

Facility: FitzPatrick		Date of Examination: November 2001	
Exam Level (circle one): RO / SRO(I)		Operating Test No.: _____	
B.1 Control Room Systems			
System / JPM Title		Type Code*	Safety Function
a.	21201009F Reset an RPS Scram With Scram Valve Failure to Close Plant Condition - SCRAM Time - 10 minutes	D, A	7 212000 A4.14 3.8/3.8
b.	20501016F Place the RHR System in the Torus Cooling Lineup with a Failure of the Minimum Flow Valve to Close. Plant Conditions 100% Power Normal Plant Lineup Time 20 minutes	D, A	5 219000 A2.03 3.1 / 3.2
c.	20601003F Restoration of HPCI after Auto Initiation and High Level Trip with Failure of 23MOV-19 to Close Plant Conditions SCRAM Time 12	D, A	2 20600 A4.13 4.1 / 4.0
d.	NEW High Vibration on the "A" Reactor Recirculation Pump	N	4 202001, A4.01, 02 3.5, 3.4
e.	21501022 Bypassing Local Power Range Monitor	D	7 215005 A4.06 3.6 / 3.8

f.	26402003	Perform the Emergency Diesel Generator Load Tests.	M, A	6 264000 A4.04 3.7 / 3.7
g.	20004240A	Reset a Group I Isolation	D	5 223002 A4.03 3.6 / 3.5
B.2 Facility Walk-Through				
a.	20004233A	Close an SORV Remotely by Pulling Fuses Location Relay Room Time 6 Minutes	D	3 239002 A2.03 4.1/4.2
b.	2000402246	Suppling Cooling Water to EDG's A & C from Fire Protection Location ESW & EDG Time 15 minutes	D	8 264000 K6.07 3.8 / 3.9
c.	20102015	Changing In-Service CRD Flow Control Valves Location Reactor Building Time 15 minutes	D	1 201001
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA				

Facility: **FitzPatrick**Date of Examination: **November 2001**Exam Level (circle one): **SRO(U)**

Operating Test No.: _____

B.1 Control Room Systems

System / JPM Title		Type Code*	Safety Function
a.	21201009F Reset an RPS Scram With Scram Valve Failure to Close Plant Condition - SCRAM Time - 10 minutes	D, A	7 212000 A4.14 3.8/3.8
b.	NEW High Vibration on the "A" Reactor Recirculation Pump	N	4 202001, A4.01, 02 3.5, 3.4
c.	26402003 Perform the Emergency Diesel Generator Load Tests.	M, A	6 264000 A4.04 3.7 / 3.7

B.2 Facility Walk-Through

a.	20004233A Close an SORV Remotely by Pulling Fuses Location Relay Room Time 6 Minutes	D	3 239002 A2.03 4.1/4.2
b.	20102015 Changing In-Service CRD Flow Control Valves Location Reactor Building Time 15 minutes	D	1 201001

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO
APPL. TO

21201009F
JPM NUMBER

TASK TITLE: Reset an RPS Scram with
Scram Valve Failure to Close

REV: 2

DATE: 3/6/99

NRC K/A SYSTEM NUMBER: 212000 A4.14
3.8/3.8

JAF TASK NUMBER: 2120101009

JAF QUAL STANDARD NUMBER: 5005.104

ESTIMATED COMPLETION TIME: 10 Minutes

SUBMITTED: _____

OPERATION REVIEW:

APPROVED: _____

CANDIDATE NAME: _____

S.S. NUMBER:

JPM Completion: () Simulated () Performed

Location: () Plant (X) Simulator

DATE PERFORMED: _____

TIME TO COMPLETE: _____ Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR: _____
SIGNATURE/PRINTED

CANDIDATE REVIEW: _____
SIGNATURE

REVIEWED BY: _____

DOC. COMPLETE:

PROGRAM ADMINISTER

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

Reset an RPS Scram with Scram Valve Failure to Close

I. SAFETY CONSIDERATIONS

- A. None

II. REFERENCES

- A. AOP-1, REACTOR SCRAM, Rev. 34

III. TOOLS AND EQUIPMENT

- A. None

IV. SET UP REQUIREMENTS

- A. Initialize the simulator to any full power IC.
- B. Insert a manual scram by placing the Mode Switch to SHUTDOWN.
- C. Reset ARI.
- D. Stabilize RPV level above 177 inches.
- E. Manually override the blue scram lights "ON" for control rods 14-43, 30-19, 06-19, and 42-07.

V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and not actually performed.

VI. TASK CONDITIONS

- A. The reactor after operating at some power has scrammed. The scram condition has been identified and cleared.
- B. All Reactor scram signals are now clear with the exception of the scram discharge volume high level signal.
- C. The Shift Manger has directed that the scram be reset.

VII. INITIATING CUE

The Reactor has scrammed from power operation. The scram condition has been identified and cleared. The only scram signal present is the scram discharge volume high level. The Control Room Supervisor has directed you to reset the scram.

*** - CRITICAL STEP**

VII. INITIATING CUE

The Reactor has scrammed from power operation. The scram condition has been identified and cleared. The only scram signal present is the scram discharge volume high level. The Control Room Supervisor has directed you to reset the scram.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of AOP-1, REACTOR SCRAM	The candidate obtains a controlled copy of AOP-1.	SAT / UNSAT
2.	Select the correct section to perform the task.	The candidate selects Section C.2.4 of AOP-1.	SAT / UNSAT
3.	IF ARI actuated, THEN reset ARI.	<p>The candidate observes that ARI is reset by observing the following:</p> <p>Verify closed:</p> <ul style="list-style-type: none"> a. 030V-201 b. 030V-202 c. 030V-203 d. 030V-204 <p>Verify clear: (optional)</p> <ul style="list-style-type: none"> a. annunciator 09-5-1-35 ATWS ARI TRIP 	SAT / UNSAT
4.	Verify annunciator 09-5-1-33 MODE SW IN SHUTDOWN TRIP BYPASSED is in alarm.	The candidate observes that the annunciator window for annunciator 09-5-1-33 is in alarm.	SAT / UNSAT
*5.	Place the SDIV HI LVL TRIP keylock switch in BYPASS.	The candidate places the SDIV HI LVL TRIP switch in BYPASS and verifies annunciator 09-5-1-11, SDIV HI LVL TRIP IN BYPASS in alarm.	SAT / UNSAT
*6.	Place RX SCRAM RESET switch to Group 2 & 3, then to 1 & 4, spring return to NORM.	The candidate places the REACTOR SCRAM RESET selector switch, (5A-S5), momentarily to the GP2 and GP3 position then back thru "NORM" to the GP1 and GP4 position then back to "NORM".	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
7.	Verify RPS A and B SCRAM GROUPS 1, 2, 3 and 4 lights are on.	The candidate verifies the scram has been reset by ensuring that the following lights are lit: A. RPS A Scram Groups 1, 2, 3 and 4 on Panel 09-5; B. RPS B Scram Groups 1, 2, 3 and 4 on Panel 09-5	SAT / UNSAT
8.	Verify closed all scram inlet and outlet valves using one or a combination of the following methods	The candidate recognizes/reports that at least one control rod scram inlet and outlet valves have failed to close by observing that blue scram lights are energized.	SAT / UNSAT
*9.	IF any scram inlet or outlet valve fails to close, then perform the following: A. Depress the following pushbuttons: • MANUAL SCRAM A • MANUAL SCRAM B B) Investigate cause	The candidate performs the following: A) Depresses the both manual scram pushbuttons B) Observes the following: • Manual scram A, B pushbuttons lights are on • Annunciators 09-5-1-13, 14; RPS A, B MAN SCRAM alarm. • RPS A, B Scram Groups 1,2, 3 and 4 lights are off. C. Reports the success of inserting a manual scram.	SAT / UNSAT
EVALUATOR: Terminate the task.			

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

RO/ SRO JPM NUMBER 20501016F TASK TITLE: (F) Place the RHR System in the Torus
Cooling Lineup with a Failure of the
Minimum Flow Valve to Close

REV: 2 DATE: 03/03/99 NRC K/A SYSTEM NUMBER: 219000 SG9
4.2/3.

JAF TASK NUMBER: 2050101016 JAF QUAL STANDARD NUMBER: 5010.102

ESTIMATED COMPLETION TIME: 20 minutes

SUBMITTED: _____ OPERATION REVIEW:

APPROVED: _____

CANDIDATE NAME: _____ S.S. NUMBER:

JPM Completion: () Simulated () Performed

Location: () Plant (X) Simulator

DATE PERFORMED: _____ TIME TO COMPLETE: Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR: _____
SIGNATURE/PRINTED

REVIEWED BY: _____ DOC. COMPLETE:

PROGRAM ADMINISTER

**JOB PERFORMANCE MEASURE
RECORD AND CHECKLIST**

S/RO 20501016F
APPL. TO JPM NUMBER

TASK TITLE: (F) Place the RHR System in the
Torus Cooling Lineup with a Failure of
the Minimum Flow Valve to Close

Comments:

Current Update: _____
Date

By: _____
Int.

Previous Revision Dates:

02/22/94
08/29/94

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

S/RO 20501016F
APPL. TO JPM NUMBER

TASK TITLE: (F) Place the RHR System in the
Torus Cooling Lineup with a Failure of
the Minimum Flow Valve to Close

I. SAFETY CONSIDERATIONS

A. None

II. REFERENCES

A. OP-13B, RHR - Containment Control, Rev 2

III. TOOLS AND EQUIPMENT

A. None

IV. SET UP REQUIREMENTS

- A. Initialize the simulator to any power operation IC.
- B. Raise torus water temperature to 81°F.
- C. Check closed 10RHR-274.
- D. Start RHR Keep Full Pump 2A.
- E. Override ON the red open indicating light for the 10MOV-16A, RHR MINIMUM FLOW VALVE, this will cause the valve to indicate intermediate position when system flow causes the valve to shut. During the JPM this override will be removed when the candidate operates the control switch for the MINIMUM FLOW VALVE.
(OVERRIDE 2L010AS16A-2)

V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. The Override must be cleared within several seconds of the candidate operating the control switch for the MINIMUM FLOW VALVE to simulate the valve going shut.

VI. TASK CONDITIONS

- A. The reactor is operating normally
- B. The torus water temperature is high and must be cooled via the RHR System.

*** - CRITICAL STEP**

VII. INITIATING CUE

"Torus temperature must be lowered. Place the "A" RHR system in the Torus Cooling Mode, using the "A" RHR and "A" RHRSW pumps".

