


JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: LINE UP RHR IN THE INJECTION MODE (RESPOND TO AN RCS LEAK)

JPM ID Number: S.01 (#135)

Revision: 1

II. Initiated:


Steve Jackson
Developer

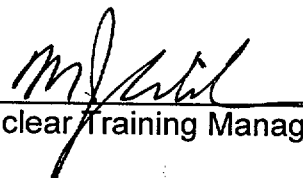
1/29/02
Date

III. Reviewed:


Technical Reviewer

6/17/02
Date

IV. Approved:


Nuclear Training Manager

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: S.01 (#135)

Revision: 1

Task Title: LINE UP RHR IN THE INJECTION MODE (RESPOND TO AN RCS LEAK)

System: RHR (5)

Safety Function: Heat Removal - Primary (4.1)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 10

Alternate Path? No

Task Number(s): 344-05-014
005-01-002

Applicable To: SRO X RO _____ PEO _____

K/A Number: 005.A4.01 K/A Rating: 3.6 / 3.4

Method of Testing: Simulated Performance: X Actual Performance: _____

Location: Classroom: _____ Simulator: X In-Plant: _____

Task Standards: Shift RHR to the Injection Mode IAW AOP 3555, Reactor Coolant System Leak.

Required Materials: AOP 3555, Reactor Coolant System Leak, Rev. 015

General References: None

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: S.01 (135)

Revision: 1

Simulator Requirements:

1. Reset to IC-93 (IC27; EOL, A & B RHR running in Cooldown, OP 3208 Step 4.3.36, Mode 4)
2. Enter MALF RC03C, RCS Loop C Cold Leg Rupture at 0.04%
3. **Place Sim Key #23 in the 3RHS*MOV8701B operator**
4. Place SIM in RUN for ~3 minutes.
5. Ensure B CHS pump running and 3CHS*FCV121 FULL OPEN.
6. Place the Simulator in Freeze. Go to run when the examinee is ready to begin

Initial Conditions:

The plant is in Mode 4 with a plant cooldown in progress. Both trains of RHR are aligned in the cooldown mode. PZR level began to drop and the crew responded by entering AOP 3555, Reactor Coolant System Leak. The B CHS pump is running and the crew has throttled open the Charging Line Flow Control Valve.

Initiating Cues:

The Unit Supervisor directs you to line up the "A" train of RHR for injection using AOP 3555, Reactor Coolant System Leak, Step 3.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: S.01 (#135)

Revision: 1

Task Title: LINE UP RHR IN THE INJECTION MODE (RESPOND TO AN RCS LEAK)

Start Time: _____

STEP 1 X

Performance Step: Place RHR pumps lined up for *shutdown cooling* in PULL-TO-LOCK (step 3.a)

Standards: Places both RHR pump control switches in stop and then places both RHR pump control switches in Pull-To-Lock.

Grade: SAT _____ UNSAT _____

STEP 2 _____

Performance Step: Check -ONE TRAIN OF RHR LINED UP FOR INJECTION (Step 3.b)

GRADE _____

Standards: Verifies that both trains of RHR were aligned in the Shutdown Cooling Mode. Shifts to the Response Not Obtained column.

Grade: SAT _____ UNSAT _____

Cue: If necessary, remind the examinee

1. That the initial conditions stated that both trains were aligned for cooldown
2. RHR Train A is the desired train for the injection mode

PERFORMANCE INFORMATION

JPM Number: S.01 (#135)

Revision: 1

Task Title: LINE UP RHR IN THE INJECTION MODE (RESPOND TO AN RCS LEAK)

STEP	<u>3</u>	<u>X</u>	Performance Step:	Close RHR Letdown Flow Control Valve (3CHS-HC128) (Step 4.a)
GRADE	<u> </u>	<u>X</u>	Standards:	Locates the controller on MB3 apron section and rotates the potentiometer to 0.0 (Full Closed)..
STEP	<u>4</u>	<u>X</u>	Performance Step:	Close RHR Outer CTMT Isolation Valve (3RHS*MV8701B) (Step 4.b)
GRADE	<u> </u>	<u>X</u>	Standards:	Locates the motor operated valve on MB2 and places switch to close. Green light on, Red light off.
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>5</u>	<u>X</u>	Performance Step:	CLOSE RHR heat exchanger bypass valve (3RHS-FK618)(100% output)(Step 4.c)
GRADE	<u> </u>	<u>X</u>	Standards:	Locates the controller on MB2 and places the controller in manual and lowers to full demand (full lower).
		<u>X</u>	Performance Step:	CLOSE RHR heat exchanger outlet flow control valve (3RHS-HC606)(Step 4.c)
GRADE	<u> </u>	<u>X</u>	Standards:	Locates the controller on MB2 and rotates the potentiometer to the 0% demand position (10.0 position).
STEP	<u>6</u>	<u>X</u>	Performance Step:	Place the "HX A FLOW CONT" switch in the "NORMAL" position. (Step 4.d)
GRADE	<u> </u>	<u>X</u>	Standards:	Locates the control switch on MB2 apron section and places in the "NORM" position.
			Grade:	SAT <u> </u> UNSAT <u> </u>

PERFORMANCE INFORMATION

JPM Number: S.01 (#135)

Revision: 1

Task Title: LINE UP RHR IN THE INJECTION MODE (RESPOND TO AN RCS LEAK)

STEP 7 X **Performance Step:** Adjust RHR heat exchanger bypass valve controller (3RHS-FK618) in manual to full open (0% output). (Step 4.e)

GRADE _____ X **Standards:** Locates the controller on MB2 and presses the up arrow to the full up position which is the 0% demand position.

_____ X **Performance Step:** Adjust RHR heat exchanger outlet flow valve controller demand (3RHS-HC606) to open (Step 4.e)

_____ X **Standards:** Locates the controller on MB2 and rotates the potentiometer to the 100% demand position.

Grade: **SAT** _____ **UNSAT** _____

STEP 8 X **Performance Step:** OPEN RWST to RHR pump suction isolation valve (3SIL*MV8812A). (Step 4.f)

GRADE _____ X **Standards:** Locates the controller on MB2 and pushes "OPEN" pushbutton. Observes red light on and green light off.

Grade: **SAT** _____ **UNSAT** _____

STEP 9 X **Performance Step:** Verify RHR cold leg injection isolation valve (3SIL*MV8809A) - OPEN. (Step 4.g)

GRADE _____ X **Standards:** Locates controller on MB2 and verifies red light on and green light off.

Grade: **SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: S.01 (#135)

Revision: 1

Task Title: LINE UP RHR IN THE INJECTION MODE (RESPOND TO AN RCS LEAK)

STEP 10 X **Performance Step:** Place RHR pump 3RHS*P1A in AUTO. (Step 4.h)

GRADE X **Standards:** Rotates hand switch from Pull-To-Lock to "Off/Auto Start" position..

Grade: **SAT** **UNSAT**

STEP 11 X **Performance Step:** Initiate SI. (Step 4.i)

GRADE X **Standards:** Locates and rotates either MB2 or MB4 SI switch to the "SI" position and releases the switch.

Grade: **SAT** **UNSAT**

Comments: Examinee may verify RHR Pump "A" auto started at this point but it is not required to satisfy the critical nature of this step.

STEP 12 **Performance Step:** Go to E-0, Reactor Trip or Safety Injection. (Step 4.j)

GRADE **Standards:** The candidate either announces the procedure transition or commences the immediate actions of E-O

Grade: **SAT** **UNSAT**

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: S.01 (#135)

Revision: 1

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 10

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

S.01 (#135)

Initial Conditions:

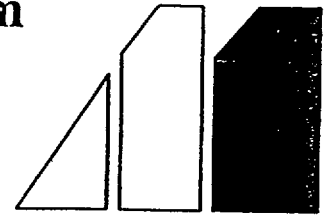
The plant is in Mode 4 with a plant cooldown in progress. Both trains of RHR are aligned in the cooldown mode. PZR level began to drop and the crew responded by entering AOP 3555, Reactor Coolant System Leak. The B CHS pump is running and the crew has throttled open the Charging Line Flow Control Valve.

Initiating Cues:

The Unit Supervisor directs you to line up the "A" train of RHR for injection using AOP 3555, Reactor Coolant System Leak, Step 3.

EOP Review and Approval Form

(Sheet 1 of 1)



DOCUMENT NO.

AOP 3555

TITLE

Reactor Coolant System Leak

REV. NO.

015

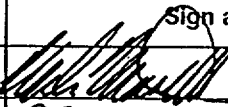

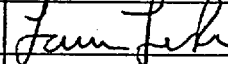
PREPARED BY

Steve Bass

DEPARTMENT

Operations, U3

DOCUMENT REVIEW

Review Type	Sign and Date	Print	✓ If Comments	Unit or Department
Evaluator	 4/7/02	M. Martell		U3 OPS
Independent	 4/8/02	ERIC BRODER	✓	MP3 OPERATIONS
Engineering	 4/3/02	Lance W. Barron		ENG

Safety Evaluation YES ☐ NO ☒

Environmental Review YES ☐ NO ☒

SORC APPROVAL



APPROVAL DATE

4/18/02

MEETING NUMBER

MP-02-039

EFFECTIVE DATE

4/26/02



OP 3265 Attachment 5
Rev. 008

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

- | | | |
|---|--|--|
| <p>____ 1.</p> | <p>Check PZR Level –
DECREASING</p> | <p>Proceed to NOTE prior to step 7.</p> |
| <p>2. Increase Charging Flow</p> | | |
| <p>____ a.</p> | <p>Check charging lineup –
NORMAL</p> | <p>a. Align valves as necessary.</p> |
| <p>____ b.</p> | <p>Throttle Open charging line
flow control valve to increase
charging flow to maximum</p> | |
| <p>____ c.</p> | <p>Verify PZR level –
STABLE OR INCREASING</p> | <p>c. Perform the applicable action:</p> <ul style="list-style-type: none"> • <u>IF</u> in operational
Mode 1, 2, or 3,
<u>THEN</u>
Proceed to step 2.f. • <u>IF</u> in operational Mode 4,
<u>THEN</u>
Proceed to step 3. |
| <p>____ d.</p> | <p>Adjust charging flow control
valve to maintain PZR level
on level setpoint</p> | |
| <p>____ e.</p> | <p>Proceed to NOTE prior to
step 7.</p> | |
| <p>____ f.</p> | <p>START second charging pump</p> | |
| <p>____ g.</p> | <p>Proceed to step 6.</p> | |

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
3. Align RHR In Mode 4	<p>___ a. Place RHR pumps lined up for <i>shutdown cooling</i> in PULL-TO-LOCK</p> <p>___ b. Check – ONE TRAIN OF RHR LINED UP FOR INJECTION</p>	<p>b. Perform the applicable action to align one train of RHR for injection:</p> <ul style="list-style-type: none"> • <u>IF</u> aligning RHR Train A, <u>THEN</u> Proceed to step 4. • <u>IF</u> aligning RHR Train B, <u>THEN</u> Proceed to step 5.
	<p>___ c. Initiate SI</p> <p>___ d. Go to E-0, Reactor Trip or Safety Injection</p>	
4. Align RHR Train A For Injection	<p>___ a. CLOSE RHR letdown flow control valve (3CHS-HC128)</p> <p>___ b. CLOSE RHR outer Ctmt isolation valve (3RHS*MV8701B)</p> <p>___ c. CLOSE the following:</p> <ul style="list-style-type: none"> • RHR heat exchanger bypass valve (3RHS-FK618) (100% output) • RHR heat exchanger outlet flow control valve (3RHS-HC606) 	<p>b. CLOSE RHR inner Ctmt isolation valve (3RHS*MV8701A).</p>

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

4. (continued)

- ___ d. Place the "HX A FLOW CONT" switch in the "NORMAL" position
- ___ e. Perform the following:
 - Adjust RHR heat exchanger bypass valve controller (3RHS-FK618) in manual to full open (0% output)
 - Adjust RHR heat exchanger outlet flow valve controller demand (3RHS-HC606) to open
- ___ f. OPEN RWST to RHR pump suction isolation valve (3SIL*MV8812A)
- ___ g. Verify RHR cold leg injection isolation valve (3SIL*MV8809A) – OPEN
 - g. Perform the following:
 - 1) Place power lockout in "ON." (MB2R)
 - 2) OPEN valve.
 - 3) Place power lockout in "OFF."
- ___ h. Place RHR pump 3RHS*P1A in AUTO
- ___ i. Initiate SI
- ___ j. Go to E-0, Reactor Trip or Safety Injection

JOB PERFORMANCE MEASURE GUIDE

I. JPM Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

JPM ID Number: S.02 (#50A)

Revision: 5, Chg. 2
3/19/01

II. Initiated:

A. Oxfurth
Developer

3/11/97
Date

Steve Jackson
Verified Current

3/6/02
Date

III. Reviewed:

CR Martin
Technical Reviewer

6/17/02
Date

IV. Approved:

mfritil
Nuclear Training Manager

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: S.02 (#50A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

System: PRESSURIZER PRESSURE
CONTROL (10)

Safety Function: Rx Pressure Control (3)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 5

Alternate Path: YES

Task Number(s): 000-05-124, 010-01-045

Applicable To: SRO _____ RO _____ PEO _____

K/A Number: 027-AA1.01

K/A Rating: 4.0 / 3.9

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: _____ Simulator: X In-Plant: _____

Task Standards: Respond to a Reactor Trip with No Safety Injection.
Manually Control PZR Pressure.

Required Materials: None.

General References: EOP 35, ES-0.1, Reactor Trip Response, Rev. 19

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective(s) for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution were actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: S.02 (#50A)

Revision: 5, Chg. 2

Simulator Requirements:

1. Reset to IC-94 (IC-21, 100% steady state power.)
2. Insert malfunctions **RP02A** and **RP02B** - reactor trip.
3. Place the simulator in "RUN". Allow the reactor trip to occur, throttle back AFW flow to approximately 150 gpm per SG by closing the MDAFW flow control valves and throttling the TDAFW flow control valves.
4. Acknowledge/reset alarms and place the simulator in "Freeze".
5. Insert malfunction **RX06A**, pressurizer spray valve PCV-455B auto control failure, at **50%** severity over a ramp time of 120 seconds.
6. Under Simulator diagrams (left screen):

RX Sheet 13, component 3RCS-PK455B, select "auto" and then "activate"

or

Use I/O (RX) 3RCS-PK455B AUTO - ON

This will keep controller PK455B in the "AUTO" position. The intent is to have an inadvertent reactor trip with a spray valve failing open after the simulator is placed in "RUN".

<p>NOTE: This I/O will NOT to function if snapped and reset. If working from a snapped IC, delete and re-enter the I/O to ensure results.</p>

7. Place the simulator in "RUN" and verify RCS pressure is 2000 ± 10 psig and decreasing. Place the simulator in "FREEZE".
8. After the examinee has received the initiating cues and initial conditions, place the simulator in "RUN".

Approximate setup time is 10 minutes.

JOB PERFORMANCE MEASURE GUIDE (Continued)

Initial Conditions:

An inadvertent reactor trip has occurred. The control room team has completed the actions of E-0 and ES-0.1, through Step 4.

Initiating Cues:

The US has directed you to check pressurizer pressure control using step 5 in EOP 35 ES-0.1. You will be responsible for acknowledging the alarms on MB4. During the performance of this JPM other annunciators may come in (i.e. condenser vacuum, etc.) The instructor will role play as a second control board operator and acknowledge/reset these alarms.

**** NOTES TO EVALUATOR ****

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, ALL critical steps must be completed correctly. The student's performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: S.02 (#50A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

Start Time: _____

NOTE:

If during the performance of this JPM, a Low Pressurizer pressure SI is actuated, **the examinee automatically fails.**

STEP 1 _____

Performance Step: Check PZR Pressure Control
Verify PZR pressure - GREATER
THAN 1890 psia. (Step 4.a)

GRADE _____

Standards: Checks pressurizer pressure greater
than 1890 psia by observing pressure
indication on meters:

RCS-PI455A
RCS-PI456A
RCS-PI457
RCS-PI458
OR
Recorder PR455

Grade: SAT _____ UNSAT _____

STEP 2 X

Performance Step: Verify PZR pressure - STABLE AT OR
TRENDING TO 2250 psia. (Step 4.b)

GRADE _____ X

Standards: Notes that PZR pressure is less than
2250 psia and decreasing. Checks the
RNO column and proceeds to step
5d.

Grade: SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: S.02 (#50A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

STEP	<u>3</u>	<u>X</u>	Performance Step:	Check PZR status: Check PZR pressure - LESS THAN 2250 psia. Then proceed to step 5.d.
GRADE	<u> </u>	<u>X</u>	Standards:	Monitors pressure and observes that pressure is less than 2250 psia.
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>4</u>	<u> </u>	Performance Step:	Verify PZR PORVs - CLOSED. (step 5.d)
GRADE	<u> </u>	<u> </u>	Standards:	Verifies PZR PORV valves closed by observing indicating lights as green ON, red OFF.
			Comments:	The examinee may also check PORV outlet temp (RCS-TI463) as approximately 110°F and PRT parameters as confirmatory indications.
			Grade:	SAT <u> </u> UNSAT <u> </u>
			Comments:	During JPM steps 5, 6 and 7, the examinee may decide to inform the US of problems and corrective actions taken in accordance with the procedure. This is not required for satisfactory completion of the step.
STEP	<u>5</u>	<u> </u>	Performance Step:	Verify PZR spray valves - CLOSED. (Step 5.e)
GRADE	<u> </u>	<u> </u>	Standards:	Identifies that loop #1 PZR spray valve, RCS*PCV455B is OPEN.
			Grade:	SAT <u> </u> UNSAT <u> </u>

PERFORMANCE INFORMATION

JPM Number: S.02 (#50A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

STEP 6 X

Performance Step:

Proceed to RNO column
CLOSE the spray valves.
(Step 5.e RNO)

Alternate Path:

GRADE X

Standards:

Depresses the "manual" pushbutton on controller RCS*PCV455B.
Observes the controller will not shift to "manual" ("auto" light stays lit and the "manual" light does not come on).

Comments:

The examinee may depress the "UP ARROW" (▲) and/or "DOWN ARROW" (▼) pushbuttons to confirm the controller did not shift to "manual". This is not required to complete the step. Additionally, the examinee may place the Master Pressure Controller (3RCS*PCV455A) in "MANUAL" and increase its output in an attempt to close the spray valve. Since the controller output is already at the maximum, this will have no effect and is not required for completion of the step.

Grade:

SAT

UNSAT

PERFORMANCE INFORMATION

JPM Number: S.02 (#50A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

STEP 7 X **Performance Step:** IF any spray valve can NOT be closed
THEN STOP RCPs 1 and 2.
(Step 5.e RNO)

GRADE _____ X **Standards:** Rotates RCP 1 control switch RCS-P1A to the "STOP" position and observes the indicating lights shift to green ON, red OFF and amperage goes to zero.

GRADE _____ X **Standards:** Rotates RCP 2 control switch, RCS-P1B to the "STOP" position and observes the indicating lights shift to green ON, red OFF and amperage goes to zero.

Grade: **SAT** _____ **UNSAT** _____

Comments: Annunciators "RCP Loop 1 Flow Lo", "RCP Loop 2 Flow Lo" and "RCP Low Speed" will alarm. The examinee should silence and acknowledge these alarms. This is not necessary to satisfy this critical step.

STEP 8 _____ **Performance Step:** Verify PZR heaters - ENERGIZED.
(Step 5.f)

GRADE _____ _____ **Standards:** Verifies heater groups 3RCS*H1A, H1B, H1C, H1D and H1E are on by observing the indicating lights as green OFF, red ON.

Grade: **SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: S.02 (#50A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

STEP 9

Performance Step: Inform the US that pressurizer pressure control has been checked.

GRADE

Standards: Reports to the US that pressurizer pressure control has been checked, RCPs 1 and 2 have been stopped and pressure is now stable. Also reports the problem with the spray valve , if not previously done.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: S.02 (#50A)

Revision: 5, Chg. 2

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 5

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

S.02 (#50A)

Initial Conditions:

An inadvertent reactor trip has occurred. The control room team has completed the actions of E-0 and ES-0.1, through Step 4.

Initiating Cues:

The US has directed you to check pressurizer pressure control using step 5 in EOP 35 ES-0.1. You will be responsible for acknowledging the alarms on MB4. During the performance of this JPM other annunciators may come in (i.e. condenser vacuum, etc.) The instructor will role play as a second control board operator and acknowledge/reset these alarms.

