/87
[Signature] [Signature]

RESPONSIBLE FOR PERSON - DATE 4-9-87 PROCEDURE AUTHORIZER - DATE 4/9/87
[Signature] [Signature]

EXTENDED EXPIRATION DATE	RESPONSIBLE FOR PERSON	DATE
	PORC MEETING NUMBER	DATE
	PORC MEETING NUMBER	DATE
	PORC MEETING NUMBER	DATE
	PORC MEETING NUMBER	DATE



PROCEDURE DEVIATION REPORT

PROCEDURE NO.	ISSUE NO.	TITLE		
PAGE NO./ PARA. NO.	CHANGED FROM	CHANGED TO	REASON FOR CHANGE	
5 - 2-2			<p>per SR 2E SR 2E SR 2E SR 2E SR 2E SR 2E</p>	

INITIATOR H. L. Kelly DATE 4-9-87

YES NO IS PROCEDURE PORC APPROVED?
 YES NO IS EQ REVIEW REQUIRED?
 YES NO IS QC REVIEW REQUIRED?
 DEVIATION CATEGORY: TEMPORARY (SINGLE USE)
 LONG TERM TEMPORARY - EXPIRES
 PERMANENT - OCCF ATTACHED
 POR - OOR ATTACHED
 APPROVED/PROCEDURE INTENT NOT CHANGED H. L. Kelly DATE 4-9-87
 (SUPERVISOR'S SIGNATURE)

EQ REVIEWER APPROVAL H. L. Kelly DATE 4-9-87
 (REQUIRED FOR ALL MAINTENANCE, RESULTS, TECHNICAL SPECIFICATION SURVEILLANCE, AND ADMINISTRATIVE PROCEDURES)

QUALITY CONTROL APPROVAL H. L. Kelly DATE 4-9-87
 (REQUIRED IF WORK REQUIRES QC OR INVOLVES TESTING OR MAINTENANCE ON SAFETY RELATED EQUIPMENT)

APPROVALS

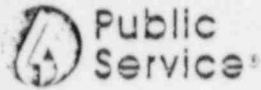
PLANT MANAGEMENT STAFF	DATE	PLANT MANAGEMENT STAFF - SRO	DATE
<u>H. L. Kelly</u>	<u>4-9-87</u>	<u>V. [Signature]</u>	<u>4/9/87</u>
RESPONSIBLE FOR PERSON	DATE	PROCEDURE AUTHORIZER	DATE
<u>[Signature]</u>	<u>4-9-87</u>		

EXTENDED EXPIRATION DATE:	PORC MEETING NUMBER	DATE
EXTENDED EXPIRATION DATE:	RESPONSIBLE FOR PERSON	DATE
EXTENDED EXPIRATION DATE:	PORC MEETING NUMBER	DATE
EXTENDED EXPIRATION DATE:	RESPONSIBLE FOR PERSON	DATE
EXTENDED EXPIRATION DATE:	PORC MEETING NUMBER	DATE



PROCEDURE DEVIATION REPORT

PROCEDURE NO. PAGE NO./ PARA. NO.	ISSUE NO.	TITLE	CHANGED FROM	CHANGED TO	REASON FOR CHANGE
SK 5.3.4B2-A 20656/2.0	5	LOOP II SAFE SHUTDOWN COOLING POWER OPERATED VALVE TESTS	... BOTH CIRCULATORS IC AND ID ARE SELF-TURBINING.	... BOTH CIRCULATORS IC AND ID ARE SELF-TURBINING OR SHUT DOWN AND ISOLATED.	CIRCULATORS ARE SHUT DOWN & ISOLATED. THIS TEST STROKES VALVES & CIRCULATOR STATUS IS NOT IMPORTANT TO TEST INTENT OR VALVE FUNCTION.
6536/511			... Both circulators IC and ID are self- turbining.	... Both circulators IC and ID are self- turbining or shutdown and isolated.	
INITIATOR <u>4/1/87</u>					DATE <u>3-30-87</u>
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IS PROCEDURE PORC APPROVED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IS EQ REVIEW REQUIRED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IS QC REVIEW REQUIRED?					DEVIATION CATEGORY: <input checked="" type="checkbox"/> TEMPORARY (SINGLE USE) <input type="checkbox"/> LONG TERM TEMPORARY - EXPIRES <input type="checkbox"/> PERMANENT - DCCF ATTACHED <input type="checkbox"/> ODR - ODR ATTACHED
APPROVED/PROCEDURE INTENT NOT CHANGED <u>[Signature]</u>					DATE <u>3/30/87</u> (DATE)
EQ REVIEWER APPROVAL <u>[Signature]</u>					DATE <u>3/30/87</u>
QUALITY CONTROL APPROVAL _____					DATE
APPROVALS					
PLANT MANAGEMENT STAFF		DATE	PLANT MANAGEMENT STAFF - SRO		DATE
<u>H. D. Adams</u>		<u>3-30-87</u>	<u>W. Frank</u>		<u>3/30/87</u>
RESPONSIBLE FOR PERSON		DATE	PROCEDURE AUTHORIZER		DATE
<u>[Signature]</u>		<u>3-30-87</u>	<u>[Signature]</u>		<u>3/30/87</u>
	PORC MEETING NUMBER				DATE
EXTENDED EXPIRATION DATE:	RESPONSIBLE FOR PERSON				DATE
	PORC MEETING NUMBER				DATE
EXTENDED EXPIRATION DATE:	RESPONSIBLE FOR PERSON				DATE
	PORC MEETING NUMBER				DATE
EXTENDED EXPIRATION DATE:	RESPONSIBLE FOR PERSON				DATE
	PORC MEETING NUMBER				DATE



PROCEDURE DEVIATION REPORT

PROCEDURE NO. PAGE NO. / PARA. NO.	ISSUE NO.	TITLE	CHANGED FROM	CHANGED TO	REASON FOR CHANGE
SK 5.3.462-A	5	LOOP II SAFE SHUTDOWN COOLING PUMP OPERATED VALVE TESTS			
43+44			delete 5.18.2 a) " 5.18.2 b) " 5.18.2 c) " 5.18.2 d)	Add 5.18.2 a) AND 5.18.2 b) per attached	Red and Green lights for these steps have been removed and replaced by "Vent", "Set", "fault", + "Disagree"
45+46			delete 5.18.5 a) " 5.18.5 b) " 5.18.5 c) " 5.18.5 d)	Add 5.18.5 a) and 5.18.5 b) per attached	lights on 7-02
47+48			" 5.19.2 a) " 5.19.2 b) " 5.19.2 c) " 5.19.2 d)	Add 5.19.2 a) and 5.19.2 b) per attached	
49+50			" 5.19.5 a) " 5.19.5 b) " 5.19.5 c) " 5.19.5 d)	Add 5.19.5 a) and 5.19.5 b) per attached	

INITIATOR Esthane DATE 4-5-87

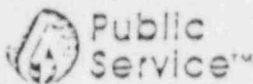
YES NO IS PROCEDURE PORC APPROVED? DEVIATION CATEGORY: TEMPORARY (SINGLE USE) LONG TERM TEMPORARY - EXPIRES
 YES NO IS REVIEW REQUIRED? PERMANENT - DCCF ATTACHED
 YES NO IS REVIEW REQUIRED? ODA - ODR ATTACHED

APPROVED: PROCEDURE INTENT NOT CHANGED [Signature] SUPERVISOR'S SIGNATURE DATE 4-5-87

EQ REVIEWER APPROVAL [Signature] DATE 4-5-87
(REQUIRED FOR ALL MAINTENANCE RESULTS, TECHNICAL SPECIFICATION SURVEILLANCE, AND ADMINISTRATIVE PROCEDURES)

QUALITY CONTROL APPROVAL [Signature] DATE 4/5/87
(REQUIRED IF WORK REQUIRES QC OR INVOLVES TESTING OR MAINTENANCE ON SAFETY RELATED EQUIPMENT)

APPROVALS			
PLANT MANAGEMENT STAFF	DATE	PLANT MANAGEMENT STAFF - SRG	DATE
<u>[Signature]</u>	4-5-87	<u>[Signature]</u>	4-5-87
RESPONSIBLE FOR PERSON	DATE	PROCEDURE AUTHORIZER	DATE
<u>[Signature]</u>	4-5-87	<u>[Signature]</u>	4-5-87
	PORC MEETING NUMBER		DATE
		PORC 720 APR 10 1987	
EXTENDED EXPIRATION DATE	RESPONSIBLE FOR PERSON		DATE
	PORC MEETING NUMBER		DATE
EXTENDED EXPIRATION DATE	RESPONSIBLE FOR PERSON		DATE
	PORC MEETING NUMBER		DATE
EXTENDED EXPIRATION DATE	RESPONSIBLE FOR PERSON		DATE
	PORC MEETING NUMBER		DATE



b) V-21755 independently verified OPEN.