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of procedure OP-13B. RHR - CONTAINMENT CONTROL	The candidate obtains a controlled copy of OP-13B.	SAT / UNSAT
2.	Review the precautions.	<p>The candidate reviews the precautions making note of any that are applicable.</p> <p>EVALUATOR: If the candidate wants to notify radiation protection then state that RP notified and has no problems with this evolution.</p>	SAT / UNSAT
3.	Select the correct section to perform the task.	<p>The candidate selects Section D.1 RHR Loop A Torus Cooling Startup of RHR - Containment Control OR Attachment 2 (RHR) and 5 (RHRSW) to OP-13B.</p>	SAT / UNSAT
4.	<p>IF a LPCI auto-initiation signal is sealed in, THEN perform the following:</p> <p>a) IF RPV water level is LESS THAN zero inches on fuel zone water level indication, THEN place DW & TORUS SPRAY VLV OVERRIDE OF FUEL ZONE LVL 10A-S18A keylock switch in MANUAL OVERRD.</p> <p>b) Place SPRAY CNTRL 10A-S17A switch to MANUAL, spring return to normal.</p> <p>c) Verify white SPRAY PERM 10A-DS67A light is on.</p>	<p><u>Cue:</u> The LPCI auto-initiation signal is not sealed in.</p>	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
*5.	<p>Ensure at least one of the following RHR pumps is running:</p> <ul style="list-style-type: none"> • RHR PMP 10P-3A • RHR PMP 10P-3C 	<p>a) The candidate starts 10P-3A by placing control switch to START.</p> <p>b) Observes that pump amps rise sharply and drop to less than 155 amps as read on ammeter 10P-3A(C).</p> <p>c) Observes that pressure indicator 10PI-20A rises to indicate pressure.</p> <p>d) May note and acknowledge the CORE SPRAY OR RHR PUMP RUNNING annunciator 09-4-1-26 alarms.</p>	SAT / UNSAT
*6.	Open RHR TEST TORUS CLG & SPRAY 10MOV-39A.	The candidate obtains a key from the 09-3 panel and places the keylock control switch for 10MOV-39A to open.	SAT / UNSAT
*7.	Throttle RHR TEST AND TORUS CLG 10MOV-34A to establish desired flow.	<p>The candidate places the control switch for 10MOV-34A to OPEN and throttles to establish desired flow as read on the flow indicator 10FI-133A.</p> <p><u>EVALUATOR:</u> The candidate should minimize RHR pump flow less than 6500 gpm for one pump to prevent high vibration.</p> <p>Note: If candidate is using the attachments he may perform step 14 after closing the minimum flow valve.</p>	SAT / UNSAT
*8.	WHEN RHR Loop A flow is GREATER THAN 1500 gpm, ensure closed MIN FLOW VLV 10MOV-16A.	When flow increases above 1500 gpm the candidate should recognize that the MIN FLOW VALVE, 10MOV-16A does not go full closed by observing the green and red valve indicating lights both remaining lit.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
*9.	Close the MIN FLOW VALVE 10MOV-16A.	<p>The candidate should momentarily take the control switch for the MINIMUM FLOW VALVE, 10MOV-16A to the CLOSE position</p> <p>EVALUATOR: The valve will go closed after the operator takes the control switch to the closed position. Signal the simulator operator to clear the override on the OPEN indication.</p>	SAT / UNSAT
10.	<p>Establish RHRSW flow as follows:</p> <p>a) Verify one of the following alarms is clear:</p> <ul style="list-style-type: none"> Annunciator 09-4-3-4 RHR SW A OR B DISCH LINE NOT FULL EPIC-D-134 10LS-105A 	<p>The candidate observes that</p> <ul style="list-style-type: none"> Annunciator 09-4-3-4 RHRSW A OR B DISCH LINE NOT FULL is cleared <p>OR</p> <ul style="list-style-type: none"> EPIC-D-134 <u>is not</u> in alarm 	SAT / UNSAT
11.	<p>b) Start at least one of the following RHRSW pumps:</p> <ul style="list-style-type: none"> RHRSW PMP 10P-1A RHRSW PMP 10P-1C 	<p>The candidate starts the 10P-1A pump by placing the control switch to START. Observes that pump amps go upscale and then return to less than 45 amps as read on ammeter 10P-1A.</p>	SAT / UNSAT
*12.	c) Throttle RHRSW DISCH VLV FROM HX 10MOV-89A to establish 2500 to 4000 gpm per RHRSW pump.	<p>The candidate places the control switch for 10MOV-89A, to OPEN and establishes between 2500 and 4000 gpm of service water flow as read on flow indicator 10FI-132A.</p>	SAT / UNSAT
13.	Close HX A BYP VLV 10MOV-66A.	<p>The candidate places the control switch for 10MOV-66A to CLOSE and hold until valve indicates shut.</p>	SAT / UNSAT
14.	IF RHR Loop A condensate transfer keep full is in service, AND RHR Loop A pressure is LESS THAN condensate transfer pressure, THEN CLOSE 10RHR-274 (RHR Loop A containment spray keep full cond xfer connection valve).	<p>The candidate contacts in-plant operator and asks if RHR Loop A condensate transfer keep full is in service.</p> <p>EVALUATOR: Act as in-plant operator and report "RHR Loop A condensate transfer keep-full <u>is not</u> in service".</p>	SAT / UNSAT
EVALUATOR: Terminate the task.			

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO
APPL. TO

20601003F
JPM NUMBER

TASK TITLE: (F) Restoration of HPCI after Auto Initiation and
High Level Trip With Failure of 23MOV-19 to Close.

REV: 2

DATE: 10/07/97

NRC K/A SYSTEM NUMBER: 20600 A4.13 4.1/4.0

JAF TASK NUMBER: 2060101003

JAF QUAL STANDARD NUMBER: 5023.103

ESTIMATED COMPLETION TIME: 12 Minutes

SUBMITTED: _____

OPERATION REVIEW: _____

APPROVED: _____

CANDIDATE NAME: _____

S.S. NUMBER: _____

JPM Completion: () Simulated () Performed

Location: () Plant () Simulator

DATE PERFORMED: _____

TIME TO COMPLETE: _____ Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR: _____

SIGNATURE/PRINTED

REVIEWED BY: _____

PROGRAM ADMINISTER

DOC. COMPLETE: _____

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

S/RO
PL. TO

20601003F
JPM NUMBER

TASK TITLE: (F) Restoration of HPCI after Auto Initiation and High Level Trip With Failure of 23MOV-19 to Close.

I. SAFETY CONSIDERATIONS

A. None

II. REFERENCES

A. OP-15, HIGH PRESSURE COOLANT INJECTION, Rev. 44.

III. TOOLS AND EQUIPMENT

A. None

IV. SET UP REQUIREMENTS

A. Initialize simulator to any full power IC.

B. Manually scram the Reactor and stabilize vessel level and pressure.

C. Secure feedwater and prohibit RCIC from starting.

D. Allow HPCI to start and run until high level trip.

E. Allow vessel level to decrease below 222.5 inches.

F. Re-establish feedwater to maintain vessel level above 126.5 inches and below 222.5 inches.

G. Override the red - open light ON for 23MOV-19. (OVERRIDE 2L02319-2 ON)

H. Override the green - closed light OFF for 23MOV-19. (OVERRIDE 2L02319-1 OFF)

I. Remove both overrides when candidate takes the control switch for 23MOV-19 to close.

V. EVALUATOR NOTES

A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.

B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and not actually performed.

VI. TASK CONDITIONS

A. An automatic HPCI initiation has occurred with a subsequent high level trip.

B. The Shift Supervisor has given direction to return HPCI to a normal standby line-up in accordance with OP-15.

* - CRITICAL STEP

VII. INITIATING CUE

A loss of feedwater flow has occurred resulting in a HPCI and RCIC initiation and trip on high Reactor vessel water level. Shutdown HPCI and return HPCI to a standby line-up per OP-15. You need to only respond to your alarms.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of OP-15, HIGH PRESSURE COOLANT INJECTION.	Obtains a controlled copy of OP-15	SAT / UNSAT
2.	Reviews the precautions.	Reviews the precautions, making note of any that are applicable.	SAT / UNSAT
3.	Select the correct section to perform the task.	Selects Section F of OP-15.	SAT / UNSAT
* 4.	Depresses TURB TRIP 23A-S19 pushbutton.	Depresses 23A-S-19 pushbutton on panel 09-3.	SAT / UNSAT
5.	<p>When both the following conditions exists:</p> <ul style="list-style-type: none"> ◆ RPV level is ABOVE 126.5 inches and ◆ Drywell pressure is BELOW 2.7 psig <p>Continue with this procedure</p>	Utilizes multiple indications to observe that RPV water level is above 126.5 inches and that drywell pressure is below 2.7 psig.	SAT / UNSAT
* 6.	Ensure closed TURB STM SUPP VLV 23MOV-14.	Closes 23MOV-14 by taking its control switch to the CLOSE position.	SAT / UNSAT
7.	Depress INITIATION SIG/MAN TURB TRIP RESET 23A-S17 pushbutton	Depresses 23A-S17 pushbutton on panel 09-3.	SAT / UNSAT
8.	Verifies white INITIATION SIG 23A-DS63 light is off.	Observes that 23A-DS63 light is off on panel 09-3.	SAT / UNSAT
9.	<p>If amber Rx HIGH LEVL SIG 23A-DS65 light is on at panel 09-3, THEN reset high water level trip as follows:</p> <p>Verify RPV level is LESS THAN 222.5 inches.</p>	Utilizes multiple indications to observe that RPV level is less than 222.5 inches, in accordance with Attachment 4 to OP-15.	SAT / UNSAT
* 10.	Depress HI LVL SIG RESET 23A-S25 pushbutton.	Depresses 23A-S25 pushbutton on panel 09-3.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
11.	Verify amber Rx HI LVL SIG 23A-DS65 light is off.	Observes that 23A-DS65 light is off on panel 09-3.	SAT / UNSAT
12.	Verify annunciator 09-3-3-28 HPCI TURB TRIP SOLENOID ENERGIZED is clear.	Observes that annunciator 09-3-3-28 clears when annunciator reset pushbutton is pushed.	SAT / UNSAT
13.	Ensure closed INJ VLV 23MOV-19.	Observes that 23MOV-19 is not closed by red - open light on and green - closed light off. Reports that 23MOV-19 failed to automatically close. Closes 23MOV-19 by taking its control switch to the CLOSE position.	SAT / UNSAT
14.	Ensure closed TEST VLV TO CST 23MOV-21.	Observes that the green - closed light for 23MOV-21 is on.	SAT / UNSAT
15.	If 23MOV-24 is not being used for RCIC operation THEN ensure closed HPCI & RCIC TEST VLV TO CST 23MOV-24.	Observes that the green - closed light for 23MOV-21 is on. <u>EVALUATOR:</u> Inform the candidate "Valve 23MOV-24 will not be used to support RCIC operation.	SAT / UNSAT
16.	When HPCI turbine is stopped, stop AUX OIL PMP 23P-150.	Observes that HPCI turbine is stopped by speed indicator on panel 09-3 reading 0 rpm stops 23P-150 by taking its control switch to the STOP position.	SAT / UNSAT
17.	Verify closed the following valves: ♦ TURB STOP VLV 23HOV-1 ♦ TURB GOV VLV 23HOV-2	Observes that the GREEN - closed lights for 23HOV-1 and 23HOV-2 are on.	SAT / UNSAT
18.	Verify open the following valves: ♦ STM LINE DRAIN TO RADW 23AOV-42 ♦ STM LINE DRAIN TO RADW 23AOV-43	Observes that the red - open lights for 23AOV-42 and 23AOV-43 are on.	SAT / UNSAT
19.	Ensure closed MIN FLOW VLV 23MOV-25.	Observes that the green - closed light for 23MOV-25 is on.	SAT / UNSAT
20.	Verify open STM LINE WARMING ISOL VLV 23MOV-60.	Observes that the red - open light for 23MOV-25 is on.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
21.	Ensure closed OUTBD STM SUPP VLV 23 MOV-16.	Closes 23MOV-16 by taking its control switch to the CLOSE position	SAT / UNSAT
22.	When HPCI turbine has been stopped for at least 15 minutes, stop GLAND SEAL CND SR BLOWER 23P-140.	After a 15 minute wait, stop 24P-140 by taking its control switch to the STOP position. <u>EVALUATOR</u> : JPM may be completed before 15 minute interval.	SAT / UNSAT
23.	Ensure closed for the following valves: ♦ HPCI GLAND SEAL SUCT 01-125MOV-13A ♦ HPCI GLAND SEAL SUCT 01-125MOV-13B	Closes 01-125MOV-13A and 01-125MOV-13B by placing their control switches on the CLOSE position. <u>EVALUATOR</u> : These control switches are located on panel 09-75.	SAT / UNSAT
24.	If SGT operation <u>is not</u> required, THEN shutdown SGT per Section F of OP-20.	When the candidate states that he/she would shutdown SGT per OP-20, then inform candidate "Another operator has been assigned to shutdown SGT".	SAT / UNSAT

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO/NLO

Combined RO/SRO

**Name: High Vibration on the "A" Reactor
Recirculation Pump**

**NRC K/A A4.01 Ability to manually operate and/or
monitor in the control room**

JAF TASK NUMBER: _____ **JAF QUAL STANDARD NUMBER:** _____

ESTIMATED COMPLETION TIME: _____ **Minutes**

SUBMITTED: _____ **OPERATION REVIEW:** _____

APPROVED: _____

CANDIDATE NAME: _____ **S.S. NUMBER:** _____

JPM Completion: () Simulated () Performed

Location: () Plant (X) Simulator

DATE PERFORMED: _____ **TIME TO COMPLETE:** _____ **Minutes**

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR: _____
SIGNATURE/PRINTED

CANDIDATE REVIEW: _____
SIGNATURE

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

I. SAFETY CONSIDERATIONS

- A. None

II. REFERENCES

- A. ARP 09-4-2-18, "RWR PMP A MTR VIB HI"
OP-27, "Recirculation System"

III. TOOLS AND EQUIPMENT

- A. None

IV. SET UP REQUIREMENTS

- A. Initialize simulator to a full power IC.
- B. Fail annunciator 09-4-2-18, to ALARM after the candidate has began the JPM.

V. EVALUATOR NOTES

- A. The candidate will be stationed at the 09-4 panel and instructed to respond to all alarms that are received on the 09-4 panel.
- B. Allow the candidate several minutes to review plant conditions.
- C. A second individual will be required to acknowledge alarms on other panels as they alarm.

