

Final Submittal

(Blue Paper)

**HARRIS EXAM 50-400/2002-302
OPERATING TEST)**

NOVEMBER 21,2002

DRAFT JPMS

HARRIS NUCLEAR PLANT

2002

SRO NRC RETEST JPM'S

TABLE OF CONTENTS

SIMULATOR JPM'S

- 1. B.1.a – Emergency Boration**
- 2. B.1.b – Isolate Ruptured SG – MSIV Will NOT Close**
- 3. B.1.c – Restoring the Control Room Area HVAC System to Normal After A Control Room Isolation Signal**

IN PLANT JPM'S

- 4. B.2.a – Energize A Dead Bus With A Diesel Locally**
- 5. B.2.b – Emergency Makeup To Fuel Fools From Emergency Service Water System**

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM -B.1.a

Emergency Boration

CANDIDATE: _____

EXAMINER: _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

TASK: Perform AOP-002, Emergency Boration

ALTERNATE PATH: Emergency Boration using RWST path via LCV-115B and/or LCV-115D, to the CSIP suction

FACILITY JFM NUMBER CR-037

KA: 004A2.14 IMPORTANCE: SRO 3.9 RO **3.8**

KA STATEMENT: Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Emergency **boration**

TASK STANDARD: At least 90 gpm Boration flow **as** indicated on FI-122A.1 is being delivered from the running Charging/Safety Injection Pump to the Reactor Coolant System

PREFERRED EVALUATION LOCATION: SIMULATOR **X** INPLANT

PREFERRED EVALUATION METHOD: PERFORM **X** SIMULATE

REFERENCES: AOP-002, Emergency Boration

VALIDATION TIME: 10 MINUTES TIME CRITICAL: No

CANDIDATE:

START TIME: _____ FINISH TIME: _____

PERFORMANCE TIME: MINUTES

PERFORMANCE RATING: SAT UNSAT _____

COMMENTS: _____

EXAMINER: _____

Signature

Date

TOOLS / EQUIPMENT / PROCEDURES NEEDED:

- e Initialize to a 100% power IC-19 (OR to a saved IC with the following setup)
- Fail two rods to insert on a Keactor Trip.
 - o MFP CRF16A rod D-4 severity 220 steps (control bank C)
 - o MFP CRF16B rod H-14 severity 220 steps (control bank D)
- e Fail the following valves shut:
 - o 1CS-278 Emergency Boration Valve (ORP XA2I150 as is)
 - o FCV-113A Boric Acid to Blender (ORP XA2I151 as is)
- Perform a manual reactor trip.
 - o PATH-1 until transition to EPP-004 directions to borate for rods failing to insert.
- FREEZE the simulator in a stable condition. (An RO maybe required to maintain the plant stable and silence annunciators not associated with this JPM)
- e When candidate is ready, place simulator in RUN.
 - AOP-002, "Emergency Boration"

READ TO OPERATOR

INSTRUCTIONS TO CANDIDATE:

I will explain the initial conditions and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed or asked by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task, return the handout sheet I provide you.

INITIAL CONDITIONS:

The reactor has just tripped from 100 percent power.

INITIATING CUE(S):

You are the Reactor Operator. Observation of DKPI following the reactor trip indicates two control rods are stuck out. EPP-EOP-004 is being performed and the SCO directs you to refer to AOP-002 and initiate emergency boration.

START TIME:

* DENOTES CRITICAL STEP

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
CANDIDATE SHOULD OBTAIN A COPY OF AOP-002					
1	NA	Obtain procedure	Obtain current copy of AOP-002		
2	3.0	Go to Section 3.0, OPERATOR ACTIONS.	Refers to Section 3.0		
3	NA	NOTE: This procedure contains no immediate actions	Reads note and continues with procedure		
4	3.1	Start a Boric Acid pump	Locates a Boric Acid Pump Control Switch and takes it to START	Pump running indication light changes from green to red	
5	3.2	ESTABLISH boration flowpath using 1CS-278 as follows: a. OPEN 1CS-278, Emergency Boric Acid Addition	Locates and 1CS-278 Control Switch and takes it to OPEN	Valve is failed in the CLOSED position. 1CS-278 position indication light remains green.	
6	3.2.a RNO	GO TO Step 3	Determines that 1CS- 278 will not open and follows the response not obtained instructions- go to step 3		