5.18 TEST PROCEDURE - CIRCULATOR 1C
AUXILIARY TRIP VALVES HV-2188-X,
HV-21192-X, HV-21204-X

QC
WITNESS
POINT

5.18.1 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2188-1 OPEN
RED Light: ON
GREEN Light: OFF
- b) HV-2188-2 OPEN
RED Light: ON
GREEN Light: OFF
- c) HV-2188-4 OPEN
RED Light: ON
GREEN Light: OFF
- d) HV-2188-5 OPEN
RED Light: ON
GREEN Light: OFF
- e) HV-2188-6 OPEN
RED Light: ON
GREEN Light: OFF
- f) HV-2188-7 OPEN
RED Light: ON
GREEN Light: OFF
- g) HV-2188-8 OPEN
RED Light: ON
GREEN Light: OFF

5.18.2 a) Verify the position indicating lights common to HV-21192-2 and HV-21204 at I-02.

RED Light: ON

GREEN Light: OFF

Add 5.18.2 a) Verify that brake is released by observing indicating lights on HV-21204 at I-02
Vent Light: ON

Test Conductor Signature _____ Date _____

set Light: OFF
fault lights OFF
Disagree light: OFF



b) Verify the position indicating lights common to HV-21204-2 and HV-21204-4 at I-02.

delete

RED Light: ON

GREEN Light: OFF

c) Verify the position indicating lights common to HV-21192-1 and HV-21192-3 at I-02.

delete

RED Light: OFF

GREEN Light: ON

d) Verify the position indicating lights common to HV-21204-1 and HV-21204-3 at I-02.

delete

RED Light: OFF

GREEN Light: ON

5.18.3 Shutdown Circulator IC.

Add 5.18.2 b)

Verify that seal is released by observing indicating lights on HS-21192 on I-02

Vent Light: ON

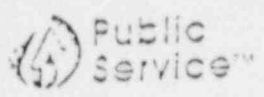
Set Light: OFF

Fault Light: OFF

Disagree Light: OFF

Test Conductor Signature

Date



FORT ST. VRAIN NUCLEAR GENERATING STATION
 PUBLIC SERVICE COMPANY OF COLORADO

26
 WITNESS POINT

5.18.4 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2188-1 CLOSED
 RED Light: OFF
 GREEN Light: ON
- b) HV-2188-2 CLOSED
 RED Light: OFF
 GREEN Light: ON
- c) HV-2188-4 CLOSED
 RED Light: OFF
 GREEN Light: ON
- d) HV-2188-5 CLOSED
 RED Light: OFF
 GREEN Light: ON
- e) HV-2188-6 CLOSED
 RED Light: OFF
 GREEN Light: ON
- f) HV-2188-7 CLOSED
 RED Light: OFF
 GREEN Light: ON
- g) HV-2188-8 CLOSED
 RED Light: OFF
 GREEN Light: ON

5.18.5 a) Verify the position indicating lights common to HV-21192-2 and HV-21192-4 at I-02.

Add 5.18.5 a)
Verify that brake is set by observing the indicating lights on HV-21204 on I-02
Vent Light: OFF
Set Light: ON
Fault Light: OFF
Disagree Light: OFF

- RED Light: OFF
- GREEN Light: ON
- b) Verify the position indicating lights common to HV-21204-2 and HV-21204-4 at I-02.
- RED Light: OFF
- GREEN Light: ON

Test Conductor Signature _____ Date _____

Add ~~5.18.5~~ ^{5.18.5} c)
5.18.5 b)

Ver. fy that seal is set
by observing the
indicating lights on
HV-21192 on I-02

Verify the position
indicating lights
common to HV-21192-1
and HV-21192-3 at
I-02.

~~Delete~~

RED Light: ON

GREEN Light: OFF

Vent Light: Off d)

Set Light: ON

Fault Light: Off

Disagree Light: Off

Verify the position
indicating lights
common to HV-21204-1
and HV-21204-3 at
I-02.

~~Delete~~

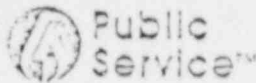
RED Light: ON

GREEN Light: OFF

5.18.6 Verify that circulator 10 has
stopped rotating.

Test Conductor Signature

Date



5.19 TEST PROCEDURE - CIRCULATOR 10
AUXILIARY TRIP VALVES HV-2190-X,
HV-21194-X, HV-21206-X

QC
WITNESS
POINT

5.19.1 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2190-1 OPEN
RED Light: ON
GREEN Light: OFF
- b) HV-2190-2 OPEN
RED Light: ON
GREEN Light: OFF
- c) HV-2190-4 OPEN
RED Light: ON
GREEN Light: OFF
- c) HV-2190-5 OPEN
RED Light: ON
GREEN Light: OFF
- e) HV-2190-6 OPEN
RED Light: ON
GREEN Light: OFF
- f) HV-2190-7 OPEN
RED Light: ON
GREEN Light: OFF
- g) HV-2190-8 OPEN
RED Light: ON
GREEN Light: OFF

5.19.2 a) Verify the position indicating lights common to HV-21194-2 and HV-21194-4 at I-02.

RED Light: ON
GREEN Light: OFF

Add 5.19.2 a) Verify that brake is released by observing indicating lights ON HS-21206 ON I-02

vent Light: ON
set Light: OFF
fault light: OFF
Disagree light: OFF

Test Conductor Signature _____ Date _____

b) Verify the position indicating lights common to HV-21206-2 and HV-21206-4 at I-02. *delete*

RED Light: CN _____

GREEN Light: OFF _____

c) Verify the position indicating lights common to HV-21194-1 and HV-21194-3 at I-02. *delete*

RED Light: OFF _____

GREEN Light: CN _____

d) Verify the position indicating lights common to HV-21206-1 and HV-21206-3 at I-02. *delete*

RED Light: OFF _____

GREEN Light: CN _____

5.19.3 Shutdown Circulator 1D.

Add 5.19.2 b)

Verify that seal is released by observing indicating lights on HS-21194 on I-02

Vent Light: ON _____

Set Light: OFF _____

Fault Light: OFF _____

Disagree Light: OFF _____

Test Conductor Signature _____

Date _____



CC

WITNESS POINT

5.19.4 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2190-1 CLOSED
RED Light: OFF
GREEN Light: ON
- b) HV-2190-2 CLOSED
RED Light: OFF
GREEN Light: ON
- c) HV-2190-4 CLOSED
RED Light: OFF
GREEN Light: ON
- d) HV-2190-5 CLOSED
RED Light: OFF
GREEN Light: ON
- e) HV-2190-6 CLOSED
RED Light: OFF
GREEN Light: ON
- f) HV-2190-7 CLOSED
RED Light: OFF
GREEN Light: ON
- g) HV-2190-8 CLOSED
RED Light: OFF
GREEN Light: ON

Add 5.19.5 a)
Verify that brake is set by observing the indicating lights on HS-21206 on I-02
Vent Light: OFF
Set Light: ON
Fault Light: OFF
Disagree Light: OFF

5.19.5 a) Verify the position indicating lights common to HV-21194-2 and HV-21194-4 at I-02.

RED Light: OFF
GREEN Light: ON

5) Verify the position indicating lights common to HV-21206-2 and HV-21206-4 at I-02.

RED Light: OFF
GREEN Light: ON

~~delete~~

~~delete~~

Test Conductor Signature

Date



Add 5.19.5 b) c) Verify the position *delete*
 Verify that Seal is set. indicating lights
 by observing the common to HV-21194-1
 (indicating lights ON and HV-21194-3 at
 HS-21194 ON I-02.
 Vent Lights off RED Light: ON _____
 set Light: ON GREEN Light: OFF _____
 fault Light: off
 Disagree Light: off d) Verify the position *delete*
 indicating lights
 common to HV-21206-1
 and HV-21206-3 at
 I-02.
 RED Light: ON _____
 GREEN Light: OFF _____

5.19.6 Verify that circulator 1D has stopped rotating.

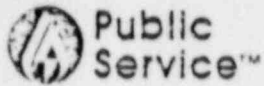
5.20 TEST PROCEDURE - LOOP II BEARING WATER EMERGENCY MAKEUP AND DRAIN VALVES V-211217, LV-21246

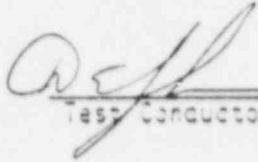
5.20.1 Verify that both circulators are shutdown and that the bearing water pumps are not operating.

