

Facility: <u>Millstone Unit 3</u>		Date of Examination: <u>January 7-10, 2002</u>
Exam Level (circle one): RO / SRO(I)		Operating Test No.: <u>B-1</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. #76-1 Manual CIA - Train A	D, A, E, S	5 - 103
b. New Vent Unisolated SI Accumulators (ES-1.2, Step 21, Step 22 RNO[d])	N, A, E, S	2 - 6
c. #50a Pressurizer Pressure Control Following Reactor Trip	D, A, E, S, P	3 - 10
d. #32 RE-91 Subsequent Alarms	D, S	7 - 73
e. #123 Establish Main Feedwater Flow While Responding to a Loss of Heat Sink	D, E, S	4.2 - 59
f. #130 Control Rod Out of Alignment	D, S	1 - 1
g. #136 Swapping RHR Cooling Trains	D, S, L, P	4.1 - 5
B.2 Facility Walk-Through		
a. #80 Local Isolation of Faulted S/G (MSV Building & Aux. Building)	D, E, R	4.2 - 39
b. New Spent Fuel Emergency Makeup	N, A, R	8 - 33
c. #104 Start the SBO Diesel	D, E	6 - 62
*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA, (E)OP, (P)revious NRC Exam		

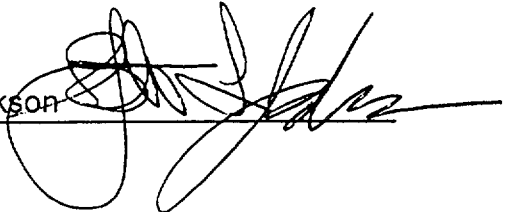
JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

JPM ID Number: NRC-P.01

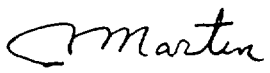
Revision: 0

II. Initiated:


Steve Jackson
Developer

08/28/01
Date

III. Reviewed:

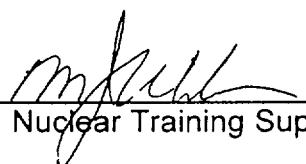

Technical Reviewer

11/19/01
Date

IV. Approved:

Cognizant Plant Supervisor (optional)

Date


Nuclear Training Supervisor

11/20/01
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

System: SFC

Time Critical Task: () YES (X) NO

Validated Time (minutes): 15

Alternate Path: YES

Task Number(s): 344-05-042

Applicable To: SRO X RO X PEO _____

K/A Number: 033.A2.03

K/A Rating: 3.1 / 3.5

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

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

Task Standards: Satisfactorily complete emergency makeup to the spent fuel pool using EOP 3505A.

Required Materials: PEO Rounds Key

General References: EOP 3505A, Loss of Spent Fuel Cooling, Rev. 5

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.

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

JPM Number: NRC-P.01

Revision: 0

Initial Conditions:

A seismic event has occurred and the unit has experienced multiple failures including a loss of AC power to buses 34B and 34D. The crew is responding using AOP 3570, Earthquake, and when verifying Main Board annunciators as expected, it is noted that MB1A , 3-4. FUEL POOL LEVEL LO annunciator is lit. You have verified that the low spent fuel pool level condition is valid and that level is slowly decreasing.

Initiating Cues:

The spent fuel pool low level alarm that has been received is due to an unidentified leak in the spent fuel pool. 3SFC-LV44, spent fuel pool makeup valve, would not open from the Control Room.

The US has directed you to makeup to the spent fuel pool to stabilize and restore level using EOP 3505A, Loss of Spent Fuel Cooling, starting with Attachment A, Step 8.a, RNO.

**** **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: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

Start Time: _____

Cue: If the candidate checks the fuel pool level indication or requests that information from the Control Room, provide the cue that it is 34%. Subsequent checks should be 1% less each time until successful leak isolation.

Cue If asked, 3QSS*AOV28 (RWST recirculation pump suction valve) is stuck shut. Maintenance is working on opening 3QSS*AOV28.

STEP 1 _____

Performance Step: Locally throttle open spent fuel pool makeup bypass valve (3SFC-V930) (Step 8.a, RNO)

Alternate Path:

GRADE _____

Standards: Locates 3SFC-V930 (Fuel Bldg, El.24'-6") and simulates rotating the handwheel for 3SFC-V930 in the counter-clockwise direction until the valve is open.

Cue: The valve handwheel rotates in the counter-clockwise direction. Eventually, some resistance is met and the valve comes to a stop. During opening, some flow noises are heard and flow vibration is felt.

GRADE _____

Standards: Simulates rotating the valve handwheel approximately ¼ turn in the clockwise direction.

Cue: The valve handwheel has been rotated approximately ¼ turn in the clockwise direction.

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

STEP 2

Performance Step: Verify two primary grade water pumps running (Step 8.b)

GRADE

Standards: Candidate simulates contacting the Control Room for this information. If requested the US has directed the candidate to proceed to Step 9 of EOP 3505A, Attachment A.

Grade: SAT UNSAT

Cue:

- The Control Room reports:
 - The "A" primary grade water pump is running.
 - Spent fuel pool level is **NOT** increasing but level decrease has slowed.
 - IF asked Unit Supervisor says "Proceed to Step 9."

Cue:

- The Duty Officer has authorized the use of fire water (step 9.a)

STEP 3

Performance Step: Connect emergency makeup gooseneck to the fire protection water system connection in the spent fuel pool area and align discharge of gooseneck into the spent fuel pool. (Step 9.b and c)

GRADE

Standards: Locates the emergency makeup gooseneck (EL 51'6") and simulates connecting the gooseneck to the fire protection water system and directs discharge into the spent fuel pool.

Grade: SAT UNSAT

Cue: Emergency makeup gooseneck is connected to the fire protection water system and aligned to discharge into the spent fuel pool.

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

STEP 4 **Performance Step:** OPEN fire protection water system supply to fuel pool (3FPW-V766) located in Fuel Building 51'. (Step 9.d)

GRADE **Standards:** Locates supply valve 3FPW-V766 (Fuel Bldg. El. 51'6" by the Fuel Pool) and simulates unlocking and removing the locking device.

Cue: The locking device has been unlocked and removed.

GRADE **Standards:** Simulates rotating the handwheel for 3FPW-V766 in the counter-clockwise direction until the valve is open.

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

GRADE **Standards:** Simulates rotating the valve handwheel approximately ¼ turn in the clockwise direction.

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

Cue: The valve handwheel has been rotated approximately ¼ turn in the clockwise direction.

STEP 5 **Performance Step:** Check spent fuel pool level- INCREASING (Step 9.e)

GRADE **Standards:** Checks for water flow out of the gooseneck into the fuel pool.

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

Cue: No flow is visible from the gooseneck.

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

STEP 6

Performance Step: Transition to R.N.O. column.
Proceed to step 10.
(Step 9 e, RNO)

GRADE

Standards: Proceeds to step 10. (Step 9.e RNO)

Grade: SAT UNSAT

Comments: Although not required, the candidate may elect to inform the Control Room of the water flow problem prior to proceeding to step 10. If the candidate DOES NOT elect to contact the Control Room, GO TO step 9 of this JPM.

STEP 7

Performance Step: Informs Control Room that there is no water flow from the Fire Protection Water System.

GRADE

Standards: Contacts Control Room and makes report.

Grade: SAT UNSAT

Cue: Investigation reveals that the Fire Protection Water System is **not** available. The Unit Supervisor directs you to close and lock 3FPW-V766 and proceed to step 11 of EOP 3505A, Attachment A. The Duty Officer has **NOT** granted permission to establish makeup to the fuel pool from the Service Water System.

STEP 8

Performance Step: Close and lock 3FPW-V766.

GRADE

Standards: Simulates rotating the handwheel in the clockwise direction.

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

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

GRADE

Standards: Simulates reinstalling and locking the locking device on valve 3FPW-V766.

Grade: SAT UNSAT

Cue: The locking device is reinstalled and locked on valve 3FPW-V766.

STEP 9

Performance Step: Candidate proceeds to STEP 11 in Attachment A, **Check if Spent Fuel Pool Cooling and Purification System Should Be Isolated**
Check cause of low spent fuel pool level -LOCATED AND ISOLATED (Step 11.a)

GRADE

Standards: Candidate proceeds to STEP 11 simulates contacting Control Room to determine if the cause of low spent fuel pool level has been -LOCATED AND ISOLATED

Grade: SAT UNSAT

Cue: The cause of low spent fuel pool level has **NOT** been located and isolated.