EOI Review and Approval Form

(Sheet 1 of 1)

DOCUMENT NO.

OP 35 ES-0.1

TITLE REACTOR TRIP RESPONSE	REV. NO. 019
---------------------------------------	------------------------

PREPARED BY Steve Bass	DEPARTMENT Operations, U3
---------------------------	------------------------------

DOCUMENT REVIEW

Review Type	Sign and Date	Print	✓ If Comments	Unit or Department
Evaluator	<i>Sadler</i> 9/21/01	<i>Sadler</i>	✓	OPS
Independent	<i>Michael O'Connor</i> 11/23/01	<i>M O'Connor</i>		U3 OPS

Safety Evaluation YES ☐ NO ☐

Environmental Review YES ☐ NO ☐

SORC APPROVAL

APPROVAL DATE MAY 16 2002

MEETING NUMBER MP 02-044

EFFECTIVE DATE MAY 23 2002



STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

5. Check PZR Pressure Control

- | | |
|--|---|
| <p>____ a. Verify PZR pressure –
GREATER THAN 1890 psia</p> <p>____ b. Verify PZR pressure –
STABLE AT OR
TRENDING TO 2250 psia</p> <p>____ c. Proceed to step 6.</p> <p>____ d. Verify PZR PORVs –
CLOSED</p> <p>____ e. Verify PZR spray valves –
CLOSED</p> <p>____ f. Verify PZR heaters –
ENERGIZED</p> <p>____ g. Proceed to step 6.</p> <p>____ h. Verify PZR heaters – OFF</p> | <p>a. Initiate SI and Go to E-0,
Reactor Trip or Safety
Injection.</p> <p>b. Perform the applicable action:</p> <ul style="list-style-type: none">• <u>IF</u> PZR pressure is
LESS THAN 2250 psia,
<u>THEN</u>
Proceed to step 5.d.• <u>IF</u> PZR pressure
is GREATER
THAN 2250 psia,
<u>THEN</u>
Proceed to step 5.h. <p>d. CLOSE PORVs.</p> <p><u>IF</u> any PORV can <u>NOT</u> be
closed,
<u>THEN</u>
CLOSE its block valve.</p> <p>e. CLOSE spray valves.</p> <p><u>IF</u> any spray valve can <u>NOT</u> be
closed,
<u>THEN</u>
STOP RCPs 1 and 2.</p> <p>f. Place the control switch to ON.</p> <p>h. Place the control switch
to OFF.</p> |
|--|---|

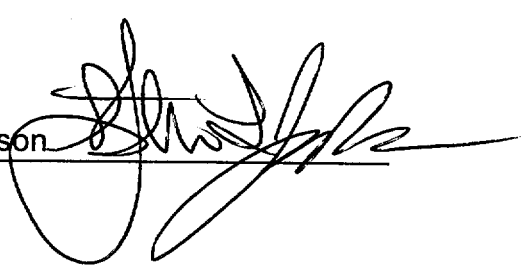
JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: ENERGIZE THE AC EMERGENCY BUS THROUGH THE RSSA DURING ECA - 0.0

JPM ID Number: S.03 (New)

Revision: 1

II. Initiated:


Steve Jackson
Developer

6/12/02
Date

III. Reviewed:


Technical Reviewer

6/17/02
Date

IV. Approved:


Nuclear Training Manager

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: S.03 (New)

Revision: 1

Task Title: ENERGIZE THE AC EMERGENCY BUS THROUGH THE RSSA DURING ECA - 0.0

System: AC Electrical Distribution (62) Safety Function: Electrical (6)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 5

Alternate Path? Yes

Task Number(s): 000-05-097

Applicable To: SRO X RO _____ PEO _____

K/A Number: 062.A2.05 K/A Rating: 2.9 / 3.3

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: _____ Simulator: X In-Plant: _____

Task Standards: Respond to a Loss of All AC Power

Required Materials: ECA-0.0, Loss of All AC Power, Rev. 016
EOP 35 General Attachment, GA-3; Energizing 4.16 KV Bus From Offsite Power, Rev. 000

General References: None

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: S.03 (New)

Revision: 1

- Simulator Requirements:
1. Reset to IC-95 (IC: 21, 100% power, EOL)
 2. Enter MALF **EG07B**, EDG B Trip & **EG08A**; 0%, EDG A Load Limiter Failure
 3. Enter I/O (EG) 1A-3ENSACB-A, CLOSE - FALSE, to prevent EDG A Output breaker from closing manually
 4. Place the Simulator in Run
 5. Enter MALF ED01, Loss of Offsite Power, run for 5 minutes, perform E-0, steps 1-3, and ECA-0.0, steps 1-4.
 6. Remove MALF ED01
 7. Place the Simulator in Freeze. Go to run when the examinee is ready to begin

Initial Conditions: The plant has experienced a Loss of Offsite Power. The A EDG started but did not load. The B EDG started and catastrophically failed. The crew responded using E-0 and ECA-0.0 and has completed ECA-0.0 through step 4. CONVEX has restored offsite power which is available and reliable.

Initiating Cues: The Unit Supervisor directs you to restore power to any AC emergency bus starting at ECA-0.0, step 5.

**** NOTES TO EVALUATOR ****

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: S.03 (New)

Revision: 1

Task Title: ENERGIZE THE AC EMERGENCY BUS THROUGH THE RSSA DURING ECA - 0.0

Start Time: _____

STEP 1 _____

Performance Step: Energize AC emergency bus from it's emergency diesel generator:
START one emergency diesel generator (step 5.a)

Standards: Observes A EDG running. Observes that the EDG has NOT automatically close onto bus 34C. Candidate MAY observe degraded frequency

Grade: SAT _____ UNSAT _____

STEP 2 X

Performance Step: Verify EDG output breaker - CLOSED (Step 5.b)

Alternate Path

GRADE _____ X

Standards: Observes that Bus 34C and 34D are both de-energized. The candidate may try to close the A EDG Output Breaker since it is an automatic action which did not occur.
Candidate transitions to **RNO** column.

Grade: SAT _____ UNSAT _____

STEP 3 X

Performance Step: CLOSE breaker (MB8) (Step 5.b RNO)

GRADE _____ X

Standards: Candidate attempts to close the A EDG output breaker. When it will not close he transitions to step 5.c

Grade: SAT _____ UNSAT _____

STEP 4 _____

Performance Step: Verify at least one AC emergency bus - ENERGIZED (Step 5.c)

GRADE _____ _____

Standards: Observes that Bus 34C and 34D are both still de-energized.

Grade: SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: S.03 (New)

Revision: 1

Task Title: ENERGIZE THE AC EMERGENCY BUS THROUGH THE RSSA DURING ECA - 0.0

STEP 5 **Performance Step:** Proceed to step 5.e (Step 5.c RNO)

GRADE **Standards:** Candidate Proceeds to step 5.e.

Grade: **SAT** **UNSAT**

STEP 6 **Performance Step:** Check offsite power - AVAILABLE (Step 5.e)

GRADE **Standards:** At MB8 observes any of the following:

- Grid frequency meter (upright)
- Grid voltage meter (upright)
- RSST "available" white lights (apron)

Comment: This information also given in initial conditions. Candidate may choose not to verify.

Grade: **SAT** **UNSAT**

STEP 7 **Performance Step:** Using GA-3, energize emergency bus 34C or 34D through the RSST or the NSST (step 5.f)

GRADE **Standards:** Candidate Proceeds to GA-3.

Grade: **SAT** **UNSAT**

Cue: Restore power to Bus 34C to with the RSST

STEP 8 **Performance Step:** Check Energizing Bus 34C - DESIRED (step 1 of GA-3)

GRADE **Standards:** Candidate Proceeds to step 2 based on previous cue.

Grade: **SAT** **UNSAT**

PERFORMANCE INFORMATION

JPM Number: S.03 (New)

Revision: 1

Task Title: ENERGIZE THE AC EMERGENCY BUS THROUGH THE RSSA DURING ECA - 0.0

STEP 9 X **Performance Step:** Energize Bus 34C. Place the following control switches in PULL-TO-LOCK (step 2.a)

- One Train A Service Water Pump
- RPCCW Pumps Train A
- Quench Spray Pump A
- Recirc Spray Pump A
- Recirc Spray Pump C
- SI Pump A
- RHR Pump A
- Control Building Chiller A
- Aux Building Filter A

GRADE _____ X **Standards:** Locates the control switches for the following components and places the switch in stop and then in in PULL-TO-LOCK.

- One Train A Service Water Pump
- RPCCW Pumps Train A
- Quench Spray Pump A
- Recirc Spray Pump A
- Recirc Spray Pump C
- SI Pump A
- RHR Pump A
- Control Building Chiller A
- Aux Building Filter A

Grade: **SAT** _____ **UNSAT** _____

STEP 10 _____ **Performance Step:** Verify annunciator, "Bus 34C UNDERVOLTAGE" (MB8A 3-12) - NOT LIT (step 2.b)

GRADE _____ _____ **Standards:** Observes annunciator MB8A 3-12, "Bus 34C UNDERVOLTAGE" not lit on MB8A.

Grade: **SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: S.03 (New)

Revision: 1

Task Title: ENERGIZE THE AC EMERGENCY BUS THROUGH THE RSSA DURING ECA - 0.0

STEP	<u>11</u>	<u>X</u>	Performance Step:	PRESS "BYPASS" on the bus 34C undervoltage block pushbutton. (MB8R) (Step 2.c)
GRADE	<u> </u>	<u>X</u>	Standards:	Locates pushbutton on MB8R, pushes button and observes white light go <u>off</u> .
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>12</u>	<u>X</u>	Performance Step:	Check undervoltage block white light - <u>NOT</u> LIT. (Step 2.d)
GRADE	<u> </u>	<u>X</u>	Standards:	Observes white light <u>NOT</u> LIT on pushbutton on MB8R
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>13</u>	<u> </u>	Performance Step:	Check Power from RSSA - AVAILABLE. (Step 2.e)
GRADE	<u> </u>	<u> </u>	Standards:	Observes white "power available" light LIT on MB8
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>14</u>	<u>X</u>	Performance Step:	Energize Bus 34C from RSSA Place RSSA sync selector switch in - ON (Step 2.f.1)
GRADE	<u> </u>	<u>X</u>	Standards:	Places or checks sync selector handle in synchronizing selector for RSSA to bus 34C on turns to ON position. Observes INCOMING voltage meter register voltage at about 125 v.
			Grade:	SAT <u> </u> UNSAT <u> </u>

PERFORMANCE INFORMATION

JPM Number: S.03 (New)

Revision: 1

Task Title: ENERGIZE THE AC EMERGENCY BUS THROUGH THE RSSA DURING ECA - 0.0

STEP 15 X **Performance Step:** CLOSE RSSA supply breaker (RSSA*34C-2) (Step 2.f.2)

GRADE X **Standards:** Locates and turns RSSA*34C-2, RSSA supply breaker to the close position and releases. Observes breaker green light go OFF and red light go ON. Observes voltage on bus 34C at about 4000 v. Also may observe synchroscope RUNNING voltage go to about 125 v. Lights come on in the Control Room

Grade: **SAT** **UNSAT**

STEP 16 **Performance Step:** Place RSSA sync selector in - OFF. (Step 2.f.3)

GRADE **Standards:** Places or checks sync selector handle in synchronizing selector for RSSA to bus 34C on turns to OFF position. Observes INCOMING and RUNNING voltage meters go to zero.

Grade: **SAT** **UNSAT**

Comments: When candidate reads step 2.f.4 go to terminating cue and end the JPM.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: S.03 (New)

Revision: 1

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 5

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

S.03 (New)

Initial Conditions:

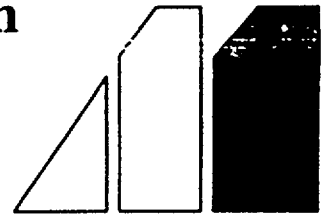
The plant has experienced a Loss of Offsite Power. The A EDG started but did not load. The B EDG started and catastrophically failed. The crew responded using E-0 and ECA-0.0 and has completed ECA-0.0 through step 4. CONVEX has restored offsite power which is available and reliable.

Initiating Cues:

The Unit Supervisor directs you to restore power to any AC emergency bus starting at ECA-0.0, step 5.

EOI Review and Approval Form

(Sheet 1 of 1)



DOCUMENT NO.

EOP 35 ECA-0.0

TITLE

Loss Of All AC Power

REV. NO.

016

PREPARED BY

Steve Bass

DEPARTMENT

Operations, U3

DOCUMENT REVIEW

Review Type	Sign and Date	Print	✓ If Comments	Unit or Department
Evaluator	<i>Michael O'Connor</i> 11/28/01	Michael O'Connor	✓	U3 OPS
Independent	<i>HK Corin</i> 2-25-02	HK Corin	✓	U3 OPS

Safety Evaluation YES ☐ NO ☒

Environmental Review YES ☐ NO ☒

SORC APPROVAL

APPROVAL DATE

MAY 16 2002

MEETING NUMBER

MP-02-044

EFFECTIVE DATE

MAY 23 2002



OP 3265 Attachment 5
Rev. 008

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE

CSF Status Trees should be monitored for information only. Functional Response procedures shall NOT be implemented until at least one AC emergency bus is energized and direction is given in ECA-0.1 or ECA-0.2.

1.* Verify Reactor Trip

- Check reactor trip and bypass breakers – OPEN
- Check neutron flux – DECREASING

TRIP the reactor.

IF reactor trip can NOT be verified,
THEN

Locally TRIP the reactor trip and bypass breakers.

2.* Verify Turbine Trip

- a. Check all turbine stop valves – CLOSED

a. TRIP the turbine.

IF the turbine will NOT trip,
THEN

Runback the turbine to close the control valves.

IF the turbine can NOT be runback,
THEN

CLOSE MSIVs and MSIV bypass valves.

3. Check If RCS Is Isolated

- a. Verify PZR PORVs – CLOSED

a. IF PZR pressure is LESS THAN 2350 psia,
THEN
CLOSE the PORVs.

- b. CLOSE letdown orifice isolation valves

b. CLOSE Ctmt letdown isolation valves:

- 3CHS*CV8152
- 3CHS*CV8160

- c. Verify excess letdown and reactor head vent isolation valves – CLOSED

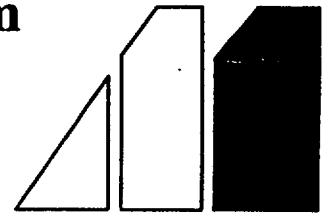
c. CLOSE valves.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4.	Verify Total AFW Flow To Intact SGs – GREATER THAN 530 gpm	<p>Perform the following:</p> <p>a. Verify TD AFW pump running.</p> <p><u>IF</u> the TD AFW pump is <u>NOT</u> running, <u>THEN</u></p> <p>1) Using Attachment J locally Reset the turbine trip valve as necessary.</p> <p>2) OPEN steam supply valves.</p> <p>b. Verify the TD AFW flow control valves are open.</p> <p><u>IF</u> the valves are <u>NOT</u> open, <u>THEN</u> OPEN the TD AFW pump flow control valves.</p>
<div>CAUTION If power is NOT restored to Bus 34C within 30 minutes, Inverter 6 de-energizes and the process computer will be unavailable. Use GA-12 as required to determine core cooling parameters.</div>		
5.	Try To Restore Power To Any AC Emergency Bus	
___ a.	START at least one EDG (MB8)	a. Proceed to step 5.e.
___ b.	Verify EDG output breaker – CLOSED	b. CLOSE breaker (MB8).
___ c.	Verify at least one AC emergency bus – ENERGIZED	c. Proceed to step 5.e.
___ d.	Proceed to step 5.h.	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
5. (continued)		
___ e.	Check offsite power – AVAILABLE	e. Proceed to CAUTION prior to step 6. and, <u>IF</u> offsite power becomes available, <u>THEN</u> Using GA-3, Energize emergency bus 34C or 34D through the RSST or the NSST.
___ f.	Using GA-3, Energize emergency bus 34C or 34D through the RSST or the NSST	f. Proceed to CAUTION prior to step 6.
___ g.	STOP the EDG	
___ h.	Check Charging pumps – AT LEAST ONE RUNNING	h. Start one charging pump.
___ i.	Perform the following to energize MCC 32-3T: 1) Verify emergency bus 34C – ENERGIZED 2) RESET LOP 3) Using GA-1, Energize MCC 32-3T	1) Proceed to step 5.j. <u>WHEN</u> Power is restored to emergency bus 34C, <u>THEN</u> Perform step 5.i.
___ j.	Go to procedure and step in effect	

EOP Review and Approval Form

(Sheet 1 of 1)



DOCUMENT NO.

EOP 35 GA-3

TITLE

Energizing 4.16 KV Bus From Offsite Power

REV. NO.

000

PREPARED BY

Steve Bass

DEPARTMENT

Operations, U3

DOCUMENT REVIEW

Review Type	Sign and Date	Print	✓ If Comments	Unit or Department
Evaluator	<i>Michael O'Connor</i> 4/17/02	Michael O'Connor		U3ORS
Independent	<i>Jeffrey A. Lys</i> 4/26/02	Jeffrey A. Lys		U3ORS

Safety Evaluation YES ☐ NO ☒

Environmental Review YES ☐ NO ☒

SORC APPROVAL

APPROVAL DATE MAY 16 2002

MEETING NUMBER MP-02-044

EFFECTIVE DATE MAY 23 2002



OP 3265 Attachment 5
Rev. 008

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE

An electrical train aligned for the SBO diesel using ECA-0.0, Attachment H or I is NOT available for energizing by this procedure.

____ 1. Check Energizing Bus 34C –
DESIRED

Energize another bus:

- For Bus 34D – Proceed to step 3.
- For Bus 34A – Proceed to step 4.
- For Bus 34B – Proceed to step 5.

2. Energize Bus 34C

____ a. Place the following control
switches in
PULL-TO-LOCK

- One Train A Service Water Pump
- RPCCW Pumps Train A
- Quench Spray Pump A
- Recirc Spray Pump A
- Recirc Spray Pump C
- SI Pump A
- RHR Pump A
- Control Bldg Chiller A
- Aux Building Filter A

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

2. (continued)

- | | |
|--|--|
| <p>_____ b. Verify annunciator BUS 34C
UNDERVOLTAGE
(MB8A 3-12) – <u>NOT</u> LIT</p> <p>_____ c. Press BYPASS for 34C
undervoltage block
pushbutton (MB8R)</p> <p>_____ d. Check undervoltage block
white light – <u>NOT</u> LIT</p> <p>_____ e. Check Power from RSSA –
AVAILABLE</p> <p>_____ f. Energize Bus 34C from RSSA</p> <ol style="list-style-type: none">1) Place RSSA sync selector
switch in – ON2) CLOSE RSSA supply
breaker (RSSA*34C-2)3) Place RSSA sync selector
switch in – OFF4) Proceed to step 2.h. | <p>b. Press and <u>Hold</u> BYPASS for
34C undervoltage block
pushbutton (MB8R) and
Proceed to step 2.e.</p> <p>d. Press and <u>Hold</u> BYPASS for
34C undervoltage block
pushbutton (MB8R).</p> <p>e. Perform the following:</p> <ol style="list-style-type: none">1) <u>IF</u> Bus 34A is energized,
<u>THEN</u>
Proceed to step 2.g.2) Proceed to step 2.h. |
|--|--|

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: DROPPED ROD RECOVERY AT POWER

JPM ID Number: S.04 (#112)

Revision: 2

II. Initiated:


Steve Jackson
Developer

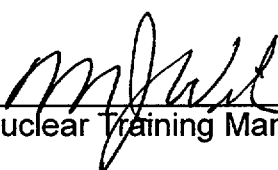
2/13/02
Date

III. Reviewed:


Martin
Technical Reviewer

6/17/02
Date

IV. Approved:


Nuclear Training Manager

6/19/02
10/8/99
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: S.04 (#112)

Revision: 2

Task Title: DROPPED ROD RECOVERY AT POWER

System: Control Rod Drive System (001) Safety Function: Reactivity Control (1)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 15

Alternate Path? No

Task Number(s): 344-05-030, 344-05-041

Applicable To: SRO X RO X PEO _____

K/A Number: 014-A2.03 K/A Rating: 3.6/4.1

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: _____ Simulator: X In-Plant: _____

Task Standards: Satisfactorily recover a dropped control rod while operating at power using Attachment B of AOP 3552.