5.20.2 CLOSE V-211310, normal surge tank makeup isolation (back up bearing water).

5.20.3 CLOSE V-211311, normal surge tank makeup isolation (normal makeup pump).

Test Conductor Signature Date



	b)	PV-2268 begins to OPEN 12-18 sec. later.	<u>✓</u>
5.16.10		Place PC-2268 in MANUAL CLOSED.	<u>✓</u>
5.16.11	a)	At I-05 set FC-2240 to the MANUAL OPEN position.	<u>✓</u>
	b)	Verify that FV-2240 is OPEN.	<u>✓</u>
5.16.12	a)	Set FC-2240 to the MANUAL CLOSED position.	<u>✓</u>
	b)	Verify that FV-2240 is CLOSED.	<u>✓ 4/24/97</u>
5.16.13	a)	At I-05 set HS-2290 to the OPEN position.	<u>✓</u>
	b)	Verify that HV-2290 is OPEN.	<u>✓</u>
	c)	Verify the position indicating light at I-05.	
		RED Light: ON	<u>✓</u>
		GREEN Light: OFF	<u>✓</u>
 Test Conductor signature			<u>4.2.97</u> Date



5.16.14 a) Return HS-2290 to the CLOSED position.

✓ 4/8/87

b) Verify that HV-2290 is CLOSED.

✓ 4/8/87

c) Verify the position indicating light at I-05.

RED Light: OFF

✓ 4/8/87

GREEN Light: ON

✓ 4/8/87

5.17

TEST PROCEDURE - BEARING WATER PUMP RECIRCULATION VALVE FV-21298

5.17.1 CLOSE V-21755 (isolation valve for FV-21298).

✓ ^{E3} 4-9-87

5.17.2 Equalize FSL-21298, Results required.

✓ 4/9/87

5.17.3 Physically observe that FV-21298 is OPEN.

✓ ^{E3} 4-9-87

5.17.4 Return FSL-21298 to the NORMAL position.

✓ 4/9/87

QC WITNESS POINT

4-9-87

5.17.5 Physically observe that FV-21298 is CLOSED.

✓ ^{E3} 4-9-87

5.17.6 a) OPEN V-21755.

✓ ^{E3} 4-9-87

Emil Shera
Test Conductor Signature

4-9-87
Date

b) V-21755 independently verified OPEN.

✓ use 4/4/87

5.18 TEST PROCEDURE - CIRCULATOR IC
AUXILIARY TRIP VALVES HV-2188-X,
HV-21192-X, HV-21204-X

POINT

5.18.1 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2188-1 OPEN
RED Light: ON
GREEN Light: OFF
- b) HV-2188-2 OPEN
RED Light: ON
GREEN Light: OFF
- c) HV-2188-4 OPEN
RED Light: ON
GREEN Light: OFF
- d) HV-2188-5 OPEN
RED Light: ON
GREEN Light: OFF
- e) HV-2188-6 OPEN
RED Light: ON
GREEN Light: OFF
- f) HV-2188-7 OPEN
RED Light: ON
GREEN Light: OFF
- g) HV-2188-8 OPEN
RED Light: ON
GREEN Light: OFF

<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>
<i>✓</i>	<i>HR</i>	<i>4-7-87</i>

~~5.18.2 a) Verify the position indicating lights common to HV-21192-2 and HV-21192-4 at I-02.~~

Delete PDR 87-1601

~~RED Light: ON~~

~~GREEN Light: OFF~~

H. J. R...

4-7-87

4-9-87

4-9-87

Test Conductor Signature

Date

SSP# 87503520

5.18.2 a) Verify that brake is released by observing indicating lights on HS-21204 on I-02

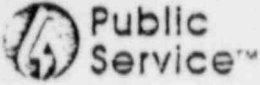
Vent Light:	ON	<input checked="" type="checkbox"/>
Set Light:	OFF	<input checked="" type="checkbox"/>
Fault Light:	OFF	<input checked="" type="checkbox"/>
Disagree Light:	OFF	<input checked="" type="checkbox"/>

b) Verify that seal is released by observing indicating lights on HS-21192 on I-02.

Vent Light:	ON	<input checked="" type="checkbox"/>
Set Light:	OFF	<input checked="" type="checkbox"/>
Fault Light:	OFF	<input checked="" type="checkbox"/>
Disagree Light:	OFF	<input checked="" type="checkbox"/>

Test Conductor: Mark Hagrman Date: 4/5/87

POR 87-1601



b) Verify the position
indicating lights
common to HV-21204-2
and HV-21204-4 at
I-02.

RED Light: ON

GREEN Light: OFF

c) Verify the position
indicating lights
common to HV-21192-1
and HV-21192-3 at
I-02.

Delete
PDR 87-1601

RED Light: OFF

GREEN Light: ON

d) Verify the position
indicating lights
common to HV-21204-1
and HV-21204-3 at
I-02.

RED Light: OFF

GREEN Light: ON

5.18.3 Shutdown Circulator IC.

✓

H. R. [Signature]

Test Conductor Signature

8-7-87

Date



5.18.4 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2188-1 CLOSED
RED Light: OFF
GREEN Light: ON
- b) HV-2188-2 CLOSED
RED Light: OFF
GREEN Light: ON
- c) HV-2188-4 CLOSED
RED Light: OFF
GREEN Light: ON
- d) HV-2188-5 CLOSED
RED Light: OFF
GREEN Light: ON
- e) HV-2188-6 CLOSED
RED Light: OFF
GREEN Light: ON
- f) HV-2188-7 CLOSED
RED Light: OFF
GREEN Light: ON
- g) HV-2188-8 CLOSED
RED Light: OFF
GREEN Light: ON

5.18.5 a) Verify the position indicating lights common to HV-21192-2 and HV-21192-4 at I-02.

RED Light: OFF _____

GREEN Light: ON _____

b) Verify the position indicating lights common to HV-21204-2 and HV-21204-4 at I-02.

RED Light: OFF _____

GREEN Light: ON _____

Delete
PDR 87-1601

Hyd Rm
Test Conductor Signature

4-7-87
Date

5.18.5 a) Verify that brake is set by observing indicating lights on HS-21204 on I-02.

Vent Light:	OFF	<u> ✓ </u>
Set Light:	ON	<u> ✓ </u>
Fault Light:	OFF	<u> ✓ </u>
Disagree Light:	OFF	<u> ✓ </u>

b) Verify that seal is set by observing indicating lights on HS-21192 on I-02.

Vent Light:	OFF	<u> ✓ </u>
Set Light:	ON	<u> ✓ </u>
Fault Light:	OFF	<u> ✓ </u>
Disagree Light:	OFF	<u> ✓ </u>

Test Conductor: H. L. Rahn Date: 8-2-87

~~PDR-87-1601~~ 8/1/87
PDR 87-1601



c) Verify the position
indicating lights
common to HV-21192-1
and HV-21192-3 at
I-02.

RED Light: ON

GREEN Light: OFF

d) Verify the position
indicating lights
common to HV-21204-1
and HV-21204-3 at
I-02.

RED Light: ON

GREEN Light: OFF

5.18.6 Verify that circulator IC has
stopped rotating.

*Delete
POR 87-1601*

_____ ✓

High Rubin
Test Conductor Signature

4-7-87
Date



5.19 TEST PROCEDURE - CIRCULATOR 10
AUXILIARY TRIP VALVES HV-2190-X,
HV-21194-X, HV-21206-X

10
MINUTES
QINT

5.19.1 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2190-1 OPEN
RED Light: ON
GREEN Light: OFF
- b) HV-2190-2 OPEN
RED Light: ON
GREEN Light: OFF
- c) HV-2190-4 OPEN
RED Light: ON
GREEN Light: OFF
- d) HV-2190-5 OPEN
RED Light: ON
GREEN Light: OFF
- e) HV-2190-6 OPEN
RED Light: ON
GREEN Light: OFF
- f) HV-2190-7 OPEN
RED Light: ON
GREEN Light: OFF
- g) HV-2190-8 OPEN
RED Light: ON
GREEN Light: OFF

~~5.19.2 a) Verify the position indicating lights common to HV-21194-2 and HV-21194-4 at I-02.
RED Light: ON
GREEN Light: OFF~~

Delete
PDR 83-1601

H. R. [Signature]
Test Conductor Signature

4-7-8
Date

5.19.2 a) Verify that brake is released by observing indicating lights on HS-21206 on I-02

Vent Light:	ON	<input checked="" type="checkbox"/>
Set Light:	OFF	<input checked="" type="checkbox"/>
Fault Light:	OFF	<input checked="" type="checkbox"/>
Disagree Light:	OFF	<input checked="" type="checkbox"/>

b) Verify that seal is released by observing indicating lights on HS-21194 on I-02.