STEP 10

Performance Step: Proceed to step 12 (step 11.a RNO)

GRADE

Standards: Proceeds to step 12 (step 11.a RNO)

Grade: SAT UNSAT

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

STEP 11

Performance Step: STOP both spent fuel pool cooling pumps (Step 12.a)

GRADE

Standards: Simulates contacting Control Room to request that they STOP both spent fuel pool cooling pumps

Grade: SAT UNSAT

Cue: Both spent fuel pool cooling pumps are STOPPED

STEP 12 X

Performance Step: Locally close fuel pool cooler outlet valves
For cooler A 3SFC*V976
For cooler B 3SFC*V975
(Step 12.b)

GRADE X

Standards: Simulates rotating the handwheel for 3SFC*V976 and 3SFC*V975 in the counter-clockwise direction until the valve is closed.

Grade: SAT UNSAT

Cue: For cooler A, 3SFC*V976 and
For cooler B, 3SFC*V975
The valve handwheel rotates in the clockwise direction. Eventually, some resistance is met and the valve handwheel comes to a hard stop.

STEP 13 X

Performance Step: Locally close fuel pool cooling suction valve
For cooler A 3SFC*V988
(Step 12.b)

GRADE X

Standards: Simulates rotating the handwheel for 3SFC*V988 in the counter-clockwise direction until the valve is closed.

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

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

STEP 14

Performance Step: Stop makeup to the spent fuel pool

GRADE

Standards: Candidate simulates shutting spent fuel pool makeup bypass valve (3SFC-V930) (FB El. 24'-6")

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

Comments: This is the only successful makeup that is actively filling the pool

STEP 15

Performance Step: Check spent fuel pool level - STABLE (Step 12.e)

GRADE

Standards: Verifies spent fuel pool level increasing by either local (3SFC- LI26 at the FP) indication or by requesting information from control room (Computer Point SFC-L26).

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

Cue: The spent fuel pool level is 32% and **STABLE**.

Comments: The candidate may either go to the local spent fuel pool cooling panel or call the control room to obtain level information. In both cases, the cue should be provided.

PERFORMANCE INFORMATION

JPM Number: NRC-P.01

Revision: 0

Task Title: STABILIZE AND RESTORE SPENT FUEL POOL LEVEL

STEP 16 _____

Performance Step: Restore previously established makeup to the spent fuel pool

GRADE _____

Standards: Candidate simulates re-opening spent fuel pool makeup bypass valve (3SFC-V930) (FB El. 24'-6")

Cue: The valve handwheel rotates in the counter-clockwise direction. Eventually, some resistance is met and the valve comes to a stop. During opening, some flow noises are heard and flow vibration is felt.

STEP 17 _____

Performance Step: Control Spent Fuel Pool level (3SFC-LI26 at the FP or Computer Point SFC-L26).between 36% and 44%. (Step 12.g)

Cue: When the candidate observes Fuel Pool Level by any method, "Fuel Pool Level is increasing".

GRADE _____

Standards: Notify the control room that emergency makeup to the Spent Fuel Pool has been initiated, controlling level between 36% and 44%. (Step 12.g)

Grade: SAT _____ UNSAT _____

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: NRC-P.01

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:

NRC-P.01

Initial Conditions:

A seismic event has occurred and the unit has experienced multiple failures including a loss of AC power to buses 34B and 34D. The crew is responding using AOP 3570, Earthquake, and when verifying Main Board annunciators as expected, it is noted that MB1A , 3-4. FUEL POOL LEVEL LO annunciator is lit. You have verified that the low spent fuel pool level condition is valid and that level is slowly decreasing.

Initiating Cues:

The spent fuel pool low level alarm that has been received is due to an unidentified leak in the spent fuel pool. 3SFC-LV44, spent fuel pool makeup valve, would not open from the Control Room.

The US has directed you to makeup to the spent fuel pool to stabilize and restore level using EOP 3505A, Loss of Spent Fuel Cooling, starting with Attachment A, Step 8.a, RNO.

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: MANUAL CIA - TRAIN A

JPM ID Number: 076-1 From JPM Exam Bank Revision: 1

II. Initiated:

John Deveau
Developer

10/6/99
Date

Steve Jackson
Verified Current

11/16/01
Date

III. Reviewed:

CMartin
Technical Reviewer

11/19/01
Date

IV. Approved:

Cognizant Plant Supervisor (optional)

Date

Nuclear Training Supervisor

11/20/01
Date

SIM JPM 076-1

SUMMARY OF CHANGES RE: NRC VALIDATION

Added a note for valve 3DAS-CTV24, "*May not closed due to CTMT sump pump operation.*" Without a CIA signal, when the CTMT sump pumps start this valve will open. 3DAS -CTV25 WILL close and provide minimum safety function.

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: 076-1

Revision: 1

Task Title: MANUAL CIA - TRAIN A

System: EOO

Time Critical Task: () YES (X) NO

Validated Time (minutes): 9

Alternate Path: YES

Task Number(s): 000*011*05*01

Applicable To: SRO _____ RO X PEO _____

K/A Number: 000-103 A2.03 K/A Rating: 3.5 / 3.8

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

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

Task Standards: Satisfactorily complete a manual CIA Train A, using EOP 35 E-0.

Required Materials: None.

General References: EOP 35 E-0, Rev. 20

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: 076-1

Revision: 1

Simulator Requirements:

1. Reset to IC 14.
 2. Insert Malfunctions:
MS01A - 20%
RP11K - Failure of "CIA" to actuate.
 3. Insert I/O overrides for manual CIA:
PB1-3ISC-CIA "OFF" "FALSE"
PB2-3ISC-CIA "OFF" "FALSE"
 4. Take the master silence switch to the "Silence position."
Place simulator in "RUN".
 5. A reactor trip and safety injection will occur. Allow ESF Status Panel to finish changing state (CIA) components will remain "as is").
 6. Place the simulator in "FREEZE".
 7. Place simulator in "RUN", after the examinee has received the initial conditions and initiating cues.
- Approximate simulator setup time is 10 minutes.

Initial Conditions:

E-0, Reactor Trip or Safety Injection is in progress due to a Main Steam Line break inside Containment.

Initiating Cues:

The Unit Supervisor has directed you to respond to this event beginning at step 13 of E-0.

****** 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: 076-1

Revision: 1

Task Title: MANUAL CIA - TRAIN A

Start Time: _____

STEP 1 X

Performance Step: Verify CIA (E-0, Step 13)

GRADE _____ X

Standards: Candidate checks ESF Group 2 status columns 2 through 10 - LIT.

- All lights are not lit

Standards:

Alternate Path:

Candidate initiates CIA (pushbuttons)(E-0, step 13, RNO)

- CIA Does **NOT** actuate

Grade: SAT _____ UNSAT _____

Comment: Carefully monitor the performance of this JPM. All of the valves listed MUST be closed to satisfy the critical nature of this JPM.

STEP 2 X

Performance Step: Reposition Train A valves per Attachment A as necessary for minimum safety function.

GRADE _____ X

Standards: For each Train A containment penetration isolation valve depresses the close pushbutton or rotates the control switch to the "close" position and observes that the indicating lights shift to green ON, red OFF.

Grade: SAT _____ UNSAT _____

STEP 3 _____

Performance Step: Report completion of task to the US.

GRADE _____ _____

Standards: Reports to US that task is completed.

Grade: SAT _____ UNSAT _____

Terminating Cue: the evaluation for this JPM is concluded.

PERFORMANCE INFORMATION

JPM Number: 076-1

Revision: 1

Task Title: MANUAL CIA - TRAIN A

Stop Time: _____

CONTAINMENT ISOLATION PHASE A VALVES

COMPONENT	DESCRIPTION	REQUIRED POSITION	FINAL POSITION
MAIN BOARD 1 (VERTICAL)			
3SSR*CTV26	Reactor Hot Leg	Closed	
3SSR*CTV29	Reactor Cold Leg	Closed	
3SSR*CTV20	PZR Vapor	Closed	
3SSR*CV8026	PRT Gas	Closed	
3SSR*CTV32	SI Accumulator	Closed	
3IAS*PV15	Instrument Air	Closed	
3GSN*CTV105	Nitrogen to PRT	Closed	
3CMS*CTV20	Ctmt Atmospheric Monitor	Closed	
3CMS*CTV23	Ctmt Atmospheric Monitor	Closed	
3VRS*CTV20	Gas Vent	Closed	
3DGS*CTV24	Reactor Plant Drains Gaseous	Closed	
3DAS*CTV24	Reactor Plant Drains Aerated*	Closed	
	<i>*May not closed due to CTMT sump pump operation. 3DAS -CTV25 WILL close and provide minimum safety function.</i>		
3PGS*CV8046	Primary Water	Closed	
3FPW*CTV48	Fire Water	Closed	
3CVS*CTV20A	Ctmt Vacuum Pump	Closed	
3CVS*CTV20B	Ctmt Vacuum Pump	Closed	
3SSR*CTV27	Reactor Hot Leg	Closed	
3SSR*CTV30	Reactor Cold Leg	Closed	
3SSR*CTV21	PZR Vapor	Closed	
3SSR*CV8025	PRT Gas	Closed	
3SSR*CTV33	SI Accumulator	Closed	
3IAS*MOV72	Instrument Air	Closed	
3GSN*CV8033	Nitrogen to PRT	Closed	
3CMS*CTV21	Ctmt Atmospheric Monitor	Closed	
3CMS*MOV24	Ctmt Atmospheric Monitor	Closed	
3VRS*CTV21	Gas Vent	Closed	
3DGS*CTV25	Reactor Plant Drains Gaseous	Closed	