Required Materials: AOP 3552, Malfunction of the Rod Drive System, Rev. 3

General References: None

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: **S.04** (#112)

Revision: **2**

- Simulator Requirements:
- 1) Reset to IC-96 (IC-21, Full Power, EOL)
 - Ensure step counters will display the correct rod position.
 - Place the turbine on the load limiter.
 - 2) Place the simulator in "RUN."
 - Insert malfunction **RD0301** @ 0%, Rod D-2 in Shutdown Bank A drops.
 - Acknowledge annunciators.
 - Rotate the Control Rod "SEL" switch to the "MAN" position.
 - 3) Check $T_{AVE} - T_{REF}$ mismatch.
 - If mismatch is $\leq -1^{\circ}\text{F}$ (neg.), no further setup action is required.
 - If mismatch is $> -1^{\circ}\text{F}$ (neg.), adjust turbine load as necessary to reduce the mismatch to -1°F .
 - 4) **Remove** malfunction **RD0301**.
 - Place the simulator in "FREEZE."
 - After the examinee has received the initial conditions and initiating cues, place the simulator in "RUN."

Approximate simulator setup time is 5-7 minutes.

Initial Conditions: While operating at 100% power, one of the control rods dropped because of a blown gripper coil fuse. I&C has replaced the fuse and the plant is stable. A QPTR of 1.01 has been calculated.

Initiating Cues: The US has directed you to recover dropped rod D-2 in Shutdown Bank A using AOP 3552, Attachment B, steps 5-7.

**** NOTES TO EVALUATOR ****

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The student's performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: S.04 (#112) Revision: 2

Task Title: DROPPED ROD RECOVERY AT POWER

Start Time: _____

STEP 1 _____

Performance Step: Record affected group step counter position. (Step 5.a)

GRADE _____

Standards: Determines that the dropped rod (D-2) is in Shutdown Bank A, Group 1. Observes that the group step counter for this group reads 224-226 steps.

Grade: SAT _____ UNSAT _____

STEP 2 X

Performance Step: Reset affected group step counter to zero. (Step 5.b)

GRADE _____ X

Standards: Depresses the bottom pushbutton located on the right side of the affected group step counter **(Shutdown Bank, Group 1)**. Observes the step counter indication changes to "0" (zero).

Comments: It is acceptable for the examinee to go to the control rod disconnect box to determine which group the dropped rod is in.

Grade: SAT _____ UNSAT _____

Cue: The control rod disconnect switch box is unlocked.

STEP 3 _____

Performance Step: Align control rod disconnect switches: Unlock and Open control rod disconnect switch box. (Step 5.c.1)

GRADE _____

Standards: Opens door of rod disconnect switch box and (MB3R).

Grade: SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: S.04 (#112) Revision: 2

Task Title: DROPPED ROD RECOVERY AT POWER

STEP	<u>4</u>	<u>X</u>	Performance Step:	Place each rod disconnect switch for the affected bank, except the dropped rod, to the "ROD DISCONNECTED" position. (Step 5.c.2)
GRADE	<u> </u>	<u>X</u>	Standards:	Except for rod D-2, positions the toggle switches for the remaining rods in Shutdown Bank A up to the "ROD DISCONNECTED" position. [UP] [9 switches]
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>5</u>	<u>X</u>	Performance Step:	Place control rod bank SEL switch to the affected bank position. (Step 5.d)
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates control rod bank SEL switch to the "SBA" position.
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>6</u>	<u> </u>	Performance Step:	Recover Dropped Rod: Check rod drop time - LESS THAN 1 HOUR. (Step 6.a)
GRADE	<u> </u>	<u> </u>	Standards:	Verifies that less than one hour has elapsed since the rod dropped.
			Cue:	It has been less than 1 (one) hour since rod D-2 dropped.
		<u> </u>	Performance Step:	Recover Dropped Rod: Check power - LESS THAN OR EQUAL TO 50%, (Step 6.b) OR QPTR ≤ 1.02. (Step 6.b RNO)
GRADE	<u> </u>	<u> </u>	Standards:	Determines reactor power from available indications. QPTR of 1.01 was provided in the initiating cues.
			Cue:	QPTR is 1.01.

PERFORMANCE INFORMATION

JPM Number: S.04 (#112) Revision: 2

Task Title: DROPPED ROD RECOVERY AT POWER

Performance Step: Recover Dropped Rod:

Adjust turbine load as necessary while withdrawing the dropped rod to minimize TAVG-TREF deviation.
(Step 6.c)

GRADE

Standards:

Coordinates with BOP operator to adjust turbine load as necessary while withdrawing the dropped rod to minimize TAVG-TREF deviation.

Cue:

Reactor Engineering has calculated that withdrawing rod D-2 will cause TAVG to increase by 1-1.5°F. Any TAVG-TREF deviation will be corrected once rod D-2 is fully withdrawn.

Grade:

SAT

UNSAT

STEP 7 X

Performance Step:

Withdraw dropped rod until affected group step counter indicates the value recorded in step 5a. (Step 6.f)

GRADE X

Standards:

Positions and hold the "Control Rod Motion" switch in the "OUT" position.

Comments:

Annunciator MB4C:4-8, "ROD CONTROL URGENT FAILURE" will alarm. The examinee should acknowledge this alarm. Acknowledging the alarm is not required to complete the critical nature of this step.

GRADE

Standards:

While withdrawing rod D-2, check DRPI against the group demand position (step counter) to ensure they are within ± 12 steps.

PERFORMANCE INFORMATION

JPM Number: S.04 (#112) Revision: 2

Task Title: DROPPED ROD RECOVERY AT POWER

Comments: When rod D-2 moves to the DRPI 6-step position, annunciator MB4C:5-10, "ONE ROD BOTTOM" should clear.

Comments: When the group step counter demand position is in the range of 140-160 steps, annunciators MB4C:3-5, "PR UP DET HI FLUX DEV/AUTO DEFEAT" and MB4C:3-6, "PR LO DET HI FLUX DEV/AUTO DEFEAT" should clear.

Comments: As rod D-2 approaches the position of the remainder of Shutdown Bank A, annunciator MB4C:6-9, "ROD POSITION DEVIATION" should clear.

The examinee should acknowledge these alarms. Acknowledging these alarms is **not** required to complete the critical nature of this step.

Comments: TAVG will increase 1-1.5°F during rod D-2 withdrawal. This deviation should not require adjusting turbine load during the dropped rod recovery.

GRADE

Standards: When the group step counter for Shutdown Bank A, Group 1 reaches 225 steps, releases the "Control Rod Motion" switch to the center "neutral" position.

Grade: SAT UNSAT

PERFORMANCE INFORMATION

JPM Number: S.04 (#112) Revision: 2

Task Title: DROPPED ROD RECOVERY AT POWER

STEP	<u>8</u>	<u>X</u>	Performance Step:	<u>Restore Rod Control System:</u> Place all lift coil disconnect switches for affected bank to ROD CONNECTED position. (Step 7.a)
GRADE	<u> </u>	<u>X</u>	Standards:	Opens control rod disconnect switch box on rear section of MB3. Repositions toggle switches for all rods in Shutdown Bank A down to the "ROD CONNECTED" (unlabeled) position. [9 switches]
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>9</u>	<u> </u>	Performance Step:	<u>Restore Rod Control System:</u> Verify ROD CONTROL URGENT FAILURE (MB4C 4-8) annunciator - LIT. (Step 7.b)
GRADE	<u> </u>	<u> </u>	Standards:	Verifies annunciator - LIT.
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>10</u>	<u>X</u>	Performance Step:	<u>Restore Rod Control System:</u> Press ROD DRIVE RESET (Step 7.c) Verify ROD CONTROL URGENT FAILURE (MB4C 4-8) annunciator - NOT LIT. (Step 7.d)
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses ROD DRIVE RESET pushbutton on MB4.
			Standards:	Verifies ROD CONTROL URGENT FAILURE (MB4C:4-8) annunciator - NOT LIT.

PERFORMANCE INFORMATION

JPM Number: S.04 (#112) Revision: 2

Task Title: DROPPED ROD RECOVERY AT POWER

Comments: When the ROD DRIVE RESET pushbutton on MB4 is depressed, annunciator ROD CONTROL URGENT FAILURE (MB4C:4-8) should clear. The examinee should acknowledge this alarm. Acknowledging the alarm is **not** required to complete the critical nature of this step.

Grade: SAT _____ UNSAT _____

STEP 11 _____

Performance Step: Restore Rod Control System:
Place Control System Bank SEL switch in MAN

GRADE _____

Standards: Places control rod bank SEL switch in "MAN". (Step 7.e)

GRADE _____

Standards: Determines that affected bank is NOT a control bank, moves to the RNO column at step 7f and proceeds to step 7i.

GRADE _____

Standards: Requests I&C position Logic Cabinet master cyclor count for proper group stepping.

GRADE _____

Standards: Reports to US that rod D-2 has been recovered

Grade: SAT _____ UNSAT _____

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: S.04 (#112)

Revision: 2

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 15

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

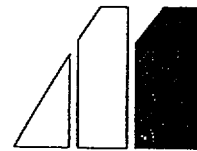
JPM Number: S.04 (#112)

Initial Conditions: While operating at 100% power, one of the control rods dropped because of a blown gripper coil fuse. I&C has replaced the fuse and the plant is stable. A QPTR of 1.01 has been calculated.

Initiating Cues: The US has directed you to recover dropped rod D-2 in Shutdown Bank A using AOP 3552, Attachment B, steps 5-7.

EOP Review and Approval Form

(Sheet 1 of 1)



DOCUMENT NO.
AOP 3552

TITLE
Malfunction of the Rod Drive System

REV. NO.
3

PREPARED BY

Steve Bass

DEPARTMENT
Operations, U3

DOCUMENT REVIEW

Review Type	Sign and Date	Print	✓ If no Comments	Unit or Department
<i>Biennial Review</i>	<i>Steve Bass 12/29/98</i>	<i>Steve Bass</i>	✓	<i>U3 OPS</i>

Safety Evaluation Attached?

YES

☐

NO

☒

Environmental Review

YES

☐

NO

☒

PORC APPROVAL

For

APPROVAL DATE JAN 10 1999

MEETING NUMBER *Biennial Review*

EFFECTIVE DATE 1/18/95

A. PURPOSE

This procedure provides the actions necessary to recovery from a malfunction of the Rod Control System including uncontrolled rod motion, failure of rods to move, rod misalignment, rod position indication failure, and dropped rods when operating in MODEs 1 or 2. Using this procedure in any other MODE requires a step by step evaluation to determine if the specified action is still applicable in the current plant condition.

B. ENTRY CONDITIONS

1. The following are symptoms of a malfunction with the Rod Drive System:
 - a. Any of the following MB annunciators:
 - POWER RNG CHANNEL DEVIATION (MB4C 3-3)
 - ROD CONTROL NON URGENT FAILURE (MB4C 3-8)
 - ROD CONTROL URGENT FAILURE (MB4C 4-8)
 - ROD POSITION DEVIATION (MB4C 6-9)
 - PR UP DET HI FLUX DEV/AUTO DEFEAT (MB4C 5-3)
 - PR LO DET HI FLUX DEV/AUTO DEFEAT (MB4C 6-3)
 - ONE ROD BOTTOM (MB4C 5-10)
 - b. Any of the following:
 - Failure of control rods to move in automatic when the difference between Tref and auctioneered Tave exceeds 1.5°F.
 - Failure of control rod(s) to move in manual.
 - Unexplained or uncontrolled rod movement.
 - One or more digital rod position indicators not in agreement with other digital rod position indicators of the same bank by ± 12 steps.
 - One or more digital rod position indicators not in agreement with associated group step counter demand height by ± 12 steps.
 - Incore thermocouple or flux map readings indicating possible mispositioned rod.
 - Any shutdown rod below insertion limit.
 - Any rod indicated on bottom by DRPI.
 - Any rod fails to move with its group.

2. The following are symptoms of a malfunction with the Digital Rod Position Indication System:
 - RPI NON URGENT FAILURE (MB-4C 3-10)
 - RPI URGENT FAILURE (MB-4C 4-10)
 - ROD DEVIATION (DRPI display)
 - CENTRAL CONTROL FAILURE (DRPI display)
 - URGENT FAILURE (DRPI display)
 - DATA A FAILURE (DRPI display)
 - DATA B FAILURE (DRPI display)
 - ROD GW (DRPI display)
 - Blank DRPI display
 - Any DRPI display position LED not indicating
3. This procedure is entered from:
 - AOP 3570, Earthquake, step 1

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

1. Stabilize Plant Conditions

a. Place control rod bank SEL switch in MAN

b. Verify – NO RODS MOVING

c. Stop any power increase or decrease evolutions in progress

d. Verify Tavg – Tref deviation – LESS THAN OR EQUAL TO 1.5°F

b. TRIP the reactor and Go to E-0, Reactor Trip or Safety Injection.

d. Perform the applicable action:

- IF Tavg greater than Tref
AND the steam dumps are open,
THEN
Increase turbine load to minimize Tavg – Tref deviation.

- IF Tavg greater than Tref
AND the steam dumps are NOT open,
THEN
Borate to minimize Tavg – Tref deviation.

- IF Tavg less than Tref,
THEN
Decrease turbine load to minimize Tavg – Tref deviation.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ e.	Verify TURB LOAD REJECTION ARM C-7 (MB4D 6-6) annunciator - NOT LIT	e. Perform the following: 1) Check all steam dump valves closed. 2) <u>WHEN</u> all steam dump valves are closed, <u>THEN</u> Reset C-7.
_____ f.	Borate or Dilute, as necessary, to maintain Tavg within 1.5°F of Tref	
_____ 2.	Check No Rod Dropped	
a.	Verify RPI URGENT FAILURE (MB4C 4-10) annunciator - NOT LIT	a. Determine rod position indication malfunction using Attachment C.
b.	Check rod bottom lights - NONE LIT	b. Perform the applicable action: • <u>IF</u> only one rod bottom light is lit, <u>THEN</u> Perform dropped rod recovery using Attachment B. • <u>IF</u> two or more rod bottom lights are lit, <u>THEN</u> Trip the reactor and Go to E-0, Reactor Trip or Safety Injection.

Dropped Rod

CAUTION

- Improper rod realignment can cause fuel damage either directly or in conjunction with plant transients.
- Resetting ROD CONTROL URGENT FAILURE (MB4C 4-8) alarm without correcting the cause may result in dropping a group of control rods.
- DO NOT implement steps 5. through 8. until I&C has corrected the dropped rod malfunction.

1. Check Plant Conditions

- | | |
|---|---|
| <p>___ a. Verify operational mode –
MODE 1</p> <p>___ b. Identify dropped rod as follows:</p> <ul style="list-style-type: none">• Lit rod bottom (RB) light on DRPI display• Zero indication on plant process computer, Rod Supervision <p>___ c. Verify ROD CONTROL URGENT FAILURE (MB4C 4-8) annunciator – NOT LIT</p> <p>___ d. Request I&C investigate and correct malfunction</p> | <p>a. Perform reactor Shutdown using OP 3207, Reactor Shutdown.</p> <p>c. Perform the following:</p> <ol style="list-style-type: none">1) Notify I&C to investigate and clear malfunction.2) <u>WHEN</u> malfunction corrected,
<u>THEN</u>
Press ROD DRIVE RESET and Proceed to step 2. |
|---|---|

Dropped Rod

2. Check Shutdown Margin

- ___ a. Calculate SHUTDOWN MARGIN with a *dropped/misaligned* rod using OPS Form 3209B-1, SHUTDOWN MARGIN For MODES 1, 2
- ___ b. Verify SHUTDOWN MARGIN – ADEQUATE
- b. Restore SHUTDOWN MARGIN using AOP 3566, Immediate Boration.

3. Determine Technical Specification Requirements

- ___ a. Verify reactor power – GREATER THAN 50%
- a. Proceed to step 3.f.
- ___ b. Determine QPTR as follows:
 - Plant computer – Tilting Factors
- OR
- SP 31012, Quadrant Power Tilt Ratio
- ___ c. Verify QPTR – LESS THAN OR EQUAL TO 1.09
- c. Perform the following:
 - 1) Refer to Technical Specification 3.2.4, ACTION b., and Determine ACTION requirement.
 - 2) Notify Reactor Engineering.

Dropped Rod

____ d. Verify QPTR –
LESS THAN OR
EQUAL TO 1.02

d. Perform the following:

1) Refer to Technical
Specification 3.2.4,
ACTION a., and
Determine ACTION
requirement.

2) Notify Reactor
Engineering.

____ e. Verify indicated AFD within
limits using TRM,
OPS Form 3273–3/4.3.2.1.1,
AXIAL FLUX
DIFFERENCE AS A
FUNCTION OF RATED
THERMAL POWER

e. Perform the following:

1) Refer to Technical
Specification 3.2.1.1, and
Determine ACTION
requirement.

2) Notify Reactor
Engineering.

____ f. Check dropped rod in a
Shutdown Bank

f. Proceed to step 3.h.

____ g. Refer to Technical
Specification 3.1.3.5, and
Determine ACTION
requirement

____ h. Refer to Technical
Specification 3.1.3.1, and
Determine ACTION
requirement

Dropped Rod

___ 4. Check If Power Should Be Reduced

___ a. Verify rod dropped –
GREATER THAN 1 hour

a. Proceed to CAUTION prior to step 5. and,

IF the rod is NOT recovered within 1 hour,

THEN

Perform steps 4.b. through 4.f.

___ b. Refer to Technical Specification 3.1.3.1
ACTION b.3

___ c. Declare affected rod inoperable

___ d. Verify power –
GREATER THAN 75%

d. Perform the following:

1) Request I&C reduce the High Neutron Flux setpoint to less than or equal to 85% within 5 hours of time rod dropped.

2) Proceed to CAUTION prior to step 5.

___ e. Perform the following:

1) Place control rod bank SEL switch in AUTO, if desired

2) Reduce power to less than or equal to 75% within 2 hours of rod becoming misaligned using OP 3204, At Power Operation

___ f. Request I&C to reduce the High Neutron Flux Trip setpoint to less than or equal to 85% within 4 hours of reaching 75% power

Dropped Rod

CAUTION

DO NOT proceed to step 5. unless I&C has corrected the dropped rod malfunction. .

NOTE

Placing the rod control selector switch to a bank position will freeze the bank overlap unit at its present count. .

5. Establish Conditions For Dropped Rod Recovery

- ___ a. Record affected group step counter position
- ___ b. Reset affected group step counter to zero
- ___ c. Align control rod disconnect switches:
 - 1) Unlock and Open control rod disconnect switch box (Box 3RDS-HDSBOX1, CAT 60, Key #18 in CO key locker)
 - 2) Place each rod disconnect switch for the affected bank, *except the dropped rod*, to the ROD DISCONNECTED position
- ___ d. Place control rod bank SEL switch to affected bank position

Dropped Rod

NOTE

A ROD CONTROL URGENT FAILURE (MB4C 4-8) alarm will occur during recovery unless the affected rod is in Shutdown Bank C, D, or E.

6. Recover Dropped Rod

- ___ a. Check rod drop time –
LESS THAN 1 HOUR
- ___ b. Check power –
LESS THAN OR EQUAL
TO 50%
- ___ c. Adjust turbine load as
necessary while withdrawing
the dropped rod to minimize
Tavg – Tref deviation
- ___ d. Proceed to step 6.f.
- ___ e. Borate as necessary while
withdrawing the dropped rod
to minimize Tavg – Tref
deviation
- a. Proceed to step 6.e.
- b. Perform the following:
 - 1) IF QPTR is less than or
equal to 1.02,
THEN
Proceed to step 6.c.
 - 2) Proceed to step 6.e.

Dropped Rod

- ____ f. Withdraw dropped rod until affected group step counter indicates value recorded in step 5.a.

- f. IF rod will NOT withdraw,
THEN
Perform the following:

1) Notify I&C.

2) Notify Reactor Engineering.

- 3) WHEN malfunction corrected,
THEN
Return to step 5.b.

7. Restore Rod Control System

- ____ a. Place all lift coil disconnect switches for affected bank to ROD CONNECTED position

- ____ b. Verify ROD CONTROL URGENT FAILURE (MB4C 4-8) annunciator - LIT

- b. Proceed to step 7.e.