VI. TASK CONDITIONS

You are the NCO2. Respond to all alarms that are received on the 09-4 panel.

*** - CRITICAL STEP**

VII. INITIATING CUE

You are the NCO2. Respond to all alarms that are received on the 09-4 panel.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Candidate assumes the watch on the 09-4 panel.	EVALUATOR: Ques simulator operator to insert "A" reactor recirculation pump high vibration alarm.	SAT / UNSAT
2.	Candidate acknowledges annunciator: 09-4-2-18, "RWR PMP A MTR VIB HI"	Candidate reviews the annunciator response procedures. ARP 09-4-2-18, "RWR PMP A MTR VIB HI"	SAT / UNSAT
3.	Candidate attempts to clear the high vibration alarm.	Attempts to clear alarm by: (1) depressing RWR PMP A VIB ALARM push button on the 09-4 panel apron section. (2) Pushing the annunciator reset button the 09-4 panel Alarm does NOT clear	SAT / UNSAT
4.	Determines that the "A" recirculation pump must be shutdown by performing an emergency shutdown of the "A" RWR loop	ARP09-4-2-18, "RWR PMP A MTR VIB HI" specifies that an emergency shutdown of the "A" RWR Loop must be performed per OP-27.	SAT / UNSAT
5.	Candidate obtains OP-27, "Recirculation System"	Candidate selects section G.2, "Emergency RWR Loop A Shutdown with Reactor in Startup or Run Mode." Evaluator: NCO2 has obtained AOP-8 and will implement actions in AOP-8.	SAT / UNSAT
*6.	CLOSE the "RWR PMP A DISH" 02MOV-53A Valve.	Candidate takes control switch for 02MOV-53A Valve to CLOSE and verify that the GREEN light is ON and the RED light is OFF.	SAT / UNSAT
7.	Verify the "A" Recirculation Pump has tripped.	Candidate verifies that the pump trips when 02MOV-53A is 10% open.	SAT / UNSAT
*8.	Place the reactor recirculation pump 02-2P-1A in PULL TO LOCK	Candidate takes control switch for the reactor recirculation pump 02-2P-1A and places the switch in PULL TO LOCK.	SAT / UNSAT

9.	Verify that the "A" reactor recirculation pump MS Set "A" generator field breaker is OPEN.	Verify that the generator field breaker light is green 17 seconds after the "A" drive motor breaker trips.	SAT / UNSAT
13.		EVALUATOR: Task is complete.	SAT / UNSAT

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO/NLO

Combined RO/SRO

Name: **Bypassing Local Power Range Monitor**

REV: 0

DATE: November 2001 NRC K/A

215005 A4.06 (3.6/3.8)

**Ability to manually operate and / or monitor
in the control room: verification of proper
functioning / operability.**

ESTIMATED COMPLETION TIME: 20 Minutes

SUBMITTED:

OPERATION REVIEW:

APPROVED:

CANDIDATE NAME:

S.S. NUMBER:

JPM Completion: () Simulated () Performed

Location: () Plant () Simulator

DATE PERFORMED: TIME TO COMPLETE: Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR:

_____/_____
SIGNATURE/PRINTED

CANDIDATE REVIEW:

SIGNATURE

**JOB PERFORMANCE MEASURE
RECORD AND CHECKLIST**

Current Update: _____
Date

By: _____
Int.

Outstanding Items:

_____ Technical Review

_____ Additional Information

_____ Questions and Answers

XX Validation

_____ Procedural Change Required

_____ None

Comments:

Current Update: _____
Date

By: _____
Int.

Previous Revision Dates:

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

I. SAFETY CONSIDERATIONS

- A. None

II. REFERENCES

- A. OP-16, Neutron Monitoring, Rev. 20.

III. TOOLS AND EQUIPMENT

- A. None

IV. SET UP REQUIREMENTS

- A. Initialize the simulator to any full power IC
- B. Ensure that APRM GAFs are 1.000 or less
- C. Insert Malfunction NM11:4C0421; Final Severity 0%
- D. Ensure that the Monicore program is operable

V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. In conjunction with OP-16 the (*) means the associated LPRM.

VI. TASK CONDITIONS

- A. The reactor is operating at full power
- B. LPRM 04-21C detector is inoperable (Failed Downscale)
- C. The control room supervisor has directed that LPRM 04-21C be bypassed.

VII. INITIATING CUE

LPRM 04-21C has failed downscale. Bypass and remove LPRM 04-21C from service.

*** - CRITICAL STEP**

INITIATING CUE

LPRM 04-21C has failed downscale. Bypass and remove LPRM 04-21C from service.

	STEP	STANDARD	EVALUATION / COMMENT
1	Obtain a controlled copy of procedure OP-16.		SAT / UNSAT
2	Select the correct procedure section to perform the task.	Selects section E.11, Bypassing an LPRM Assigned to an APRM.	SAT / UNSAT
3	Determines the APRM or LPRM Group that LPRM 04-21C is on.	Determines that LPRM 04-21C is on APRM A	SAT / UNSAT
4	Bypass APRM A.	Bypasses APRM A using section E.16: At 09-5 panel place APRM BYP switch in "A" Position.	SAT / UNSAT
5	Verify that the APRM A is bypassed.	Verify APRM (*) is bypassed using one or both of the following: APRM A BYPASS indicating light is ON APRM A EPIC alarm indicates bypassed	SAT / UNSAT
6	Verify that APRM C & E are in service.	Verify APRM C & E channels are in service using one or both of the following: APRM BYPASS indicating lights are off for the other two APRMs No EPIC bypassed alarms for the other two APRMs	SAT / UNSAT
7	Verify APRM A BYP light on panel 09-12 is ON.	APRM A BYP white light is ON on panel 09-12.	SAT / UNSAT

8	Verify LPRM 04-21C reads downscale	<p>At 09-12 panel determine alpha-numeric designation of LPRM 04-21C and place:</p> <p>left hand METER FUNCTION switch (S3) in the numerical position for 04-21C</p> <p>right hand METER FUNCTION switch (S2) in alphabetical position for LPRM 04-21C.</p> <p>Verify that the LPRM reads 0 on the meter.</p>	SAT / UNSAT
9*	Bypass LPRM 04-21C.	<p>Open panel door and find LPRM amplifier card 04-21C.</p> <p>Place the LPRM amplifier card switch in bypass.</p>	SAT / UNSAT
10	Verify LPRM 04-21C is bypassed.	<p>Verify the following indication at 09-12 panel for LPRM 04-21C.</p> <p>Bypassed indication - first white light is ON</p> <p>Downscale indication - middle white light is ON</p> <p>LPRM Bypassed white light on front left side of APRM meter is ON.</p> <p>Verify that the LPRM is indicating 0 on the meter.</p>	SAT / UNSAT
11	Determine APRM reading.	Place APRM A right hand meter switch to (S2) AVERAGE.	SAT / UNSAT
12	Contact Reactor Engineering to run an OD-1.	<p>Evaluator: Reactor Engineering has determined that an OD-1 is not required to be performed</p>	SAT / UNSAT

13*	Determine if the "A" APRM is operable.	<p>At 09-14 panel count the number LPRM amplifier cards that are in the OP (operate) position.</p> <p>The candidate should count greater than 11 LPRM amplifier cards that are in OP.</p> <p>The candidate should count at least 2 LPRM amplifier cards that are in OP per level.</p>	SAT / UNSAT
		Evaluator: The task is complete.	

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO/NLO

Combined RO/SRO

Name: **Manually load the Emergency Diesel
Generators in accordance with the
Emergency Diesel Generator Load Tests.**

REV: 0

DATE: November 2001 NRC K/A

264000 A4.04 (3.7/3.7)

**Ability to manually operate and / or monitor
in the control room: manual start, loading
and stopping of emergency diesel
generators.**

ESTIMATED COMPLETION TIME: 30 Minutes

SUBMITTED:

OPERATION REVIEW:

APPROVED:

CANDIDATE NAME:

S.S. NUMBER:

JPM Completion: () Simulated () Performed

Location: () Plant () Simulator

DATE PERFORMED: TIME TO COMPLETE: Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR:

_____/_____
SIGNATURE/PRINTED

CANDIDATE REVIEW:

SIGNATURE

**JOB PERFORMANCE MEASURE
RECORD AND CHECKLIST**

Current Update: _____
Date

By: _____
Int.

Changes:

Current Update: _____
Date

By: _____
Int.

Previous Revision Dates:

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

I. SAFETY CONSIDERATIONS

- A. None

II. REFERENCES

- A. ST-9B, EDG FULL LOAD TEST AND ESW PUMP OPERABILITY TEST, Rev. 31.

III. TOOLS AND EQUIPMENT

- A. Stopwatch
- B. One additional individual to start one of the EDGs simultaneously.

IV. SET UP REQUIREMENTS

- A. Trigger malfunction DG05B, after the "B" EDG is loaded to approximately 1000 KW.

V. EVALUATOR NOTES

- A. None

VI. TASK CONDITIONS

- A. Prerequisites of ST-9B, EDG FULL LOAD TEST AND ESW PUMP OPERABILITY TEST have been completed. The EDGs are ready to be started as per step 8.8.

Initiating Cue: Surveillance test procedure, ST-9BB, "EDG FULL LOAD TEST AND ESW PUMP OPERABILITY TEST," is in progress. The B and D emergency diesel generators (EDGs) are ready to be started. The control room supervisor requests that you complete ST-9BB beginning with the starting of the B and D EDGs. The CRS requests that the "B" EDG is loaded first then the "D" EDG.

*** - CRITICAL STEP**

VII. INITIATING CUE

Surveillance test procedure, ST-9BB, "EDG FULL LOAD TEST AND ESW PUMP OPERABILITY TEST," is in progress. The B and D emergency diesel generators (EDGs) are ready to be started. The control room supervisor requests that you complete ST-9BB beginning with the starting of the B and D EDGs. The CRS requests that the "B" EDG is loaded first then the "D" EDG.

	STEP	STANDARD	EVALUATION / COMMENT
1	Obtain a controlled copy of procedure ST-9BB.	EVALUATOR: Provide a marked up controlled copy of ST-9BB, EDG FULL LOAD TEST AND ESW PUMP OPERABILITY TEST.	SAT / UNSAT
2	Reviews the precautions.	Reviews the precautions, making note of any that are applicable.	SAT / UNSAT
3	Select the correct section to perform the task.	Selects section 8.8 of ST-9BB.	SAT / UNSAT
4	Starts B and D EDG simultaneously	Places the control switch for the B & D EDG in the start position simultaneously.	SAT / UNSAT
5*	Verifies that the start time of the EDGs is less than 10 seconds.	Starts the stop watch when both EDGs are started and stops when both EDGs are greater than 900 rpm and 4.16 KV.	SAT / UNSAT
6	Verifies that the tie breaker is closed and B emergency service water pump is running.	Verifies the following panel indications: EDG B & D TIE BKR 10604 RED light indication ON ESW Pump 46P-2B RED light is ON.	SAT / UNSAT
7	Trip tie breaker 10604.	Places the CS for breaker 10604, EDG B & D TIE BKR, to OPEN and spring return to AUTO.	SAT / UNSAT
8	Place the governor mode switches in the droop position.	Places the EDG GOV MODE switches for EDGs B & D to DROOP.	SAT / UNSAT

9*	Parallel EDG B with the grid. Parallels EDG B with the grid as follows:	<p>Place the B LOAD BKR SYNCH SW to ON.</p> <p>Match INCOMING (EDG) and RUNNING (bus 10600) voltages.</p> <p>Match EDG and bus phases by synchroscope and places the CS for 10602, EDG B LOAD BKR, to CLOSE.</p> <p>Adjust EDG B GOV to raise EDG B load 100 to 300 Kw</p> <p>Place the EDG B LOAD BKR SYNCH SW to OFF. (This action is not critical).</p>	SAT / UNSAT
10	Load EDG B.	<p>Places the EDG B GOV switch to RAISE and loads EDG B in increments of about 800 kW over a period of 3 to 5 minutes until 2600 kW is reached.</p> <p>EVALUATOR: Ensure that at 1000 KW (first adjustment) that the fault is inserted.</p>	SAT / UNSAT
11	Identifies the load swings on the B EDG	The candidate identifies the faulted governor which resulted in load swings on the B EDG	SAT / UNSAT
12*	Trips the B EDG breaker	<p>The candidate trips the the B EDG using step 8.15</p> <p>Trips associated B EDG load Breaker</p>	SAT / UNSAT
13	Continues to shutdown the "B" EDG.	The candidate determines that OP-22 "DIESEL GENERATOR EMERGENCY POWER," is required.	SAT / UNSAT
		<p>EVALUATOR: When the candidate obtains OP-22, "DIESEL GENERATOR EMERGENCY POWER," and identifies he would continue to shut down the B EDG using step G.6, terminate the JPM.</p>	

NEW YORK POWER AUTHORITY
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
OPERATIONS SURVEILLANCE TEST PROCEDURE

EDG B AND D FULL LOAD TEST AND ESW PUMP OPERABILITY TEST*
ST-9BB
REVISION 3

APPROVED BY: Thomas H. Blum Jr. (Signature)
RESPONSIBLE PROCEDURE OWNER

DATE 7/11/06

EFFECTIVE DATE: 7-14-00

FIRST ISSUE ☐

FULL REVISION ☐

LIMITED REVISION ☒

***** * * CONTINUOUS USE * * *****	***** * * TSR * * *****
***** * * TECHNICAL * * *****	CONTROLLED #

REVISION SUMMARY SHEET

REV. NO. CHANGE AND REASON FOR CHANGE

- 3 Revised Step 4.6 to require ESW Pump 46P-2B be initially shutdown to ensure pump auto-starts during test.