CONTAINMENT ISOLATION PHASE A VALVES

COMPONENT	DESCRIPTION	REQUIRED POSITION	FINAL POSITION
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MAIN BOARD 1 (VERTICAL) (Continued)

3DAS*CTV25	Reactor Plant Drains Aerated	Closed	
3PGS*CV8028	Primary Water	Closed	
3FPW*CTV49	Fire Water	Closed	
3CVS*CTV21A	Ctmt Vacuum Pump	Closed	
3CVS*CTV21B	Ctmt Vacuum Pump	Closed	
3SSP*CTV7	PASS Isolation	Closed	
3SSP*CTV8	PASS Isolation	Closed	

COMPONENT	DESCRIPTION	REQUIRED POSITION	FINAL POSITION
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MAIN BOARD 1 (HORIZONTAL)

3CDS*CTV38A	Train A Supply	Closed	
3CDS*CTV38B	Train B Supply	Closed	
3CDS*CTV39A	Train A Return	Closed	
3CDS*CTV39B	Train B Return	Closed	
3CDS*AOV45C/46C	Coil 1A (Train A)	Closed	
3CDS*AOV45B/46B	Coil 1B (Train B)	Closed	
3CDS*CTV91A	Train A Supply	Closed	
3CDS*CTV91B	Train B Supply	Closed	
3CDS*CTV40A	Train A Return	Closed	
3CDS*CTV40B	Train B Return	Closed	
3CCP*AOV10A/19A	Train A Supply/Return Isolation	Closed	
3CCP*AOV197A/194A	Train A Supply/Return Isolation	Closed	
3CCP*AOV10B/19B	Train B Supply/Return Isolation	Closed	
3CCP*AOV197B/194B	Train B Supply/Return Isolation	Closed	
3CCP*MV223/225	CDS/CCP Train A cross-connect	Open	
3CCP*MV222/224	CDS/CCP Train A cross-connect	Open	
3CCP*MV226/228	CDS/CCP Train B cross-connect	Open	
3CCP*MV227/229	CDS/CCP Train B cross-connect	Open	

CONTAINMENT ISOLATION PHASE A VALVES

MAIN BOARD 2 (HORIZONTAL)

3SIH*CV8823	Cold Legs	Closed
3SIH*CV8824	1/3 Hot Legs	Closed
3SIH*CV8881	2/4 Hot Legs	Closed
3SIH*CV8843	Chg Cold Legs	Closed
3SIL*CV8890A	1/2 Cold Legs	Closed
3SIL*CV8890B	3/4 Cold Legs	Closed
3SIL*CV8825	2/4 Hot Legs	Closed
3SIH*CV8871	SI Test Header	Closed
3SIL*CV8968	Nitrogen Supply	Closed
3SIH*CV8964	SI Test Header	Closed
3SIL*CV8880	Nitrogen Supply	Closed
3SIH*CV8888	SI Accumulator Master Fill	Closed

MAIN BOARD 3 (HORIZONTAL)

3CHS*MV8100	RCP Seal Isolation	Closed
3CHS*MV8112	RCP Seal Isolation	Closed
3CHS*CV8160	Letdown Hdr Isolation	Closed
3CHS*CV8152	Letdown Hdr Isolation	Closed

VERIFICATION OF JPM COMPLETION

JPM Number: 076-1

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): 9

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: 076-1

Initial Conditions: E-0, Reactor Trip or Safety Injection is in progress due to a Main Steam Line break inside Containment.

Initiating Cues: The Unit Supervisor has directed you to respond to this event beginning at step 13 of E-0.

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO
A LOSS OF SECONDARY HEAT SINK

JPM ID Number: 123

From JPM Exam Bank

Revision: 1, Chg. 1
10/20/99

II. Initiated:

A. Oxfurth
Developer

3/10/97
Date

Steve Jackson
Verified Current

11/16/01
Date

III. Reviewed:

Martin
Technical Reviewer

11/19/01
Date

IV. Approved:

Cognizant Plant Supervisor (optional)

Date

Nuclear Training Supervisor

11/20/01
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: 123

Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO
A LOSS OF SECONDARY HEAT SINK

System: FH1

Time Critical Task: () YES (X) NO

Validated Time (minutes): _____

Task Number(s): 000*038*05*01*, 000*090*02 and 059*029*01*01

Applicable To: SRO _____ RO _____ PEO _____

K/A Number: 000-074-EA1.17

K/A Rating: 4.0 / 4.1

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

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

Task Standards: Satisfactorily establish Main Feedwater flow to at least one steam generator using FR-H.1.

Required Materials: None.

General References: FR-H.1, Rev. 13

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: 123

Revision: 1, Chg. 1

Simulator Requirements:

1. Reset to IC#20, 100% power
2. Enter the following malfunctions:
 - FW18A, AFW pump "A" trip
 - FW18B, AFW pump "B" trip
 - FW20C, TDAFW pump fails to auto start
 - FW07B, TDFW pump "A" trip
 - FW07C, TDFW pump "B" trip
3. Place the simulator in "run". After approximately one minute, a reactor trip will occur due to low SG levels. Allow the MDFW pump to run until the feedwater isolation occurs to ensure SG WR levels stay above 27%. Then turn off the MDFW pump (may take several attempts due to auto start signals). Red flag the "B" MDAFW pump control switch so the yellow light comes on. Stop the RCPs.
4. Acknowledge/clear annunciators and place the simulator in "freeze".
5. Place the simulator in "run" after the examinee has received the initial conditions and initiating cues.

Approximate simulator setup time is 5 minutes.

Initial Conditions:

A reactor trip occurred due to a loss of both TDFW pumps while at 100% power. The Control room team proceeded through E-0 step 4 when the crew noticed a red path for heat sink due to no AFW flow. The TDAFW pump is out of service for maintenance. The "A" MDAFW pump never started and the "B" MDAFW pump tripped immediately upon starting. The crew transitioned to FR-H.1 and maintenance is investigating the MDAFW pumps. The MDFW pump is available.

Initiating Cues:

The US has directed you to complete step 5 of FR-H.1 and try to establish Main FW flow to at least one SG.

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: 123

Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A
LOSS OF SECONDARY HEAT SINK

Start Time: _____

Comments: Two condensate pumps are running.

STEP 1 _____

Performance Step: **Try To Establish Main FW Flow To
At Least One SG**
Verify at least one condensate pump -
RUNNING.

GRADE _____

Standards: Observes that the indicating lights for
the "A" condensate pump is green
OFF, red ON and that running
amperage is indicated for the pump.

GRADE _____

Standards: Observes that the indicating lights for
the "B" condensate pump is green
OFF, red ON and that running
amperage is indicated for the pump.

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

Comments: The FW isolation trip valves are
closed. The examinee will transition to
the RNO column after this step

STEP 2 _____

Performance Step: Check FW isolation trip valves - OPEN

GRADE _____

Standards: Observes that the indicating lights for
the FW isolation trip valve
(FWS*CTV41A) is green ON, red OFF.

GRADE _____

Standards: Observes that the indicating lights for
the FW isolation trip valve
(FWS*CTV41B) is green ON, red OFF.

PERFORMANCE INFORMATION

JPM Number: 123

Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A
LOSS OF SECONDARY HEAT SINK

GRADE **Standards:** Observes that the indicating lights for the FW isolation trip valve (FWS*CTV41C) is green ON, red OFF.

GRADE **Standards:** Observes that the indicating lights for the FW isolation trip valve (FWS*CTV41D) is green ON, red OFF.

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

Comments: No SI or P-14 has occurred.

STEP 3 **Performance Step:** Transitions to the RNO column. IF SI OR P -14 has actuated, WHEN SG levels LESS THAN the P -14 setpoint, THEN RESET SI AND Remove universal logic card A213 from both Trains of the Solid State Protection System. (3RPS*RAKLOGA and 3RPS*RAKLOGB).