- ____ c. Press ROD DRIVE RESET

- ____ d. Verify ROD CONTROL URGENT FAILURE (MB4C 4-8) annunciator - NOT LIT

- d. Notify I&C to investigate and clear malfunction.

- ____ e. Place control rod bank SEL switch in MAN

- ____ f. Check affected bank is a control bank

- f. Perform the following:

- 1) IF affected bank is Shutdown Bank A or B,
THEN
Proceed to step 7.i.

- 2) Proceed to step 8.

Dropped Rod

- ___ g. Check affected group is group 1
- ___ h. Restore pulse-to-analog converter using Attachment E
- ___ i. Request I&C position Logic Cabinet master cycler count for proper group stepping
- g. Proceed to step 7.i.

8. Perform Follow-up Actions

- ___ a. Verify OPERABILITY of affected rod(s):
 - 1) Perform SP 3602A.1, Rod Cluster Control Exercise, for affected bank
 - 2) Perform OPS Form 3670.1-1, Mode 1-4 Daily and Shiftly Control Room Rounds, for Shutdown Rods and DRPI
 - 1) Refer to Technical Specification 3.1.3.1, and Determine compliance with LCO.
 - 2) Refer to Technical Specification 3.1.3.1, 3.1.3.2, and/or 3.1.3.5, and Determine compliance with applicable LCO.
- ___ b. Notify Reactor Engineering of dropped rod recovery
- ___ c. Return to AOP 3552, step 6.

-FINAL-

JOB PERFORMANCE MEASURE GUIDE

I. JPM Title: SHIFT AFW SUCTION TO CST (DWST LO LEVEL)

JPM ID Number: S.05 (#046)

Revision: 5

II. Initiated:


Steve Jackson
Developer

6/12/02
Date

III. Reviewed:


Technical Reviewer

6/17/02
Date

IV. Approved:


Nuclear Training Manager

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3 Student: _____

JPM ID Number: S.05 (#046) Revision: 5

Task Title: SHIFT AFW SUCTION TO CST (DWST LO LEVEL)

System: AFW (061) Safety Function: Heat Removal- Primary (4.2)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 4

Alternate Path? No

Task Number(s): 061-01-016

Applicable To: SRO X RO _____ PEO _____

K/A Number: 061-K4.01 K/A Rating: 4.1/4.2

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: _____ Simulator: X In-Plant: _____

Task Standards: Satisfactorily complete shifting the AFW suction to condensate storage tank using OP 3322.

Required Materials: E-0 or ES-0.1 FOLDOUT PAGE
EOP 35 General Attachment, GA-4, Transfer AFW Pump Suction and Fill DWST, Rev. 000

General References: None.

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective(s) for this JPM will be satisfied. You may use any approved reference material normally available in the Control

JOB PERFORMANCE MEASURE GUIDE

Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution were actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: S.05 (#046)

Revision: 5

- Simulator Requirements:
1. RESET to IC-97 or (IC-21, full power, EOL)
 2. Insert malfunction RP02A and RP02B - reactor trip.
 3. Select "Audible Alarm Disable" and place the simulator in "RUN". Allow the simulator to stabilize following the reactor trip.
 4. Start both MDAFW pumps and close their respective flow control valves to each steam generator.
 5. Insert malfunction FW 23 - DWST rupture at 100% (12,000 gpm leakage). When the "DWST LO" (MB6A, 1-1L) and "DWST LO-LO" (MB6A, 2-1) level alarms are both in (~31,800 gallons). Acknowledge/clear annunciators, deselect "Audible Alarm Disable" and place the simulator in "Freeze".
 6. After the examinee has received the initiating cues and initial conditions, place the simulator in "RUN".

Approximate setup time is 15 minutes.

Initial Conditions:

An inadvertent reactor trip has occurred. The control room team has transitioned from E-0 to ES-0.1. During this transition, it was noticed that DWST level dropped rapidly and the PEO reported a rupture in the tank. The MDAFW pumps are running, but their flow control valves are closed.

Initiating Cues:

The US has directed you to apply E-0 foldout page criteria and shift A & B MDAFW pump suctions to the Condensate Storage Tank.

JOB PERFORMANCE MEASURE GUIDE (Continued)

**** NOTES TO EVALUATOR ****

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, ALL critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: **S.05** (#046)

Revision: **5**

Task Title: **SHIFT AFW SUCTION TO CST (DWST LO LEVEL)**

Start Time: _____

STEP **1** _____

Performance Step: **AFW SUPPLY SWITCHOVER CRITERIA**

If DWST level decreases to LESS THAN 80,000gal, AFW pump suction must be shifted to the CST and the DWST filled using GA-4. (E-0 or ES-0.1 FOLDOUT PAGE)

GRADE _____

Standards:

Candidate uses either E-0 or ES-0.1 FOLDOUT PAGE and transitions to GA-4.

Grade:

SAT _____ **UNSAT** _____

STEP **2** _____

Performance Step: RESET ESF Actuation Signals, If Required

- SI
 - CDA
 - LOP
- (GA-4, step 1)

GRADE _____

Standards:

Candidate observes MB4 and MB 2 annunciator panels and identifies that no ESF Actuation Signals have occurred. No reset required.

Grade:

SAT _____ **UNSAT** _____

STEP **3** _____

Performance Step: Check Transfer MD AFW Pump A Suction to CST - DESIRED
(GA-4, step 2)

GRADE _____

Standards:

Candidate reviews initiating cue, as necessary, and proceeds to step 3.

Grade:

SAT _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: S.05 (#046)

Revision: 5

Task Title: SHIFT AFW SUCTION TO CST (DWST LO LEVEL)

STEP	<u>4</u>	<u>X</u>	Performance Step:	Transfer MD AFW Pump A Suction to the CST (GA-4, step 3.a) • RESET Aux feedwater Train A S/G Lo-Lo level, if required
GRADE	<u> </u>	<u>X</u>	Standards:	Candidate RESETs the pushbutton for A MDAFW pump (MB5). Observes annunciator MB5A 5-1, "AUX FW AUTO INITIATION RESET" Lit.
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>5</u>	<u>X</u>	Performance Step:	Transfer MD AFW Pump A Suction to the CST (GA-4, step 3.b) • OPEN CST suction to MD AFW pump A (3FWA*AOV23A)
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses the "OPEN" pushbutton for 3FWA*AOV23A and releases the pushbutton when the indicating lights shift to green OFF, red ON.
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>6</u>	<u>X</u>	Performance Step:	Transfer MD AFW Pump A Suction to the CST (GA-4, step 3.c) • CLOSE DWST suction to MD AFW pump A (3FWA*AOV61A)
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses the "CLOSE" pushbutton for 3FWA*AOV61A and releases the pushbutton when the indicating lights shift to green ON, red OFF.
			Grade:	SAT <u> </u> UNSAT <u> </u>

PERFORMANCE INFORMATION

JPM Number: S.05 (#046)

Revision: 5

Task Title: SHIFT AFW SUCTION TO CST (DWST LO LEVEL)

STEP	<u>7</u>		Performance Step:	Check Transfer MD AFW Pump B Suction to CST - DESIRED (GA-4, step 4)
GRADE			Standards:	Candidate reviews initiating cue, as necessary, and proceeds to step 5.
			Grade:	SAT _____ UNSAT _____
STEP	<u>8</u>	<u>X</u>	Performance Step:	Transfer MD AFW Pump B Suction to the CST (GA-4, step 5.a) <ul style="list-style-type: none"> • RESET Aux feedwater Train B S/G Lo-Lo level, if required
GRADE		<u>X</u>	Standards:	Candidate RESETs the pushbutton for A MDAFW pump (MB5). Observes annunciator MB5A 5-1, "AUX FW AUTO INITIATION RESET" Lit.
			Comment:	Annunciator may not re-flash. Observation of annunciator still lit and successful operation of the valves in this step is sufficient.
			Grade:	SAT _____ UNSAT _____
STEP	<u>9</u>	<u>X</u>	Performance Step:	Transfer MD AFW Pump B Suction to the CST (GA-4, step 5.b) <ul style="list-style-type: none"> • OPEN CST suction to MD AFW pump B (3FWA*AOV23B)
GRADE		<u>X</u>	Standards:	Depresses the "OPEN" pushbutton for 3FWA*AOV23B and releases the pushbutton when the indicating lights shift to green OFF, red ON.
			Grade:	SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: S.05 (#046)

Revision: 5

Task Title: SHIFT AFW SUCTION TO CST (DWST LO LEVEL)

STEP	<u>10</u>	<u>X</u>	Performance Step:	Transfer MD AFW Pump B Suction to the CST (GA-4, step 5.c) <ul style="list-style-type: none">• CLOSE DWST suction to MD AFW pump B (3FWA*AOV61B)
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses the "CLOSE" pushbutton for 3FWA*AOV61B and releases the pushbutton when the indicating lights shift to green ON, red OFF.
			Grade:	SAT <u> </u> UNSAT <u> </u>
			Comment:	When candidate completes GA-4, step 5 go to the Terminating Cue.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: S.05 (#046)

Revision: 5

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 5

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

S.05 (#046)

Initial Conditions:

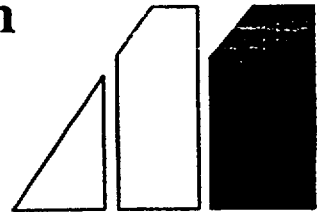
An inadvertent reactor trip has occurred. The control room team has transitioned from E-0 to ES-0.1. During this transition, it was noticed that DWST level dropped rapidly and the PEO reported a rupture in the tank. The MDAFW pumps are running, but their flow control valves are closed.

Initiating Cues:

The US has directed you to apply E-0 foldout page criteria and shift A & B MDAFW pump suctions to the Condensate Storage Tank.

EOP Review and Approval form

(Sheet 1 of 1)



DOCUMENT NO.

EOP 35 GA-4

TITLE

Transfer AFW Pump Suction and Fill DWST

REV. NO.

000

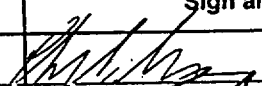
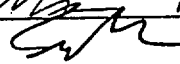
PREPARED BY

Steve Bass

DEPARTMENT

Operations, U3

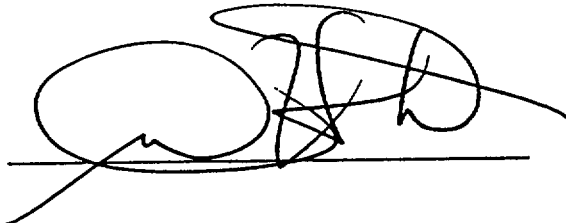
DOCUMENT REVIEW

Review Type	Sign and Date	Print	✓ If Comments	Unit or Department
Evaluator	 11/28/01	Charlie Acuna		3-ORS
Independent	 3/20/02	Sadler	✓	30PS

Safety Evaluation YES ☐ NO ☒

Environmental Review YES ☐ NO ☒

SORC APPROVAL



APPROVAL DATE

MAY 16 2002

MEETING NUMBER

MP-02-044

EFFECTIVE DATE

MAY 23 2002



OP 3265 Attachment 5
Rev. 008

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

- ____ 1. **RESET ESF Actuation Signals, If Required**

- SI
- CDA
- LOP

- ____ 2. **Check Transfer MD AFW Pump A Suction To CST – DESIRED**

Proceed to step 4.

NOTE

If all "S/G LEVEL LO-LO" (MB5B) conditions clear and another "S/G LEVEL LO-LO" condition occurs, the interlocked valves will shift back to their safety positions. The "S/G LEVEL LO-LO" will need to be reset again to establish a suction path to the CST.

3. **Transfer MD AFW Pump A Suction To The CST**

- ____ a. **RESET Aux feedwater Train A S/G Lo-Lo level, if required**

- ____ b. **OPEN CST suction to MD AFW pump A (3FWA*AOV23A)**

b. Proceed to step 4.

- ____ c. **CLOSE DWST suction to MD AFW pump A (3FWA*AOV61A)**

- ____ 4. **Check Transfer MD AFW Pump B Suction To CST – DESIRED**

Proceed to step 6.

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE

If all "S/G LEVEL LO-LO" (MB5B) conditions clear and another "S/G LEVEL LO-LO" condition occurs, the interlocked valves will shift back to their safety positions. The "S/G LEVEL LO-LO" will need to be reset again to establish a suction path to the CST.

**5. Transfer MD AFW Pump B
Suction To The CST**

___ a. RESET Aux feedwater
Train B S/G Lo-Lo level, if
required

___ b. OPEN CST suction to
MD AFW pump B
(3FWA*AOV23B)

___ c. CLOSE DWST suction to
MD AFW pump B
(3FWA*AOV61B)

b. Proceed to step 6.

___ **6. Check Transfer TD AFW Pump
Suction To CST – DESIRED**

Proceed to step 8.

**7. Locally Transfer TD AFW Pump
Suction To The CST**

___ a. Unlock and Open TD AFW
pump alternate suction valve
(3FWA*V61)

___ b. Lock open TD AFW pump
alternate suction valve
(3FWA*V61)

___ c. Unlock and Close TD AFW
pump DWST supply header
isolation valve (3FWA*V30)

ES-0.1 FOLDOUT PAGE

1. SI ACTUATION CRITERIA

Actuate SI and Go to E-0, REACTOR TRIP AND SAFETY INJECTION, if EITHER condition listed below occurs:

- RCS subcooling based on core exit TCs is LESS THAN 32°F

OR

- PZR level is LESS THAN 9%

2. AFW SUPPLY SWITCHOVER CRITERION

If DWST level decreases to LESS THAN 80,000 gal, AFW pump suction must be shifted to the CST and the DWST filled using GA-4.

E-0 FOLDOUT PAGE

1. RCP TRIP CRITERIA

Trip all RCPs if BOTH conditions listed below occur:

- a. At least one charging QR SI pump is running

AND

- b. RCS pressure is LESS THAN 1500 psia (1800 psia ADVERSE CTMT)

2. AFW SUPPLY SWITCHOVER CRITERION

If DWST level decreases to LESS THAN 80,000 gal, AFW pump suction must be shifted to the CST and the DWST filled using GA-4.

3. COLD LEG RECIRCULATION SWITCHOVER CRITERION

If RWST level decreases to LESS THAN 520,000 gal, Go to ES-1.3, Transfer to Cold Leg Recirculation.

4. CONTROL BLDG VENTILATION REALIGNMENT CRITERION (CBI)

With CBI actuated for 1 hour, establish Control Bldg outside filtered air using GA-18.

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: PERFORMANCE OF THE IMMEDIATE ACTIONS IN E-0

JPM ID Number: S.06 (#51N)

Revision: 0, Chg. 1
10/21/99

II. Initiated:

R. L. Lueneburg
Developer

12/18/96
Date

Steve Jackson
Verified Current

2/13/02
Date

III. Reviewed:

Martin
Technical Reviewer

6/17/02
Date

IV. Approved:

M. Kell
Nuclear Training Manager

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: **S.06 (#51N)**

Revision: 0, Chg. 1

Task Title: PERFORMANCE OF THE IMMEDIATE ACTIONS IN E-0

System: ESFAS (013) Safety Function: RCS Inventory Control (2)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 5

Alternate Path? Yes

Task Number(s): 000-05-084, 000-05-055

Applicable To: SRO X RO _____ PEO _____

K/A Number: 013-A4.03 K/A Rating: 4.5 / 4.7

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: _____ Simulator: X In-Plant: _____

Task Standards: Respond to a Rx Trip and/or Safety Injection
Perform a Manual Safety Injection

Required Materials: None.

General References: E-0, Reactor Trip or Safety Injection, Rev. 21

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: **S.06 (#51N)**

Revision: 0, Chg. 1

- Simulator Requirements:
1. Reset to IC-21, full power, EOL, with Sim in FREEZE
 2. Enter malfunction **RC09C** to cause the "C" RCP to trip. Also enter **RP07A** and **RP07B** to prevent an automatic SI. Enter malfunction RC02A at 0.1% severity.
 3. Place the simulator in run for about 30 seconds until RCS pressure is at **approximately 1950 psia**. Place the master silence switch in the "silence" position. Ensure RCS pressure is decreasing at a rate that will produce an RCS pressure indication of less than 1890 psia when the examinee is performing step 4 of E-0.
 4. Place the simulator in FREEZE.
 5. Place the simulator in "run" after the examinee has read and understands the Initial Conditions and Initiating Cues.

Approximate simulator setup time is 6-8 minutes.

Initial Conditions: Just seconds ago, while the plant was operating at 100% power, the "C" RCP tripped. The US has placed the master silence switch in the "silence" position.

Initiating Cues: You are directed to carry out the first four (4) steps of E-0 from memory. The simulator will be placed in run when you are ready to begin.

**** NOTES TO EVALUATOR ****

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The student's performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: S.06 (#51N)

Revision: 0, Chg. 1

Task Title: PERFORMANCE OF THE IMMEDIATE ACTIONS IN E-0

Start Time: _____

STEP 1 X

Performance Step: Verify Reactor Trip.

- Check reactor trip and bypass breakers - OPEN
- Check rod bottom lights - LIT
- Check neutron flux - DECREASING

GRADE _____ X

Standards:

Observes that the reactor trip breakers are open, all rod bottom lights are lit and that reactor power is decreasing. The reactor is tripped.

Grade:

SAT _____ UNSAT _____

STEP 2 X

Performance Step: Verify Turbine Trip.

- a. Check all turbine stop valves - CLOSED

GRADE _____ X

Standards:

Looks at the stop valve meter indications on the EHC insert on MB7 and observes that all of the turbine stop valves are closed.

Grade:

SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: S.06 (#51N)

Revision: 0, Chg. 1

Task Title: PERFORMANCE OF THE IMMEDIATE ACTIONS IN E-0

STEP 3 X **Performance Step:** Verify Power to AC Emergency Busses:

- a. Check busses 34C and 34D - AT LEAST ONE ENERGIZED.
- b. Check busses 34C and 34D - BOTH ENERGIZED.

GRADE _____ X **Standards:** Looks at the voltage indication for bus 34C on MB8 and observes that voltage is present. At least bus 34C is energized.

GRADE _____ X **Standards:** Looks at the voltage indication for bus 34D on MB8 and observes that voltage is present. Both busses 34C and 34D are energized.

Grade: **SAT** _____ **UNSAT** _____

STEP 4 X

Performance Step:
Alternate Path:

Check if SI is Actuated.

- a. Verify Safety Injection Actuation annunciator - LIT.

GRADE _____ _____ **Standards:** At MB4, observes that the Safety Injection Actuation annunciator is not lit. Shifts to the actions in the RNO column.

Grade: **SAT** _____ **UNSAT** _____

Comments: JPM steps 5 - 9 can be performed in any order. When the examinee obtains the indication that an SI is required, the expectation is that he will initiate the SI and therefore not check all of the parameters listed in steps 5 - 9. This is acceptable for satisfactory completion of this JPM.

PERFORMANCE INFORMATION

JPM Number: S.06 (#51N)

Revision: 0, Chg. 1

Task Title: PERFORMANCE OF THE IMMEDIATE ACTIONS IN E-0

STEP 5 X **Performance Step:** Check if SI is required.

- Ctmt pressure GREATER THAN 18 psia.

GRADE **Standards:** Checks Ctmt pressure indications on MB2 and observes that Ctmt is approximately 14 - 15 psia and increasing. It is less than 18 psia.

Grade: **SAT** **UNSAT**

STEP 6 X **Performance Step:** • RCS pressure LESS THAN 1890 psia.

GRADE X **Standards:** AT MB4, observes that the RCS pressure indicators and determines that RCS pressure is decreasing and below or rapidly approaching the SI initiation point of 1890 psia.

GRADE X **Standards:** Informs the US that an SI is required based on RCS pressure.

Grade: **SAT** **UNSAT**

Cue: Acknowledge the report. It is not necessary for the examinee to receive an acknowledgment prior to completing the action of initiating the SI.

GRADE X **Standards:** Rotates the Safety Injection switch at MB2 or MB4 to the actuate position. Observes that the "Safety Injection Actuated" annunciator lights.

Cue: When the examinee has completed the SI actuation and verified that it has actuated (annunciator lit) provide the termination cue.

PERFORMANCE INFORMATION

JPM Number: S.06 (#51N)

Revision: 0, Chg. 1

Task Title: PERFORMANCE OF THE IMMEDIATE ACTIONS IN E-0

STEP 7 Performance Step: PZR level LESS THAN 9%.