Revised Steps 8.8 through 8.11 and Section 10 to eliminate EDG speed criteria associated with ESW pump start and tie breaker closure (DER-00-02260) and improve human factors.

Added notes to relax placekeeping requirements for Steps 8.17.4, 8.17.5, 8.18.4, and 8.18.5.

Added direction to remove synch switch handle to Steps 8.17.6 and 8.18.6.

Relocated Step 8.20 and added note to permit performance of Steps 8.20 through 8.30 in any order or concurrently.

Added notes to relax signoff requirements for Steps 8.32.4 through 8.32.7.

Revised Steps 8.43 and 8.45 and added notes to permit performance of Steps 8.38 through 8.45 in any order or concurrently.

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1.0 REQUIREMENTS

1.1 Frequency

Monthly (At least once per 31 days)

1.2 Technical Specifications

1.2.1 Surveillance Requirements

Section 4.9.B.1 and B.3

1.2.2 Limiting Conditions for Operation

Section 3.9.A
Section 3.9.B
Section 3.9.C
Section 3.9.D

1.3 Other

None

1.4 Commitments

- 1.4.1 Commitment Number 010395 - JPN-90-060, JPN-92-022, UFSAR Section 8.6.8.1, Special Restrictions on Emergency Diesel Generator Switchgear. JPN-90-060 includes additional requirements for 1) No remote or local 4.16 kV breaker operations should be performed except those specified in this procedure. 2) Racking in or out 4.16 kV breakers shall not be performed during EDG full load test.
- 1.4.2 Commitment Number 000500, (JAF-84-157) NRC Inspection 50-333/84-05 - April 1-30, 1984. The Authority would revise the emergency diesel generator (EDG) full load surveillance test procedure to: 1) Specify that only one pair of EDGs be tested at a time and 2) If testing was concurrent, the first pair of EDGs be allowed to cool down before the second pair is tested.
- 1.4.3 Commitment Number 003544, (JAF-88-322) NRC Inspection 50-333/88-15 - August 8-19, 1988, Procedure ST-9B, Rev 24 addressed inspector concerns for returning emergency diesel generators (EDG) to standby operations following EDG full load test and ESW pump operability test.

- 1.4.4 Commitment Number 012120, (JAF-93-022) NRC Inspection 50-333/92-23 Nov 15 through Dec 19, 1992, Each EDG air bank will be tested every other month to ensure the operability of each air bank. Due to lack of isolation valves for the pairs of individual air start motors, testing simultaneously might mask a failure.
- 1.4.5 Commitment Number 003545, (JAF-88-322) NRC Inspection 50-333/88-15 Aug 8-19, 1988, The Authority will incorporate verification of the EDG room ventilation system into surveillance test procedure ST-9B.

1.5 **Expectations**

- 1.5.1 ACTS Item 2487, Reduced the length of ST-9B, EDG Full Load Test and ESW Operability Test*
- 1.5.2 DER-95-0844, Revised procedure to include actions if an EDG functions improperly and added cautions to alert the operator of the effects of T-4 load tap changer adjustment during EDG operation.
- 1.5.3 LER-99-001, Revised procedure to alert operator that EDGs are considered inoperable when operating in single diesel mode or when operating both EDGs with tie breaker open. Also added steps to declare EDGs inoperable during test.
- 1.5.4 ACT-98-36328, Revised procedure to monitor Emergency Switchgear Room temperatures and require EDGs be secured if ambient temperature approaches 104°F, based on instrument accuracy.
- 1.5.5 ACT-98-38117, Added step to verify EPIC-D-732 alarmed and cleared after 10604 breaker is tripped. This verifies proper operation of breaker auxiliary contacts.

↓EXP1.5.1

2.0 PURPOSE

To demonstrate the ability of:

- EDG B and D to start, accelerate, force parallel, share loads, and carry full rated load.
- ESW Pump B to automatically start and provide greater than or equal to 1060 gpm to EDG B and D.
- EDG B and D diesel fuel oil subsystems to provide sufficient fuel oil to the associated EDG while operating at full load.

3.0 REFERENCES

3.1 Performance References

- 3.1.1 ODSO-17, Auxiliary Operator Plant Tour and Operating Logs*
- 3.1.2 ODSO-34, Tech Spec LCO and Maintenance Rule Unavailability Tracking
- 3.1.3 OP-4, Circulating Water System*
- 3.1.4 OP-7A, Chlorine Injection System*
- 3.1.5 OP-13, Residual Heat Removal System*
- 3.1.6 OP-21, Emergency Service Water*
- 3.1.7 OP-22, Diesel Generator Emergency Power*
- 3.1.8 OP-43A, 125V DC Power System*
- 3.1.9 OP-46B, 120V AC Power System*
- 3.1.10 OP-60, Diesel Generator Room Ventilation*
- 3.1.11 OP-62, Pipe and Cable Tunnels Ventilation System*

3.2 Developmental References

- 3.2.1 FSAR Section 8.6.4
- 3.2.2 Model #645-S20E4GW Emergency Diesel Generator, Manual Number M494-0208
- 3.2.3 FM-46B, FM-93A, FM-93C, and FM-94A

- 3.2.4 JSEM-91-0051, Recommendation To Manually Bar Over Emergency Diesel Generator (93EDG-A, B, C & D) Prior To Scheduled Start
- 3.2.5 JOPS-91-150, B Emergency Diesel Fuel Oil Day Tank Drain Valves Out Of Position Incident
- 3.2.6 JAG-92-042; DEO No. IENG-62, Revise ST-9B to assure that the EDG are tested with alternate air receiver banks each month.
- 3.2.7 JOPS-92-087, Technical Specification 4.9.C.2
- 3.2.8 JPN-92-022, James A. Fitzpatrick Nuclear Power Plant Docket No. 50-333, Reliability of Manual Bus Transfers Between Onsite and Offsite Power Supplies and Resolution of 4.16 kV Switchgear Deficiency
- 3.2.9 JTS-92-1060, EDG Vent Operability
- 3.2.10 WRs 095482 and 110304, EDG Room Ventilation Flow Measurements
- 3.2.11 JAF-SE-90-067, Revision 4, Clarification of Design Basis Requirements for the JAFNPP Emergency Service Water System (46)
- 3.2.12 DER-95-0844, EDG Failed to Pick Up Load During Performance of ST-9B
- 3.2.13 JTS-95-0289, Critique on Failure of 93EDG-A to Load During Performance of ST-9B on 5/9/95
- 3.2.14 DER-98-0156, 10CFR Part 21 Notification on EDG Air Start Solenoid Valves
- 3.2.15 JTS-98-0021, Operability Determination for DER-98-0156
- 3.2.16 D1-98-0020, Replace EDG Air Start SOVs (Part 21 Notification)
- 3.2.17 JAF-CALC-DBV-03021, Emergency Switchgear Room Temperature
- 3.2.18 JAF-SE-96-048, Revision to FSAR to Raise Maximum Allowable Lake Temperature From 82°F to 85°F
- 3.2.19 Tech Spec. Amendment 253, EDG System AOT Extension

NOTE: Sections 4 and 5 may be performed in any order or concurrently.

4.0 **PREREQUISITES**

Init

4.1 SM has granted permission to perform this test.

SH

4.2 Revision Number of this Working Copy is the same as the revision number listed in the Master Copy of the Index of Operations Surveillance Test Procedures.

SM

4.3 Test personnel have read this procedure and are thoroughly familiar with its contents.

SM

4.4 Start of test recorded. Today / 1 hour ago.
Date/Time

SM

4.5 Start of test recorded in NCO Log Book.

SM

NOTE: Remaining prerequisites may be performed in any order or concurrently.

4.6 Emergency Service Water System is lined up per OP-21, with ESW Pump 46P-2B shutdown.

SM

4.7 Circulating Water System, including traveling water screens and trash rakes, is supplying water to the suction of Emergency Service Water Pumps 46P-2A and 46P-2B per OP-4.

SM

NOTE: The next step may be marked "NA" if RES Chemistry reports that chlorinating is not required.

4.8 ESW pump forebay chlorinated per OP-7A.

NA

4.9 120V AC Power System is lined up per OP-46B.

SM

4.10 125V DC Power System is lined up per OP-43A.

SM

4.11 Diesel Generator Room Ventilation is lined up per OP-60.

SM

4.12 Pipe and Cable Tunnels Ventilation System is lined up per OP-62.

SM

4.13 EDG B and D are in the standby line up per OP-22.

SM

↓COM1.4.1

4.14 Pre-startup checks have been completed for EDG B and D per Section G of OP-22.

SM

Init

4.15 Calibration is up-to-date for each of the following instruments:

Instrument

93AM-21B
93AM-21D
93AM-22B
93AM-22D
93AM-23B
93AM-23D
93FM-2B
93FM-2D
93LI-102B
93LI-102D
93LS-7B
93LS-7D
93LT-102B
93LT-102D
93TI-5B
93TI-5D
93VM-2B
93VM-2D
93VRM-2B
93VRM-2D
93WM-2B
93WM-2D
EPIC-A-711

4.16 Calibration for each instrument listed in Subsection 5.1 is up-to-date.

SM

SM

Init

↓EXP1.5.3

4.17 IF EDG System B is required to be operable,
THEN EDG System B is declared inoperable per ODSO-34.

SA

5.0 TEST EQUIPMENT, SPECIAL TOOLS, AND MATERIALS

5.1 Test Equipment

- Stopwatch

SIM-001
Serial Number

- Portable digital thermometer, required accuracy $\pm 1^{\circ}\text{F}$
(required only when outside ambient temperature is $> 88^{\circ}\text{F}$
and screenwell intake temperature is $> 78^{\circ}\text{F}$)

07-123
Serial Number

5.2 Special Tools

None

5.3 Materials

None

6.0 PRECAUTIONS AND LIMITATIONS

6.1 Precautions

- 6.1.1 Fire doors between EDG rooms shall be closed when EDGs are required to be operable.
- 6.1.2 EDG operation at 2000 kW shall be avoided to prevent turbo charger override clutch shock loading problems.

↓COM1.4.1

6.1.3 During monthly Emergency Diesel Generator (EDG) testing when the diesels are operated in parallel with the Normal Station Service Transformer 71T-4, the fault currents associated with a three-phase bolted electrical fault could exceed the short circuit rating of certain 4160 volt switchgear.

For the above reason, the special measures listed below shall be taken when the EDGs are operated in parallel with 71T-4:

- No remote or local 4.16 kV breaker operations should be performed except those specified in this procedure.
- Racking in or out 4.16 kV breakers shall not be performed.
- No maintenance is permitted on the 4160 volt switchgear.
- Except for personnel associated with EDG operation, personnel are not permitted to work in the switchgear areas. Switchgear areas will be inspected prior to EDG operation to ensure personnel are not working in these areas.

↓COM1.4.2

6.1.4 Only one pair of EDGs shall be tested at a time.

6.2 Limitations

- 6.2.1 Test personnel shall immediately notify the NCO or SM of any failure to meet acceptance criteria.
- 6.2.2 Test personnel shall print name, sign initials, and enter date on Attachment 1 before performing Section 8 of this test.
- 6.2.3 When test personnel complete their assigned portion of this test, they shall enter hours worked on Attachment 1.
- 6.2.4 Once this test has been started, any additional test personnel shall read this procedure and become thoroughly familiar with its contents before performing any portion of this test.