Vent Light:	ON	<input checked="" type="checkbox"/>
Set Light:	OFF	<input checked="" type="checkbox"/>
Fault Light:	OFF	<input checked="" type="checkbox"/>
Disagree Light:	OFF	<input checked="" type="checkbox"/>

Test Conductor: _____

Mark Sageman

Date: _____

5/7/87

PDR 87-1601

b) Verify the position
indicating lights
common to HV-21206-2
and HV-21206-4 at
I-02.

RED Light: ON

GREEN Light: OFF

c) Verify the position
indicating lights
common to HV-21194-1
and HV-21194-3 at
I-02.

*Delete
PDR 87-1601*

RED Light: OFF

GREEN Light: ON

d) Verify the position
indicating lights
common to HV-21206-1
and HV-21206-3 at
I-02.

RED Light: OFF

GREEN Light: ON

5.19.3 Shutdown Circulator ID.

✓

H. A. [Signature]

Test Conductor Signature

4-7-87

Date



5.19.4 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2190-1 CLOSED
RED Light: OFF
GREEN Light: ON
- b) HV-2190-2 CLOSED
RED Light: OFF
GREEN Light: ON
- c) HV-2190-4 CLOSED
RED Light: OFF
GREEN Light: ON
- d) HV-2190-5 CLOSED
RED Light: OFF
GREEN Light: ON
- e) HV-2190-6 CLOSED
RED Light: OFF
GREEN Light: ON
- f) HV-2190-7 CLOSED
RED Light: OFF
GREEN Light: ON
- g) HV-2190-8 CLOSED
RED Light: OFF
GREEN Light: ON

~~5.19.5 a) Verify the position indicating lights common to HV-21194-2 and HV-21194-4 at I-02.~~

~~RED Light: OFF
GREEN Light: ON~~

~~b) Verify the position indicating lights common to HV-21206-2 and HV-21206-4 at I-02.~~

~~RED Light: OFF
GREEN Light: ON~~

*Delete
PDR 87-1601*

H. R. R. 7-7-87
Test Conductor Signature Date

S.19.3 a) Verify that brake is set by observing indicating lights on HS-21206 on I-02

Vent Light:	OFF	<input checked="" type="checkbox"/>
Set Light:	ON	<input checked="" type="checkbox"/>
Fault Light:	OFF	<input checked="" type="checkbox"/>
Disagree Light:	OFF	<input checked="" type="checkbox"/>

b) Verify that seal is set by observing indicating lights on HS-21194 on I-02.

Vent Light:	OFF	<input checked="" type="checkbox"/>
Set Light:	ON	<input checked="" type="checkbox"/>
Fault Light:	OFF	<input checked="" type="checkbox"/>
Disagree Light:	OFF	<input checked="" type="checkbox"/>

Test Conductor: H. P. Rh Date: 4-7-87

PDR 87-1601

~~c) Verify the position
indicating lights
common to HV-21194-1
and HV-21194-3 at
I-02.~~

~~RED Light: ON~~

~~GREEN Light: OFF~~

~~d) Verify the position
indicating lights
common to HV-21206-1
and HV-21206-3 at
I-02.~~

~~RED Light: ON~~

~~GREEN Light: OFF~~

*Delete
PDR # 87-1601*

5.19.6 Verify that circulator 1D has
stopped rotating.

*✓
AR 4-7-87*

5.20 TEST PROCEDURE - LOOP II BEARING
WATER EMERGENCY MAKEUP AND DRAIN
VALVES V-211217, LV-21246

~~5.20.1 Verify that both circulators
are shutdown and that the
bearing water pumps are not
operating.~~

PDR 87-1642

~~5.20.2 CLOSE V-211310, normal surge
tank makeup isolation (back
up bearing water).~~

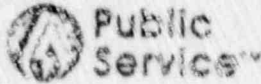
~~5.20.3 CLOSE V-211311, normal surge
tank makeup isolation (normal
makeup pump).~~

H. R. RL

Test Conductor Signature

4-7-87

Date



5.20.4 CLOSE V-21554, normal surge tank drain isolation.

✓

5.20.5 Verify that V-211214 is CLOSED, emergency bearing water makeup pump discharge to Loop I.

5.20.6 OPEN V-211216, emergency bearing water makeup discharge to Loop II.

PDR 87-1642

5.20.7 Verify that water is available at suction side of the emergency bearing water makeup pump from condensate storage tanks through V-211315.

PDR 87-1642

5.20.8 Verify that one suction filter is lined up for operation (V-21901 and V-21902 OPEN; or V-21903 and V-21904 OPEN).

5.20.9 OPEN V-21747 to provide a flow path for P-2108 when LV-2136-1 closes.

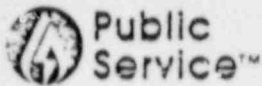
5.20.10 START P-2108 using HS-21394 at I-02.

✓

✓

Hugh RL
Test Conductor Signature

4-10-87
Date



5.20.11 a) Throttle back on V-21747 until pump discharge pressure is 850-950 psig as read on PI-21470.

✓

WITNESS

b) Record the pressure reading on PI-21470.

850 psig

NOTE: If the flow is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments. Record the AS LEFT flow value in STEP 5.20.12.

NOTE: This test demonstrates the operability of check valve V-211217 as well as the performance capability of P-2108.

5.20.12 Record the flow reading from FIS-21208.

AS FOUND 39 gpm
AS LEFT 39 gpm

Acceptance Criteria: Flow to exceed 38 gpm

5.20.13 STOP P-2108.

✓

5.20.14 a) CLOSE V-21747.

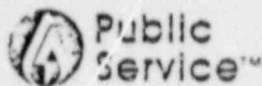
✓

b) V-21747 independently verified OPEN.

NA
4-10-87

H. R. R.
Test Conductor Signature

4-10-87
Date



NOTE: LC-21246 is located at the south end of Bearing Water Surge Tank 1b accessible by a ladder near the southeast corner of the key way on level one.

10
WITNESS
POINT

5.20.15 a) Decrease LC-21246 setpoint, Results required.

b) Physically observe that LV-21246 FULLY OPENS.

PDR 87-1642

5.20.16 Return LC-21246 setpoint to its previous setting.

5.20.17 Return the listed valve to the indicated position:

- a) V-211310 OPEN
- b) V-211311 OPEN
- c) V-21554 OPEN
- d) V-211216 CLOSED

NA
AR
4-10-87

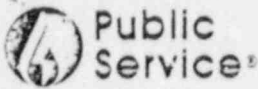
5.20.18 Listed valves position independently verified.

- a) V-211310 OPEN
- b) V-211311 OPEN
- c) V-21554 OPEN
- d) V-211216 CLOSED

N
AR
4-10-87

H. R. R.
Test Conductor Signature

4-10-87
Date



PROCEDURE DEVIATION REPORT

PROCEDURE NO. PAGE NO./ PARA. NO.	ISSUE NO.	TITLE	CHANGED FROM	CHANGED TO	REASON FOR CHANGE
SR 5.3.462-A	5	LOOP II SAFE SHUTDOWN COOLING VALVE TESTS			
33/5.12.4			"At I-49, set HS-2229 to the OPEN POSITION."	"At I-49, set HS-2230 to the OPEN POSITION."	WRONG HAND SWITCH REFERENCED → HS-2230 CONTROLS PV-2230.
33/5.12.6			"At I-49, set HS-2229 to the NORMAL POSITION AND MEASURE THE AS FOUND STROKE TIME. ACCEPTANCE CRITERIA ≤ .2 SEC. AS FOUND _____ SEC. AS LEFT _____ SEC."	"At I-49, set HS-2230 to the ..."	