GRADE Standards: Observes the PZR level indications on MB4 and determines that PZR level is not less than 9%.

Grade: SAT UNSAT

STEP 8 Performance Step: RCS subcooling LESS THAN 32°F.

GRADE Standards: Checks subcooling using the plant process computer or the curves on the back of the clipboards and determines that RCS subcooling is not less than 32 degrees F.

Grade: SAT UNSAT

STEP 9 Performance Step: S/G pressure LESS THAN 660 psig.

GRADE Standards: At MB5, observes that all S/G pressures are greater than 660 psig. After checking all of the parameters, determines that an SI is not required.

Grade: SAT UNSAT

STEP 10 Performance Step: Reports that the first four steps of E-0 have been completed.

GRADE Standards: Informs the examiner that he has completed the first four steps of E-0.

Grade: SAT UNSAT

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: S.06 (#51N)

Revision: 0, Chg. 1

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 5

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

S.06 (#51N)

Initial Conditions:

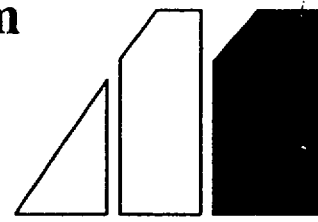
Just seconds ago, while the plant was operating at 100% power, the "C" RCP tripped. The US has placed the master silence switch in the "silence" position.

Initiating Cues:

You are directed to carry out the first four (4) steps of E-0 from memory. The simulator will be placed in "run" when you are ready to begin.

EOP Review and Approval Form

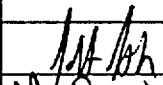
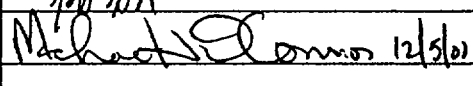
(Sheet 1 of 1)



DOCUMENT NO. EOP 35 E-0

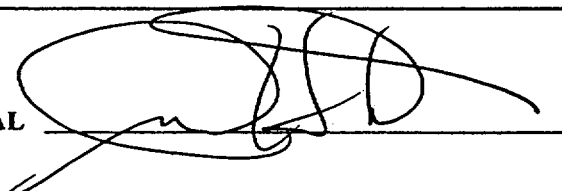
TITLE REACTOR TRIP OR SAFETY INJECTION	REV. NO. 021
--	------------------------

PREPARED BY Steve Bass	DEPARTMENT Operations, U3
---------------------------	------------------------------

DOCUMENT REVIEW				
Review Type	Sign and Date	Print	✓ If Comments	Unit or Department
Evaluator		Scott Smith	✓	3 ops
Independent	 12/5/01	Michael O'Connor		3 ops

Safety Evaluation	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Environmental Review	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

SORC APPROVAL



APPROVAL DATE MAY 16 2002 MEETING NUMBER MP-02-044

EFFECTIVE DATE MAY 23 2002



OP 3265 Attachment 5
Rev. 008

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE

- Foldout page must be open.
- ADVERSE CTMT is defined as GREATER THAN 180°F or GREATER THAN 10^5 R/hr in containment.
- The reactor can be interpreted as "tripped" when any two of the three bulleted substeps of step 1. are satisfied.

____ 1.* Verify Reactor Trip

TRIP the reactor.

- Check reactor trip and bypass breakers – OPEN
- Check rod bottom lights – LIT
- Check neutron flux – DECREASING

IF reactor will NOT trip,
THEN

a. TRIP Bus 32B and 32N.

IF Bus 32B AND 32N can
NOT be tripped,
THEN

Go to FR-S.1, Response
to Nuclear Power
Generation/ATWS.

b. IF the rod bottom lights are lit
OR neutron flux is decreasing,
THEN
Proceed to step 2.

IF reactor trip can NOT be
verified,
THEN

Go to FR-S.1, Response
to Nuclear Power
Generation/ATWS.

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

2.* Verify Turbine Trip

- a. Check all turbine stop valves – CLOSED

- a. TRIP the turbine.

IF the turbine will NOT trip,
THEN

Runback the turbine to close the control valves.

IF the turbine can NOT be runback,
THEN

CLOSE the MSIVs and MSIV bypass valves.

3.* Verify Power To AC Emergency Busses

- a. Check AC emergency busses 34C and 34D – BOTH ENERGIZED

- a. Try to energize the affected AC emergency buss(es) from its associated EDG.

IF power can NOT be restored to at least one AC emergency bus,
THEN

Go to ECA-0.0, Loss of All AC Power, step 3. (Observe NOTE prior to step 1.)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4.* Check If SI Is Actuated		
a. Verify SAFETY INJECTION ACTUATION annunciator (MB4D 1-6 or MB2B 5-9) - LIT		<p>a. Check if SI is required:</p> <ul style="list-style-type: none"> CTMT pressure GREATER THAN 18 psia <u>OR</u> PZR pressure LESS THAN 1890 psia <u>OR</u> PZR level LESS THAN 9% <u>OR</u> RCS subcooling LESS THAN 32°F <u>OR</u> SG pressure LESS THAN 660 psig <p><u>IF</u> SI is required, <u>THEN</u> Initiate SI and Proceed to step 5.</p> <p><u>IF</u> SI is <u>NOT</u> required, <u>THEN</u> Initiate monitoring of CSF Status Trees and Go to ES-0.1, Reactor Trip Response.</p>
b. By observation of ESF Group 2 Status Panel lights, Verify both trains of SI - ACTUATED		b. Manually Initiate SI.
c. Check reactor trip and bypass breakers - OPEN		c. Locally TRIP the reactor trip and bypass breakers.

JOB PERFORMANCE MEASURE GUIDE

I. JPM Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

JPM ID Number: S.07 (#031)

Revision: 6 chg 1

II. Initiated:

G. A. Tait
Developer

6/8/99
Date

Steve Jackson
Verified Current

6/18/02
Date

III. Reviewed:

martin
Technical Reviewer

6/18/02
Date

IV. Approved:

mfulil
Nuclear Training Manager

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

System: Process Radiation Monitoring (073) Safety Function: Instrumentation (7)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 20

Alternate Path? No

Task Number(s): 088-01-005

Applicable To: SRO X RO _____ PEO _____

K/A Number: APE 060 AA1.02
GEN 2.1.20

K/A Rating: 2.9 / 3.1
4.3 / 4.2

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: _____ Simulator: X In-Plant:: _____

Task Standards: Satisfactorily complete placing the upper levels of the Auxiliary Building on filtered exhaust in accordance with OP 3314A, "Auxiliary Building Heating, Ventilation and Air Conditioning"

Required Materials: OP 3314A, "Auxiliary Building Heating, Ventilation and Air Conditioning", Revision 022-07

General References: None.

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective(s) for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution were actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: S.07 (#031)

Revision: 6 chg 1

Simulator Requirements: Approximate setup time is 5 minutes.

1. Reset to IC-98 (IC-21, 100% steady state, EOL.)
2. Place the simulator in "RUN".
3. Insert malfunction CV09 at 50% severity, 100 gpm leak in VCT.
4. Insert malfunction CV10B at 0% severity, LT185 fails to 0% (indicates a VCT level transmitter line leak). This will cause annunciator MB3A 4-10, VCT level Hi/Lo and MB3A 3-10, VCT Press Hi/Lo, to come in.
5. After approximately 2 minutes, 3HVR-RE13 will reach the alarm setpoint and annunciators MB2B 2-8 and MB2B 3-9 will come in. Place the simulator in "Freeze".
6. After the examinee has received the initial conditions and initiating cues, place the simulator in "RUN".

Initial Conditions:

A leak on CHS*LT185 level transmitter line for the VCT has resulted in radiation monitor HVR-RE13 going into an alarm status. The control room team is carrying out the actions of AOP 3573, Radiation Monitor Alarm Response. One train of charging and RPCCW pump area ventilation is in service. The Waste Disposal Building ventilation and CTMT purge are not aligned to the AUX. Bldg. filters. General area ventilation is in service.

Initiating Cues:

In carrying out the responses of AOP 3573, Radiation Monitor Alarm Response, the US has directed you to place the upper levels of the Aux. Bldg. on Manual Area Filtration per OP 3314A, Section 4.2.

The simulator instructor will acknowledge all alarms not associated with your task.

**** NOTES TO EVALUATOR ****

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The student's performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

Start Time: _____

STEP 1 _____

Performance Step:

CAUTION

This section supports response to high radiation in the upper levels of the Auxiliary Building (AOP 3573). This section establishes and maintains Auxiliary Building ventilation in the following alignment:

- One train of charging and CCP fans in operation
- 3HVR-FN7 discharging to normal exhaust path through 3HVR*AOD40A and 3HVR*AOD40B
- Waste Disposal Building ventilation and containment purge are not aligned to the Auxiliary Building filters

If it becomes necessary to deviate from this alignment, Auxiliary Building upper level ventilation must be stopped as specified in Section 4.3 (Step 4.2.1 Caution)

GRADE _____

Standards:

Reviews precaution.

Grade:

SAT _____

UNSAT _____

Cue:

An additional operator has been assigned to respond to any additional radiation monitor alarms that may alarm during performance of this task.

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

STEP 2 **Performance Step:** CHECK 3HVR*AOD44A and 3HVR*AOD44B, charging and RPCCW pump normal exhaust dampers, open (VP1). (step 4.2.1)

GRADE **Standards:** Observes that the indicating lights for 3HVR*AOD44A and 3HVR*AOD44B are green OFF, red ON.

Grade: **SAT** **UNSAT**

STEP 3 **Performance Step:** CHECK 3HVR*FN14A and 3HVR*FN13A OR 3HVR*FN14B and 3HVR*FN13B, charging and RPCCW pump supply and exhaust fans, one train running (VP1). (step 4.2.2)

GRADE **Standards:** Observes that the indicating lights are green OFF red ON for 3HVR*FN14A and 3HVR*FN13A and green ON red OFF for 3HVR*FN14B and 3HVR*FN13B, the A train fans are running.

Grade: **SAT** **UNSAT**

STEP 4 **Performance Step:** CHECK 3HVR*FN14A and 3HVR*FN14B, charging and RPCCW pump supply fans, in "AUTO"(VP1). (step 4.2.3)

GRADE **Standards:** Observes that the "SPLY FAN/VEN DMPRS" control switches for 3HVR*FN14A and 3HVR*FN14B are aligned to the "AUTO" position.

Grade: **SAT** **UNSAT**

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

STEP 5 **Performance Step:** IF above lineup not established, Refer to Section 4.13 and PLACE one train of charging and RPCCW pump area ventilation in service. (step 4.2.4)

GRADE **Standards:** Proceeds to step 4.2.5 based upon lineup being verified established by previous procedure steps performed above.

Grade: **SAT** **UNSAT**

STEP 6 **Performance Step:** VERIFY, Waste Disposal Building ventilation and containment purge, not aligned to Auxiliary Building filters.

- 3HVR*AOD65A, filter sply, closed
- 3HVR*AOD65B, filter sply, closed
- 3HVR*AOD29A, filter sply, closed
- 3HVR*AOD29B, filter sply, closed

(step 4.2.5)

GRADE **Standards:** Verifies:
3HVR*AOD65A, filter sply, closed
3HVR*AOD65B, filter sply, closed
3HVR*AOD29A, filter sply, closed
3HVR*AOD29B, filter sply, closed
by observing green lights LIT and red lights OFF on all AODs

Comment: This information was given as part of the initial turnover. Candidate may use initial information to skip this step.

Grade: **SAT** **UNSAT**

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

STEP	<u>7</u>	<u> </u>	Performance Step:	Step 4.2.6 NOTE This section supports response to high radiation in the upper levels of the Auxiliary Building (AOP 3573). Therefore, all general area ventilation is stopped to prevent pressurizing the Auxiliary Building. If lower level was left on during the shift in alignment, 3HVR-HVU2B would supply more air than 3HVR-FN7 could exhaust and an unfiltered discharge could occur.
GRADE	<u> </u>	<u> </u>	Standards:	Reviews Note.
STEP	<u>8</u>	<u>X</u>	Grade: Performance Step:	SAT <u> </u> UNSAT <u> </u> IF general area ventilation is in service, PERFORM the following (VP1): a. STOP the following "AUX BLDG" "HVU's": • 3HVR-HVU2A • 3HVR-HVU2B b. STOP the following "AUX BLDB" "EXH FANS": • 3HVR-FN5 • 3HVR-FN7 (step 4.2.6)
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates control switch for 3HVR-HVU2A to "STOP" position and observes the indicating lights shift to green ON, red OFF.
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates control switch for 3HVR-HVU2B to "STOP" position and observes the indicating lights shift to green ON, red OFF.
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates control switch for 3HVR-FN5 to "STOP" position and observes the

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

indicating lights shift to green ON, red OFF.

GRADE X

Standards:

Rotates control switch for 3HVR-FN7 to "STOP" position and observes the indicating lights shift to green ON, red OFF.

Grade:

SAT **UNSAT**

Comments:

Operation of 3HVR-HVU2A and 3HVR-HVU2B may be performed in any sequence HOWEVER, BOTH 3HVR-HVU2A and 3HVR-HVU2B must be stopped prior to operation of 3HVR-FN5 or 3HVR-FN7. Operation of 3HVR-FN5, and 3HVR-FN7 may be performed in any sequence.

STEP 9 X

Performance Step:

To shift Auxiliary Building filters to filtered alignment, PERFORM the following (VP1):

- a. PRESS and HOLD "FILTER" pushbutton for the following dampers:
 - 3HVR*AOD39A, normal exhaust
 - 3HVR*AOD43A, filter supply damper
- b. WHEN the following dampers reposition, RELEASE "FILTER" pushbuttons:
 - 3HVR*AOD39A, normal exhaust, closes
 - 3HVR*AOD43A, filter supply damper, opens

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

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Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

- c. PRESS and HOLD "FILTER" pushbutton for the following dampers:
- 3HVR*AOD39B, normal exhaust
 - 3HVR*AOD43B, filter supply damper
- d. WHEN the following dampers reposition, RELEASE "FILTER" pushbutton"
- 3HVR*AOD39B, normal exhaust, closes
 - 3HVR*AOD43B, filter supply damper, opens
- (step 4.2.7)

GRADE X Standards:

Depresses the "FILTER" pushbutton for filter/normal exhaust dampers 3HVR*AOD39A/43A and holds the button until the indicating lights shift to 3HVR*AOD39A, green ON, red OFF and 3HVR*AOD43A indicating lights shift to green OFF, red ON, THEN releases the pushbutton.

GRADE X Standards:

Depresses the "FILTER" pushbutton for filter/normal exhaust dampers 3HVR*AOD39B/43B and holds the button until the indicating lights shift to 3HVR*AOD39B, green ON, red OFF and 3HVR*AOD43B indicating lights shift to green OFF, red ON, THEN releases the pushbutton.

Grade:

SAT UNSAT

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

STEP	<u>10</u>		Performance Step:	VERIFY the following Auxiliary Building exhaust fan variable inlet vane controllers, in "AUTO" (VP1) <ul style="list-style-type: none">• 3HVR*PIC104A, "AUX BLDG EXH FAN"• 3HVR*PIC104B, "AUX BLDG EXH FAN" (step 4.2.8)
GRADE			Standards:	Verifies indications for 3HVR*PIC104A indicate: <ul style="list-style-type: none">• AUTO light ON• MANUAL light OFF
GRADE			Standards:	Verifies indications for 3HVR*PIC104B indicate: <ul style="list-style-type: none">• AUTO light ON• MANUAL light OFF
			Grade:	SAT _____ UNSAT _____
STEP	<u>11</u>		Performance Step:	NOTE During an actual high radiation condition, both trains of filtration are started to prevent some flow from bypassing the filters and being discharged through 3HVR*FN13A and 3HVR*FN13B, charging pump and component cooling water pump area exhaust fans, normal exhaust path. 3HVR-FN5 supplies more air to the suction of the filters than a single filter fan can exhaust. Therefore, both trains are required to prevent an unfiltered discharge. (Step 4.2.9 Note)
GRADE			Standards:	Reviews Note
			Grade:	SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

STEP 12 X **Performance Step:** To start Train A Auxiliary Building filter, PERFORM the following (VP1):

- a. PLACE 3HVR*FN6A, filter exhaust fan, in "START" and HOLD.
- b. WHEN the following occurs, RELEASE 3HVR*FN6A control switch:
 - 3HVR*AOD20A, filter supply, opens
 - 3HVR*MOD28A, filter exhaust, opens
 - 3HVR*FN6A, exhaust fan, starts
 - Filter bank heater, energizes (step 4.2.9)

GRADE X **Standards:**

Rotates and maintains control switch for 3HVR*FN6A to "START" position until the following indications are observed:

- 3HVR*AOD20A, green light OFF, red light ON
- 3HVR*MOD28A, green light OFF, red light ON
- 3HVR*FN6A, green light OFF, red light ON
- FLT1A HTR green light OFF, red light ON
- FLT2A HTR green light OFF, red light ON

Grade:

SAT **UNSAT**

Comments:

The switch must be held for a minimum of five seconds to avoid an AUTO trip of the fan. If the fan trips and the examinee restarts it, the critical portion of this step is satisfied.

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

STEP 13 X **Performance Step:** To start Train B Auxiliary Building filter, PERFORM the following (VP1):

- a. PLACE 3HVR*FN6B, filter exhaust fan, in "START" and HOLD.
- b. WHEN the following occurs, RELEASE 3HVR*FN6B control switch:
 - 3HVR*AOD20B, filter supply, opens
 - 3HVR*MOD28B, filter exhaust, opens
 - 3HVR*FN6B, exhaust fan, starts
 - Filter bank heater, energizes (step 4.2.10)

GRADE X **Standards:**

Rotates and maintains control switch for 3HVR*FN6A to "START" position until the following indications are observed:

- 3HVR*AOD20B, green light OFF, red light ON
- 3HVR*MOD28B, green light OFF, red light ON
- 3HVR*FN6B, green light OFF, red light ON
- FLT1B HTR green light OFF, red light ON
- FLT2B HTR green light OFF, red light ON

Grade: **SAT** **UNSAT**

Comments: The switch must be held for a minimum of five seconds to avoid an AUTO trip of the fan. If the fan trips and the examinee restarts it, the critical portion of this step is satisfied.

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

STEP 14 X **Performance Step:** START the following "AUX BLDG"
"EXH FANS" (VP1)

- 3HVR-FN5
 - 3HVR-FN7
- (step 4.2.11)

GRADE _____ X **Standards:** Rotates the control switch for 3HVR-FN5 to "START" and observes the indicating lights shift to green OFF, red ON.

GRADE _____ X **Standards:** Rotates the control switch for 3HVR-FN7 to "START" and observes the indicating lights shift to green OFF, red ON.

Grade: **SAT** _____ **UNSAT** _____

Comments: 3HVR-FN5 and 3HVR-FN7 may be operated in any desired sequence.

STEP 15 X **Performance Step:** Performance Steps: START the following "AUX BLDG" "HVU's" (VP1)

- 3HVR-HVU2A
 - 3HVR-HVU2B
- (step 4.2.12)

GRADE _____ X **Standards:** Rotates the control switch for 3HVR-HVU2A to "START" and observes the indicating lights shift to green OFF, red ON.

GRADE _____ X **Standards:** Rotates the control switch for 3HVR-HVU2B to "START" and observes the indicating lights shift to green OFF, red ON.

Grade: **SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

Comments: 3HVR-HVU2A and 3HVR-HVU2B may be operated in any desired sequence.

STEP 16 _____

Performance Step: VERIFY the following annunciators, not lit:

- VP1A 1-6, "SLCRS/FUEL/AUX BLDG FLTR HTR TROUBLE"
- VP1A 3-6, "AUX BLDG VENT FN A LOCAL CNTL"
- VP1A 4-6, "AUX BLDG FNA AUTO TRIP/OVERCURRENT"
- VP1B 1-3, "RX PLANT VENT PNL TROUBLE"
- VP1C 1-6, "SLCRS/FUEL/AUX BLDG FLTR HTR TROUBLE"
- VP1C 3-6, "AUX BLDG VENT FN B LOCAL CNTL"
- VP1C 4-6, "AUX BLDG FN B AUTO TRIP. OVERCURRENT"

(step 4.2.13)

GRADE _____

Standards: Verifies each of the above listed annunciator windows not lit.