- 6.2.5 Multiple working copies of this test may be used provided the following requirements are satisfied:

NOTE: The work site is defined as the location where work is controlled. The location of the work site is at the discretion of the NCO/SNO.

- A. A working copy of this test shall be retained at the work site.
 - B. The work site working copy shall be the legal record for documenting this test.
 - C. Data from all steps performed away from the work site, including signatures, initials, and recorded values, is transcribed into the work site working copy following completion of the test.
- 6.2.6 Conditional (**IF, THEN**) steps in this test may be marked "NA" if not applicable.
- 6.2.7 Steps in this test marked "NR" are not required to be initialed.

7.0 GENERAL TEST METHODS

- 7.1 This test demonstrates the ability of:

- EDG B and D to start, accelerate, force parallel, share loads, and carry full rated load.
- ESW Pump B to automatically start and provide greater than or equal to 1060 gpm to EDG B and D.
- EDG B and D diesel fuel oil subsystems to provide sufficient fuel oil to the associated EDG while operating at full load.

- 7.2 This test consists of the following major steps:

- Inspection of air start motors and air receiver lineup
- Demonstration of EDG startup and force parallel
- Paralleling and loading each EDG to 2600 kW
- Demonstration of proper operation of EDG Room supply fans, associated ESW pump, and EDG air start motors

8.0 PROCEDURE

Init

CAUTION

↓EXP1.5.3

An EDG system is considered inoperable when operating in the single diesel mode **OR** when operating both EDGs with their tie breaker open and the EDGs are either unloaded or in parallel with the grid.

8.1 Perform the following for each air start motor at EDG B:

8.1.1 Visually inspect exposed air start motor gear teeth for damage and obstruction.

NLO

8.1.2 **IF** damage or obstruction is observed, **THEN** perform the following:

A. Immediately notify SM.

NA

B. Record problem in Subsection 11.3.

NA

C. Initiate a PID for corrective action.

NA

8.1.3 Wipe down area underneath air start motor exhaust to remove oil film.

NLO

↓COM1.4.4

8.2 Line up EDG B air start receiver outlet isolation valves as follows:

8.2.1 **IF** the current month is an even numbered month, **THEN** perform the following:

A. Ensure open 93EDG-50B (EDG B air start receiver B6 through B10 outlet isol valve).

~~NA~~ NA (NLO)

B. Ensure closed 93EDG-47B (EDG B air start receiver B1 through B5 outlet isol valve).

~~NA~~ NA (NLO)

8.2.2 **IF** the current month is an odd numbered month, **THEN** perform the following:

A. Ensure open 93EDG-47B (EDG B air start receiver B1 through B5 outlet isol valve).

NLO

B. Ensure closed 93EDG-50B (EDG B air start receiver B6 through B10 outlet isol valve).

NLO

Init

8.3 Perform the following for each air start motor at EDG D:

8.3.1 Visually inspect exposed air start motor gear teeth for damage and obstruction.

NLO

8.3.2 **IF** damage or obstruction is observed, **THEN** perform the following:

A. Immediately notify SM.

NA

B. Record problem in Subsection 11.3.

NA

C. Initiate a PID for corrective action.

NA

8.3.3 Wipe down area underneath air start motor exhaust to remove oil film.

NLO

↓COM1.4.4

8.4 Line up EDG D air start receiver outlet isolation valves as follows:

8.4.1 **IF** the current month is an even numbered month, **THEN** perform the following:

A. Ensure open 93EDG-50D (EDG D air start receiver D6 through D10 outlet isol valve).

NA

B. Ensure closed 93EDG-47D (EDG D air start receiver D1 through D5 outlet isol valve).

NA

8.4.2 **IF** the current month is an odd numbered month, **THEN** perform the following:

A. Ensure open 93EDG-47D (EDG D air start receiver D1 through D5 outlet isol valve).

NLO

B. Ensure closed 93EDG-50D (EDG D air start receiver D6 through D10 outlet isol valve).

NLO

8.5 Ensure pre-run turbo oil pressures from 93PI-1B and 93PI-1D are recorded on ODSO-17, Diesel Operating Log Sheet.

SM

8.6 Verify the following annunciators are clear:

• 09-8-4-11 EDG B ENG TROUBLE OR SHUTDOWN

(✓)

• 09-8-4-14 EDG D ENG TROUBLE OR SHUTDOWN

(✓)

NLO

Init

↓EXP1.5.4

8.7 **IF** both of the following conditions exist:

- Outside ambient temperature is **GREATER THAN** 88°F on 17WR-101K, CHAN A, digital indication at panel 17EMRP.

AND

- Screenwell intake temperature is **GREATER THAN** 78°F on EPIC-A-1503 or EPIC-A-1504.

THEN perform the following while EDGs are running:

8.7.1 Periodically monitor ambient temperature in North and South Emergency Switchgear Rooms using portable digital thermometer.

NR

8.7.2 **IF** ambient temperature in either switchgear room approaches 103°F,
THEN shut down EDG B and D per the applicable steps of this procedure.

NR

Init

8.8 Simultaneously place the following control switches to START and start stopwatch:

- EDG B CNTRL
- EDG D CNTRL

NR

8.9 **WHEN** EDG B and D reach rated speed (≥ 900 rpm) and voltage (≥ 4.16 kV) stop stopwatch.

8.10 Record time required for EDG B and D to reach rated speed and voltage.

_____ seconds
(<10)

8.11 Verify the following:

- EDG B & D TIE BKR 10604 is closed. ()
- ESW Pump 46P-2B is running. ()

8.12 Trip EDG B & D TIE BKR 10604, allow switch to spring return to AUTO.

↓EXP1.5.5

8.13 Verify EPIC-D-732 closed and open on alarm typer.

8.14 Place the following switches in DROOP:

- EDG B GOV MODE ()
- EDG D GOV MODE ()

Init

↓EXP1.5.2

8.15 **IF** an EDG functions improperly while paralleled with 10600 bus,
THEN perform the following:

8.15.1 Trip associated EDG load breaker.

NR

8.15.2 Shut down malfunctioning EDG per Section G of OP-22 (Single EDG Shutdown from Control Room).

NR

8.15.3 Shut down other EDG per Section G of OP-22 (Single EDG Shutdown from Control Room).

NR

8.15.4 Initiate a PID to troubleshoot EDG.

PID Number _____

NR

CAUTION

↓EXP1.5.2

Operation of the T-4 load tap changer during paralleling and loading of the EDG could cause the EDG to trip.

↓EXP1.5.2

8.16 **WHILE** performing Steps 8.17 and 8.18,
do not operate the T-4 load tap changer.

NR

Init

NOTE: Steps 8.17 and 8.18 may be performed
in any order per SM direction.

8.17 Parallel EDG B with the 10600 Bus as follows:

8.17.1 Place EDG B LOAD BKR SYNCH SW in ON. ()

8.17.2 Adjust EDG B VOLT REG to match
INCOMING and RUNNING voltage. ()

8.17.3 Adjust EDG B GOV to rotate
SYNCHROSCOPE slowly in the FAST
direction (clockwise). ()

NOTE: Steps 8.17.4 and 8.17.5 may be checked
after Step 8.17.5 is complete.

8.17.4 **WHEN** EDG B and the 10600 Bus are in
phase (SYNCHROSCOPE at 12 o'clock),
close EDG B LOAD BKR 10602. ()

8.17.5 Adjust EDG B GOV to raise EDG B load
100 to 300 kW. ()

8.17.6 Place EDG B LOAD BKR SYNCH SW in OFF and
remove synch switch handle. ()

8.17.7 **IF** EDG B is the second diesel paralleled,
THEN balance EDG B and D using voltage
regulator(s) to establish **LESS THAN** 100
KVAR difference between EDG B and EDG D. ()

8.17.8 Adjust EDG B GOV to raise EDG B load
to 2600 kW over 3 to 5 minutes in
approximately 800 kW increments. ()

Init

NOTE: Steps 8.17 and 8.18 may be performed
in any order per SM direction.

8.18 Parallel EDG D with the 10600 Bus as follows:

8.18.1 Place EDG D LOAD BKR SYNCH SW in ON. ()

8.18.2 Adjust EDG D VOLT REG to match
INCOMING and RUNNING voltage. ()

8.18.3 Adjust EDG D GOV to rotate
SYNCHROSCOPE slowly in the FAST
direction (clockwise). ()

NOTE: Steps 8.18.4 and 8.18.5 may be checked
after Step 8.18.5 is complete.

8.18.4 **WHEN** EDG D and the 10600 Bus are in
phase (SYNCHROSCOPE at 12 o'clock),
close EDG D LOAD BKR 10612. ()

8.18.5 Adjust EDG D GOV to raise EDG D load
100 to 300 kW. ()

8.18.6 Place EDG D LOAD BKR SYNCH SW in OFF and
remove synch switch handle. ()

8.18.7 **IF** EDG D is the second diesel paralleled,
THEN balance EDG B and D using voltage
regulator(s) to establish **LESS THAN** 100
KVAR difference between EDG B and EDG D. ()

8.18.8 Adjust EDG D GOV to raise EDG D load
to 2600 kW over 3 to 5 minutes in
approximately 800 kW increments. ()

Init

8.19 **WHEN** EDG B and EDG D are running at 2600 kW each,
record current time in hours and minutes.

Current time _____

NOTE 1: To satisfy the 1 hour full load requirement
in Tech Specs, EDG B and D must carry a total
load of 5200 kW in parallel for at least 1 hour.

NOTE 2: Steps 8.20 through 8.30 may be performed in any
order or concurrently.

8.20 Complete startup section of OP-22, EDG Demand Log,
for EDG B and D.

8.21 Perform Steps 8.22 through 8.30 early in the 1 hour
full load period.

NR

↓COM1.4.5

8.22 Verify the following fans indicate running
at panel 92HV-9B:

- 92FN-1B EDG B ROOM VENT SUPPLY FAN ()
- 92FN-1D EDG D ROOM VENT SUPPLY FAN ()

↓COM1.4.5

8.23 Verify the following fans indicate stopped
at panel 92HV-9B:

- 92FN-2B EDG B ROOM VENT EXHAUST FAN ()
- 92FN-2D EDG D ROOM VENT EXHAUST FAN ()

Init

↓COM1.4.5

8.24 IF annunciator HV-9B-7 SUPPLY FAN FN-1B TROUBLE
is in alarm,

THEN verify adequate ventilation flow as follows:

8.24.1 Verify white high vibration light is off for
supply fan 92FN-1B. _____

8.24.2 Record EDG B Room temperature from 92TIC-101B
EDG B ROOM VENT TEMP INDIC CNTRLR.

_____ °F
(<120) _____

8.24.3 Note setpoint for 92TIC-101B. _____

NR

8.24.4 Place 92TIC-101B in manual. _____

8.24.5 Adjust setpoint on 92TIC-101B until
annunciator HV-9B-7 clears. _____

8.24.6 Adjust setpoint on 92TIC-101B to value
noted in Step 8.24.3. _____

8.24.7 Place 92TIC-101B in auto. _____

↓COM1.4.5

8.25 IF annunciator HV-9B-9 SUPPLY FAN FN-1D TROUBLE
is in alarm,

THEN verify adequate ventilation flow as follows:

8.25.1 Verify white high vibration light is off for
supply fan 92FN-1D. _____

8.25.2 Record EDG D Room temperature from 92TIC-101D
EDG D ROOM VENT TEMP INDIC CNTRLR.

_____ °F
(<120) _____

8.25.3 Note setpoint for 92TIC-101D. _____

NR

8.25.4 Place 92TIC-101D in manual. _____

8.25.5 Adjust setpoint on 92TIC-101D until
annunciator HV-9B-9 clears. _____

8.25.6 Adjust setpoint on 92TIC-101D to value
noted in Step 8.25.3. _____

8.25.7 Place 92TIC-101D in auto. _____

Init

↓COM1.4.5

8.26 Verify the following fans are discharging
air flow into their respective EDG room:

- 92FN-1B is discharging into EDG Room B. ()
- 92FN-1D is discharging into EDG Room D. ()

NOTE: Lack of oil residue will not make an EDG inoperable.

8.27 Verify EDG B and D air start motors functioned
properly using one of the following methods:

NOTE: Observing oil residue is the preferred
method of verifying air start motors
functioned properly.

- Oil residue observed underneath air start motor
exhaust.