INITIATOR T. D. Stue DATE 4-1-87

YES NO PROCEDURE PORC APPROVED? DEVIATION CATEGORY: TEMPORARY (SINGLE USE) LONG TERM TEMPORARY - EXPIRES _____
 YES NO IS EQ REVIEW REQUIRED? PERMANENT - OCCF ATTACHED
 YES NO IS QC REVIEW REQUIRED? OPR/OPB ATTACHED

APPROVED PROCEDURE INTENT NOT CHANGED A.L. Moore DATE 4-1-87
(SUPERVISOR'S SIGNATURE) (DATE)

EQ REVIEWER APPROVAL [Signature] DATE 4-1-87
(REQUIRED FOR ALL MAINTENANCE, RESULTS/TECHNICAL SPECIFICATION SURVEILLANCE, AND ADMINISTRATIVE PROCEDURES)

QUALITY CONTROL APPROVAL W. Winkler DATE 4-1-87
(REQUIRED IF WORK REQUIRES QC OR INVOLVES TESTING OR MAINTENANCE ON SAFETY RELATED EQUIPMENT)

APPROVALS

PLANT MANAGEMENT STAFF	DATE	PLANT MANAGEMENT STAFF SRO	DATE
<u>[Signature]</u>	<u>4/1/87</u>	<u>A.L. Moore</u>	<u>4-1-87</u>
RESPONSIBLE FOR PERSON	DATE	PROCEDURE AUTHORIZER	DATE
<u>A.L. Moore</u>	<u>4-1-87</u>	<u>[Signature]</u>	<u>4/1/87</u>

EXTENDED EXPIRATION DATE	PORC MEETING NUMBER	DATE
	<u>PORC 720 APR 10 1987</u>	
	RESPONSIBLE FOR PERSON	DATE
	PORC MEETING NUMBER	DATE
	RESPONSIBLE FOR PERSON	DATE
	PORC MEETING NUMBER	DATE
	RESPONSIBLE FOR PERSON	DATE
	PORC MEETING NUMBER	DATE



PROCEDURE DEVIATION REPORT

PROCEDURE NO. SR 5.3.4b2-A TITLE Loop II Safe Shutdown Cooling Power Operated Valve TESTS ISSUE NO. 5

IS PORC REVIEW REQUIRED? YES NO
NOTE: IF PORC IS REQUIRED, THE INITIATOR IS RESPONSIBLE TO ENSURE THAT THE PDR IS SUBMITTED FOR PORC REVIEW NO LATER THAN 14 DAYS FROM THE PDR IMPLEMENTATION DATE.

PAGE NO. / PARA. NO.	CHANGED FROM	CHANGED TO	REASON FOR CHANGE
Page 2 of 56 Para. 1.0	As Written	As Attached	Restate Purpose to include measurement of stroke times on SCRDIS Valves (Ref. Commitment #1416) Include stroke times for SCRDIS Valves not already tested by this procedure (Ref. Commitment #1416) Same (closing time for HV-2204 not test before) Add steps and renumbered existing steps to incorporate stroke time measurement for PV-2229. Rewrite to include stroke time for PV-2243. Made use of an XCR from SCRDIS to close PV-2243.
Page 4 of 56 Table I	As Written	As Attached	
Page 27 of 56 Para. 5.9.5	As Written	As Attached	
Page 33 of 56 Para. 5.12.4 thru 5.12.19 (para 3)	As Written	As Attached	
Page 38 and 39 of 56 Para. 5.15 thru 5.15.16	As Written	As Attached	

INITIATOR: Mark A. [Signature] (SIGNATURE) 11/20/86 (DATE)

QUALITY CONTROL REPRESENTATIVE: [Signature] (SIGNATURE) 11-24-86 (DATE)

(REQUIRED IF AFFECTED STEPS) REQUIRE QC OR INVOLVE TESTING OR MAINTENANCE ON SAFETY RELATED EQUIPMENT)

DEVIATION CATEGORY: TEMPORARY PERMANENT - DCCF ATTACHED

SUPERVISOR: [Signature] (SIGNATURE) 11-21-86 (DATE)

APPROVALS

BY: [Signature] (PLANT MANAGEMENT STAFF) 11-21-86 (DATE) BY: [Signature] (PLANT MANAGEMENT STAFF - SRO) 11-24-86 (DATE)

BY: _____ (PROCEDURE AUTHORIZER) _____ (DATE) BY: _____ (PROCEDURE AUTHORIZER) _____ (DATE)

BY: _____ (PROCEDURE AUTHORIZER) _____ (DATE) BY: _____ (PROCEDURE AUTHORIZER) _____ (DATE)

PORC: EDRC 702 DEC 2 - 1986 (MEETING NUMBER) _____ (DATE)

TABLE I (CONT.)
LOOP II POWER OPERATED VALVE COVERED BY TECH SPEC SR 5.3.4 AND TESTED PER THIS PROCEDURE

<u>Valve No.</u>	<u>Stroke Time Test</u>	<u>SR 5.3.4b1-A Section</u>
HV-21206-1	—	5.19
-2	—	5.19
-3	—	5.19
-4	—	5.19
PV-21244	—	5.3
LV-21246	—	5.20
HV-21258	—	5.3
HV-21260	—	5.5
HV-21277-6	—	5.3
HV-21277-7	—	5.5
FV-21298	—	5.17
V-211217	—	5.20
HV-2202	O:C	5.8
HV-2204	C:O and O:C	5.9
FV-2206	O:C	5.7
HV-2224	O:C	5.6
PV-2230	O:C	5.12
HV-2238	—	5.10
FV-2240	—	5.16
HV-2242	O:C	5.14
PV-2244	O:C	5.15
HV-2246	—	5.2
HV-2248	—	5.4
HV-2250	O:C	5.2
HV-2252	O:C	5.4
HV-2254	O:C	5.13
PV-2268	—	5.16
HV-2290	—	5.16
HV-2292	O:C	5.11
PV-22130	—	5.12
PV-22130-1	—	5.11
HV-22132	—	5.16
PV-22154	—	5.12



Note: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time and record the value in step 5.9.5

b) Verify the position indicating light at I-05.

RED Light: ON _____

GREEN Light: OFF _____

Verify the position indicating light at I-49.

RED Light: ON _____

GREEN Light: OFF _____

5.9.5 CLOSE HV-2204 using HS-2204x and measure the AS FOUND valve stroke time

Acceptance Criteria ≤ 10 sec.

AS FOUND _____ sec

AS LEFT _____ sec.

5.10 TEST PROCEDURE - EMERGENCY
CONDENSATE VALVE HV-2238

5.10.1 a) CLOSE or verify CLOSED FV-2206 using FC-2206.

b) CLOSE or verify CLOSED HV-2202.

c) CLOSE or verify CLOSED HV-2204.

5.10.2 a) Physically observe that HV-2238 is CLOSED.

Test Conductor Signature

Date



5.12.3 a) Physically observe that PV-2230 is OPEN.

NOTE: If the value is not within acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record in step 5.12.6

b) Verify that ZI-2230 (I-05) indicates the valve is OPEN.

5.12.4 At I-49, set HS-2229 to the open position.

5.12.5 Decrease the controller output to zero percent.

5.12.6 At I-49, set HS-2229 to the NORMAL position and measure the AS FOUND stroke time. ACCEPTANCE CRITERIA ≤ 0.2 sec

AS FOUND _____ sec.
AS LEFT _____ sec.

5.12.8 a) Physically observe that PV-2230 is CLOSED.

b) Verify that ZI-2230 (I-05) indicates the valve is CLOSED.

5.12.9 Return PC-2230 to the desired position.

5.12.7 Place PC-22130 in the MANUAL position, if necessary, and increase the controller output to 100 percent.

5.12.8 Physically observe that PV-22130 is OPEN.

5.12.7 Decrease the controller output to zero percent.

Test Conductor Signature

Date



5.12.10 Physically observe that
12 PV-22130 is CLOSED.

5.12.11 Return PC-22130 to the
13 desired position.

5.12.12 Increase HC-22154 output to
14 100 percent.

5.12.13 Physically observe that
15 PV-22154 is OPEN.

5.12.14 Decrease HC-22154 output to
16 zero percent.

5.12.15 Physically observe that
17 PV-22154 is CLOSED.

5.12.16 Return HC-22154 to the
18 desired position.

5.12.17 a) OPEN V-5203.
19

b) V-5203 independently
verified OPEN.

c) Return ICV-5208 to the
desired position.