Grade: **SAT** _____ **UNSAT** _____

STEP 17 _____

Performance Step: Notify US that the upper levels of the Auxiliary Building have been placed on Manual Area Filtration in accordance with OP 3314A Section 4.2.

GRADE _____

Standards: Informs the US that the upper levels of the Auxiliary Building have been placed on Manual Area Filtration in accordance with OP 3314A Section 4.2.

Grade: **SAT** _____ **UNSAT** _____

Terminating Cue: The evaluation for this JPM is concluded.

PERFORMANCE INFORMATION

JPM Number: **S.07** (#031)

Revision: 6 chg 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO AUX. BLDG. RAD.
MON. (3HVR-RE13) ALARM

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: S.07 (#031)

Revision: 6 chg 1

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 20

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

S.07 (#031)

Initial Conditions:

A leak on CHS*LT185 level transmitter line for the VCT has resulted in radiation monitor HVR-RE13 going into an alarm status. The control room team is carrying out the actions of AOP 3573, Radiation Monitor Alarm Response. One train of charging and RPCCW pump area ventilation is in service. The Waste Disposal Building ventilation and CTMT purge are not aligned to the AUX. Bldg. filters. General area ventilation is in service.

Initiating Cues:

**In carrying out the responses of AOP 3573, Radiation Monitor Alarm Response, the US has directed you to place the upper levels of the Aux. Bldg. on Manual Area Filtration per OP 3314A, Section 4.2.
The simulator instructor will acknowledge all alarms not associated with your task.**

4.2 Starting Manual Area Filtration of Auxiliary Building General Area Upper Levels

CAUTION

This section supports response to high radiation in the upper levels of the Auxiliary Building (AOP 3573). It establishes and maintains Auxiliary Building ventilation in the following alignment:

- One train of charging and CCP fans in operation
- 3HVR–FN7 discharging to normal exhaust path through 3HVR*AOD40A and 3HVR*AOD40B
- Waste Disposal Building ventilation and containment purge are *not* aligned to the Auxiliary Building filters

If it becomes necessary to deviate from this alignment, Auxiliary Building upper level ventilation must be stopped as specified in Section 4.3.

- 4.2.1 CHECK 3HVR*AOD44A and 3HVR*AOD44B, charging and RPCCW pump normal exhaust dampers, open (VP1).
- 4.2.2 CHECK 3HVR*FN14A and 3HVR*FN13A OR 3HVR*FN14B and 3HVR*FN13B, charging and RPCCW pump supply and exhaust fans, one train running (VP1).
- 4.2.3 CHECK 3HVR*FN14A and 3HVR*FN14B, charging and RPCCW pump supply fans, in “AUTO” (VP1).
- 4.2.4 IF above lineup *not* established, Refer To Section 4.13 and PLACE one train of charging and RPCCW pump area ventilation in service.
- 4.2.5 VERIFY Waste Disposal Building ventilation and containment purge, *not* aligned to Auxiliary Building filters as follows (VP1):
- 3HVR*AOD65A, filter sply, closed
 - 3HVR*AOD65B, filter sply, closed
 - 3HVR*AOD29A, filter sply, closed
 - 3HVR*AOD29B, filter sply, closed

Level of Use
Continuous



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NOTE

This section supports response to high radiation in the upper levels of the Auxiliary Building (AOP 3573). Therefore, all general area ventilation is stopped to prevent pressurizing the Auxiliary Building. If lower level was left on during the shift in alignment, 3HVR-HVU2B would supply more air than 3HVR-FN7 could exhaust and an unfiltered discharge could occur.

1

4.2.6 **IF** general area ventilation is in service, **PERFORM** the following (VP1):

a. **STOP** the following "AUX BLDG" "HVU's":

- 3HVR-HVU2A
- 3HVR-HVU2B

b. **STOP** the following "AUX BLDG" "EXH FANS":

- 3HVR-FN5
- 3HVR-FN7

4.2.7 To shift Auxiliary Building filters to filtered alignment, **PERFORM** the following (VP1):

a. **PRESS** and **HOLD** "FILTER" pushbutton for the following dampers:

- 3HVR*AOD39A, normal exhaust
- 3HVR*AOD43A, filter supply damper

b. **WHEN** the following dampers reposition, **RELEASE** "FILTER" pushbutton:

- 3HVR*AOD39A, normal exhaust, closes
- 3HVR*AOD43A, filter supply damper, opens

Level of Use
Continuous



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c. PRESS and HOLD "FILTER" pushbutton for the following dampers:

- 3HVR*AOD39B, normal exhaust
- 3HVR*AOD43B, filter supply damper

d. WHEN the following dampers reposition, RELEASE "FILTER" pushbutton:

- 3HVR*AOD39B, normal exhaust, closes
- 3HVR*AOD43B, filter supply damper, opens

4.2.8 VERIFY the following Auxiliary Building exhaust fan variable inlet vane controllers, in "AUTO" (VP1):

- 3HVR*PIC104A, "AUX BLDG EXH FAN"
- 3HVR*PIC104B, "AUX BLDG EXH FAN"

Level of Use
Continuous



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NOTE

During an actual high radiation condition, both trains of filtration are started to prevent some flow from bypassing the filters and being discharged through 3HVR*FN13A and 3HVR*FN13B, charging pump and component cooling water pump area exhaust fans, normal exhaust path. 3HVR-FN5 supplies more air to the suction of the filters than a single filter fan can exhaust. Therefore, both trains are required to prevent an unfiltered discharge.

1

4.2.9 To start Train A Auxiliary Building filter, PERFORM the following (VP1):

- a. PLACE 3HVR*FN6A, filter exhaust fan, in "START" and HOLD.
- b. WHEN the following occurs, RELEASE 3HVR*FN6A control switch:
 - 3HVR*AOD20A, filter supply, opens
 - 3HVR*MOD28A, filter exhaust, opens
 - 3HVR*FN6A, exhaust fan, starts
 - Filter bank heater, energizes

4.2.10 To start Train B Auxiliary Building filter, PERFORM the following (VP1):

- a. PLACE 3HVR*FN6B, filter exhaust fan, in "START" and HOLD.
- b. WHEN the following occurs, RELEASE 3HVR*FN6B control switch:
 - 3HVR*AOD20B, filter supply, opens
 - 3HVR*MOD28B, filter exhaust, opens
 - 3HVR*FN6B, filter fan, starts
 - Filter bank heater, energizes

Level of Use
Continuous



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4.2.11 START the following "AUX BLDG" "EXH FANS" (VP1):

- 3HVR-FN5
- 3HVR-FN7

4.2.12 START the following "AUX BLDG" "HVU's" (VP1):

- 3HVR-HVU2A
- 3HVR-HVU2B

4.2.13 VERIFY the following annunciators, *not* lit:

- VP1A 1-6, "SLCRS/FUEL/AUX BLDG FLTR HTR TROUBLE"
- VP1A 3-6, "AUX BLDG VENT FN A LOCAL CNTL"
- VP1A 4-6, "AUX BLDG FNA AUTO TRIP/OVERCURRENT"
- VP1B 1-3, "RX PLANT VENT PNL TROUBLE"
- VP1C 1-6, "SLCRS/FUEL/AUX BLDG FLTR HTR TROUBLE"
- VP1C 3-6, "AUX BLDG VENT FN B LOCAL CNTL"
- VP1C 4-6, "AUX BLDG FN B AUTO TRIP/OVERCURRENT"

— End of Section 4.2 —

Level of Use
Continuous



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JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: ESTABLISH FEED AND BLEED ON CHARGING PUMP COOLING
(EOP 3501)

JPM ID Number: P.01 (#137)

Revision: 2, Chg. 1*
10/19/99

II. Initiated:

John Deveau
Developer

7/24/98
Date

Steve Jackson
Verified Current

6/18/02
Date

III. Reviewed:

cmartin
Technical Reviewer

6/18/02
Date

IV. Approved:

m. [signature]
Nuclear Training Manager

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: P.01 #137

Revision: 2, Chg. 1

Task Title: ESTABLISH FEED AND BLEED ON CHARGING PUMP COOLING
(EOP 3501)

System: CVCS (004) Safety Function: RCS Inventory Control (2)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 15

Alternate Path? No

Task Number(s): 344-05-064

Applicable To: SRO _____ RO _____ PEO _____

K/A Number: 004-K1.18 K/A Rating: 2.9 / 3.2

Method of Testing: Simulated Performance: X Actual Performance: _____

Location: Classroom: _____ Simulator: _____ In-Plant: X

Task Standards: Respond to a Loss of All AC Power while operating in Modes 5, 6, and Zero.

Required Materials: EOP 3501, Loss of All AC Power (Mode 5, 6, and Zero), Rev. 012

General References: None

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: P.01 #137

Revision: 2, Chg. 1

Initial Conditions:

The plant is in Mode 5. A loss of all AC power has occurred. The control room team has progressed through EOP 3501. Attempts are being made to establish injection flow using the charging pumps. Attempts to restore cooling to CCE have failed.

Initiating Cues:

The US has directed you to locally initiate feed and bleed for CCE using the guidance of EOP 3501 step 13.b.1 RNO. The "A" charging pump is available.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: P.01 #137

Revision: 2, Chg. 1

Task Title: ESTABLISH FEED AND BLEED ON CHARGING PUMP COOLING
(EOP 3501)

Start Time: _____

STEP 1 X

Performance Step: Locate hoses and water source

Standards: Candidate locates hoses and "Chicago" fittings in the Operations Department Locker.
There is a domestic water connection at 3DWS-V167 located by the eyewash station near the thermal regeneration chiller.

Cue: Use Domestic Water as the makeup water source.

STEP 2 X

Performance Step: Connect a temporary hose from fire or domestic water (or any available water source) to the appropriate valve, so that makeup can be added to the surge tank: (Step 13.b RNO 1)

For pump A 3CCE*V29
For pump B 3CCE*V30

GRADE _____ X

Standards: Simulates connecting the hose to the domestic water connection and to valve 3CCE*V29 ("A" pump is the available CHS pump)

Grade: SAT _____ UNSAT _____

Cue: The hose is connected to the two connections.

PERFORMANCE INFORMATION

JPM Number: P.01 #137

Revision: 2, Chg. 1

Task Title: ESTABLISH FEED AND BLEED ON CHARGING PUMP COOLING
(EOP 3501)

STEP 3 X **Performance Step:** Close both charging pump cooler isolation valves (3CCE*V10 and 3CCE*V22) (Step 13.b RNO 2)

GRADE _____ X **Standards:** Candidate locates and simulates rotating the handwheel for 3CCE*V10 in the clockwise direction until the valve is fully closed.

Cue: The handwheel for 3CCE*V10 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

GRADE _____ X **Standards:** Rotates the handwheel for 3CCE*V22 in the clockwise direction until the valve is fully closed.

Grade: **SAT** _____ **UNSAT** _____

Cue: The handwheel for 3CCE*V22 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

STEP 4 X **Performance Step:** Open the appropriate charging pump oil cooler outlet drain valve: (Step 13.b RNO 3)

For pump A 3CCE*V977

GRADE _____ X **Standards:** Rotates the handwheel for 3CCE*V977 in the counter-clockwise direction until the valve is fully open.

Cue: As the valve starts to rotate water is seen flowing from the drain pipe. Some resistance is met and the valve handwheel comes to a hard stop.

PERFORMANCE INFORMATION

JPM Number: P.01 #137

Revision: 2, Chg. 1

Task Title: ESTABLISH FEED AND BLEED ON CHARGING PUMP COOLING
(EOP 3501)

GRADE

Standards: Rotates the handwheel 1/4 turn in the closed direction.

Grade: **SAT** **UNSAT**

Cue: The valve handwheel has been rotated 1/4 turn in the closed direction.

Comments: For the next JPM step, Candidate should simulate adding water to the surge tank. He should check the level as indicated on #CCS-LIS-22A.

Cue: The surge tank level is 15%.

STEP 5 X

Performance Step: Add makeup using the temporary hose to maintain surge tank level. (Step 13.b RNO 4)

GRADE X

Standards: Opens the domestic water or fire header valve to the temporary hose and opens 3CCE*V29.

Grade: **SAT** **UNSAT**

Cue: The valve rotates in the counter-clockwise direction. Eventually some resistance is met and the valve handwheel comes to a hard stop.

Cue: Inform the examinee the surge tank level is increasing and provide the terminating cue.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: P.01 #137

Revision: 2, Chg. 1

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 15

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

P.01 #137

Initial Conditions:

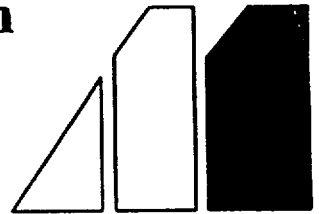
The plant is in Mode 5. A loss of all AC power has occurred. The control room team has progressed through EOP 3501. Attempts are being made to establish injection flow using the charging pumps. Attempts to restore cooling to CCE have failed.

Initiating Cues:

The US has directed you to locally initiate feed and bleed for CCE using the guidance of EOP 3501 step 13b.1 RNO. The "A" charging pump is available.

EOP Review and Approval Form

(Sheet 1 of 1)



DOCUMENT NO.

EOP 3501

TITLE

Loss of All AC Power (Mode 5, 6, and Zero)

REV. NO.

012

PREPARED BY

Steve Bass

DEPARTMENT

Operations, U3

DOCUMENT REVIEW

Review Type	Sign and Date	Print	✓ If Comments	Unit or Department
Evaluator	<i>[Signature]</i> 12/7/00	GERARD PAGE	<i>[Signature]</i> 12/15/00	3-OPS
Independent	<i>[Signature]</i> 12/16/00	Mike Siebert	<i>[Signature]</i> 12/15/00	3-OPS
Engineering	<i>[Signature]</i> 11/29/00	JOHN PLOURDE		com. sys.

Safety Evaluation YES ☒ NO ☐

Environmental Review YES ☐ NO ☒

PORC APPROVAL

[Signature]

APPROVAL DATE

1/8/01

MEETING NUMBER

2/3-01-002

EFFECTIVE DATE

1/9/01



OP 3265 Attachment 5
Rev. 008

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
13.	Establish Charging Flow	
___ a.	Verify one charging pump – AVAILABLE	a. Proceed to step 14.
___ b.	Verify cooling for CCE System – AVAILABLE	b. Try to restore cooling to CCE. <u>IF normal</u> cooling can <u>NOT</u> be restored, <u>THEN</u> Locally Initiate feed and bleed for CCE as follows (use alternate methods if necessary): 1) Connect a temporary hose for surge tank makeup from fire or domestic water (or any available water source) to the valve for the selected pump: For pump A 3CCE*V29 For pump B 3CCE*V30 2) Close both charging pump cooler outlet isolation valves (3CCE*V10 and 3CCE*V22). 3) Open the selected charging pump oil cooler outlet drain valve: For pump A 3CCE*V977 For pump B 3CCE*V975 For pump C 3CCE*V976 4) Add makeup using the temporary hose to maintain surge tank level.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
13. (continued)		
___ c.	Verify cooling for CCE System – ESTABLISHED	<p>c. <u>WHEN</u> CCE System cooling established, <u>THEN</u> Proceed to step 13.d.</p> <p><u>IF</u> CCE System cooling can <u>NOT</u> be established, <u>THEN</u> Proceed to step 14.</p>
___ d.	Align charging pump suction from the RWST	
	1) OPEN either charging pump suction from the RWST (3CHS*LCV112C or 3CHS*LCV112D)	
	2) CLOSE either charging pump suction from the VCT (3CHS*LCV112B or 3CHS*LCV112C)	
___ e.	Check the charging pump to be started – ON AN EMERGENCY DIESEL GENERATOR <u>OR</u> OFFSITE POWER	<p>e. Perform the following:</p> <p>1) Using Attachment J, START a charging pump</p> <p>2) Proceed to step 13.g.</p> <p><u>IF</u> a charging pump can <u>NOT</u> be started, <u>THEN</u> Proceed to step 14.</p>
___ f.	START one charging pump	f. Proceed to step 14.

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

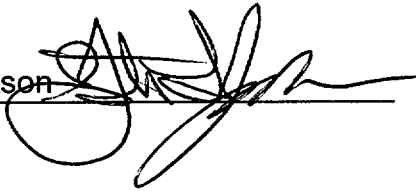
I. JPM Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING
CHILLED WATER CROSS TIE

JPM ID Number: P.02 New

Revision: 0

II. Initiated:

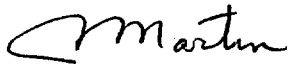
Steve Jackson
Developer



2/4/02
Date

III. Reviewed:

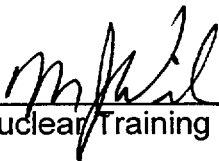
Technical Reviewer



6/18/02
Date

IV. Approved:

Nuclear Training Manager



6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: P.02 New

Revision: 0

Task Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING CHILLED WATER CROSS TIE

System: Service Water System (076) Safety Function: Heat Removal (4.2)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 15

Alternate Path? No

Task Number(s): 088-01-059

Applicable To: SRO X RO _____ PEO _____

K/A Number: 076-K1.19 K/A Rating: 3.6 / 3.7

Method of Testing: Simulated Performance: X Actual Performance: _____

Location: Classroom: _____ Simulator: _____ In-Plant: X

Task Standards: Establish and restore from Service Water supplying the Control Building (HVK) chilled water system.

Required Materials: OP 3314F, Control Building Heating, Ventilation, Air Conditioning and Chill Water, Rev. 019

General References: P&IDs
ES-1.2, Post LOCA Cooldown and Depressurization, Rev. 013

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: P.02 New

Revision: 0

Initial Conditions:

The unit has experienced a Loss of Coolant accident and is Using ES-1.2, Post LOCA Cooldown and Depressurization, to reduce RCS temperature and pressure. Both HVK Chillers have been damaged and are not operable.

Initiating Cues:

The US has directed you to establish service water to Train A of Control Building chilled water cross tie using OP 3314F, Control Building Heating, Ventilation, Air Conditioning and Chill Water, section 4.23. A copy of the procedure section and applicable P&IDs have been provided for your use.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, ALL critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: P.02 New

Revision: 0

Task Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING
CHILLED WATER CROSS TIE)

Start Time: _____

Cue: All options to establishing chiller operation have been exhausted. Continue with procedure section. (if necessary) [refers to note prior to 4.23.1.a]

STEP 1 _____

Performance Step: Refer to Section 4.4 and stop Train A Control Building Air Conditioning Unit (step 4.23.1.a)

GRADE _____

Standards: Candidate refers to section 4.4

Comments: It is not intended that the candidate perform section 4.4

Grade: **SAT** _____ **UNSAT** _____

Cue: The Train A Control Building Air Conditioning Unit has been shut down.

STEP 2 X

Performance Step: UNLOCK and CLOSE 3HVK*V81, A chilled water expansion tank isolation valve (Step 4.23.1.b)

GRADE _____ X

Standards: Candidate locates and simulates removing the locking device and rotating the handwheel for 3HVK*V81 in the clockwise direction until the valve is fully closed.

Grade: **SAT** _____ **UNSAT** _____

Cue: The handwheel for 3HVK*V81 rotates in the clockwise direction. You observe the stem lower into the valve. Eventually, some resistance is met and the handwheel comes to a hard stop.

PERFORMANCE INFORMATION

JPM Number: P.02 New

Revision: 0

Task Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING CHILLED WATER CROSS TIE)

STEP 3 X **Performance Step:** OPEN 3HVK*V8, A control building chiller bypass valve (Step 4.23.1.c)

GRADE _____ X **Standards:** Candidate locates and simulates rotating the handwheel for 3HVK*V8 in the counter-clockwise direction until the valve is fully open.

Grade: **SAT** _____ **UNSAT** _____

Cue: The handwheel for 3HVK*V8 rotates in the counter-clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

STEP 4 X **Performance Step:** Close the following valves: (Step 4.23.1.d)

Comment: These steps are bulleted; the valves listed within step 4.23.1.d can be closed in any order.

GRADE _____ X **Performance Step:** 3HVK*V3, control building chiller unit A inlet isolation

Standards: Candidate locates and simulates rotating the handwheel for 3HVK*V3 in the clockwise direction until the valve is fully closed.