OR

- Air flow observed coming from air start motor
exhaust.

8.28 **IF** oil residue is not observed underneath an
air start motor exhaust,
THEN perform the following:

8.28.1 Initiate a PID for maintenance to correct
deficiency.

8.28.2 Record PID number in Subsection 11.3.

8.29 Verify the following fuel oil pumps are running:

- 93P-4B (emergency diesel generator B
fuel oil pump) ()
- 93P-4D (emergency diesel generator D
fuel oil pump) ()

8.30 Record ESW Pump 46P-2B flow rate from EPIC-A-711.

EPIC-A-711 _____ gpm
(≥1060)

Init

8.31 **WHEN** EDG B and D have been running fully loaded for at least 40 minutes, perform the following:

8.31.1 Complete Diesel Operating Log per ODSO-17.

NR

8.31.2 Record readings from the following instruments at panel 09-8 and perform Steps 8.31.2.A through 8.31.2.C below:

EDG B FREQ _____

EDG B KW _____

EDG B KVAR _____

EDG B KV _____

EDG B PH A _____

EDG B PH B _____

EDG B PH C _____

EDG D FREQ _____

EDG D KW _____

EDG D KVAR _____

EDG D KV _____

EDG D PH A _____

EDG D PH B _____

EDG D PH C _____

A. Verify that each instrument reflects the expected operating value of the measured parameter. _____

B. Verify EDG B and D voltage and frequency indications are consistent with each other. _____

C. Record discrepancies in Subsection 11.3. _____

Init

8.32 **WHEN** EDG B and D have been running loaded at 2600 kW each for at least 1 hour, perform the following:

8.32.1 Record current time in hours and minutes.

Current time _____

8.32.2 Verify full load run time is **GREATER THAN OR EQUAL TO** 60 minutes and record.

Time (Step 8.32.1) _____

Time (Step 8.19) - _____

Full load run time = _____ minutes

CAUTION

↓EXP1.5.2

Operation of the T-4 load tap changer during unloading of the EDG could cause the EDG to trip.

8.32.3 **WHILE** performing Steps 8.32.4 through 8.32.7, do not operate the T-4 load tap changer.

NR

NOTE: Steps 8.32.4 through 8.32.7 may be initialed after Step 8.32.7 is complete.

8.32.4 Adjust EDG B GOV to lower EDG B load to approximately 50 kW over 3 to 5 minutes in approximately 800 kW increments.

8.32.5 Trip EDG B LOAD BKR 10602.

8.32.6 Adjust EDG D GOV to lower EDG D load to approximately 50 kW over 3 to 5 minutes in approximately 800 kW increments.

8.32.7 Trip EDG D LOAD BKR 10612.

8.32.8 Place the following switches in NORMAL:

- EDG B GOV MODE ()
- EDG D GOV MODE ()

Init

8.33 Prepare EDG B for shutdown as follows:

- 8.33.1 Place EDG B LOAD BKR SYNCH SW in ON. _____
- 8.33.2 Adjust EDG B parameters for shutdown as follows: _____
- Adjust EDG B GOV until SYNCHROSCOPE is as close to being stopped as practicable. _____
 - Adjust EDG B VOLT REG to establish 4.3 kV on EDG B KV meter. _____
- 8.33.3 Verify SYNCHROSCOPE is as close to being stopped as practicable. _____
- 8.33.4 Record voltage from INCOMING volt meter. _____
- INCOMING _____ volts _____
- 8.33.5 Place EDG B LOAD BKR SYNCH SW in OFF and remove synch switch handle. _____

8.34 Prepare EDG D for shutdown as follows:

- 8.34.1 Place EDG D LOAD BKR SYNCH SW in ON. _____
- 8.34.2 Adjust EDG D parameters for shutdown as follows: _____
- Adjust EDG D GOV until SYNCHROSCOPE is as close to being stopped as practicable. _____
 - Adjust EDG D VOLT REG until voltage on INCOMING volt meter is the same as the voltage recorded in Step 8.33.4. _____
- 8.34.3 Verify SYNCHROSCOPE is as close to being stopped as practicable. _____
- 8.34.4 Record voltage from INCOMING volt meter. _____
- INCOMING _____ volts _____
- 8.34.5 Place EDG D LOAD BKR SYNCH SW in OFF and remove synch switch handle. _____

Init

↓COM1.4.2

8.35 Allow EDG B and D to run unloaded for at least 10 minutes to cool down cylinders before proceeding to the next step.

8.36 Shut down EDG B and D by placing the following control switches to STOP:

- EDG B CNTRL
- EDG D CNTRL

8.37 **WHEN** EDG B and D are stopped (at standstill), stop ESW PMP B 46P-2B at panel 09-6.

NOTE: Steps 8.38 through 8.45 may be performed in any order or concurrently.

8.38 Verify the following fans indicate stopped at panel 92HV-9B:

- 92FN-1B EDG B ROOM VENT SUPPLY FAN ()
- 92FN-1D EDG D ROOM VENT SUPPLY FAN ()

8.39 Verify the following fans indicate running at panel 92HV-9B:

- 92FN-2B EDG B ROOM VENT EXHAUST FAN ()
- 92FN-2D EDG D ROOM VENT EXHAUST FAN ()

8.40 Review EPIC alarm typer printout and verify the following EPIC alarms remained clear (NORMAL) for the duration of EDG B and D full load testing:

- EPIC-D-1110 (93LS-7B) ()
- EPIC-D-1112 (93LS-7D) ()

↓COM1.4.3

8.41 Complete shutdown section of OP-22, EDG Demand Log, for EDG B and D.

Init

8.42 Verify 93P-4B (emergency diesel generator B fuel oil pump) is shutdown.

8.43 Check EDG B fuel oil levels as follows:

8.43.1 **IF** level is **LESS THAN** 80% on 93LI-102B EDG B FUEL OIL DAY TANK B LEVEL INDIC at panel 93ECP-B, **THEN** add fuel oil to day tank as follows:

A. Place one of the following control switches in MAN:

(_) 93P1-B1 EDG B FUEL OIL TRANSFER PUMP B1

(_) 93P1-B2 EDG B FUEL OIL TRANSFER PUMP B2

B. **WHEN** level is 80 to 95% on 93LI-102B EDG B FUEL OIL DAY TANK B LEVEL INDIC, ensure both of the following control switches are in AUTO:

• 93P1-B1 EDG B FUEL OIL TRANSFER PUMP B1 ()

• 93P1-B2 EDG B FUEL OIL TRANSFER PUMP B2 ()

8.43.2 Record fuel oil level from 93LI-101BL (EDG B fuel oil storage tank 6B local level indic), located in EDG Room B.

93LI-101BL _____ feet, inches

Init

8.44 Verify 93P-4D (emergency diesel generator D fuel oil pump) is shutdown.

8.45 Check EDG D fuel oil levels as follows:

8.45.1 **IF** level is **LESS THAN** 80% on 93LI-102D EDG D FUEL OIL DAY TANK D LEVEL INDIC at panel 93ECP-D, **THEN** add fuel oil to day tank as follows:

A. Place one of the following control switches in MAN:

(_) 93P1-D1 EDG D FUEL OIL TRANSFER PUMP D1

(_) 93P1-D2 EDG D FUEL OIL TRANSFER PUMP D2

B. **WHEN** level is 80 to 95% on 93LI-102D EDG D FUEL OIL DAY TANK D LEVEL INDIC, ensure both of the following control switches are in AUTO:

• 93P1-D1 EDG D FUEL OIL TRANSFER PUMP D1 ()

• 93P1-D2 EDG D FUEL OIL TRANSFER PUMP D2 ()

8.45.2 Record fuel oil level from 93LI-101DL (EDG D fuel oil storage tank 6D local level indic), located in EDG Room D.

93LI-101DL _____ feet, inches

Init

8.46 Verify fuel oil storage tanks 93TK-6B and 93TK-6D contain at least 64,000 gallons of fuel oil as follows:

8.46.1 Convert level readings from Steps 8.43.2 and 8.45.2 to gallons per Attachment 2 and record.

93LI-101BL _____ gallons _____

93LI-101DL _____ gallons _____

8.46.2 Verify total gallons in 93TK-6B and 93TK-6D is **GREATER THAN OR EQUAL TO** 64,000 gallons and record.

_____ total gallons _____

8.47 Review Diesel Operating Logs and record any abnormalities in Subsection 11.3. _____

9.0 RETURN TO NORMAL

Init

9.1 System Restoration

NOTE: It could take up to 15 minutes after EDG shutdown for lube oil levels to return to normal.

9.1.1 The following verified in EDG Room B:

- 93FG-1B (EDG B lube oil cooler outlet flow gauge) is full of oil. ()
- 93FG-2B (EDG B lube oil camshaft & valve guide sight glass) is empty. ()
- 93FG-3B (EDG B lube oil gallery sight glass) is full of oil. ()
- The following control switches are in AUTO at 93ECP-B:
 - 93P1-B1 EDG B FUEL OIL TRANSFER PUMP B1 ()
 - 93P1-B2 EDG B FUEL OIL TRANSFER PUMP B2 ()
- Pressure is **GREATER THAN** 180 psig on 93PI-3B. ()
- Fuel oil day tank level is **GREATER THAN** 80% on 93LI-102B. ()
- The following lube oil pumps are running:
 - 93P-2B (emergency diesel generator B circulating lube oil pump) ()
 - 93P-3B (emergency diesel generator B turbocharger lube oil pump) ()
- Air receiver outlet isolation valve positions are opposite and recorded.

<u>VALVE ID</u>	<u>POSITION</u>
-----------------	-----------------

93EDG-47B	_____
-----------	-------

93EDG-50B	_____
-----------	-------

Init

NOTE: It could take up to 15 minutes after EDG shutdown for lube oil levels to return to normal.

9.1.2 The following verified in EDG Room D:

- 93FG-1D (EDG D lube oil cooler outlet flow gauge) is full of oil. ()
- 93FG-2D (EDG D lube oil camshaft & valve guide sight glass) is empty. ()
- 93FG-3D (EDG D lube oil gallery sight glass) is full of oil. ()
- The following control switches are in AUTO at 93ECP-D:
 - 93P1-D1 EDG D FUEL OIL TRANSFER PUMP D1 ()
 - 93P1-D2 EDG D FUEL OIL TRANSFER PUMP D2 ()
- Pressure is **GREATER THAN** 180 psig on 93PI-3D. ()
- Fuel oil day tank level is **GREATER THAN** 80% on 93LI-102D. ()
- The following lube oil pumps are running:
 - 93P-2D (emergency diesel generator D circulating lube oil pump) ()
 - 93P-3D (emergency diesel generator D turbocharger lube oil pump) ()
- Air receiver outlet isolation valve positions are opposite and recorded.

<u>VALVE ID</u>	<u>POSITION</u>
93EDG-47D	_____
93EDG-50D	_____

Init

9.1.3 The following verified at panel 09-8:

- The following switches are in NORMAL:
 - EDG B GOV MODE ()
 - EDG D GOV MODE ()
- The following switches are in NORM:
 - EDG B CNTRL ()
 - EDG D CNTRL ()
- Synch switch handle is removed from the following switches:
 - EDG B LOAD BKR SYNCH SW ()
 - EDG D LOAD BKR SYNCH SW ()
- The following annunciators are clear:
 - 09-8-4-5 EDG B FUEL CUTOFF OR CNTRLS OFF NORM ()
 - 09-8-4-11 EDG B ENG TROUBLE OR SHUTDOWN ()
 - 09-8-4-8 EDG D FUEL CUTOFF OR CNTRLS OFF NORM ()
 - 09-8-4-14 EDG D ENG TROUBLE OR SHUTDOWN ()

9.1.4 ESW PMP 46P-2B is stopped at panel 09-6.

9.1.5 Steps 9.1.1 through 9.1.4 verified by
Licensed Operator.

Signature/Date

9.2 Review and Signoff

Init

9.2.1 Calculations performed in the following steps have been independently verified:

- 8.32.2 ()
- 8.46.2 ()

Independent verification _____ /
Signature/Date

9.2.2 Test completed. _____
Date/Time

9.2.3 Test personnel have recorded hours worked on Attachment 1. _____

9.2.4 Man-Hours totalled and recorded on Attachment 1. _____

9.2.5 Completion of test recorded in NCO Log Book. _____

9.2.6 SM consider declaring EDG System B operable per ODSO-34. _____

10.0 ACCEPTANCE CRITERIA

10.1 EDG B and D reached rated speed and voltage within 10 seconds per Step 8.10.

10.2 EDG B and D forced paralleled per Step 8.11.

10.3 EDG B and D operated satisfactorily while carrying a full load of 2600 kW each for greater than or equal to 60 minutes per Step 8.32.2.