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT/ UNSAT
4	3.3	<p>ESTABLISH boration flowpath using FCV-113A/B as follows:</p> <p>a. OPEN the following valves</p> <ul style="list-style-type: none"> 1CS-283 Boric Acid to Boric Acid Blender FCV-113A 	Locates FCV-113A Control Switch and takes it to OPEN	Valve is failed in the CLOSED position. 1FCV-113A indication light remains green.	
8	3.3.a RNO	GO TO Step 6	Determines that 1FCV-113A will not open and follows the response not obtained instructions- go to step 6		
*9	316	<p>ESTABLISH boration flow from RWST as follows:</p> <p>a. OPEN the following valves</p> <ul style="list-style-type: none"> 1CS-291, Suction From RWST LCV-115B 	Locates LCV-115B and takes the control switch to OPEN	<p>(Critical that LCS-291 and/or 1CS-292 are opened -parallel path from RWST)</p> <p>Position indication light for LCV-115B changes from green to red</p>	
10	3.6.a (cont)	<ul style="list-style-type: none"> 1CS-292, Suction From RWST LCV-115D 	Locates LCV-115D and takes the control switch to OPEN	Position indication light for LCV-115D changes from green to red	

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT/ UNSAT
*11	3.6.b	SHUT the following valves <ul style="list-style-type: none"> ICs-165, YCT Outlet LCV-115C 	Locates 1CS-165, VCT Outlet LCV-115C and takes the control switch to CLOSE	(Critical that 1CS-165 and/or 1CS-166 are in closed-series path from VCT) Position indication light for LCV-115C changes from red to green	
12	3.6.b (cont)	<ul style="list-style-type: none"> 1CS-166, VCT Outlet LCV-115E 	Locates 1CS-166, VCT Outlet LCV-115E and takes the control switch to CLOSE	Position indication light for LCV-115E changes from red to green	
*13	3.6.c	VERIFY and MAINTAIN at least 90 gpm charging flow to RCS (FI-122A.1) until required boration is completed.	Locates Controller FK-122.1 charging flow, and places it in manual. Increases the output to > 90 gpm and monitors charging flow on FI-122A.1.		
14	NA	CAUTION – Low VCT level is a precursor to gas binding the CSIPs	Reads caution and continues with procedure		
15	3.6.d	CHECK VCT level greater than or equal to 5% and can be maintained on scale	Locates LI-115 and monitors VCT level		
TASK COMPLETE WHEN ≥ 90 GPM FLOWRATE OF BORIC ACID FROM RWST TO RCS IS BEING MAINTAINED AND MONITORED					

STOP TIME: _____

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The reactor has just tripped from 100 percent power.

INITIATING CUE(S):

You are the Reactor Operator. Observation of DRPI following the reactor trip indicates two control rods are **stuck** out. EPP-EOP-004 is being performed and the SCO directs you to refer to AOP-002 and initiate emergency boration.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM -B. 1.b

ISOLATE RUPTURED SG--MSIV WILL
NOT CLOSE

CANDIDATE: _____

EXAMINER: _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

TASK: Implement EOP-PATH 2. Steam Generator Tube Rupture

ALTERNATE PATH: Ruptured SG MSIV Will NOT isolate. Operator performs a manual isolation of intact SG's from the ruptured SG and minimizes the steam flow from the ruptured SG

FACILITY JPM NUMBER: CR-105

KA: 035A2.01 IMPORTANCE: SRO 4.6 RO 4.5

KA STATEMENT: Ability to (a) predict the impacts of the following malfunctions or operations on the SG; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Faulted or ruptured S/Gs