GRADE **Standards:** Observes that annunciator MB4D 1-6, SAFETY INJECTION ACTUATION, is not lit. No SI has occurred.

GRADE **Standards:** Observes that annunciator MB7B 4-3, STM GEN WTR LVL HI-HI, is not LIT. No action required.

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

PERFORMANCE INFORMATION

JPM Number: 123

Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A LOSS OF SECONDARY HEAT SINK

STEP	<u>4</u>	<u>X</u>	Performance Step:	RESET FWI at MB2.
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses both train A and train B FWI "reset" pushbuttons.
			Grade:	SAT <u> </u> UNSAT <u> </u>

STEP	<u>5</u>	<u>X</u>	Performance Step:	RESET FWI at MB5.
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses the "FW Isol Reset" "Startup" pushbutton and observes that the white indicating light comes ON.
			Grade:	SAT <u> </u> UNSAT <u> </u>
			Comments:	The valves operated in JPM step 6 may be operated in any order.

STEP	<u>6</u>	<u>X</u>	Performance Step:	Adjust SG feed regulating and SG feed regulating bypass valve controllers to zero output.
GRADE	<u> </u>	<u> </u>	Standards:	Observes that the SG feed regulating bypass valve controllers are in manual with zero output indicated.
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses the down arrow (▼) pushbutton on flow controller FWS-FK510 and observes that the auto light extinguishes and the manual light comes on. Holds the pushbutton down until it backlights green indicating maximum signal to close the valve. During this operation, observes that the indicating light for the applicable

PERFORMANCE INFORMATION

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Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A
LOSS OF SECONDARY HEAT SINK

GRADE X Standards:

FRV shifts from dual indication to green ON.

Depresses the down (▼) pushbutton on flow controller FWS-FK520 and observes that the auto light extinguishes and the manual light comes on. Holds the pushbutton down until it backlights green indicating maximum signal to close the valve. During this operation, observes that the indicating light for the applicable FRV shifts from dual indication to green ON.

GRADE X Standards:

Depresses the down (▼) pushbutton on flow controller FWS-FK530 and observes that the auto light extinguishes and the manual light comes on. Holds the pushbutton down until it backlights green indicating maximum signal to close the valve. During this operation, observes that the indicating light for the applicable FRV shifts from dual indication to green ON.

GRADE X Standards:

Depresses the down arrow (▼) pushbutton on flow controller FWS-FK540 and observes that the auto light extinguishes and the manual light comes on. Holds the pushbutton down until it backlights green indicating maximum signal to close the valve. During this operation, observes that the indicating light for the applicable FRV shifts from dual indication to green ON.

Grade:

SAT UNSAT

PERFORMANCE INFORMATION

JPM Number: 123

Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A
LOSS OF SECONDARY HEAT SINK

Comments:

The FW isolation trip valves may be reset in any order.

PERFORMANCE INFORMATION

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Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A LOSS OF SECONDARY HEAT SINK

Comments: The examinee may elect to reset and open the trip isolation valves one at a time instead of resetting all and then opening all. This is an acceptable action.

STEP	<u>7</u>	<u>X</u>	Performance Step:	RESET the FW isolation trip valves, <u>THEN</u> OPEN the valves.
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the "reset" control switch for valve 3FWS*CTV41A to the "reset" position.
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the "reset" control switch for valve 3FWS*CTV41B to the "reset" position.
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the "reset" control switch for valve 3FWS*CTV41C to the "reset" position.
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the "reset" control switch for valve 3FWS*CTV41D to the "reset" position.
				Comments: After ALL FW isolation trip valves are reset, Then the FW isolation trip valves may be operated in any order.
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses the "open/auto" pushbutton for FWS*CTV41A and observes that the indicating lights shift to green OFF, red ON.
GRADE	<u> </u>	<u>X</u>	Standards:	Depresses the "open/auto" pushbutton for FWS*CTV41B and observes that the indicating lights shift to green OFF,

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Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A LOSS OF SECONDARY HEAT SINK

red ON.

GRADE X **Standards:** Depresses the "open/auto" pushbutton for FWS*CTV41C and observes that the indicating lights shift to green OFF, red ON.

GRADE X **Standards:** Depresses the "open/auto" pushbutton for FWS*CTV41D and observes that the indicating lights shift to green OFF, red ON.

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

STEP 8 **Performance Step:** IF universal logic card A213 was removed, THEN Replace universal logic card A213 in both trains of the Solid State Protection System. (3RPS*RAKLOGA and 3RPS*RAKLOGB).

GRADE **Standards:** The universal logic card A213 was not removed.

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

STEP 9 X **Performance Step:** Establish main FW flow using MD FW pump: Place FW pumps P4 trip bypass selector switch to BYPASS

GRADE X **Standards:** Rotates the FW pumps P4 trip bypass selector switch to the BYPASS position.

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

Comments: Annunciator MB5A 5-4, FW PPS TRIP ON RX TRIP BYPASSED, will come

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Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A
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in. the examinee should acknowledge this alarm. However, this is not required to complete the critical nature of the step.

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Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A
LOSS OF SECONDARY HEAT SINK

STEP 10 X

Performance Step: START MD FW pump.

GRADE X

Standards: Rotates the control switch for the motor driven feedwater pump, FWS-P1, to the "start" position. Observes the indicating lights shift to green OFF, red ON and that running amperage is indicated after the starting current fades out.

Grade: SAT UNSAT

Comments: The examinee may check other indications to verify that the pump is running: discharge pressure, recirculation valve position, etc.

Comments: If the MDFW pump should trip on the first attempt to start provide the following Cue.

Cue: Reset the breaker and attempt to start it again.

Comments: Noticing that 3FWS-HIC590 is already partially open, the examinee may question what to do. If this occurs provide the following

Cue: Open 3FWS-HIC590 fully

PERFORMANCE INFORMATION

JPM Number: 123

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Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A LOSS OF SECONDARY HEAT SINK

STEP 11

Performance Step: Verify MD FW pump startup valve (3FWS - HIC590) OPEN

GRADE

Standards: Observes that 3FWS-HIC590 indicates approximately 55% open. Uses the thumbwheel to fully open the valve.

Grade: SAT UNSAT

Comments: The valves operated in JPM step 12 can be operated in any order.

Comments: If the examinee requests a feed rate provide the following Cue:

Cue: Establish .4 MPPH feed rate to each SG.

STEP 12 X

Performance Step: Maintain SG levels using SG feed regulating bypass valves.

GRADE X

Standards: Depresses the up arrow (▲) pushbutton on FWS*LK550 and observes the output meter reading increases.

GRADE X

Standards: Depresses the up arrow (▲) pushbutton on FWS*LK560 and observes the output meter reading increases.

GRADE X

Standards: Depresses the up arrow (▲) pushbutton on FWS*LK570 and observes the output meter reading increases.

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JPM Number: 123

Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A LOSS OF SECONDARY HEAT SINK

GRADE X **Standards:** Depresses the up arrow (▲) pushbutton on FWS*LK580 and observes the output meter reading increases.

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

STEP 13 **Performance Step:** Verify feed flow - ESTABLISHED

GRADE **Standards:** Checks any/all of the following indications:

- SG feed flow indicators:
FI510A/511A
FI520A/521A
FI530A/531A
FI540A/541A
- SG WR levels increasing on recorders LR501/503

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

Comments: The valves operated in JPM step 14 may be operated in any order.

STEP 14 **Performance Step:** CLOSE each TD FW pump's discharge isolation valve (3FWS-MOV23B and 3FWS-MOV23C).

GRADE **Standards:** Depresses the "close" pushbutton for 3FWS-MOV23B and observes that the indicating lights shift to green ON, red OFF.

GRADE **Standards:** Depresses the "close" pushbutton for 3FWS-MOV23C and observes that the

PERFORMANCE INFORMATION

JPM Number: 123

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indicating lights shift to green ON, red OFF.

Grade: SAT _____ UNSAT _____

Comments: The valves operated in JPM step 15 may be operated in any order.

STEP 15 _____

Performance Step: CLOSE the FW control isolation valves:

3FWS-MOV35A
3FWS-MOV35B
3FWS-MOV35C
3FWS-MOV35D

GRADE _____

Standards: Depresses the "close" pushbutton for 3FWS-MOV35A and observes the indicating lights shift to green ON, red OFF.

GRADE _____

Standards: Depresses the "close" pushbutton for 3FWS-MOV35B and observes the indicating lights shift to green ON, red OFF.

GRADE _____

Standards: Depresses the "close" pushbutton for 3FWS-MOV35C and observes the indicating lights shift to green ON, red OFF.

GRADE _____

Standards: Depresses the "close" pushbutton for 3FWS-MOV35D and observes the indicating lights shift to green ON, red OFF.