↓COM1.4.5

10.4 During EDG operation; EDG support systems, subsystems, and instrumentation operated satisfactorily.

10.5 ESW Pump 46P-2B auto-started and provided greater than or equal to 1060 gpm flow per Steps 8.11 and 8.30.

↓COM1.4.5

10.6 Operability of each EDG room supply fan was demonstrated as follows:

- 10.6.1 Starting and stopping automatically per Steps 8.22 and 8.38.
- 10.6.2 Driving flow in correct direction per Step 8.26.
- 10.6.3 Running with associated trouble annunciator clear.

If a trouble annunciator alarmed and was cleared by varying damper positions while its associated supply fan was running, and all of the following were verified:

- White high vibration light for supply fan was off per Step 8.24.1 or 8.25.1.
- Associated EDG room temperature was less than 120°F per Step 8.24.2 or 8.25.2.
- Air was flowing into the EDG room from the associated supply fan per Step 8.26.

Then the EDG room supply fan shall be considered operable and Acceptance Criterion 10.6.3 shall be considered satisfied. A PID shall be initiated describing alarming annunciator.

10.7 Each air start motor functioned properly per Step 8.27.

10.8 EDG B and D fuel oil transfer systems functioned properly as demonstrated by the EDG day tank low level EPIC alarms remained clear per Step 8.40.

11.0 ACCEPTANCE VERIFICATION

11.1 NCO/SNO Review

- 11.1.1 Verify required data has been recorded and is within required tolerances.
- 11.1.2 Verify required initials and signatures have been entered.
- 11.1.3 Review test to determine if test acceptance criteria has been satisfied.
- 11.1.4 Check one of the following as appropriate for test results:
- ☐ Acceptance criteria satisfied, no corrective action required.
 - ☐ Acceptance criteria satisfied, corrective action required.
 - ☐ Acceptance criteria not satisfied.
- 11.1.5 **IF** acceptance criteria is satisfied **AND** corrective action is required, **THEN** perform the following:
- A. Describe in Subsection 11.3, Remarks.
 - B. Initiate a PID and record PID number.
- _____
PID Number
- 11.1.6 **IF** acceptance criteria is not satisfied, **THEN** perform the following:
- A. Immediately notify SM.
 - B. Initiate a PID and record PID number.
- _____
PID Number
- 11.1.7 Sign and record date and time.

SNO or NCO

Date/Time

11.2 Management SRO Review

- 11.2.1 Verify current revision of surveillance test procedure was used.
- 11.2.2 Verify surveillance test was completed within required test frequency.
- 11.2.3 Verify data tables and attachments have been properly completed.
- 11.2.4 Verify required data has been recorded and is within required tolerances.
- 11.2.5 Verify required initials and signatures have been entered.
- 11.2.6 Review test to determine if test results satisfy acceptance criteria.
- 11.2.7 Check one of the following as appropriate for test results:
 - () Acceptance criteria satisfied.
 - () Acceptance criteria not satisfied.
- 11.2.8 **IF** acceptance criteria is not satisfied,
THEN perform the following:
 - A. Immediately notify Operations Manager or alternate.
 - B. Record name of person notified.

Person Notified
 - C. Initiate required corrective and compensatory actions.
- 11.2.9 Sign and record date and time.

Management SRO

Date/Time

11.3 Remarks

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be from a notebook or a standard ruled sheet of paper. There is no handwriting or other markings on the page.

12.0 **ATTACHMENTS**

1. TEST SIGNOFF LOG
2. FUEL OIL STORAGE TANK LEVEL CONVERSION

ATTACHMENT 2

Page 1 of 1

FUEL OIL STORAGE TANK LEVEL CONVERSION

<u>LEVEL</u> <u>(ft-in)</u>	<u>VOLUME</u> <u>(gallons)</u>	<u>LEVEL</u> <u>(ft-in)</u>	<u>VOLUME</u> <u>(gallons)</u>
8-0	25696	10-0	32253
8-1	25996	10-1	32487
8-2	26295	10-2	32716
8-3	26592	10-3	32941
8-4	26887	10-4	33161
8-5	27180	10-5	33376
8-6	27471	10-6	33586
8-7	27760	10-7	33791
8-8	28046	10-8	33990
8-9	28331	10-9	34183
8-10	28613	10-10	34371
8-11	28892	10-11	34552
9-0	29169	11-0	34726
9-1	29443	11-1	34893
9-2	29715	11-2	35053
9-3	29983	11-3	35205
9-4	30249	11-4	35347
9-5	30512	11-5	35481
9-6	30771	11-6	35604
9-7	31027	11-7	35716
9-8	31280	11-8	35815
9-9	31529	11-9	35899
9-10	31774	11-10	35964
9-11	32016	11-11	36000

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO/NLO

Combined RO/SRO

Name: **Reset a Group I Isolation**

REV: 0

DATE: November 2001 NRC K/A

**223002 A4.03 3.6/3.5
Reset System Isolations**

ESTIMATED COMPLETION TIME: 6 Minutes

SUBMITTED:

OPERATION REVIEW:

APPROVED:

CANDIDATE NAME:

S.S. NUMBER:

JPM Completion: () Simulated () Performed

Location: () Plant () Simulator

DATE PERFORMED: TIME TO COMPLETE: Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR:

_____/_____
SIGNATURE/PRINTED

CANDIDATE REVIEW:

SIGNATURE

**JOB PERFORMANCE MEASURE
RECORD AND CHECKLIST**

Current Update:

Date

By:

Int.

Outstanding Items:

☐ Technical Review

☐ Additional Information

☐ Questions and Answers

☒ Validation

☐ Procedural Change Required

☐ None

Comments:

Current Update:

Date

By:

Int.

Previous Revision Dates:

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

I. SAFETY CONSIDERATIONS

A. None

II. REFERENCES

A. AOP-15 RECOVERY FROM AN ISOLATION, Rev. 20

III. TOOLS AND EQUIPMENT

A. None

IV. SET UP REQUIREMENTS

A. None

V. EVALUATOR NOTES

VI. TASK CONDITIONS

A. Reactor S/D

B. LOW RPV water level Group I isolation has occurred

C. RPV water level has been restored and is being maintained in the green band

*** - CRITICAL STEP**

VII. INITIATING CUE

The reactor has scrammed and a lo-lo-lo level (59.5") isolation has occurred. Both the cause of the scram and the isolation have been corrected and the plant is stable. Reset the Group I isolation for those components affected by 59.5" isolation, but do NOT re-open them.

o

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO/NLO
APPL. TO

20004233A TASK TITLE: Close an SORV Remotely by Pulling Fuses.
JPM NUMBER

REV: 4

DATE: 11/01/95

NRC K/A SYSTEM NUMBER: 239002 A2.03 4.1/4.2

JAF TASK NUMBER: 2000402233

JAF QUAL STANDARD NUMBER: 5AOP.115

ESTIMATED COMPLETION TIME: 6 Minutes

CANDIDATE NAME: _____

S.S. NUMBER: _____

JPM Completion: () Simulated () Performed

Location: () Plant () Simulator

DATE PERFORMED: _____ TIME TO COMPLETE: _____ Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR: _____
SIGNATURE/PRINTED

REVIEWED BY: _____
PROGRAM ADMINISTER

DOC. COMPLETE:

**JOB PERFORMANCE MEASURE
RECORD AND CHECKLIST**

S/RO/NLO
APPL. TO

20004233A
JPM NUMBER

TASK TITLE: Close an SORV Remotely by Pulling Fuses.

Current Update: 11/01/95
Date

By: JS/NYPA
Int.

Comments:

Current Update: _____
Date

By: _____
Int.

Previous Revision Dates:

08/90
03/92
03/93
01/94
09/94

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

S/RO/NLO
APPL. TO

20004233A
JPM NUMBER

TASK TITLE: Close an SORV Remotely by Pulling Fuses.

I. SAFETY CONSIDERATIONS

- A. Observe proper electrical safety precautions associated with removal of fuses in an energized DC electrical system.

II. REFERENCES

- A. AOP-36, Stuck Open Relief Valve(s) (SORV), Rev. 11.

III. TOOLS AND EQUIPMENT

- A. Fuse Pullers.

IV. SET UP REQUIREMENTS

- A. Make a copy of AOP-36 for use by the candidate.
- B. Obtain Shift Manager's permission prior to performing this task.

V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and not actually performed.

VI. TASK CONDITIONS

- A. SORV 02-RV-71A inadvertently opened and remained open.
- B. AOP-36, Stuck Open Relief Valves, was entered and attempts to shut the valve from the 09-4 panel have been unsuccessful, steps C.2.1 through C.2.3.c are completed.
- C. The next step to close the valve is to remove the control power fuses per step C.2.3.d.

VII. INITIATING CUE

Inform the candidate, "Safety Relief Valve 02-RV-71A is stuck open. Control Room actions for closing the valve have been unsuccessful. The Control Room Supervisor directs you to attempt to close 02-RV-71A by removing the four (4) control power fuses."

*** - CRITICAL STEP**

INITIATING CUE

Safety Relief Valve 02-RV-71A is stuck open. Control Room actions for closing the valve have been unsuccessful. The Control Room Supervisor directs you to attempt to close 02-RV-71A by removing the four (4) control power fuses.

EVALUATOR: If the candidate being evaluated is a NLO, supply the candidate with the following "per AOP-36 step C.2.3.d."

	STEP	STANDARD	EVALUATION / COMMENT
1.	Proceed to panel 09-45 in the Relay Room and access the panel.	Correct panel located and accessed.	SAT / UNSAT
* 2.	Using either a controlled copy of AOP-36, Stuck Open Relief Valve(s) (SORV) or the operator aid inside panel 09-45, determine the correct fuse to be removed.	Fuses F2(F3A), F12(F4A), F23(F11A), and F34(F12A) in panel 09-45 identified for removal.	SAT / UNSAT
* 3.	Remove the control power fuses for 02-RV-71A.	<u>EVALUATOR:</u> When the candidate identifies which fuses are to be removed and describes how to remove them using the fuse pullers, tell the candidate "The fuses are pulled".	SAT / UNSAT
4.	Contact the Control Room and inform them that the fuses have been removed.	<u>EVALUATOR:</u> Acknowledge the communication and as the Control Room Operator inform the candidate that "The SRV now indicates closed".	SAT / UNSAT
<u>EVALUATOR:</u> Terminate the task at this point.			

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

SRO / RO Task Number 20004246A TASK: Supplying Cooling Water to EDG's A and C
from Fire Protection.

REV: 0 DATE: 03/21/95 NRC K/A NUMBER: 264000 K6.07 3.8 / 3.9

JAF TASK NUMBER: 2000402246 JAF QUAL STANDARD NUMBER:

ESTIMATED COMPLETION TIME: 15 Minutes

CANDIDATE NAME: _____ S.S. NUMBER: _____

JPM Completion: () Simulated () Performed

Location: () Plant () Simulator

DATE PERFORMED: _____ TIME TO COMPLETE: _____ Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR: _____
SIGNATURE/PRINTED

REVIEWED BY: _____
PROGRAM ADMINISTER

DOC. COMPLETE:

**JOB PERFORMANCE MEASURE
RECORD AND CHECKLIST**

TASK: Supplying Cooling Water to EDG's A and C from Fire Protection.

Current Update: 03/21/95
Date

By: JS/NYPA
Int.

Outstanding Items:

☐ Technical Review

☐ Additional Information

☐ Questions and Answers

☒ Validation

☐ Procedural Change Required

☐ None

Comments:

Current Update: _____
Date

By: _____
Int.

Previous Revision Dates:

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

TASK TITLE: Supplying Cooling Water to EDG's A and C from Fire Protection.

I. SAFETY CONSIDERATIONS

- A. None

II. REFERENCES

- A. OP-22, Diesel Generator Emergency Power, Rev. 43.

III. TOOLS AND EQUIPMENT

- A. Equipment located in circuit 76CAB-1 on West wall of North Emergency Service Water Room.

IV. SET UP REQUIREMENTS

- A. None

V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and not actually performed.

VI. TASK CONDITIONS

- A. Provide cooling water from the Fire Protection System for operating the EDG's when the normal ESW supply is not available.
- B. The Shift Manager has directed that the Fire Protection System be utilized to provide cooling to the A & C EDG's.