TASK STANDARD: Steam Generator B isolated per PATH-2 and PATH-2 Guide

PREFERRED EVALUATION LOCATION: SIMULATOR X INPLANT

PREFERRED EVALUATION METHOD: PERFORM X SIMULATE

REFERENCES: EOP-PATH 2 GUIDE

VALIDATION TIME: 15 MINUTES TIME CRITICAL: No

CANDIDATE: _____

START TIME: _____ FINISH TIME: _____

PERFORMANCE TIME: _____ MINUTES

PERFORMANCE RATING: SAT UNSAT

COMMENTS: _____

EXAMINER: _____

Signature

Date

TOOLS / EQUIPMENT / PROCEDURES NEEDED:

- Initialize to a 100% power IC-19. (OR to a saved IC with the following setup)
 - Fail B Steam Generator MSIV 1MS-82
 - **ORP XB2I037 as is (will not shut from MCB switch)**
 - **MFP MSS05B fail to close (will not shut on Main Steam Isolation Signal)**
 - Insert an SGTR of sufficient size to require an SI
 - **MFP SGN05B final severity 160**
 - **Select GRID 5 on RM-11**
 - Complete PATH-I until the first PATH-2 transition *point*. (Step 16--Secondary Radiation Normal.) Transition to PATH-2 through step 5.
 - ✓ Re-OPEN MS-70 and MS-72 (if closed to reduce AFW) **and** minimize AFW flow
 - Clear all annunciators, RM-11 alarms, and stabilize the plant
 - FREEZE the simulator
 - When candidate is ready, place simulator in RUN.
-
- PATH-2 GUIDE

READ TO OPERATOR

INSTRUCTIONS TO CANDIDATE:

I will explain the initial conditions and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed or asked by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task, return the handout sheet I provide you.

INITIAL CONDITIONS:

The Reactor was at 100% power when a tube rupture exceeds the VCT makeup capability. The crew manually Safety Injected and have performed the actions of PATH-1. A transition to PATH-2 was made and the B SG has been identified as ruptured by Main Steam line radiation readings. PATH-2 step 5 has just been completed.

INITIATING CUE(S):

You are the Balance of Plant Operator. You are to continue with PATH-2 starting at step 6 until otherwise directed. Other operators have the foldout responsibilities.

START TIME:

* DENOTES CRITICAL STEP

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
CUE	<p>CANDIDATE SHOULD OBTAIN A COPY OF PATH-2</p> <p>STEPS 1-5 of PATH-2 have been completed</p>				
1	N/A	Obtain procedure	Obtain current copy of PATH-2		
2	Caution prior to step 6	<p>CAUTION</p> <ul style="list-style-type: none"> • At least one Sei must be maintained available for RCS cooldown • If the TDAFW pump is the only available source of feed flow, one steam supply valve from an intact SG must be maintained open 	Reviews caution prior to proceeding with step.		
"3	6	<p>Isolate Flow From Ruptured SG</p> <p>a. Adjust ruptured Sei PORV controller setpoint to 88% (1 145 PSIG) AND place in AUTO</p>	<p>Locates IMS-60 controller and depresses setpoint raise pushbutton until setpoint is at 88%. Verifies controller is in AUTO.</p>	IMS-60 controller setpoint AUTO pushbutton is lit	
4	6.b	Check ruptured SG PORV SHUT	Locates Main Steam FORV Position indication for PCV 308B and verifies shut	PCV 308B indication light is green	