Cue: The handwheel for 3HVK*V3 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

GRADE _____ X **Performance Step:** 3HVK*V4, control building chiller unit A inlet isolation

Standards: Candidate locates and simulates rotating the handwheel for 3HVK*V4 in the clockwise direction until the valve is fully closed.

PERFORMANCE INFORMATION

JPM Number: P.02 New

Revision: 0

Task Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING CHILLED WATER CROSS TIE)

Cue: The handwheel for 3HVK*V4 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

	<u>X</u>		Performance Step:	3HVK*V6, control building chiller unit A outlet isolation
GRADE	<u>X</u>		Standards:	Candidate locates and simulates rotating the handwheel for 3HVK*V6 in the clockwise direction until the valve is fully closed.

Cue: The handwheel for 3HVK*V6 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

	<u>X</u>		Performance Step:	3HVK*V7, control building chiller unit A outlet isolation
GRADE	<u>X</u>		Standards:	Candidate locates and simulates rotating the handwheel for 3HVK*V7 in the clockwise direction until the valve is fully closed.

Cue: The handwheel for 3HVK*V7 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

	<u>X</u>		Performance Step:	3HVK*V991, chiller oil cooler A inlet isolation valve
GRADE	<u>X</u>		Standards:	Candidate locates and simulates rotating the handwheel for 3HVK*V991 in the clockwise direction until the valve is fully closed.

Cue: The handwheel for 3HVK*V991 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

	<u>X</u>		Performance Step:	3HVK*V989, chiller oil cooler A outlet isolation valve
--	----------	--	--------------------------	--

PERFORMANCE INFORMATION

JPM Number: P.02 New

Revision: 0

Task Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING CHILLED WATER CROSS TIE)

GRADE X **Standards:** Candidate locates and simulates rotating the handwheel for 3HVK*V989 in the clockwise direction until the valve is fully closed.

Cue: The handwheel for 3HVK*V989 rotates in the clockwise direction. Eventually, some resistance is met and the handwheel comes to a hard stop.

STEP 5 X **Performance Step:** UNLOCK and OPEN the following valves:
(Step 4.23.1.e)

Comment: These steps are bulleted; the valves listed within step 4.23.1.e can be closed in any order.

GRADE X **Performance Step:** 3SWP*V100, control building A chilled water backup supply isolation valve

GRADE X **Standards:** Candidate locates and simulates unlocking and moving the operator for 3SWP*V100 in the counter-clockwise direction until the valve is fully open.

Cue: The handwheel 3SWP*V100 rotates in the counter-clockwise direction. The operator comes to a hard stop.

Grade: **SAT** **UNSAT**

GRADE X **Performance Step:** 3SWP*V101, control building A chilled water backup supply isolation valve

GRADE X **Standards:** Candidate locates and simulates unlocking and moving the operator for 3SWP*V101 in the counter-clockwise direction until the valve is fully open.

PERFORMANCE INFORMATION

JPM Number: P.02 New

Revision: 0

Task Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING
CHILLED WATER CROSS TIE)

Cue: The handwheel 3SWP*V101 rotates in the counter-clockwise direction. The operator comes to a hard stop.

Grade: **SAT** _____ **UNSAT** _____

GRADE _____ X **Performance Step:** **3SWP*V102**, control building A chilled water backup supply isolation valve

GRADE _____ X **Standards:** Candidate locates and simulates unlocking and moving the operator for 3SWP*V102 in the counter-clockwise direction until the valve is fully open.

Cue: The handwheel 3SWP*V102 rotates in the counter-clockwise direction. The operator comes to a hard stop.

Grade: **SAT** _____ **UNSAT** _____

GRADE _____ X **Performance Step:** **3SWP*V103**, control building A chilled water backup supply isolation valve

GRADE _____ X **Standards:** Candidate locates and simulates unlocking and moving the operator for 3SWP*V103 in the counter-clockwise direction until the valve is fully open.

Cue: The handwheel 3SWP*V103 rotates in the counter-clockwise direction. The operator comes to a hard stop.

Grade: **SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: P.02 New

Revision: 0

Task Title: ESTABLISH SERVICE WATER TO TRAIN "A" CONTROL BUILDING
CHILLED WATER CROSS TIE)

STEP 6 **Performance Step:** PLACE 3SWP*TIC35A, "CB CHLR
SERV WTR," chiller condenser service
water temperature controller, in
"MANUAL," and SET at 0% output (no
recirculation flow)(VP1)(step 4.23.1.f)

GRADE **Standards:** Candidate refers to step 4.23.1.f

Comment: It is not intended that the candidate
perform step 4.23.1.f. Provide the
terminating cue.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF JPM COMPLETION

JPM Number: P.02 New

Revision: 0

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 15

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

P.02 New

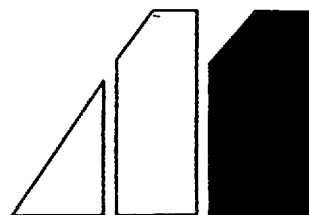
Initial Conditions:

The unit has experienced a Loss of Coolant accident and is Using ES-1.2, Post LOCA Cooldown and Depressurization, to reduce RCS temperature and pressure. Both HVK Chillers have been damaged and are not operable.

Initiating Cues:

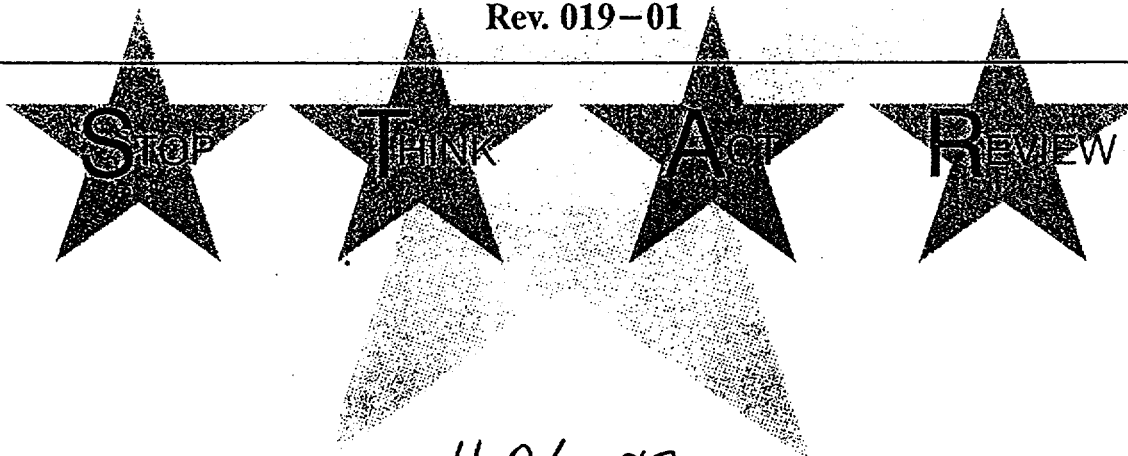
The US has directed you to establish service water to Train A of Control Building chilled water cross tie using OP 3314F, Control Building Heating, Ventilation, Air Conditioning and Chill Water, section 4.23. A copy of the procedure section and applicable P&IDs have been provided for your use.

MILLSTONE NUCLEAR POWER STATION
SYSTEM OPERATING PROCEDURE



Control Building Heating, Ventilation, Air
Conditioning, and Chill Water

OP 3314F
Rev. 019-01



Approval Date: 4-26-02

Effective Date: 4-26-02

Level of Use
Continuous

4.23 Operation of Service Water to HVK Chilled Water System Train A

4.23.1 IF establishing service water to Train A Control Building chilled water cross tie, **PERFORM** the following:



CAUTION



Establishing the cross-tie will require a lengthy outage to clean up the Control Building Chilled Water System. Ensure all options to establish chiller operation have been exhausted prior to establishing this cross-tie.

- a. Refer To Section 4.4 and STOP Train A Control Building Air Conditioning System.
- b. UNLOCK and CLOSE 3HVK*V81, A chilled water expansion tank isolation valve.
- c. OPEN 3HVK*V8, A control building chiller bypass valve.
- d. CLOSE the following:
 - 3HVK*V3, control building chiller unit A inlet isolation
 - 3HVK*V4, control building chiller unit A inlet isolation
 - 3HVK*V6, control building chiller unit A outlet isolation
 - 3HVK*V7, control building chiller unit A outlet isolation
 - 3HVK*V991, chiller oil cooler A inlet isolation valve
 - 3HVK*V989, chiller oil cooler A outlet isolation valve

Level of Use
Continuous

STOP

THINK

ACT

REVIEW

OP 3314F
Rev. 019-01
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e. UNLOCK and OPEN the following:

- 3SWP*V100, control building A chilled water backup supply isolation valve
- 3SWP*V101, control building A chilled water backup supply isolation valve
- 3SWP*V102, control building A chilled water backup return isolation valve
- 3SWP*V103, control building A chilled water backup return isolation valve

f. PLACE 3SWP*TIC 35A, "CB CHLR SERV WTR," chiller condenser service water temperature controller, in "MANUAL," and SET at 0% output (no recirculation flow) (VP1).

g. Go To Section 4.6.1, and manually START Train A Control Building AC System (locally).

4.23.2 IF restoring from service water to Train A Control Building chilled water cross-tie, PERFORM the following:

a. Refer To Section 4.6.2, and manually STOP Train A Control Building AC System (locally).

b. PLACE 3SWP*TIC 35 A, "CB CHLR SERV WTR," chiller condenser service water temperature controller, in "AUTO" (VP1).

c. CLOSE and LOCK the following:

- 3SWP*V102, control building A chilled water backup return isolation valve
- 3SWP*V103, control building A chilled water backup return isolation valve
- 3SWP*V100, control building A chilled water backup supply isolation valve
- 3SWP*V101, control building A chilled water backup supply isolation valve

- d. OPEN and LOCK 3HVK*V81, A chilled water expansion tank isolation valve.
- e. Refer To Attachment 3 and PERFORM the following:
 - 1) DRAIN service water from A Chilled Water System piping by opening all accessible vents and drains and DOCUMENT on Attachment 3.
 - 2) CLOSE all drains when completed.
 - 3) PERFORM Independent Verification and DOCUMENT on Attachment 3.
- f. FLUSH and REFILL A Chilled Water System with fresh water as follows:
 - 1) Refer To Section 4.19 and REFILL system through the chilled water expansion tank.
 - 2) CYCLE 3HVK*P1A, chilled water pump, as necessary to fill remote portions of the A Chilled Water System (local).

NOTE

Each system vent is equipped with an automatic vent valve which will allow air to pass through but not allow water to escape. The vent valves can be left open during the filling and venting process.

- 3) VENT air from all portions of Train A Chilled Water System.

CAUTION

Monitor pump parameters closely to ensure 3HVK*P1A, chilled water pump, does not become air bound.

- g. START chilled water pump 3HVK*P1A and keep it running (locally).
- h. REQUEST Chemistry Department sample Control Building Chilled Water System.

Level of Use
Continuous

STOP

THINK

ACT

REVIEW

OP 3314F
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- i. IF water quality is out of specifications, ESTABLISH a feed and bleed as follows:
- 1) Refer To Section 4.19 and MAINTAIN chilled water expansion Tank A level.
 - 2) Refer To OP 3314F-002, and REQUEST Chemistry determine drain location.
 - 3) CONNECT a hose from 3HVK*V953, 3HVC*ACU2A drain, to the closest floor drain.
 - 4) THROTTLE open 3HVK*V953, 3HVC*ACU2A drain, to establish a feed and bleed.
 - 5) WHEN Chemistry is within specs, CLOSE 3HVK*V953, 3HVC*ACU2A drain,.
 - 6) REMOVE hose from 3HVK*V953, 3HVC*ACU2A drain.
- j. OPEN the following:
- 3HVK*V989, chiller oil cooler A outlet isolation valve
 - 3HVK*V991, chiller oil cooler A inlet isolation valve
 - 3HVK*V6, control building chiller A outlet isolation valve
 - 3HVK*V7, control building chiller A outlet isolation valve
 - 3HVK*V3, control building chiller A inlet isolation valve
 - 3HVK*V4, control building chiller A inlet isolation valve
- k. CLOSE 3HVK*V8, control building chiller A bypass valve.
- l. Go To Section 4.2, and ALIGN Chilled Water System for normal operation.

– End of Section 4.23 –

Level of Use
Continuous

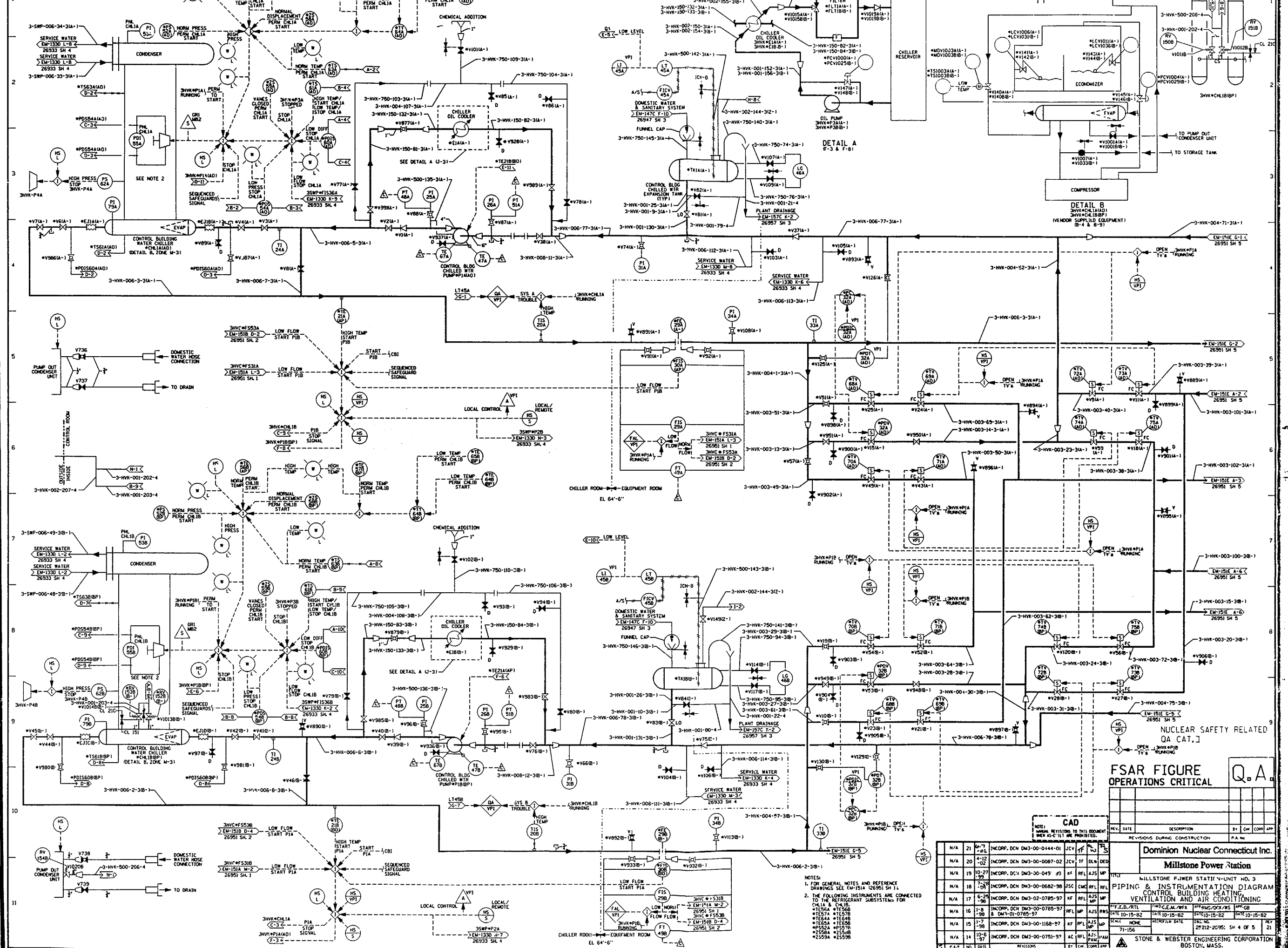
STOP

THINK

ACT

REVIEW

OP 3314F
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128 of 150



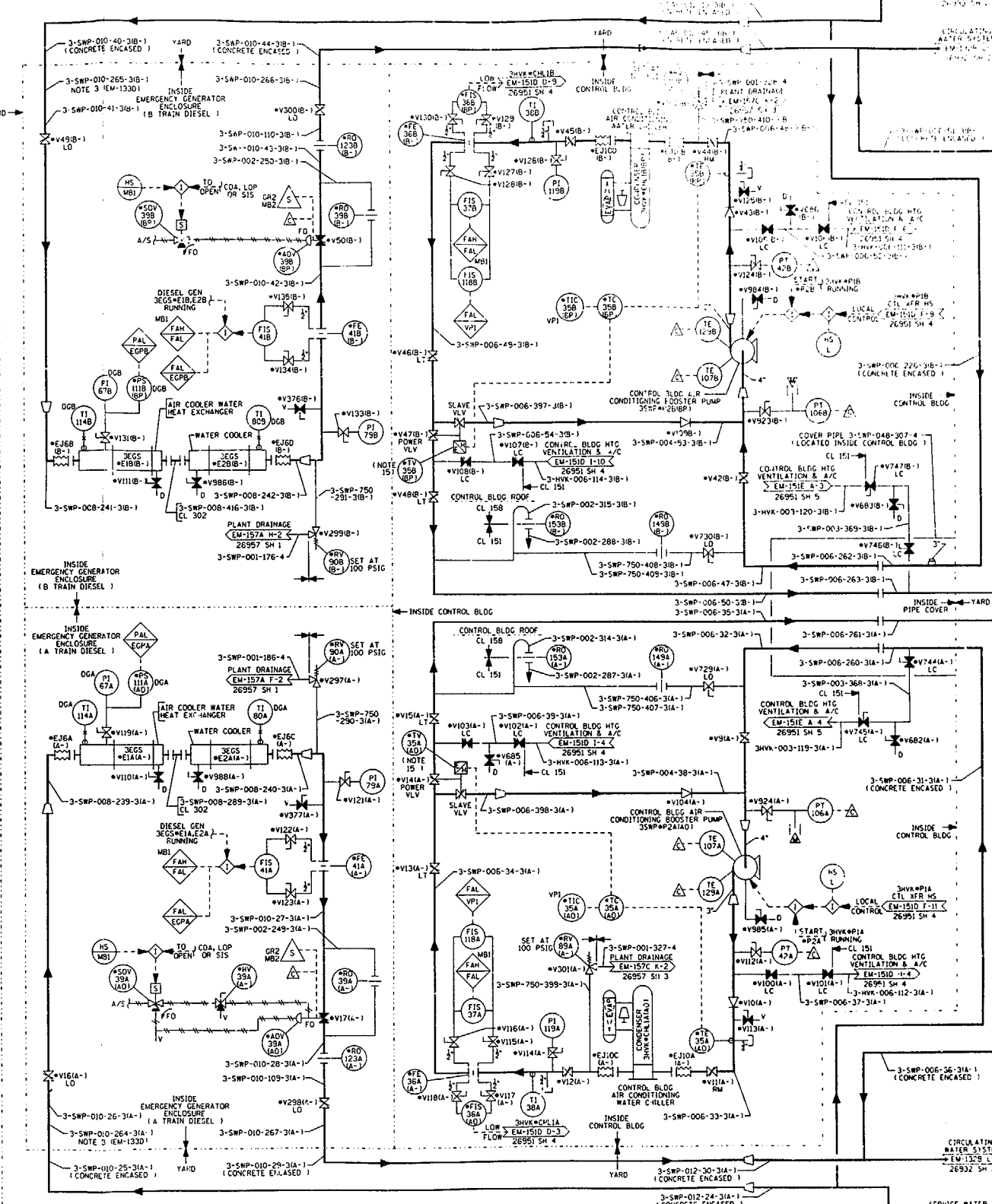
FSAR FIGURE OPERATIONS CRITICAL

NUCLEAR SAFETY RELATED QA CAT.

NOTE: REVISIONS TO THIS DOCUMENT WHEN AS-C-111 ARE PROHIBITED.