Grade: SAT _____ UNSAT _____

PERFORMANCE INFORMATION

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Revision: 1, Chg. 1

Task Title: ESTABLISH MAIN FEEDWATER FLOW WHILE RESPONDING TO A
LOSS OF SECONDARY HEAT SINK

STEP 16 _____

Performance Step: Inform the US that feed has been established to the steam generators using the Main Feedwater system.

GRADE _____

Standards: Reports to the US that feed has been established to all the steam generators using the Main Feedwater system in accordance with step 5 in FR-H.1.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: 123

Revision: 1, 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): _____

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: 123

Initial Conditions: A reactor trip occurred due to a loss of both TDFW pumps while at 100% power. The Control room team proceeded through E-0 step 4 when the crew noticed a red path for heat sink due to no AFW flow. The TDAFW pump is out of service for maintenance. The "A" MDAFW pump never started and the "B" MDAFW pump tripped immediately upon starting. The crew transitioned to FR-H.1 and maintenance is investigating the MDAFW pumps. The MDFW pump is available.

Initiating Cues: The US has directed you to complete step 5 of FR-H.1 and try to establish Main FW flow to at least one SG.

JOB PERFORMANCE MEASURE WORKSHEET

I. JPM Title: CONTROL ROD OUT OF ALIGNMENT

ID Number: JPM-130

From JPM Exam Bank

Revision: 1

II. Initiated:

R.L. Lueneburg
Developer

5/15/97
Date

Steve Jackson
Verified Current

11/16/01
Date

I. Reviewed:

R. Royce
Technical Reviewer

11/19/01 6/13/97
Date

R. Carr
Instructional Reviewer

6/13/97
Date

11. Approved:

Operations Manager

Date _____

Nuclear Training Supervisor

Date _____

SIM JPM 130

SUMMARY OF CHANGES RE: NRC VALIDATION

Made Step 22 a non-critical step

JOB PERFORMANCE MEASURE WORKSHEET

Facility: Millstone Unit 3

Examinee: _____

JPM Tracking Number: 130

Validation Time: _____ minutes

Task Title: CONTROL ROD OUT OF ALIGNMENT

Time Critical Task: () YES (X) NO

Task Number: 344*045*04*01 and 344*122*04*02

K/A Number: 001-A2.03

K/A Rating: 3.5/4.2

Applicable Methods of Testing:

Simulate Performance _____

Actual Performance X

Classroom _____

Simulator X

Plant _____

Task Standards:

Satisfactorily recovery from a misaligned control rod using AOP 3552 Attachment A

Required Materials:

Shutdown margin calculation

General References:

AOP 3552, Rev. 3

READ TO THE EXAMINEE

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 materials normally available in the Control Room, including logs. Make all written reports, oral reports and log entries as if the evolution was actually being performed.

Initial Conditions:

A problem in the EHC circuit caused a momentary runback of the turbine/generator. During the subsequent insertion of the reactor control rods, rod D4 in Control Bank D was observed to be misaligned. The control room team entered AOP 3552 and has decided that Attachment A to that procedure is to be used to recover from the misaligned rod.

JOB PERFORMANCE MEASURE WORKSHEET

Initiating Cues: The US has directed you to complete Attachment A of AOP 3552 through step 7.e.

- SIMULATOR REQUIREMENTS:
1. Reset to IC# 20.
 2. Enter malfunction RD0457 Control Band "D" stuck rod "D4"
 3. Take the master silence switch to the "master silence" position and place the simulator in "RUN". Perform the following actions:

NOTE: The turbine runback malfunction to be entered next should remain active only long enough to cause rod D4 to misalign by greater than 12 steps. This may take about 5 seconds.

4. Enter malfunction TC02 Turbine Runback.
5. Remove TC02 and allow rod D4 to misalign by greater than 12 steps.
6. Allow the simulator time to stabilize prior to performing the next step.
7. Remove malfunction RD0457 to allow recovery of the rod.

Approximate simulator setup time is 12 minutes.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

Start Time: _____

STEP 1 _____

Performance Step: Verify operational mode - MODE 1

GRADE _____

Standards: Based on current power level, verifies that the plant is in mode 1

STEP 2 _____

Performance Step: Identify affected rod(s) as follows:

- DRPI display
- Rod supervision on plant process computer

GRADE _____

Standards: Checks the DRPI display and calls up the rod supervision display (NSSS, page forward, F6, F2) and identifies rod D4 as the only affected rod.

STEP 3 _____

Performance Step: Verify ROD CONTROL URGENT FAILURE (MB4C 4-8) annunciator - NOT LIT

GRADE _____

Standards: Checks Main Board annunciator MB4C 4-8 as not lit.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP 4 _____

Performance Step: Request I&C verify affected rod lift coil fuse - NOT BLOWN

GRADE _____

Standards: Either contacts I&C directly or requests that the US contact I&C to verify the status of the rod lift coil fuse.

Cue: Role play as either I&C or the US and inform the examinee that the lift coil fuse was blown but has been replaced by I&C.

STEP 5 _____

Performance Step: Verify all shutdown rods greater than or equal to insertion limit using TRM, OPS Form 3273-3/4.3.1.3.5, SHUTDOWN ROD INSERTION LIMIT

GRADE _____

Standards: Refers to the appropriate form in the Technical Requirements Manual and verifies that the shutdown rods are greater than the listed insertion limit.

Comment: If the examinee is a RO license holder, he may request that the US check the limit in the TRM. If this occurs, role play as the SCO and provide the following Cue:

Cue: The shutdown rods are greater than the insertion limits in the TRM.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP 6

Performance Step: Verify at least one rod misaligned by more than ± 12 steps from its group step counter.

GRADE

Standards: Checks DRPI and/or the plant process computer rod supervision display and verifies that rod D4 is out of alignment by more than 12 steps.

STEP 7

Performance Step: Verify only one rod misaligned by more than ± 12 steps from its group step counter.

GRADE

Standards: Either based on checks in the previous step or by checking DRPI and/or the plant process computer rod supervision display, verifies that only one rod, D4, is misaligned by more than 12 steps.

Cue: At the completion of this step inform the examinee that the US will check the Technical Specification requirements and notify Reactor Engineering. Additionally hand the examinee the completed Shutdown Margin calculation and inform him that it was completed by another operator on shift.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

Comments: The examinee may ask if the adequacy of the shutdown margin had been checked. Provide the following Cue:

Cue: The shutdown margin value needs to be verified to be adequate.

STEP	<u>8</u>	<u> </u>	Performance Step:	Verify SHUTDOWN MARGIN - ADEQUATE
GRADE	<u> </u>	<u> </u>	Standards:	Checks the shutdown margin calculation and determines that adequate shutdown margin exists.
STEP	<u>9</u>	<u> </u>	Performance Step:	Verify reactor power - GREATER THAN 50%.
GRADE	<u> </u>	<u> </u>	Standards:	Checks the power range meters on MB4 and determines that reactor power is greater than 50%.
STEP	<u>10</u>	<u> </u>	Performance Step:	Determine QPTR as follows: <ul style="list-style-type: none">• Plant Computer Tilting Factors• SP 31012 QPTR

Examiner: FOR RO candidates ONLY
Use ADMIN JPM RO-A1.2
to evaluate QPTR determination
For SROs Continue with JPM

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

SRO Cue:

Inform the examinee that the QPTR has been checked and verified to be less than 1.02. Also inform him that AFD is within the limits specified in the Technical Requirements Manual. Additionally, inform the examinee that the rod has been misaligned for 25 minutes and he should proceed to the note prior to step 5 and continue with the recovery actions.

RO Cue:

After completing QPTR determination inform him that AFD is within the limits specified in the Technical Requirements Manual. Additionally, inform the examinee that the rod has been misaligned for 25 minutes and he should proceed to the note prior to step 5 and continue with the recovery actions.

STEP 11

Performance Step: Verify fuse check of affected rod - COMPLETE.

GRADE

Standards: No action required since this information was previously provided.

Cue:

If the examinee questions the status of the fuse checks, again inform him that the lift coil fuse for rod D4 has been replaced by I&C

STEP 12 X

Performance Step: Record affected group step counter position.

GRADE X

Standards: Notes the position of the control bank D group 1 step counter and records that number on a piece of paper/log.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP	<u>13</u>	<u>X</u>	Performance Step:	Align control rod disconnect switches: Unlock and Open control rod disconnect switch box (BOX 3RDS- HDSBOX1, CAT 60, Key #18 in CO key locker)
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GRADE	<u> </u>	<u>X</u>	Standards:	The rod control disconnect switch box is unlocked. Opens the switch box.
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Cue: If the examinee asks for the key to the box inform him that the box is already unlocked.