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT/ UNSAT
*5	6.c	Shut ruptured SG steam supply valve to TDAFW pump: SGB: 1MS-70	Locates control switch for 1MS-70 and shuts valve.	1MS-70 indication light changes from red to green	
6	6.d	Verify blowdown isolation valves from ruptured SG -- SHUT	On AEP-1, locates indications for 1BD-20, 1BD-26, and 1BD-30 and verifies them SHUT	1BD-20, 26, and 30 indication lights are green.	
*7	6.e	Shut ruptured SG main steam drain isolation before MSIV: SG B: 1MS-266	Locates control switch for 1MS-266 and shuts valve	IMS-266 indication light changes from red to green	
8	6.f	Shut ruptured SG MISV AND bypass valve.	Locates IMS-82 control switch and takes it to SHUT. (May initiate Main Steam isolation in an attempt to shut the MSIV.)	Indication light for 1MS-82 does not change. Red indication light is still lit.	
9	6.fRNO	GO TO Step 7	Heads RNO and continues with step 7		
*10	7	Isolate Intact SG(s) From Ruptured SG AND Minimize Steam Flow From Ruptured SG: a. Shut all remaining MSIV AND bypass valves	Locates control switches for 1MS-80 and 1MS-84 and takes them to SHUT. (May initiate Main Steam Isolation to shut valves -- if MSI initiated in step 8 valves may already be shut.)	IMS-80 and 1MS-84 indicator lights will change from red to green.	

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
*11	7.b	Place both steam dump interlock bypass switches to OFF/RESET	Locates and places both Steam Dump Interlock switches to OFF/RESET	Both Steam Dump Interlock switches are in the OFF/RESET position.	
12	4C	Use intact SG(s) PORV for all further steam dumping.	Uses A and C Steam Generator PORVs to control RCS temperature <u>if necessary</u> .		
CUE	<p>[EVALUATOR DISCRETION: IF PROGRESS IN THE PROCEDURE IS NOT CONTINUING THEN CUE:]</p> <p>OTHER OPEKATORS WILL MONITOR RCS TEMPERATURE AND MAKE ADDITIONAL ADJUSTMENTS USING A & C PORV'S. CONTINUE WITH PATH-2</p>				
13	7.d	Isolate steam release path from ruptured SG using Attachment 1.	Reviews Attachment 1 to PATH-2 Guide.		
14	NA	NOTE: Isolation of possible steam release paths downstream of the MSIVs may be completed in parallel with RCS cooldown and subsequent recovery actions.	Reviews NOTE and continues with procedure.		
15	i	Verify the following valves SHUT: <ul style="list-style-type: none"> Turbine stop valves 	Locates valve test panel and checks TV-1, TV-2, TV-3, and TV-4 SHUT.	All throttle valve indications are "green".	

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
16	I (cont)	<ul style="list-style-type: none"> Condenser steam dump valves 	Locates indications on Status Light Box 1 for CND SR STEAM DUMP PCV valves and DNDSR COOLDOWN STEAM DUMP Valves and verifies valves are shut.	All condenser steam dump valve indications are "green".	
17	1 (cont)	<ul style="list-style-type: none"> Atmospheric steam dump valves 	Locates indications on Status Light Box 1 for ATMOSPHERIC STEAM DUMP PCV valves and checks valves S W T .	All atmospheric steam dump valve indications are "green".	
18	1 (cont)	<ul style="list-style-type: none"> MSR shutoff AND purge valves: <p>1MS-151 1MS-152 1MS-149 1MS-161 1MS-150 1MS-163</p>	Verifies that 1MS-151 1MS-152 1MS-149 1MS-161 1MS-150 1MS-163 are SHUT.	Indication lights for 1MS-151, 1MS-152, 1MS-149, 1MS-161, MS-150 , and 1MS-163 are "green"	
"19	1 (cont)	<ul style="list-style-type: none"> Main steam to auxiliary steam isolation valve: <p>1AS-244 (Radwaste Control Room)</p>	Contacts Radwaste Control Room and directs them to SHUT 1AS-244 -- Main Steam To Auxiliary Steam Isolation Valve.		
CUE		(AS RADWASTE OPERATOR) -- Understand SHUT 1AS-244 Main Steam To Auxiliary Steam Isolation Valve. --- Wait a few seconds and report -- 1AS-244 Main Steam To Auxiliary Steam Isolation Valve is SHUT.			