REV.	DATE	DESCRIPTION	BY	CHK	APP
1	10-15-82	INCORP. DCH DM3-00-044-01	JCV	YF	DLN
2	10-15-82	INCORP. DCH DM3-00-0087-02	JCV	YF	DLN
3	10-15-82	INCORP. DCH DM3-00-049-03	AF	RFL	AJS
4	10-15-82	INCORP. DCH DM3-00-0682-38	JSC	CNC	RFL
5	10-15-82	INCORP. DCH DM3-02-0785-97	AF	RFL	AJS
6	10-15-82	INCORP. DCH DM3-00-0785-97	AF	RFL	AJS
7	10-15-82	INCORP. DCH DM3-00-0785-97	AF	RFL	AJS
8	10-15-82	INCORP. DCH DM3-00-1158-97	AF	RFL	AJS
9	10-15-82	INCORP. DCH DM3-00-0751-97	AC	RFL	AJS

IS&W DWG. NO.12179-EM-151D



Q. A.

- CAD**
- NOTE:
MANUAL REVISIONS TO THIS DOCUMENT
SHALL BE THE RESPONSIBILITY OF THE USER.

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JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

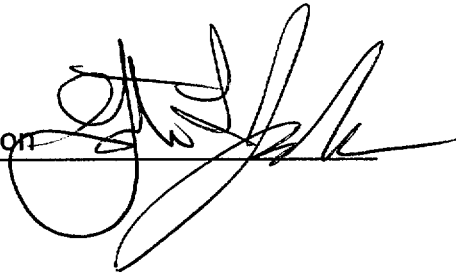
I. JPM Title: Secondary Side PEO Actions on a Control Room Evacuation due to a Fire

JPM ID Number: **P.03** (#15A)

Revision: 5

II. Initiated:

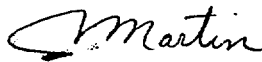
Steve Jackson
Developer



01/31/02
Date

III. Reviewed:

Martin
Technical Reviewer



6/18/02
Date

IV. Approved:

Nuclear Training Manager



6/17/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: P.03 (#15A)

Revision: 5

Task Title: Secondary Side PEO Actions on a Control Room Evacuation due to a Fire

System: Emergency Diesel Generators (064) Safety Function: Electrical (6)

Time Critical Task: () YES (X) NO

Validated Time (minutes): 20

Alternate Path? Yes

Task Number(s): 000-05-171

Applicable To: SRO X RO _____ PEO _____

K/A Number: APE-068-AA1.10 K/A Rating: 3.7/3.9

Method of Testing: Simulated Performance: X Actual Performance: _____

Location: Classroom: _____ Simulator: _____ In-Plant: X

Task Standards: Respond to a Control Room, Cable Spreading Area, or Instrument Rack Room Fire..

Required Materials: EOP 3509.1, Attachment B, Rev. 5
EDG Control Mode selector switch keys 12B554 and ILCO 999NY1E. (simulated)

General References: None

READ TO THE STUDENT

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: P.03 (#15A)

Revision: 5

Initial Conditions:

The plant has experienced a loss of Off-Site power and a fire requiring evacuation of the control room. Bus 34C is de-energized.

Initiating Cues:

The US, at the ASP, has directed you to perform the Secondary Side PEO Actions on a Control Room Evacuation in accordance with EOP 3509.1, Attachment B. The Turbine Stop Valves have been verified Closed. You have a PEO Rounds Key and EDG Control Mode selector switch keys 12B554 & ILC0 999NY1E.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, ALL critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.
2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: P.03 (#15A)

Revision: 5

Task Title: Secondary Side PEO Actions on a Control Room Evacuation due to a Fire

Start Time: _____

Cue: It is not desired to obtain or simulate using the 800 Mhz portable radio. Direct all of your communications to the examiner who will act as the ASP operator.

STEP 1 _____

Performance Step: Verify Turbine Stop Valves - CLOSED (step 1)

Performance Step: Obtain Keys From The SM

- EDG A CONTROL MODE selector switch key (12B554)
- EDGB CONTROL MODE selector switch key (ILCO 999NY1E)

(step 2)

GRADE _____

Standards: Proceeds to step 3 as step 1 & 2 already performed

Grade: **SAT** _____ **UNSAT** _____

Cue: (if necessary) Turbine Stop Valves have already been verified closed. You have a PEO Rounds Key and EDG Control Mode selector switch keys 12B554 & ILCO 999NY1E.

STEP 2 X

Performance Step: Check Diesel Generator A Status
a. Using key 12B554 from SM key ring, Unlock and Place the CONTROL MODE selector switch in LOCAL.
(step 3.a)

GRADE _____ X

Standards: Locate CONTROL MODE selector switch and simulates inserting key into switch.

PERFORMANCE INFORMATION

JPM Number: P.03 (#15A)

Revision: 5

Task Title: Secondary Side PEO Actions on a Control Room Evacuation due to a Fire

Cue: Key 12B554 is inserted.

GRADE X

Standards: Simulates rotating the control mode selector switch to the LOCAL position.

Cue: Control Mode selector switch is in LOCAL. Alarm window 4-8 on EGPA blinks and an audible alarm is heard.

GRADE

Standards: Simulates silencing and acknowledging alarm.

Grade: **SAT** **UNSAT**

Cue: Audible alarm stops. Alarm window 4-8 on EGPA is lit and solid.

STEP 3 X

Performance Step: Unlock and Place transfer switch 43FT1 in ISOLATE.
(step 3.b)

GRADE X

Standards: Locates transfer switch 43FT1 and simulates inserting PEO Rounds key into lock, unlocking lock, and swinging the switch cover up.

Cue: The cover for transfer switch 43FT1 is unlocked and swung up.

GRADE X

Standards: Simulates rotating transfer switch 43FT1 to the ISOLATE position.

Grade: **SAT** **UNSAT**

Cue: Switch 43FT1 handle is aligned to the ISOLATE position and the cover is lowered.

PERFORMANCE INFORMATION

JPM Number: P.03 (#15A)

Revision: 5

Task Title: Secondary Side PEO Actions on a Control Room Evacuation due to a Fire

STEP 4 X **Performance Step:** Unlock and Place transfer switch 43FT in ISOLATE. (step 3.c)

GRADE _____ X **Standards:** Locates transfer switch 43FT and simulates inserting PEO Rounds key into lock, unlocking lock, and swinging the switch cover up.

Cue: The cover for transfer switch 43FT1 is unlocked and swung up.

GRADE _____ X **Standards:** Simulates rotating transfer switch 43FT to the ISOLATE position.

Grade: **SAT** _____ **UNSAT** _____

Cue: Switch 43FT handle is aligned to the ISOLATE position and the cover is lowered.

STEP 5 X **Performance Step:** Verify EDG A - RUNNING.

GRADE _____ X **Standards:** Proceeds to step 3.d RNO.

Grade: **SAT** _____ **UNSAT** _____

Cue: There is NO noise emitting from the 'A' Diesel.

STEP 6 X **Performance Step:** Proceed to step 4.
(step 3.d.RNO)

GRADE _____ X **Standards:** Proceeds to step 4.

Grade: **SAT** _____ **UNSAT** _____

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STEP 7 **Performance Step:** Check If Diesel Generator A Should Be Started From Local Control Panel (3EGS*PNLA)
Verify ASP operator desires EDG A - STARTED
(step 4.a)

GRADE **Standards:** Simulates establishing communications with the ASP operator to determine if starting of 'A' EDG local start desired.

Grade: **SAT** **UNSAT**

Cue: **SIMULATE** starting the 'A' EDG locally.

STEP 8 X **Performance Step:** Open EDG A service water outlet valve (3SWP*AOV39A) by venting (3SWP*HV39A). (step 4.b)

GRADE X **Standards:** Locates 3SWP*HV39A (next to flow indicator) and simulates rotating the handle to the "vent" position.

Grade: **SAT** **UNSAT**

Cue: The valve position indicator points to "VENT". You hear loud hissing noise from the pipe next to the vent handle. Noise gets quieter and eventually stops.

Comments: If examinee checks flow indicator 3SWP-FIS41A again, provide the following cue:

Cue: Service water flow is 0 gpm.

Comments: If examinee climbs up the platform to

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valve 3SWP*AOV39A to check the local indicator, provide the following cue:

Cue: The pointer points to "OPEN"

STEP 9 X **Performance Step:** Place the UNIT/PARALLEL switch in UNIT
(step 4.c)

GRADE X **Standards:** Locates the Unit/Parallel switch (EDG control panel) and simulates rotating the switch to the UNIT position if necessary.

Grade: **SAT** **UNSAT**

Cue: Switch handles pointer is aligned to the UNIT position.

STEP 10 X **Performance Step:** Press ENGINE SHUTDOWN RESET pushbutton.
(step 4.d)

GRADE X **Standards:** Locates the Engine Shutdown Reset pushbutton (EGPA) and simulates pressing it to reset the engine shutdown.

Cue: The Engine Shutdown Reset pushbutton has been pressed. Alarm window 1-1 on EGPA blinks and an audible alarm is heard.

GRADE **Standards:** Simulates silencing and resetting the alarm.

Grade: **SAT** **UNSAT**

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Cue: Audible alarm stops and alarm window 1-1 clears (not lit).

STEP 11 X

Performance Step: Place the ENGINE CONTROL switch in START.
(step 4.e)

GRADE X

Standards: Locates the Engine Control switch (EGPA) and simulates rotating it to the Start position.

Grade: **SAT** **UNSAT**

Cue: The Engine Control switch is in the Start position. No engine noise is heard (the engine did not start)

STEP 12 X

Performance Step: Verify emergency diesel generator A - STARTS.
(step 4.f)

GRADE X

Standards: Locates EDG speed (tachometer) indicator and verifies engine speed, then proceeds to step 4.g RNO.

Grade: **SAT** **UNSAT**

Cue: Diesel speed is 0 rpm.

STEP 13 X

Performance Step: PRESS the lever on either air start control valve (3EGS*ASV1A or 3EGS*ASV2A).
Alternate Path:
(step 4.g RNO)

GRADE X

Standards: Locates either air start control valve and using the attached lever, locks the lever around the pivot pin and pushes down on the valve.

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Cue: Engine noise is heard and it increases to a steady noise level.

When examinee returns to EGPA, inform him that alarm windows 2-1 and 3-7 are blinking and an audible alarm noise is heard.

GRADE X

Standards: Silences, acknowledges and resets the alarms.

Grade: SAT UNSAT

Cue: Audible alarm stops. Alarm window 3-7 clears (not lit) and window 2-1 is lit solid.

Comments: If examinee checks diesel speed provide the following cue.

Cue: Engine speed is 510 rpm.

STEP 14

Performance Step: Adjust the AUTO VOLTAGE CONTROL switch to maintain generator voltage - BETWEEN 3740 and 4580 volts.
(step 4.g)

GRADE

Standards: Locates generator voltage meter (EGPA) and reads voltage.

Grade: SAT UNSAT

Cue: Generator voltage is 4150 volts.

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STEP 15 _____ **Performance Step:** Adjust the GOVERNOR CONTROL switch to maintain generator frequency - BETWEEN 59.2 and 60.8 Hz.
(step 4.h)

GRADE _____ _____ **Standards:** Locates generator frequency meter (EGPA) and reads frequency.

Grade: **SAT** _____ **UNSAT** _____

Cue: Generator frequency is 60.0 Hz.

STEP 16 X **Performance Step:** Fail Open diesel generator enclosure air supply dampers.
• Place circuit breaker 6 on 3SCV*PNL25(O) to OFF
(step 4.i)

GRADE _____ X **Standards:** Locates circuit breaker 6 on panel SCV*PNL25(O) and simulates placing it to the OFF position.

Grade: **SAT** _____ **UNSAT** _____

Cue: Breaker 6 is in the OFF position.

STEP 17 X **Performance Step:** Place the GENERATOR BREAKER L/R switch in LOCAL.
(step 5.a)

GRADE _____ X **Standards:** Locates the Generator Breaker Local/Remote switch and simulates placing it in the Local position

Cue: Switch handle pointer is aligned to the LOCAL position. Alarm window 4-6 on EGPA blinks and an audible alarm is heard.

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GRADE

Standards:

Simulates silencing and
acknowledging the alarm.

Grade:

SAT

UNSAT

Cue:

Audible alarm stops and alarm window
4-6 on EGPA is solid and lit.

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STEP 18 X **Performance Step:** Place the SYNCHRONIZING SWITCH to ON.
(step 5.b)

GRADE X **Standards:** Locates the synchronizing switch (EGPA) and simulates rotating it to the ON position.

Grade: **SAT** **UNSAT**

Cue: Synchronizing switch is aligned to "ON."

STEP 19 X **Performance Step:** Verify ASP operator desires the generator circuit breaker - CLOSED.
(step 5.c)

GRADE X **Standards:** Simulates establishing communication with ASP to verify generator circuit breaker to be closed.

Grade: **SAT** **UNSAT**

Cue: **SIMULATE** closing the Generator Circuit Breaker from EGPA.

Comments: Ensure the examinee understands they are to simulate the closing of the circuit breaker.

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STEP 20 X **Performance Step:** Place the GENERATOR CIRCUIT BRKR control switch in CLOSE.
(step 5.d)

GRADE _____ X **Standards:** Locates the generator circuit breaker control switch and simulates placing it in the Close position.

Grade: **SAT** _____ **UNSAT** _____

Cue: The breaker control switch handle is aligned with the CLOSE position

Cue: The breaker position indicating lights shift to Red ON and Green OFF. The bus voltmeter indicates 4150 volts

STEP 21 _____ **Performance Step:** Place the SYNCHRONIZING SWITCH to OFF.
(step 5.e)

GRADE _____ _____ **Standards:** Simulates rotating the synchronizing switch (EGPA) to the OFF position.

Grade: **SAT** _____ **UNSAT** _____

Cue: Synchronizing switch is in the OFF position.

STEP 22 _____ **Performance Step:** Report to ASP operator - EDG A READY TO LOAD.
(step 5.f)

GRADE _____ _____ **Standards:** Simulates establishing communications with the ASP operator and reports that the 'A' EDG is ready to load.

Grade: **SAT** _____ **UNSAT** _____

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Terminating Cue: The evaluation for this JPM is concluded.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

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Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 15

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number:

P.03 (#15A)

Initial Conditions:

The plant has experienced a loss of Off-Site power and a fire requiring evacuation of the control room. Bus 34C is de-energized.

Initiating Cues:

The US, at the ASP, has directed you to perform the Secondary Side PEO Actions on a Control Room Evacuation in accordance with EOP 3509.1, Attachment B. The Turbine Stop Valves have been verified Closed. You have a PEO Rounds Key and EDG Control Mode selector switch keys 12B554 & ILCO 999NY1E

Secondary Side PEO Actions on a Control Room Evacuation

- ____ 1. **Verify Turbine Stop Valves – CLOSED** TRIP the turbine at the front standard.

- ____ 2. **Obtain Keys From The SM**
 - EDG A CONTROL MODE selector switch key (12B554)
 - EDG B CONTROL MODE selector switch key (ILCO 999NY1E)

3. **Check Diesel Generator A Status**
 - ____ a. Using key 12B554 from SM key ring, Unlock and Place the CONTROL MODE selector switch in LOCAL

 - ____ b. Unlock and Place transfer switch 43FT1 in ISOLATE

 - ____ c. Unlock and Place transfer switch 43FT in ISOLATE

 - ____ d. Verify EDG A – RUNNING d. Proceed to step 4.

 - ____ e. Verify service water flow (3SWP-FIS41A) – GREATER THAN 2000 gpm e. Open EDG A service water outlet valve (3SWP*AOV39A) by venting (3SWP*HV39A).

 - ____ f. Fail Open diesel generator enclosure air supply dampers
 - Place circuit breaker 6 on 3SCV*PNL25(O) to OFF

Secondary Side PEO Actions on a Control Room Evacuation

3. (continued)

___ g. Verify generator voltage –
BETWEEN
3740 and 4580 volts

g. Perform the following:

- 1) Place the CONTROL
MODE selector switch in
LOCAL.
- 2) Using AUTO VOLTAGE
CONTROL switch, Adjust
voltage.

IF generator voltage can
NOT be adjusted,
THEN

- 1) Place EXCITER
REGULATOR MODE
switch in MANUAL.
- 2) Using the MANUAL
VOLTAGE CONTROL
switch, Adjust voltage.

___ h. Verify generator frequency –
BETWEEN 59.2 and 60.8 Hz

h. Perform the following:

- 1) Place the CONTROL
MODE selector switch in
LOCAL.
- 2) Using GOVERNOR
CONTROL switch, Adjust
frequency.

___ i. Verify generator circuit
breaker – CLOSED

i. Proceed to step 5.

___ j. Proceed to step 6.

Secondary Side PEO Actions on a Control Room Evacuation

NOTE

The sound powered phone connection to the A Diesel Generator Room may be damaged by the fire. Use the 800 MHz portable radios in the direct (talk-around) mode to communicate with the ASP operator.

**4. Check If Diesel Generator A
Should Be Started From Local
Control Panel (3EGS*PNLA)**

- ___ a. Verify ASP operator desires
EDG A – STARTED
 - ___ b. Open EDG A service water
outlet valve
(3SWP*AOV39A) by venting
(3SWP*HV39A)
 - ___ c. Place the UNIT/PARALLEL
switch in UNIT
 - ___ d. Press ENGINE SHUTDOWN
RESET pushbutton
 - ___ e. Place the ENGINE
CONTROL switch in START
 - ___ f. Verify emergency diesel
generator A – STARTS
- a. Proceed to step 6. and,
IF the ASP operator requests
EDG A started,
THEN
Perform step 4. and 5.
- f. PRESS the lever on either air
start control valve
(3EGS*ASV1A or
3EGS*ASV2A)

Secondary Side PEO Actions on a Control Room Evacuation

4. (continued)

- ___ g. Adjust the AUTO
VOLTAGE CONTROL
switch to maintain generator
voltage – BETWEEN
3740 and 4580 volts

- g. Perform the following:

- 1) Place the EXCITER
REGULATOR MODE
switch in MANUAL.
- 2) Using the MANUAL
VOLTAGE CONTROL
switch, Adjust voltage.

- ___ h. Adjust the GOVERNOR
CONTROL switch to
maintain generator
frequency – BETWEEN
59.2 and 60.8 Hz

- ___ i. Fail Open diesel generator
enclosure air supply dampers.
- Place circuit breaker 6 on
3SCV*PNL25(O) to OFF

5. Check If Diesel Generator A Circuit Breaker Should Be Closed

- ___ a. Place the GENERATOR
BREAKER L/R switch in
LOCAL

- ___ b. Place the
SYNCHRONIZING
SWITCH to ON

- ___ c. Verify ASP operator desires
the generator circuit breaker
– CLOSED

- c. Proceed to step 6. and;
WHEN
Requested by the ASP
operator to close the
generator circuit breaker,
THEN
Perform steps 5.d. through
5.f.

Secondary Side PEO Actions on a Control Room Evacuation

5. (continued)

- ___ d. Place the GENERATOR
CIRCUIT BRKR control
switch in CLOSE
- ___ e. Place the
SYNCHRONIZING
SWITCH to OFF
- ___ f. Report to ASP operator –
EDG A READY TO LOAD
- ___ d. CLOSE the breaker locally
from the East Switchgear
Room.

6. Check Diesel Generator B Status At 3EGS*PNLB

- ___ a. Verify EDG B – RUNNING
- ___ a. Perform the following:
 - 1) At EDG B control panel
(3EGS*PNLB), using key
ILCO 999NY1E from SM
key ring, Unlock and Place
the CONTROL MODE
selector switch in LOCAL.
 - 2) Proceed to step 7.
- ___ b. Verify ASP operator desires
EDG B – STOPPED
- ___ b. Proceed to step 7. and,

IF the ASP operator requests
EDG B stopped,
THEN
Perform steps 6.c. and d.
- ___ c. Using key ILCO 999NY1E
from SM key ring, Unlock and
Place the ~~CONTROL MODE~~
selector switch in MAINT
- ___ d. Simultaneously PRESS *both*
EMERGENCY DIESEL
STOP buttons

Secondary Side PEO Actions on a Control Room Evacuation

7. Monitor Diesel Parameters

- a. Using the associated log for the running EDG(s), periodically Check local EDG parameters – WITHIN SPECIFICATIONS
 - OPS Form 3346A-14, EDG A – Operating Log
 - OPS Form 3346A-15, EDG B – Operating Log
- a. Notify ASP Operator of any out of specification parameter.

8. Perform The Following

- a. Establish communication with ASP operator
- b. Report Attachment B complete
- c. Provide support as required

–FINAL–