STEP	<u>14</u>	<u>X</u>	Performance Step:	Place each rod disconnect switch for the affected bank, <i>except the misaligned rod</i> , to the ROD DISCONNECTED position.
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GRADE	<u> </u>	<u>X</u>	Standards:	Positions all of the disconnect switches for the control bank D rods with the exception of rod D4 "up" to the ROD DISCONNECT position.
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STEP	<u>15</u>	<u>X</u>	Performance Step:	Place control bank SEL switch to affected bank position.
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GRADE	<u> </u>	<u>X</u>	Standards:	Places the control bank SEL switch to the CBD position.
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STEP	<u>16</u>	<u> </u>	Performance Step:	Check misaligned rod higher than associated bank using DRPI display.
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GRADE	<u> </u>	<u> </u>	Standards:	Checks the DRPI display and verifies that rod D4 is higher than the remaining rods in control bank D.
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PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP	<u>17</u>	<u>X</u>	Performance Step:	Insert misaligned rod until next lower position DRPI LED just changes state.
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GRADE	<u> </u>	<u>X</u>	Standards:	Takes the In-Hold-Out switch to the "in" position until the next lower position LED for rod D4 comes on and then releases the switch.
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Comment:	This action will cause main board annunciator MB4C 4-8 to alarm. The examinee should silence and acknowledge the alarm. This is not required to satisfy the critical nature of the step.
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STEP	<u>18</u>	<u>X</u>	Performance Step:	Reset affected group step counter to a value of 2 steps higher than affected rod's indicated DRPI position.
-------------	-----------	----------	--------------------------	---

GRADE	<u> </u>	<u>X</u>	Standards:	Resets the control bank D group 1 step counter to a position that corresponds to 2 steps higher than the DRPI indication for rod D4.
--------------	-------------	----------	-------------------	--

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP 19 _____ **Performance Step:** Proceed to step 6.g. Verify rod misaligned - LESS THAN 16 hours.

GRADE _____ _____ **Standards:** Based on information provided, the rod has been misaligned less than 16 hours.

Cue: If the examinee asks how long the rod has been misaligned, tell him less than 1 hour.

Comment: Prior to moving the rod, it is expected that the examinee will notify the US. However, this is not required to complete the critical nature of the JPM.

STEP 20 X **Performance Step:** Move misaligned rod until affected group step counter indicates value recorded in step 5.b.

GRADE _____ X **Standards:** Takes the In-Hold-Out switch to the "in" position until the control bank D group 1 step counter is at the number that was previously recorded and then releases the switch.

STEP 21 X **Performance Step:** Place all lift coil disconnect switches for affected bank to ROD CONNECTED position.

GRADE _____ X **Standards:** At the rod control disconnect switch box positions the switches for the

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

control bank D rods "down" to the Rod
Connected position.

STEP 22

Performance Step: Verify ROD CONTROL URGENT
FAILURE (MB4C 4-8) annunciator -
LIT

GRADE

Standards: Observes that annunciator MB4C 4-8
is lit.

STEP 23 X

Performance Step: Press ROD DRIVE RESET

GRADE X

Standards: Presses the ROD DRIVE RESET
pushbutton on MB4.

Comments: This action will cause annunciator
MB4C 4-8 to clear. The examinee
should reset this alarm. This is not
required to complete the critical nature
of the step.

STEP 24

Performance Step: Verify ROD CONTROL URGENT
FAILURE (MB4C 4-8) annunciator -
NOT LIT.

GRADE

Standards: Checks that annunciator MB4C 4-8 is
not lit.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A52

JPM Number: 130

Task Title: CONTROL ROD OUT OF ALIGNMENT

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP	<u>25</u>	<u>X</u>	Performance Step:	Place control bank SEL switch in Man
GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the control bank SEL switch to the MAN position.
STEP	<u>26</u>	<u> </u>	Performance Step:	Notify the US that the misaligned rod has been realigned with the rest of the rods in control bank D.
GRADE	<u> </u>	<u> </u>	Standards:	Inform the US that he has completed the step in Attachment A of AOP 3552 through step 7.e and rod D4 has been realigned with the rest of the rods in control bank D4.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF COMPLETION

Job Performance Measure Number: 130

Revision: 0

Date Performed: _____

Examinee: _____

Evaluator: _____

Validated Time (min): 20

Actual time to Complete (min): _____

Result of JPM: _____

(Denote by an S for satisfactory or a U for unsatisfactory)

Result of oral questions:

Number of Questions: _____

Number of Correct Responses: _____

Score _____ %

EXAMINEE HANDOUT

INITIAL CONDITIONS AND INITIATING CUES

JPM Tracking Number: 130

Initial Conditions: A problem in the EHC circuit caused a momentary runback of the turbine/generator. During the subsequent insertion of the reactor control rods, rod D4 in Control Bank D was observed to be misaligned. The control room team entered AOP 3552 and has decided that Attachment A to that procedure is to be used to recover from the misaligned rod.

Initiating Cues: The US has directed you to complete Attachment A of AOP 3552 through step 7.e.

JOB PERFORMANCE MEASURE WORKSHEET

I. JPM Title: SWAP RHR COOLING TRAINS

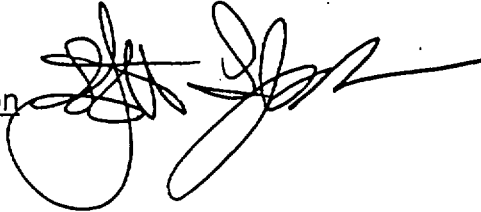
ID Number: NRC (136)

From JPM Exam Bank

Revision: 0

II. Initiated:

Steve Jackson
Developer



10/5/01
Date

III. Reviewed:

C Martin
Technical Reviewer

11/19/01
Date

Instructional Reviewer

Date

IV. Approved:

Operations Manager

Date

M. P. H. L.
Nuclear Training Supervisor

11/20/01
Date

SIM JPM 136

SUMMARY OF CHANGES RE: NRC VALIDATION

Added, "3RCS*HCV619 is in manual and closed" to the set-up section

Added, "Remove tag from 3RCS*HCV606 if hung" to the set-up section

JOB PERFORMANCE MEASURE WORKSHEET

Facility: Millstone Unit 3

Examinee: _____

JPM Tracking Number: NRC (136)

Validation Time: 10 minutes

Task Title: SWAP RHR COOLING TRAINS

Time Critical Task: () YES (X) NO

Task Number: 005*017*01*01

K/A Number: 005-K4.02

K/A Rating: 3.2 / 3.5

Applicable Methods of Testing:

Simulate Performance _____ Actual Performance X

Classroom _____ Simulator X Plant _____

Task Standards: Satisfactorily shift the RHR system during single loop operation from Loop A to Loop B using OP 3310A

Required Materials: None

General References: OP 3310A Rev. 16-01

READ TO THE EXAMINEE

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 materials normally available in the Control Room, including logs. Make all written reports, oral reports and log entries as if the evolution was actually being performed.

Initial Conditions: The unit is in Mode 5. The control room team is in the process of shifting protected trains to the "B" train being protected. This is necessary to support EDG surveillances. The B RHR has been aligned for plant cooldown per Section 4.6.

Initiating Cues: The US has directed you to shift the RHR system from Loop A to Loop B using OP 3310A Section 4.8.

JOB PERFORMANCE MEASURE WORKSHEET

Simulator Requirements:

1. Reset to IC # 2 (Mode 5)
2. Ensure the following are set properly:
 - Complete section 4.6 of OP 3310A
 - PK131 set to maintain RCS pressure at 350# (controller pot setting of 5.2)
 - 3RCS*HCV607 is closed
 - 3RCS*HCV606 potentiometer set for a valve position of 40% open
 - 3RCS*HCV619 is in manual and closed
 - Remove tag from 3RCS*HCV606 if hung
3. Acknowledge/clear annunciators. Place the simulator in "freeze".
4. Place the simulator in "run" after the examinee has read the initial conditions and initiating cues.

Approximate simulator setup time is 10 minutes.