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
20	2	<p>Locally Shut Main Steam Drain LCV Inlet Isolations AND Orifice Inlet Isolation Valves:</p> <ul style="list-style-type: none"> Main steam drains after MSIVs (platform 10 ft above 261 steam tunnel): 1MS-249 1MS-252 1MS-284 IMS-287 1MS-319 1MS-322 Main steam header and steam dump header drains (286 TB near condenser): 1MS-374 (north side) 1MS-377 (north side) 1MS-425 (north side) 1MS-428 (north side) 1MS-433(north side) 1MS-409 (north side) 1MS-391 (west side) 1MS-394 (west side) 	Contacts AO and directs implementation of remaining steps in "Attachment 1" sheet 2 of 2		
CUE	<p>AO ACKNOWLEDGES REQUEST TO PERFORM ATTACHMENT 1 STEPS. ALL OTHER REMAINING STEPS WILL BE PERFORMED BY ANOTHER OPERATOR</p> <p>TASK COMPLETE</p>				

STOP TIME: _____

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The Reactor was at 100% power when a tube rupture exceeds the VCT makeup capability. The crew manually Safety Injected and have performed the actions of PATH-I. A transition to PATH-2 was made and the B SG has been identified as ruptured by Main Steam line radiation readings. PATH-2 step 5 has just been completed.

INITIATING CUE(S):

You are the Balance of Plant Operator. You are to continue with PATH-2 starting at step 6 until otherwise directed. Other operators have the foldout responsibilities.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM -B.1.c

Restoring the Control Room Area HVAC
System to Normal After a Control Room
Isolation Signal

CANDIDATE: _____

EXAMINER: _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

TASK: Return the Control Room Area Ventilation Isolation System to Normal
ALTERNATE PATH: None
FACILITY JPM NUMBER: NEW
KA: 01384.02 IMPORTANCE: SRO 4.4 RO 4.3
KA STATEMENT: Ability to manually operate and/or monitor in the control room: Reset of ESFAS channel
TASK STANDARD: Control Room Area HVAC system returned to normal mode (no longer in Recirculation lineup) and periodic monitoring for O₂ and CO₂ is no longer required.
PREFERRED EVALUATION LOCATION: SIMULATOR X INPLANT
PREFERRED EVALUATION METHOD: PERFORM X SIMULATE
REFERENCES: OP-173, Control Room Area HVAC System
VALIDATION TIME: 15 MINUTES TIME CRITICAL: No

CANDIDATE: _____

START TIME: _____ FINISH TIME: _____
PERFORMANCE TIME: _____ MINUTES

PERFORMANCE RATING: SAT _____ UNSAT _____

COMMENTS: _____

EXAMINER: _____
Signature Date

TOOLS /EQUIPMENT / PROCEDURES NEEDED:

- Initialize to a 100% power IC. (OR to a saved IC with the following setup)
- Enter an inadvertent SI signal
- e Respond to SI IAW Path-1 to step 28
- e Transition to EPP-008. Perform step 1 through step 35.b - perform Attachment 1 “Plant Systems Realignment”
(step 8 in Attachment 1 is realign control room area HVAC per OP-173 section 8.4)
- e Clear all annunciators and stabilize the plant
- e FREEZE the simulator
- When candidate is ready, place simulator in RUN.
 - e UP-173, “Control Room Area HVAC System”

READ TO OPERATOR

INSTRUCTIONS TO CANDIDATE:

I will explain the initial conditions and state the task to be performed. **All** control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed or asked by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task, return the handout sheet I provide you.

INITIAL CONDITIONS:

The plant was operating at 100% power when an inadvertent Safety Injection signal was received. The operators have performed the actions of Path-1 and transitioned to EPP-008. The crew is now at the point of realigning plant systems for normal operation per Attachment 1. The SCO has directed you to perform Step 8 of Attachment 1 Realign Control Room Area HVAC using OP-173, “CONTROL ROOM AREA HVAC SYSTEM”, Section 8.4. The initial conditions are satisfied and the HVAC system is in operation per section 8.1 of OP-173.

INITIATING CUE(S):

You are the Balance of Plant Operator. Restore the Control Room Area HVAC System to normal in accordance with OP-173 “CONTROL ROOM AREA HVAC SYSTEM”, Section 8.4.