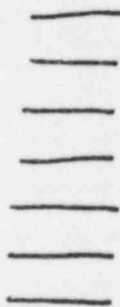
Test Conductor Signature

Date

5.15 TEST PROCEDURE - CIRCULATOR BYPASS
PRESSURE CONTROL VALVE PV-2243

5.15.1 Verify the Valve positions below:

- a) HV-2242 closed
- b) HV-2254 closed
- c) HV-2292 closed
- d) PV-2230 closed
- e) FV-2206 closed
- f) HV-2202 closed
- g) HV-2204 closed



5.15.2 Remove fuse F2A from fuse block TB 607 (I-10)



Note: Set the oscilloscope for:

- a) Two second time base (full screen)
- b) Single sweep storage
- c) 400mV amplitude

5.15.3 Attach a lead from channel A of a storage oscilloscope to TB-2244A-11 and TB-2244A-12 in the Aux. Electric Room (I-36A).



5.15.4 Attach a lead from the oscilloscope trigger to TB-2244-39 and TB-2244-40 in the Aux Electric Room (I-36A)



5.15.5 Set PC-2244 in the Manual Position and increase the controller output to 100 percent.



5.15.6 a) Physically verify that PV-2244 is open



b) Verify that ZI-2244 (I-05) indicates the valve is open



 CAUTION: If the values in STEP 5.15.1
 are not closed, the next
 step will automatically cause
 them to go closed.

Note: If the value is not within
 acceptance criteria, initiate a
 SSR. Make the necessary
 adjustments, measure the
 AS LEFT stroke time and
 record the value in STEP 5.15.7

5.15.7 Attach a jumper from TB-602-45 to
 Ground in I-10 and measure the AS FOUND
 valve stroke time

Acceptance Criteria \leq 1sec

AS FOUND _____ sec
 AS LEFT _____ sec.

5.15.8 a) Physically observe that PV-2244 is
 closed. _____

b) Verify that ZI-2244 (I-05) indicates
 the valve is closed. _____

5.15.9 Decrease the output of PC-2244 to
 zero percent. _____

5.15.10 Remove the jumper that was attached
 in STEP 5.15.7 _____

5.15.11 Press HS-93378A (I-06) to reset
 XCR-9338A. _____

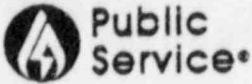
5.15.12 Verify XCR-9338A (602 PA) is reset _____

5.15.13 Press HS-93376 A (I-05) to reset
XCR-9336A. _____

5.15.14 Verify XCR-9336A (602 P9) is reset _____

5.15.15 Verify XCR-9334A (602 P9) is reset _____

5.15.16 Replace the fuse that was removed
in STEP 5.15.2 (F2A in TB 607) _____



FORT ST. VRAIN NUCLEAR GENERATING STATION
PUBLIC SERVICE COMPANY OF COLORADO

PDR NO. 87-1293

PROCEDURE DEVIATION REPORT

PAGE 1 OF 1

PROCEDURE NO. <u>SR 5.3.4.2-A</u>	ISSUE NO. <u>5</u>	TITLE <u>LOOP II SAFE SHUTDOWN COOLING POWER OPERATED VALVE TESTS</u>	
PAGE NO./ PARA. NO.	CHANGED FROM	CHANGED TO	REASON FOR CHANGE
Page 13 of 56 Para 5.3.11 Thru Page 14 of 56 Para 5.3.21	AS WRITTEN	AS ATTACHED	These modifications incorporate stroke time measurement of the water turbine valves in loop 2 for SRDIS. These valves were not included in PDR 86-1602 when the rest of the SRDIS valves were incorporated (Ref Commitment #1416)
Page 21 of 56 Para 5.5.11 Thru Page 22 of 56 Para 5.5.20	''	''	

INITIATOR Thom R. R... DATE 2/26/87

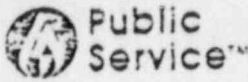
YES NO IS PROCEDURE PORC APPROVED?
 DEVIATION CATEGORY: TEMPORARY (SINGLE USE)
 LONG TERM TEMPORARY - EXPIRES _____
 YES NO IS EQ REVIEW REQUIRED?
 PERMANENT - DCCF ATTACHED
 YES NO IS QC REVIEW REQUIRED?
 PDR/POD ATTACHED

APPROVED/PROCEDURE INTENT NOT CHANGED James D. McCauley DATE 2-26-87
(SUPERVISOR'S SIGNATURE) (DATE)

EQ REVIEWER APPROVAL John Smith DATE 2-26-87
(REQUIRED FOR ALL MAINTENANCE, RESULTS, TECHNICAL SPECIFICATION SURVEILLANCE, AND ADMINISTRATIVE PROCEDURES)

QUALITY CONTROL APPROVAL John Smith DATE 2-26-87
(REQUIRED IF WORK REQUIRES QC OR INVOLVES TESTING OR MAINTENANCE ON SAFETY RELATED EQUIPMENT)

APPROVALS			
PLANT MANAGEMENT STAFF	DATE	PLANT MANAGEMENT STAFF - SRO	DATE
<u>James D. McCauley</u>	<u>2-26-87</u>	<u>John Smith</u>	<u>2-26-87</u>
RESPONSIBLE FOR PERSON	DATE	PROCEDURE AUTHORIZER	DATE
<u>James D. McCauley</u>	<u>2-26-87</u>	<u>John Smith</u>	<u>2-26-87</u>
PORC MEETING NUMBER	<u>BORC 715 MAR 3 - '87</u>		DATE
EXTENDED EXPIRATION DATE	RESPONSIBLE FOR PERSON	DATE	
	PORC MEETING NUMBER	DATE	
EXTENDED EXPIRATION DATE	RESPONSIBLE FOR PERSON	DATE	
	PORC MEETING NUMBER	DATE	
EXTENDED EXPIRATION DATE	RESPONSIBLE FOR PERSON	DATE	
	PORC MEETING NUMBER	DATE	



~~5.3.11 Decrease the control rod
insert to 100 percent~~

Replace with
INSERT #1 from
next page

5.3.12 Physically observe that
SV-2110 is CLOSED.

~~5.3.13 Return HS-2110-1 and
HS-2110-2 to the CLOSE
position.~~

Delete

¹³
5.3.14 Verify that:

- a) HV-2110-1 is CLOSED.
- b) HV-2110-2 is CLOSED.
- c) SV-2110 remains CLOSED.
- d) HV-21277-7 is CLOSED.

Place INSERT #2 from Next page

~~5.3.15~~ Set HS-2110-2 to the OPEN
17 position.

NOTE: HV-21258 is located on
Level 3, southeast.

~~5.3.16~~ Physically observe that
18 HV-21258 is CLOSED.

~~5.3.17~~ Set HS-21258 to the OPEN
19 position.

~~5.3.18~~ Physically observe HV-21258
is OPEN.

Test Conductor Signature

Date

INSERT #1

NOTE: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.3.11.

NOTE: HV-2110-1 is interlocked with HV-2110-2 so that HV-2110-1 will close before HV-2110-2. Therefore, the stroke time will be measured for the combination of these two valves.

5.3.11 Trip the circulator water drive valves and measure the AS FOUND stroke times.

a) SV-2110 Acceptance Criteria \leq 2 sec.

AS FOUND _____sec.

AS LEFT _____sec.

b) HV-2110-1 plus HV-2110-2
Acceptance Criteria \leq 10 sec.

AS FOUND _____sec.

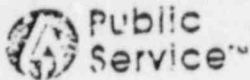
AS LEFT _____sec.

INSERT #2

5.3.14 Decrease the controller output to zero percent

5.3.15 Return HS-2110-1 to the CLOSE position.

5.3.16 Reset XCR-93240A & B



5.3.18 CLOSE HV-21258 using
21 HS-21258.

NOTE: PV-21244 is located on
Level 2, southeast.

5.3.20 Physically observe that
22 PV-21244 is OPEN.

5.3.21 a) OPEN V-211616, if it
23 was CLOSED in STEP
5.3.1a. N/A if
section 5.4 is to be
done at this time.

b) V-211616 independently
verified open.

5.4 TEST PROCEDURE - CIRCULATOR ID STEAM
DRIVE VALVES HV-2248, HV-2252 and
SV-2112

5.4.1 a) Open HV-2248.

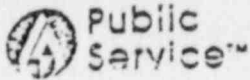
b) At reactor plant
MCC-6, OPEN valve
breaker section 5.

c) RACK OUT HV-2248
breaker.

d) CLOSE valve breaker
section 5.