PERFORMANCE INFORMATION

JPM Number: NRC (136)

Rev: 0

Task Title: SWAP RHR COOLING TRAINS

Start Time: _____

STEP 1 _____

Performance Step: Verify Section 4.6, "Aligning RHR Train B for Plant Cooldown" completed. (4.8.1)

GRADE _____

Standards: Candidate may review section 4.6 or may accept section complete as per Initial Conditions

Grade: SAT _____ UNSAT _____

STEP 2 _____

Performance Step: Determine if either condition exists (4.8.2.a)

- No T/S action in effect prohibiting RCS dilution
- $RCS\ Cb \leq RCS\ Cb$ when RHR Train B last in operation

GRADE _____

Standards: Candidate may review section 4.6 or may accept section complete as per Initial Conditions

Grade: SAT _____ UNSAT _____

Cue: Correct boron concentration has been established in RHR Train B

STEP 3 _____

Performance Step: Slowly THROTTLE open 3CCP-HK66B1, "RPCCW HX FLOW" (MB2), to provide cooling flow without exceeding the following limits:

- RPCCW Train B total flow - 8100 gpm
- RPCCW flow through RHR HX - 7000 gpm

GRADE _____

Standards: THROTTLE open 3CCP-HK66B1, "RPCCW HX FLOW" (MB2)

- Observes RPCCW Train B total flow < 8100 gpm on either:

PERFORMANCE INFORMATION

JPM Number: NRC (136)

Rev: 0

Task Title: SWAP RHR COOLING TRAINS

1. Total flows from 3CCP*FI11B, Safety Header Flow and 3CCP*FI12B, Non-Safety Header Flow and 3CCP*FI15B, CTMT Header Flow all on MB2
2. or CCP page on "Real-Time" PPC Man-Machine Interface (MMI)
 - Observes RPCCW flow through RHR HX < 7000 gpm on 3CCP*FI67B1

Grade: SAT _____ UNSAT _____

Comments: Either MB indications or PPC readings are acceptable

STEP 4 X

Performance Step: START RHR pump 3RHS*P1B (MB2)(4.8.4)

GRADE _____ X

Standards: Rotates the control switch for pump 3RHS*P1B to the start position and observes the indicating lights shift to green OFF, red ON, and that starting amperage eventually decays to the running amperage on the amperage meter.

Grade: SAT _____ UNSAT _____

STEP 5 X

Performance Step: Slowly OPEN 3RHS-FK619, "RHR HDR FLOW", to establish 4,000 gpm flow.

GRADE _____ X

Standards: Slowly depresses the up (▲) arrow pushbutton and monitors the flow rate. Releases the pushbutton when indicated flow is 4,000 gpm.

Grade: SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: NRC (136)

Rev: 0

Task Title: SWAP RHR COOLING TRAINS

STEP 6 X **Performance Step:** VERIFY 3RCS-FK619, , "RHR HDR FLOW", set to 4000 gpm and PLACE in "Auto".

GRADE X **Standards:** Checks flow set to 4000 gpm depresses the 'Auto/manual' pushbutton and observes that the manual light goes out and the auto light comes on.

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

STEP 7 **Performance Step:** Concurrently:
 • OPEN 3RHS-HC607,"HX B FLOW" as necessary to maintain RCS temperature
 • CLOSE 3RHS-HC606,"HX A FLOW"

GRADE **Standards:** Positions one hand on the potentiometer for 3RHS*HCV607 and the other hand on the potentiometer for 3RHS*HCV606. Rotates the potentiometer for HCV606 in the close direction. Observes that the position indicating pointer for HCV607 moves toward the 100% (open) position and the position indicating pointer for HCV606 moves toward 0% (close) position. Stops rotating the potentiometers when HCV606 is fully closed.

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

Comments: It is expected that the examinee will observe the position of 3RHS*HCV606 and open 3RHS*HCV607 to an identical position. However this is not necessary to complete the critical nature of the step.

PERFORMANCE INFORMATION

JPM Number: NRC (136)

Rev: 0

Task Title: SWAP RHR COOLING TRAINS

STEP 8 **Performance Step:** VERIFY 3HVQ*ACUS1B, "RHR ACU" running (VP1)(4.8.8)

GRADE **Standards:** At VP1 observes running light (RED) lit and off light (GREEN) off for 3HVQ*ACUS1B, "RHR ACU"

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

STEP 9 **Performance Step:** OPEN 3RHS*V37, RHR to CVCS letdown isolation.

GRADE **Standards:** Either directly contacts an PEO or requests that the US contact an PEO to locally open 3RHS*V37.

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

Cue: Role play as either the PEO or the US and acknowledge the request. Use remote function **RHR02** to open V37. When this action is completed, report back to the examinee that 3RHS*V37 is open.

STEP 10 **Performance Step:** CLOSE 3RHS*V20, RHR to CVCS letdown isolation.

GRADE **Standards:** Either directly contacts an PEO or requests that the US contact an PEO to locally close 3RHS*V20.

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

Cue: Role play as either the PEO or the US and acknowledge the request. Use remote function **RHR01** to close V20. When this action is completed, report back to the examinee that 3RHS*V20 is closed.

PERFORMANCE INFORMATION

JPM Number: NRC (136)

Rev: 0

Task Title: SWAP RHR COOLING TRAINS

STEP 11 X **Performance Step:** STOP RHR pump 3RHS*P1A.

GRADE _____ X **Standards:** Rotates the control switch for 3RHS*P1A to the stop position and observes that the indicating lights shift to green ON, red Off and pump amperage indication goes to zero.

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

STEP 12 _____ **Performance Step:** THROTTLE 3CCP-HK66A1 and 3CCP-HK66B1, "RPCCW HX FLOW" (MB2), as necessary without exceeding the following limits:(4.8.12)

- RPCCW Train A total flow - 8100 gpm
- RPCCW Train B total flow - 8100 gpm
- RPCCW flow through RHR HX - 7000 gpm

GRADE _____ _____ **Standards:** THROTTLE open 3CCP-HK66B1, "RPCCW HX FLOW" (MB2)

- Observes RPCCW Train B total flow < 8100 gpm on either:
 1. Total flows from 3CCP*FI11A/B, Safety Header Flow and 3CCP*FI12A/B, Non-Safety Header Flow and 3CCP*FI15A/B, CTMT Header Flow all on MB2
 2. or CCP page on "Real-Time" PPC Man-Machine Interface (MMI)
- Observes RPCCW flow through RHR HX < 7000 gpm on 3CCP*FI67A1/B1

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

PERFORMANCE INFORMATION

JPM Number: NRC (136)

Rev: 0

Task Title: SWAP RHR COOLING TRAINS

STEP	<u>13</u>		Performance Step:	<p><u>IF</u> train A SI and QSS pumps <u>not</u> running, STOP 3HVQ*ACU1A, and PLACE in "AUTO" (VP1).</p>
GRADE			Standards:	<p>Observes that the Train A SI and QSS pumps are not running. Rotates the control switch for 3HVQ*ACU1A to the "stop" position and when the indicating lights indicate green ON, red Off, rotates the switch to the "auto" position.</p>
			Grade:	<p>SAT _____ UNSAT _____</p>
STEP	<u>14</u>		Performance Step:	<p><u>IF</u> AFW Pumps are not running:</p> <ul style="list-style-type: none"> • STOP "3HVQ*FN5A/6A" (VP1). • Wait 90 seconds and VERIFY "3HVQ*FN5B/6B" running.
GRADE			Standards:	<p>Observes that the AFW pumps are not running. Rotates the control switch for 3HVQ*FN5A/6A to the "stop" position and observes that the indicating lights shift to green ON, red OFF. Waits 90 seconds and observes 3HVQ*FN5B/6B running by the indicating lights green OFF, red ON</p>
			Grade:	<p>SAT _____ UNSAT _____</p>
			Comments:	<p>Since the "B" train RHR pump is running, the examinee may match flags for 3HVQ*ACU1B and 3HVQ*FN5B/6B.</p>
STEP	<u>15</u>		Performance Step:	<p>Notify the US that the RHR system has been shifted from Loop A to Loop B.</p>
GRADE			Standards:	<p>Informs the US that section 4.8 of</p>

PERFORMANCE INFORMATION

JPM Number: NRC (136)

Rev: 0

Task Title: SWAP RHR COOLING TRAINS

OP 3310A has been completed and
RHR system operation has been
shifted from Loop A to Loop B.

Grade:

SAT

UNSAT

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time: _____

VERIFICATION OF COMPLETION

Job Performance Measure Number: NRC (136)

Revision: 0

Date Performed: _____

Examinee: _____

Evaluator: _____

Validated Time (min): 10

Actual time to Complete (min): _____

Result of JPM: _____

(Denote by an S for satisfactory or a U for unsatisfactory)

Result of oral questions:

Number of Questions: _____

Number of Correct Responses: _____

Score _____ %

EXAMINEE HANDOUT

INITIAL CONDITIONS AND INITIATING CUES

JPM Tracking Number: NRC (136)

Initial Conditions: The unit is in Mode 5. The control room team is in the process of shifting protected trains to the “B” train being protected. This is necessary to support EDG surveillances. The B RHR has been aligned for plant cooldown per Section 4.6.

Initiating Cues: The US has directed you to shift the RHR system from Loop A to Loop B using OP 3310A Section 4.8.