START TIME:					
* DENOTES CRITICAL STEP					
JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
CUE	PROVIDE CANDIDATE WITH COPY OF OP-173 section 8.4				
1	NA	Obtain procedure	Obtain current copy of OP-173 section 8.4		
2	8.4	Go to Section 8.4, Restoring the Control Room Area HVAC System to Normal after a Control Room Isolation Signal or Manual Recirc.	Refers to Section 8.4		
CUE	THE INITIAL CONDITIONS ARE SATISFIED AND THE CONTROL ROOM AREA HVAC SYSTEM IS IN OPERATION PER SECTION 8.1				
3	8.4.1	Initial Conditions 1. Control Room Isolation Signal clear 2. Control Room Isolation Signal clear			
*4	8.4.2.1	Place the CONTROL ROOM ISOL TRAIN A and B RESET switches to RESET	Locates and manually operates the Control Room Isol Train A reset switch to reset and the Train B reset switch to reset		
5	8.4.2.2	Shut any EMER FILT SOUTH (NORTH) OUTSIDE AIR INLET valves that are open , 1CZ-9 SA and 1CZ-10 SB or 1CZ-11 SA and 1CZ-12 SB.	Locates valves and verifies ALL outside air inlets are closed.	Valves 1CZ-9 SA 1CZ-10 SB 1CZ-11 SA 1CZ-12 SB position indication lights are "green".	

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT/ UNSAT
NA	NOTE	Performing steps 8.4.2.03 through 8.4.2.05 quickly will minimize excessive pressurization of the Main Control Room.	Reads note, reviews steps and locates associated control board switches prior to performance of steps to allow minimal time to perform steps.		
*6	8.4.2.3	Open NORMAL INTAKES 1CZ-1 SA and 1CZ-2 SB.	Locates and Opens NORMAL INTAKES 1CZ-1 SA and 1CZ-2 SE	Position indication lights change from "green" to "red"	
7	8.4.2.4	<p>If more than one NORMAL SUPPLY FAN AH-15 ASA (BSB) is running, stop one fan and verify associated valves/dampers align for the stopped train as follows:</p> <p>AH-15 IN CZ-DI (CZ-D2) Shut SLB-5 (6)</p> <p>AH-15 IN CZ-25 (CZ-26) Shut SLB-5 (6)</p> <p>CONT ROM NORMAE RECIRC DAMPER CZ-D69 SA (CZ-D70 SR) Shut</p>	<p>Locates and STOPS <u>one</u> NORMAL SUPPLY FAN (either AH-15 ASA or AH-15 ESB and verifies the associated valves/dampers align for the stopped train</p> <p>AH-15 IN CZ-DI (CZ-D2) Shut (indication) on SLB-5 (6)</p> <p>AH-15 IN CZ-25 (CZ-26) Shut (indication) on SLB-5 (6)</p> <p>CONT ROM NORMAL RECIRC DAMPER CZ-D69 SA (CZ-D70 SB) Shut</p>	<p>Selected Supply fan running indication light changes from "red" to "green"</p> <p>SLB indication light changes from "red" to "green"</p> <p>SLB indication light changes from "red" to "green"</p> <p>Damper position indication light changes from "red" to "green"</p>	