Test Conductor Signature

Date



~~5.5.11 Decrease the controller output to 25% present.~~

Replace with INSERT #3 from next page

5.5.12 Physically observe that SV-2116 is CLOSED.

~~5.5.13 Return HS-2116-1 and HS-2116-2 to the CLOSE position.~~

Delete

5.5.14 Verify that:
13

- a) HV-2116-1 is CLOSED.
- b) HV-2116-2 is CLOSED.
- c) SV-2116 remains CLOSED.
- d) HV-21277-B is CLOSED.

Place INERT #4 from next page

5.5.15 Set HS-2116-2 to the OPEN 17 position.

NOTE: HV-21260 is located on Level 2, northeast.

5.5.16 Physically observe that 18 HV-21260 is CLOSED.

5.5.17 Set HS-21260 to the OPEN 19 position.

5.5.18 Physically observe HV-21260 20 is OPEN.

Test Conductor Signature Date

INSERT #3

NOTE: If the value is not within the acceptance criteria, initiate a SSR. Make the necessary adjustments, measure the AS LEFT stroke time, and record the value in STEP 5.5.11.

NOTE: HV-2116-1 is interlocked with HV-2116-2 so that HV-2116-1 will close before HV-2116-2. Therefore, the stroke time will be measured for the combination of these two valves.

5.5.11 Trip the circulator water drive valves and measure the AS FOUND stroke times.

a) SV-2116 Acceptance Criteria \leq 2 sec.

AS FOUND -----sec.

AS LEFT -----sec.

b) HV-2116-1 plus HV-2116-2
Acceptance Criteria \leq 10 sec.

AS FOUND -----sec.

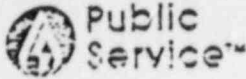
AS LEFT -----sec.

INSERT #4

5.5.14 Decrease the controller output to zero percent.

5.5.15 Return HS-2116-1 to the CLOSE position.

5.5.16 Reset XCR-93242A & B



5.5.18 CLOSE HV-21260 using
21 HS-21250.

5.5.20 a) OPEN V-211616 if was
22 CLOSED in STEP 5.3.1a
or 5.5.1a.

b) V-211616 independently
verified OPEN.

5.6 TEST PROCEDURE - MAIN STEAM STOP
CHECK VALVE HV-2224

5.6.1 Reset XCR-93168 A & B and
XCR-93211 A & B if necessary.

5.6.2 OPEN HV-2224 using HS-2224.

5.6.3 a) Physically observe
that HV-2224 is OPEN.

b) Verify the position
indicating light at
I-05.

RED Light: ON

GREEN Light: OFF

c) Verify the position
indicating light at
I-49.

RED Light: ON

GREEN Light: OFF

Test Conductor Signature

Date



DOCUMENT COORDINATION AND CONCURRENCE

PROCEDURE NO. GR 5.3.462-A TITLE LOOP II SAFE SHUTDOWN COOLING POWER OPERATED VALVE TESTS ISSUE 5

PDR NO. _____ ATTACHED N/A

DESCRIPTION OF PROCEDURE / PROCEDURE CHANGE / PROCEDURE DELETION (Attach Additional Sheets if Necessary)
CHANGE PER ATTACHED TO REFLECT REMOVAL OF RED AND GREEN BRAKE AND SEAL INDICATING LIGHTS AND INSTALLATION OF "VENT", "SET", "FAULT" & "DISAGREE" LIGHTS FOR BRAKE HANDSWITCH AND SEAL HANDSWITCH

JUSTIFICATION (Attach Additional Sheets if Necessary) TO REFLECT AS BUILT CONDITIONS

COMMITMENT REFERENCE(S) _____
APPLICABLE TECHNICAL SPECIFICATION(S) _____
 YES N/A COMPATIBLE WITH TECHNICAL SPECIFICATION(S)

INITIATOR *E. Hanson* DATE 4-5-87

MANDATORY CHANGES ATTACHED APPROVAL, DOCUMENT MAY BE ISSUED

INITIATOR'S SUPERVISOR	REQUEST DENIED: _____ (INITIALS) (DATE)	(SIGNATURE) (DATE)	COMPATIBILITY REVIEW: <u><i>[Signature]</i></u> <u>4-5-87</u> (SIGNATURE) (DATE)
------------------------	---	--------------------	--

RESPONSIBLE FOR PERSON	REQUEST DENIED: _____ (INITIALS) (DATE)	(SIGNATURE) (DATE)	COMPATIBILITY VERIFIED: _____ (SIGNATURE) (DATE)
------------------------	---	--------------------	--

EQ REVIEWER	EQ REVIEW REQUIRED: <input type="checkbox"/> YES <input type="checkbox"/> NO _____ (INITIALS) (DATE)	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
-------------	--	--------------------	--------------------

QUALITY ASSURANCE	QA REVIEW REQUIRED: <input type="checkbox"/> YES <input type="checkbox"/> NO _____ (INITIALS) (DATE)	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
-------------------	--	--------------------	--------------------

APPROVALS

RESPONSIBLE FOR SIGNATURE	DATE	RESPONSIBLE FOR SIGNATURE	DATE
RESPONSIBLE FOR SIGNATURE	DATE	RESPONSIBLE FOR SIGNATURE	DATE

APPROVALS

AUTHORIZED BY SIGNATURE	DATE	AUTHORIZED BY SIGNATURE	DATE
AUTHORIZED BY SIGNATURE	DATE	AUTHORIZED BY SIGNATURE	DATE

TECHNICAL SERVICES REVIEW	<input type="checkbox"/> YES <input type="checkbox"/> NO APPEARS TO HAVE POTENTIAL FOR AFFECTING THE ENVIRONMENT
	<input type="checkbox"/> YES <input type="checkbox"/> NO APPEARS TO HAVE POTENTIAL FOR INVOLVING AN UNREVIEWED SAFETY QUESTION
	<input type="checkbox"/> YES <input type="checkbox"/> NO PORC REVIEW REQUIRED
REVIEW BY	_____ (SIGNATURE) (DATE)

TRAINING REVIEW COMPLETE _____
(SIGNATURE) (DATE)

<input type="checkbox"/> YES <input type="checkbox"/> NO UNREVIEWED ENVIRONMENTAL QUESTION	PORC MEETING NO. _____
<input type="checkbox"/> YES <input type="checkbox"/> NO UNREVIEWED SAFETY QUESTION	DATE _____

ISSUE NO. _____ EFFECTIVE DATE _____ INITIALS _____

b) Verify the position indicating lights common to HV-21204-2 and HV-21204-4 at I-02.

delete

RED Light: ON _____

GREEN Light: OFF _____

c) Verify the position indicating lights common to HV-21192-1 and HV-21192-3 at I-02.

delete

RED Light: OFF _____

GREEN Light: ON _____

d) Verify the position indicating lights common to HV-21204-1 and HV-21204-3 at I-02.

delete

RED Light: OFF _____

GREEN Light: ON _____

5.18.3 Shutdown Circulator IC.

Add 5.18.2 b)

Verify that seal is released by observing indicating lights on HS-21192 in I-02

Vent Light: ON _____

Set Light: OFF _____

Fault Light: OFF _____

Disagree Light: OFF _____

Test Conductor Signature _____

Date _____

CC

WITNESS POINT

5.18.4 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2188-1 CLOSED
RED Light: OFF
GREEN Light: ON
- b) HV-2188-2 CLOSED
RED Light: OFF
GREEN Light: ON
- c) HV-2188-4 CLOSED
RED Light: OFF
GREEN Light: ON
- d) HV-2188-5 CLOSED
RED Light: OFF
GREEN Light: ON
- e) HV-2188-6 CLOSED
RED Light: OFF
GREEN Light: ON
- f) HV-2188-7 CLOSED
RED Light: OFF
GREEN Light: ON
- g) HV-2188-8 CLOSED
RED Light: OFF
GREEN Light: ON

5.18.5 a) Verify the position indicating lights common to HV-21192-2 and HV-21192-4 at I-02.

*Add 5.18.5 a)
Verify that brake is set by observing the indicating lights on HV-21204 on I-02*

RED Light: OFF
GREEN Light: ON

*Vent Light: OFF
Set Light: ON
Fault Light: OFF
Disagree Light: OFF*

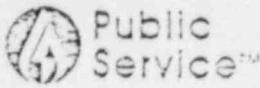
b) Verify the position indicating lights common to HV-21204-2 and HV-21204-4 at I-02.