VII. INITIATING CUE

Inform the candidate, "The plant has sustained a loss of off-site power. The B and D EDG's have failed to start. Upon initiation of the A and C EDG's, the "A" ESW System failed due to a fault in the supply breaker to the "A" ESW pump. In order to supply power to the 10500 Emergency Bus, the Shift Manager has directed you to supply cooling water to EDG's A and C from the Fire Protection System."

*** - CRITICAL STEP**

INITIATING CUE

The plant has sustained a loss of off-site power. The B and D EDG's have failed to start. Upon initiation of the A and C EDG's, the "A" ESW System failed due to a fault in the supply breaker to the "A" ESW pump. In order to supply power to the 10500 Emergency Bus, the Shift Manager has directed you to supply cooling water to EDG's A and C from the Fire Protection System.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of the procedure.	Obtains a controlled copy of OP-22.	SAT / UNSAT
2.	Reviews the precautions of the procedure.	Reviews the precautions associated with OP-22 and notes applicable sections.	SAT / UNSAT
3.	Selects the correct section of the procedure.	Selects section G, Special Procedures and goes to section G.27.	SAT / UNSAT
4.	Reviews "Note" and "Caution".	Locates section of the procedure and reviews the "Note" and "Caution" which appears at the start of the procedure.	SAT / UNSAT
* 5.	Ensures one Fire Protection pump running.	<p>Ensures at least one of the following pumps is running:</p> <p>ELECTRIC FIRE PUMP, 76P-2 DIESEL FIRE PUMP, 76P-1 DIESEL FIRE PUMP, 76P-4</p> <p>EVALUATOR: Candidate may visually ensure one pump is running by using local indications or by contacting the Control Room using phone communication. If necessary, respond to Control Room communication and report to the candidate that the Electric Fire Pump is running.</p>	SAT / UNSAT
6.	Verify B and D EDG's are shutdown.	Verifies EDG's are shutdown by going to EDG's and visually observing EDG's are shutdown.	SAT / UNSAT
* 7.	Prevent operation of "B" EDG.	Prevent operation of "B" EDG by placing "B" EDG control switch in "MAINT" at panel 93ECP-B.	SAT / UNSAT
* 8.	Prevent operation of "D" EDG.	Prevent operation of "D" EDG by placing "D" EDG control switch in "MAINT" at panel 93ECP-D.	SAT / UNSAT
* 9.	Perform valve line-up.	<p>Line-up the following valves per the table:</p> <p>46ESW-3B Unlocked and Shut</p> <p>46ESW-2A Open</p> <p>46ESW-2B Open</p>	<p>SAT / UNSAT</p> <p>SAT / UNSAT</p> <p>SAT / UNSAT</p>

	STEP	STANDARD	EVALUATION / COMMENT
* 10.	Cross-tie ESW and Fire Protection.	<p>Line-up the cross-tie between Fire Protection and ESW as follows:</p> <p>a. Remove caps from the following:</p> <p style="padding-left: 40px;">46ESW-2000 76FPS-2000</p> <p>b. Connect short length of hose between the following valves:</p> <p style="padding-left: 40px;">46ESW-2000 76FPS-2000</p> <p>c. Unlock and Open 76FPS-2000.</p> <p>d. Unlock and Open 46ESW-2000.</p>	<p>SAT / UNSAT</p> <p>SAT / UNSAT</p> <p>SAT / UNSAT</p> <p>SAT / UNSAT</p>
* 11.	<p>Ensures closed valves:</p> <p style="padding-left: 40px;">46MOV-101A 46MOV-102A 46MOV-101B 46MOV-102B</p>	<p><u>EVALUATOR:</u> the ESW lockout matrix is <u>NOT</u> activated</p> <p>Ensures closed the following valves:</p> <p style="padding-left: 40px;">46MOV-101A, ESW System "A" Injection Valve 46MOV-102A, ESW System "A" Test Valve 46MOV-101B, ESW System "B" Injection Valve 46MOV-102B, ESW System "B" Test Valve</p>	SAT / UNSAT
<p><u>EVALUATOR:</u> Cooling water is now being supplied to EDG's "A" and "C" from the Fire Protection System.</p>			

	STEP	STANDARD	EVALUATION / COMMENT
* 12.	Shut the following valves on EDG Air Start Air Banks: 93EDG-48B 93EDG-51B 93EDG-48D 93EDG-51D	Shut the following valves: 93EDG-48B, EDG "B" Air Start Left Bank Isolation Valve 93EDG-51B, EDG "B" Air Start Right Bank Isolation Valve 93EDG-48D, EDG "D" Air Start Left Bank Isolation Valve 93EDG-51D, EDG "D" Air Start Right Bank Isolation Valve	SAT / UNSAT
13.	Issue PTR.	Issue Protective Tags for the following components as soon as practicable: <div style="text-align: right;"><u>Position</u></div> Engine control switch at panel 93ECP-B MAINT Engine control switch at panel 93ECP-D MAINT 93EDG-48B SHUT 93EDG-51B SHUT 93EDG-48D SHUT 93EDG-51D SHUT 46ESW-2A OPEN 46ESW-2B OPEN 46ESW-3B SHUT <u>EVALUATOR:</u> PTR need <u>not</u> be issued, but candidate should recognize and then report to the SM that a PTR has to be issued.	SAT / UNSAT
EVALUATOR: Terminate the task at this point.			

**NEW YORK POWER AUTHORITY
JOB PERFORMANCE MEASURE**

S/RO
APPL. TO

20102015
JPM NUMBER

TASK TITLE: Changing In-Service CRD Flow Control
Valves (B FCV to A FCV)

REV: 5

DATE: 03/03/99

NRC K/A SYSTEM NUMBER: 201001 SG 9
3.7/3.4

JAF TASK NUMBER: 20102015

JAF QUAL STANDARD NUMBER: 503C.401

ESTIMATED COMPLETION TIME: 15 Minutes

CANDIDATE NAME: _____

S.S. NUMBER:

JPM Completion: () Simulated () Performed

Location: (XX) Plant () Simulator

DATE PERFORMED: _____

TIME TO COMPLETE: . Minutes

PERFORMANCE EVALUATION: () Satisfactory () Unsatisfactory

COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)

EVALUATOR: _____

SIGNATURE/PRINTED

REVIEWED BY: _____

DOC. COMPLETE:

PROGRAM ADMINISTER

**JOB PERFORMANCE MEASURE
RECORD AND CHECKLIST**

S/RO
APPL. TO

20102015
JPM NUMBER

TASK TITLE: Changing In-Service CRD Flow Control
Valves

Current Update: 03/03/99
Date

By: MWD
Int.

Outstanding Items:

☐ Technical Review

☐ Additional Information

☐ Questions and Answers

☐ Validation

☐ Procedural Change Required

☐ None

Comments:

Current Update: _____
Date

By: _____
Int.

Previous Revision Dates:

09/28/94

**JOB PERFORMANCE MEASURE
REQUIRED TASK INFORMATION**

S/RO
APPL. TO

20102015
JPM NUMBER

TASK TITLE: Changing In-Service CRD Flow Control
Valves

I. SAFETY CONSIDERATIONS

- A. Proper safety attire (hardhat, safety shoes, safety glasses, ear protection, etc.) is to be worn when out in the plant.

II. REFERENCES

- A. OP-25, CONTROL ROD DRIVE HYDRAULIC SYSTEM, Rev. 65.

III. TOOLS AND EQUIPMENT

- A. None

IV. SET UP REQUIREMENTS

- A. Ensure that flow control valve 03FCV-19B is in-service.

V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and not actually performed.

VI. TASK CONDITIONS

- A. The Control Rod Drive Hydraulic System is in operation.
- B. The standby CRD Flow Control Valve must be placed in-service in order to verify its ability to operate correctly in automatic

VII. INITIATING CUE

Inform the candidate, "the plant is operating at rated power. The Maintenance Department has requested that "B" CRD Flow Control Valve (03FCV-19B) be removed from service for preventive maintenance. The SM will agree, after he/she is sure that the "A" FCV (03FCV-19A) functions normally. Inform the candidate: "Place "A" CRD Flow Control Valve (03FCV19A) in-service, and place "B" CRD Flow Control Valve (03FCV-19B) in standby."

*** - CRITICAL STEP**

INITIATING CUE

The plant is operating at rated power. The Maintenance Department has requested that "B" CRD Flow Control Valve (03FCV-19B) be removed from service for preventive maintenance. The SM will agree, after he/she is sure that the "A" FCV (03FCV-19A) functions normally. Inform the candidate: "Place "A" CRD Flow Control Valve (03FCV19A) in-service, and place "B" CRD Flow Control Valve (03FCV-19B) in standby.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of procedure OP-25, CONTROL ROD DRIVE HYDRAULIC SYSTEM.	The candidate obtains a controlled copy of OP-25.	SAT / UNSAT
2.	Review the precautions.	The candidate reviews the precautions, Section C2, making note of any that are applicable.	SAT / UNSAT
3.	Select the correct section to perform the task.	The candidate selects Section G.15, Changing In-Service CRD Flow Control Valves.	SAT / UNSAT
4.	Establish communication between Flow Control Hand select station and the Control Room.	<p>a. The candidate goes to the Rx Building 272' level to the area West of the West HCU's.</p> <p>b. The candidate establishes communications between the Control Room and the master control station using either the West HCU area Gaitronics or nearby sound powered phone jack.</p> <p>EVALUATOR: Provide the necessary communications from the Control Room</p>	SAT / UNSAT
*5.	<p>Lineup CRD FLOW CNTRL 03FIC-301 per steps a. and b.:</p> <p>a. Ensure Controller is in Auto.</p> <p>b. Adjust Controller setpoint to 0 gpm.</p>	EVALUATOR: When the candidate states that he/she would request the Control Room place the CRD flow controller setpoint to 0 gpm then inform the candidate "The CRD Flow Controller setpoint is at 0 gpm and the controller is in automatic".	SAT / UNSAT
6.	Verify open inlet isolation valve 03CRD-68A (CRD water 03FCV-19A inlet isolation valve).	EVALUATOR: When the candidate states that he/she would check 03CRD-68A in the closed direction and verify it open, then inform candidate "Valve 03CRD-68A is open".	SAT / UNSAT
*7.	Slowly open outlet isolation valve 03CRD-69A (CRD water 03FCV-19A outlet isol valve).	EVALUATOR: When the candidate states that he/she would slowly open 03CRD-69A, by turning its valve handwheel in the counter-clockwise direction, then inform the candidate "Valve 03CRD-69A is open".	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
*8.	Close outlet isolation valve 03CRD-69B (CRD water 03CRD-69B outlet isolation valve).	EVALUATOR: When the candidate states that he/she would close 03CRD-69B by turning its valve handwheel in the clockwise direction then inform the candidate "Valve 03CRD-69B is closed".	SAT / UNSAT
*9.	Place Auto-Man select knob in AUTO at Flow Control Hand Select Station 03HSS-245A.	EVALUATOR: When the candidate states that he/she would place AUTO-MAN select knob in AUTO at 03HSS-245A, then inform the candidate "Select knob in AUTO at 03HSS-245A".	SAT / UNSAT
*10.	Place AUTO-MAN select knob in MAN at Flow Control Hand Select Station 03HSS-245B.	EVALUATOR: When the candidate states that he/she would place AUTO-MAN Select knob in MAN at 03HSS-245B, then inform the candidate "Select knob in MAN at 03HSS-245B".	SAT / UNSAT
11.	Slowly raise setpoint on CRD Flow Control 03FIC-301 to establish 59 to 61 gpm on 03FI-310.	EVALUATOR: When the candidate states that he/she would request the Control Room to raise setpoint of 03FIC-310 to establish 59 to 61 gpm, then inform the candidate "03FIC-310 setpoint is 60 gpm and flow indication is 60 gpm".	SAT / UNSAT
12.	Verify normal operating values on the following indications at Panel 09-5: <ul style="list-style-type: none"> • CHG WTR PRESS 03PI-302: BETWEEN 1390 and 1670, not to exceed 1670 • DRV WTR DIFF PRESS 03DPI-303: 260 to 270 psid • CLG WTR DIFF PRESS 03DPI-304: 16 to 26 psid • DRV WTR FLOW 03FI-305: zero when no CRD is being driven • CLG WTR FLOW 03FI-306: 59 to 61 gpm 	EVALUATOR: When the candidate states that he/she would request the Control Room to verify the values, then inform the candidate "Values are normal".	SAT / UNSAT
EVALUATOR: Terminate the task at this point			