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT/ UNSAT
8	8.4.2.5	<p>Start NORMAL EXHAUST FAN E-9 A (B) and verify:</p> <p>E-9A(B) IN CZ-D6 (CZ-D7) Open (located on SLB-7)</p> <p>E-9A(B) OUT CZ-D12 (CZ-13) Modulates (located on SLB-7)</p> <p>NORMAL EXHAUST 1CZ-3 SA and 1CZ-4 SB Open</p>	<p>Locates and starts NORMAL EXHAUST FAN E-9 A OR (B) and verifies:</p> <p>E-9A(B) IN CZ-D6 (CZ-D7) Open (located on SLB-7)</p> <p>E-9A(B) OUT CZ-D12 (CZ-13) Modulates (located on SLB-7)</p> <p>NORMAL EXHAUST 1CZ-3 SA and 1CZ-4 SB Open</p>	<p>Selected fan indication light changes from "green" to "red"</p> <p>Indication light changes from "green" to "red"</p> <p>both "green and red" lights are on</p> <p>Indication light changes from "green" to "red"</p>	
9	8.4.2.6	<p>Stop both EMERGENCY FILTRATION FANS R-2 A-SA and K-2 B-SB and verify:</p> <p>R2 INLET CZ-23 (CZ-24) Shut [located on SLR-5 (6)]</p> <p>R2 DISCH CZ-21 (CZ-22) Shut [located on SLE-5 (6)]</p>	<p>Locates and stops both EMERGENCY FILTRATION FANS R-2 A-SA and R-2 B-SB and verifies:</p> <p>R2 INLET CZ-23 (CZ-24) Shut [located on SLB-5 (6)]</p> <p>R2 DISCH CZ-21 (CZ-22) Shut [located on SLB-5 (6)]</p>	<p>Indication light changes from "red" to "green"</p> <p>Indication light changes from "red" to "green"</p> <p>"Indication light changes from "red" to "green"</p>	

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
10	8.4.2.7	<p>Shut the EMERGENCY FILTRATION RECIRC dampers</p> <p>CZ-D66 SA</p> <p>and</p> <p>CZ-D61 SB</p>	<p>Locates the control switches and shuts the EMERGENCY FILTRATION RECIRC dampers</p> <p>CZ-D66 SA</p> <p>and</p> <p>CZ-D61 SB</p>	<p>Indication light changes from "red" to "green"</p> <p>Indication light changes from "red" to "green"</p>	
CUE	<p>ANOTHER OPERATOR WILL COMPLETE THE REMAINING VENTILATION RESTORATION</p> <p>TASK COMPLETE</p>				

STOP TIME: _____

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The plant was operating at 100% power when an inadvertent Safety Injection signal was received. The operators have performed the actions of Path-1 and transitioned to EPP-008. The crew is now at the point of realigning plant systems for normal operation per Attachment I. The SCO has directed you to perform Step 8 of Attachment 1 Realign Control Room Area HVAC using OP-173, "CONTROL ROOM AREA HVAC SYSTEM", Section 8.4. The initial conditions are satisfied and the HVAC system is in operation per section 8.1 of OP-173.

INITIATING CUE(S):

You are the Balance of Plant Operator. Restore the Control Room Area HVAC System to normal in accordance with OP-193 "CONTROL ROOM AREA HVAC SYSTEM", Section 8.4.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM -B.2.a

ENERGIZE A **DEAD** BUS
WITH A DIESEL LOCALLY

CANDIDATE: _____

EXAMINER: _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

TASK: Load a Diesel Generator Locally per OP-155

ALTERNATE PATH: No

FACILITY JPM NUMBER: IP-135

KA: 062 A2.05 IMPORTANCE: SRO 3.3 RO 2.9

KA STATEMENT: Ability io (a) predict the impacts of the following malfunctions or operations on the AC Distribution System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Methods for energizing a dead bus

TASK STANDARD: Emergency Diesel Generator Output Breaker 126 is CLOSED.

PREFERRED EVALUATION LOCATION: SIMULATOR INPLANT X

PREFERRED EVALUATION METHOD: PERFORM SIMULATE X

REFERENCES: OP-155

VALIDATION TIME: 10 MINUTES TIME CRITICAL: No

CANDIDATE:

START TIME: FINISH TIME:

PERFORMANCE TIME: MINUTES

PERFORMANCE RATING: SAT UNSAT

COMMENTS:

EXAMINER: Signature Date

TOOLS / EQUIPMENT / PROCEDURES NEEDED:

- None
- **OP-155, Section 8.13**

READ TO OPERATOR

INSTRUCTIONS TO CANDIDATE:

I will explain the initial conditions and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed or asked by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task, return the handout sheet I provide you.

INITIAL CONDITIONS:

Due to a fire, the Main Control Room has been evacuated and AOP-004 is being implemented. During the transfer to the ACP, the normal power feed to 6.9KV bus 1B-SB was lost. EDG 1BSB has been locally started per OP-155 Section 8.14 but has not been loaded.