RED Light: OFF
GREEN Light: ON

delete
delete

Test Conductor Signature

Date



<i>Add at 4-4-87 5.18.5 b)</i>	<i>c)</i>	Verify the position indicating lights common to HV-21192-1 and HV-21192-3 at I-02.	<i>delete</i>	
<i>Verify that seal is set by observing the indicating lights on HS-21192 on I-02</i>		RED Light: ON		_____
		GREEN Light: OFF		_____
<i>Vent Light: off</i>	<i>d)</i>	Verify the position indicating lights common to HV-21204-1 and HV-21204-3 at I-02.	<i>delete</i>	
<i>Set Light: ON</i>		RED Light: ON		_____
<i>Fault Light: OFF</i>		GREEN Light: OFF		_____
<i>Disagree Light: off</i>				_____
5.18.6 Verify that circulator IC has stopped rotating.				

Test Conductor Signature _____ Date _____

5.19 TEST PROCEDURE - CIRCULATOR 10
AUXILIARY TRIP VALVES HV-2190-X,
HV-21194-X, HV-21206-X

QC
WITNESS
POINT

5.19.1 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2190-1 OPEN
RED Light: ON _____
GREEN Light: OFF _____
- b) HV-2190-2 OPEN
RED Light: ON _____
GREEN Light: OFF _____
- c) HV-2190-4 OPEN
RED Light: ON _____
GREEN Light: OFF _____
- d) HV-2190-5 OPEN
RED Light: ON _____
GREEN Light: OFF _____
- e) HV-2190-6 OPEN
RED Light: ON _____
GREEN Light: OFF _____
- f) HV-2190-7 OPEN
RED Light: ON _____
GREEN Light: OFF _____
- g) HV-2190-8 OPEN
RED Light: ON _____
GREEN Light: OFF _____

5.19.2 a) Verify the position indicating lights common to HV-21194-2 and HV-21194-1 at I-02. *delete*

RED Light: ON _____
GREEN Light: OFF _____

Add 5.19.2 a) Verify that brake is released by observing indicating lights on HS-21206 on I-02

*vent Light: ON _____
set Light: OFF _____
fault Light: OFF _____
Disagree Light: OFF _____*

Test Conductor Signature Date

b) Verify the position indicating lights common to HV-21206-2 and HV-21206-4 at I-02. *delete*

RED Light: ON _____

GREEN Light: OFF _____

c) Verify the position indicating lights common to HV-21194-1 and HV-21194-3 at I-02. *delete*

RED Light: OFF _____

GREEN Light: ON _____

d) Verify the position indicating lights common to HV-21206-1 and HV-21206-3 at I-02. *delete*

RED Light: OFF _____

GREEN Light: ON _____

5.19.3 Shutdown Circulator 10. _____

Add 5.19.2 b)

Verify that seal is released by observing indicating lights on HS-21194 on I-02

Vent Light: ON _____

Set Light: OFF _____

Fault Light: OFF _____

Disagree Light: OFF _____

Test Conductor Signature

Date



QC

WITNESS POINT

5.19.4 Physically observe the position of each listed valve and verify the corresponding position indicating lights at I-02.

- a) HV-2190-1 CLOSED
RED Light: OFF
GREEN Light: ON
- b) HV-2190-2 CLOSED
RED Light: OFF
GREEN Light: ON
- c) HV-2190-4 CLOSED
RED Light: OFF
GREEN Light: ON
- d) HV-2190-5 CLOSED
RED Light: OFF
GREEN Light: ON
- e) HV-2190-6 CLOSED
RED Light: OFF
GREEN Light: ON
- f) HV-2190-7 CLOSED
RED Light: OFF
GREEN Light: ON
- g) HV-2190-8 CLOSED
RED Light: OFF
GREEN Light: ON

5.19.5 a) Add 5.19.5 a)
Verify that brake is set by observing the indicating lights on HS-21206 ON I-02
Vent Light: OFF
Set Light: ON
Fault Light: OFF
Disagree Light: OFF

~~5.19.5 a) Verify the position indicating lights common to HV-21194-2 and HV-21194-4 at I-02.~~

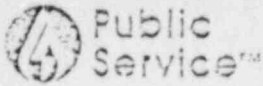
~~RED Light: OFF
GREEN Light: ON~~

~~5.19.5 b) Verify the position indicating lights common to HV-21206-2 and HV-21206-4 at I-02.~~

~~RED Light: OFF
GREEN Light: ON~~

Test Conductor Signature

Date



Add 5.19.5 b) c) Verify the position
Verify that Seal is set. indicating lights *delete*
by observing the common to HV-21194-1
indicating lights ON and HV-21194-3 at
HS-21194 on Z-02 I-02.
Vent Lights off — RED Light: ON _____
set Light: ON — GREEN Light: OFF _____
fault Light: off — _____
Disagree Light: off d) Verify the position *delete*
indicating lights common to HV-21206-1
and HV-21206-3 at I-02.
RED Light: ON _____
GREEN Light: OFF _____

5.19.6 Verify that circulator 1D has stopped rotating.

5.20 TEST PROCEDURE - LOOP II BEARING WATER EMERGENCY MAKEUP AND DRAIN VALVES V-211217, LV-21246

5.20.1 Verify that both circulators are shutdown and that the bearing water pumps are not operating.

5.20.2 CLOSE V-211310, normal surge tank makeup isolation (back up bearing water).

5.20.3 CLOSE V-211311, normal surge tank makeup isolation (normal makeup pump).

Test Conductor Signature Date



TABLE I (CONT.)

LOOP II POWER OPERATED VALVE COVERED BY TECH SPEC SR 5.3.4 AND TESTED PER THIS PROCEDURE

<u>Valve No.</u>	<u>Stroke Time Test</u>	<u>SR 5.3.4b1-A Section</u>
HV-21206-1	—	5.19
-2	—	5.19
-3	—	5.19
-4	—	5.19
PV-21244	—	5.3
LV-21246	—	5.20
HV-21258	—	5.3
HV-21260	—	5.5
HV-21277-6	—	5.3
HV-21277-7	—	5.5
FV-21298	—	5.17
V-211217	—	5.20
↑ HV-2202	0:C	5.8
↑ HV-2204	0:C and 0:C	5.9
* HV-2206	0:C	5.7
* HV-2224	0:C	5.6
* PV-2230	0:C	5.12
HV-2238	—	5.10
FV-2240	—	5.16
* HV-2242	0:C	5.14
* PV-2244	0:C	5.15
HV-2246	—	5.2
HV-2248	—	5.4
* HV-2250	0:C	5.2
* HV-2252	0:C	5.4
* HV-2254	0:C	5.13
PV-2268	—	5.16
HV-2290	—	5.16
* HV-2292	0:C	5.11
PV-22130	—	5.12
PV-22130-1	—	5.11
HV-22132	—	5.16
PV-22154	—	5.12

INITIALS: CLK
DATE: 12-3-86

1-213 20K 41541
5-12-19



TABLE 1
LOOP II POWER OPERATED VALVE COVERED BY TECH SPEC SR 5.3.4 AND TESTED
PER THIS PROCEDURE

*stroke
too slow*

Valve No.	Stroke Time Test	SR 5.3.4b1-A Section
* SV-2106 =6608	O:C	CLEARANCE (See Work Order) 5.2
SV-2110 36608	---	5.3
HV-2110-1	---	5.3
-2	---	5.3
* SV-2112	O:C	5A & 5B Side 5.4
SV-2115 4478, 14420	---	PR 20 - 1.271 - 1.272 (IP) 5.5
HV-2115-1	---	5.5
-2	---	5.5
HV-2138-1	---	5.18
-2	---	5.18
-4	---	5.18
-5	---	5.18
-6	---	5.18
-7	---	5.18
-8	---	5.18
HV-2190-1	---	5.19
-2	---	5.19
-4	---	5.19
-5	---	5.19
-6	---	5.19
-7	---	5.19
-8	---	5.19
HV-21192-1	---	5.18
-2	---	5.18
-3	---	5.18
-4	---	5.18
HV-21194-1	---	5.19
-2	---	5.19
-3	---	5.19
-4	---	5.19
HV-21204-1	---	5.18
-2	---	5.18
-3	---	5.18
-4	---	5.18

O:C = OPEN TO CLOSED

C:O = CLOSED TO OPEN