INITIATING CUE(S):

The SCO instructs you to locally energize 6.9KV bus 1B-SB from the Emergency Diesel Generator per **OP-155 Section 8.13**.

START TIME:					
* DENOTES CRITICAL STEP					
JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT/ UNSAT
CUE	PROVIDE CANDIDATE WITH COPY OF OP-155, Section 8.13 and Attachment 9				
1	N/A	Obtain procedure	Obtain current copy of OP-155, Section 8.13		
CUE	<p>Provide when at the Generator Control Panel:</p> <p>ALL Initial Conditions are met. Initial conditions:</p> <ol style="list-style-type: none"> 1. EDG 1B-SB is running 2. At GCP, UNIT-PARALLEL switch in PARALLEL 3. At GCP, VOLTAGE REGULATOR TRANSFER SWITCH in AUTO 4. At GCP, CONTROL TRANSFER SELECTOR SWITCH in LOCAL 				
2	8.13.2.1	At GCP, Position synchronizing switch #2 in ON	Locates SYNCHRONIZING SWITCH #2 and takes it to ON.		
CUE	Synchronizing Switch #2 is pointing to ON.				
3	NOTE	<ul style="list-style-type: none"> • The Synch Check Relay will be bypassed on an undervoltage on the safety bus • When EDG output breaker is closed, the sequencer will place loads onto the EDG and the maximum load will be that of the safety bus. 	Reviews note and continues with the procedure		

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
*4	8.13.2.2	Position CS-1750.2SB, BREAKER 126 Control Switch 1B-SB, to CLOSE.	Locates CS-1750.2SB and takes it to the CLOSE position.		
5	8.13.2.3	Verify the associated EDG Output Breaker 126-SB indicates closed.	Observes the indicating lights for breaker 126.		
CUE	Green light is out, amber light is out, and red light is lit.				
6	CAUTION	Do not exceed engine and generator limitations listed in Attachment 9	Reviews Attachment 9. Checks local indications for Watts and VARS and verifies EDG operation is in the "acceptable operation" region of Attachment 9.		
CUE	<p>Examiner note: When EDG Output Breaker 126-SB closes the sequencer will load equipment onto the bus over the next 45 seconds. The readings below are the bus load AFTER ail loads have sequenced on.</p> <p>(Located on the upper right portion of the Generator Control Panel are 5 meters. From left to sight - AC Volts, Megawatts, MegaVars, Frequency, AC Ammeter. The MegaWatts and MegaVar meters are checked for Attachment 9 capacity curve.)</p> <p>Meter readings -</p> <p>6800 AC Volts 4 MW 2 MVARS 60 Hz 370 Amps</p> <p><i>These readings are within limits of Attachment 9)</i></p> <p>IF asked about the two Generator meters on the middle of the panel)</p> <p>Generator Field Amps = 180 Amps Field DC Voltage = 60 volts</p>				

JPM STEP	PROC STEP	ELEMENT	STANDARD	NOTES	SAT / UNSAT
7	8.13.2.4	Position EDG SYNCHRONIZING SWITCH #2 in OFF	Takes the EDG SYNCHRONIZING SWITCH #2 to the OFF position.		
CUE	Synchronizing Switch #2 is pointing to OFF				
8	CAUTION	To prevent EDG damage, service water should be supplied as soon as possible following emergency bus reenergization.	Reviews caution and continues with the procedure	NOTE: Candidate may contact ACP operator to verify that service water flow has been established. (If so read CUE after step 10)	
9	8.13.2.5	Monitor EDG temperatures	Locates Temperature Selector switch on the Engine Control Panel and monitors the temperatures.		
CUE	Diesel temperatures are normal for the engine load.				
10	8.13.2.6	Verify service water is supplied to EDG	Contacts ACP operator to verify service water flow has been established.		
CUE	ACP operator reports that Service Water flow has been established. TASK COMPLETE				

STOP TIME: _____

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

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INITIATING CUE(S):

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