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

JPM ID Number: 032

Revision: 5, Chg. 1
10/20/99

II. Initiated:

G. A. Tait
Developer

6/10/99
Date

Steve Jackson
Verified Current

11/16/01
Date

III. Reviewed:

C. Martin
Technical Reviewer

11/19/01
Date

IV. Approved:

Cognizant Plant Supervisor (optional)

Date

Nuclear Training Supervisor

11/20/01
Date

JOB PERFORMANCE MEASURE GUIDE (Continued)

Facility: Millstone Unit 3

Student: _____

JPM ID Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

System: HVC

Time Critical Task: () YES (X) NO

Validated Time (minutes): 8

Task Number(s): 088-01-124

Applicable To: SRO _____ RO _____ PEO _____

K/A Number: 060AA1.02
2.1.20

K/A Rating: 2.9 / 3.1
4.3 / 4.2

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

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

Task Standards: Satisfactorily complete placing the Control Room Ventilation system in full recirculated filtered air using Train B equipment in accordance with OP 3314F, "Control Building Heating, Ventilation, Air Conditioning, and Chill Water"

Required Materials: None.

General References: OP 3314F, "Control Building Heating, Ventilation, Air Conditioning, and Chill Water," Revision 18

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: 032

Revision: 5, Chg. 1

Simulator Requirements: Approximate setup time is 8 minutes.

1. Reset to IC-20, 100% steady state, EOL.
2. Place the simulator in "RUN".
3. Insert malfunction RM05C at 100% severity (3HVC-RE91 goes to full scale indication)
4. Verify "RADIATION ALERT" and "RAD HI" annunciators (MB2) in alarm state THEN acknowledge all alarms
5. Place the simulator in "freeze".
6. After the examinee has received the initial conditions and initiating cues, place the simulator in "RUN".

Initial Conditions: While operating at 100% power, "Radiation Alert" and "RAD HI" annunciators were received. The control room team has determined that 3 HVC-RE91 is in alarm.

Initiating Cues: In carrying out the responses of AOP 3573, Radiation Monitor Alarm Response, the US has directed you to place Control Room ventilation in full recirculated filtered air using the "B" Control Building Filter in accordance with OP 3314F, "Control Building Heating, Ventilation, Air Conditioning, and Chill Water", Section 4.11.2.

**** 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: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

Start Time: _____

STEP 1 _____

Performance Step: To operate Train B Control Room pressure envelope emergency ventilation with full recirculated filtered air using filter 1B, PERFORM the following:

NOTE

The Control Room will not be pressurized in this mode.

(step 4.11.2)

GRADE _____

Standards: Review procedure step and note.

Grade: SAT _____ UNSAT _____

Comments: All subsequent steps to perform task are sub-steps of above step and note.

PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

STEP	<u>2</u>	<u>X</u>	Performance Step:	<p>To stop Kitchen Exhaust Ventilation System PERFORM the following (VP1):</p> <ol style="list-style-type: none"> 1. PLACE 3HVC-FN6, "KITCHEN EXH FAN," to "OFF." 2. CLOSE the following "KITCHEN EXH AIR ISOL.": <ul style="list-style-type: none"> • 3HVC*AOV20 • 3HVC*AOV21
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(step 4.11.2.a)

GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the 3HVC-FN6, "KITCHEN EXH FAN" control switch to the OFF position.
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GRADE	<u> </u>	<u>X</u>	Standards:	Presses the "CLOSE" pushbutton for 3HVC*AOV20 and observes the indicating lights shift to green ON, red OFF.
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GRADE	<u> </u>	<u>X</u>	Standards:	Presses the "CLOSE" pushbutton for 3HVC*AOV21 and observes the indicating lights shift to green ON, red OFF.
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Grade: **SAT** **UNSAT**

Comments: 3HVC*AOV20 and 3HVC*AOV21 may be operated in any sequence but NOT until after 3HVC-FN6 operations are completed.

PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

STEP 3 **Performance Step:** VERIFY the following closed (VP1):

1. "OUTSIDE AIR ISOL"

- 3HVC*AOV25
- 3HVC*AOV26

(step 4.11.2.b.1)

GRADE **Standards:** Presses the "CLOSE" pushbutton for 3HVC*AOV25 and observes the indicating lights shift to green ON, red OFF.

GRADE **Standards:** Presses the "CLOSE" pushbutton for 3HVC*AOV26 and observes the indicating lights shift to green ON, red OFF.

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

Comments: This step, and the following step, of this JPM is totally contained within step 4.11.2.b of OP 3314F. It is divided into 2 steps for this JPM due to critical task requirements.

3HVC*AOV25 and 3HVC*AOV26 may be operated in any sequence BUT operation of these dampers must be completed prior to operation of 3HVC*AOV27A and 3HVC*AOV27B in the following step.

PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

STEP 4 X **Performance Step:** VERIFY the following closed (VP1):

1. "NORM SPLY DMPR"

- 3HVC*AOV27A
- 3HVC*AOV27B

(step 4.11.2.b.2)

GRADE X **Standards:** Presses the "CLOSE" pushbutton for 3HVC*AOV27A and observes the indicating lights shift to green ON, red OFF.

GRADE X **Standards:** Presses the "CLOSE" pushbutton for 3HVC*AOV27B and observes the indicating lights shift to green ON, red OFF.

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

Comments: This step, and the previous step, of this JPM is totally contained within step 4.11.2.b of OP 3314F. It is divided into 2 steps for this JPM due to critical task requirements.

3HVC*AOV27A and 3HVC*AOV27B may be operated in any sequence BUT only after 3HVC*AOV25 and 3HVC*AOV26 operations are completed.

PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

STEP	<u>5</u>	<u>X</u>	Performance Step:	PLACE 3HVC*AOD119B, "RECIRC DMPR" in "EMERGENCY" (VP1)
GRADE	<u> </u>	<u>X</u>	Standards:	Presses the "EMERGENCY" pushbutton for 3HVC*AOD119B until 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:	PLACE 3HVC*FN1B, "FILTER UNIT FAN/DMPRS" to "AUTO" and OBSERVE the following (VP1): <ol style="list-style-type: none"> 1. 3HVC*MOD33B, filter inlet, opens. 2. 3HVC*FN1B, "FILTER UNIT FAN/DMPRS," starts. 3. 3HVC*FLT1B, " FILTER BANK HTR," on. 4. VP1A 4-1 "CONTROL BUILDING EMERGENCY VENT FAN SYSTEM A TROUBLE," lit. (step 4.11.2.d)
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GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the control switch for 3HVC*FN1B to "AUTO" and observes the following: <ol style="list-style-type: none"> 1. Indicating lights for 3HVC*MOD33B shift to green OFF, red ON.
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PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

2. Indicating lights for 3HVC*FN1B shift to green Off, red On.
3. Indicating lights for 3HVC*FLT1B shift to green OFF, red ON.
4. Annunciator VP1A 4-1, CONTROL BUILDING EMERGENCY VENT FAN SYSTEM A TROUBLE" enunciates.

Grade: SAT _____ UNSAT _____

Comments: During the performance of this step, annunciator VP1A 4-1, "CONTROL BUILDING EMERGENCY VENT FAN SYSTEM A TROUBLE" will enunciate. The examinee should acknowledge the annunciator BUT is not required to be performed to satisfy the critical nature of this step.

PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

STEP 7 X **Performance Step:** PLACE 3HVC*FN1B, "FILTER UNIT FAN/DMPRS" to "ON", and VERIFY the following:

1. 3HVC*FN1B, FILTER UNIT FAN/DMPRS," continue to operate.
2. VP1A 4-1, "CONTROL BUILDING EMERGENCY VENT FAN SYSTEM A TROUBLE," not lit.

(step 4.11.2.e)

GRADE _____ X **Standards:** Rotates the control switch for 3HVC*FN1B to "ON" and verifies the following:

1. 3HVC*FN1B remains in operation.
2. Annunciator VP1A, 4-1, "CONTROL BUILDING EMERGENCY VENT FAN SYSTEM A TROUBLE" clears.

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

Comments: During the performance of this step, annunciator VP1A 4-1, "CONTROL BUILDING EMERGENCY VENT FAN SYSTEM A TROUBLE" will clear. The examinee should reset the annunciator BUT is not required to be performed to satisfy the critical nature of this step.

PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

STEP 8 X **Performance Step:** WHEN approximately one minute has elapsed, PLACE 3HVC*FN1A, "FILTER UNIT FAN/DMPRS", in "AUTO" (VP1)

(step 4.11.2.f)

GRADE _____ X **Standards:** AFTER approximately one minute has elapsed, rotates the control switch for 3HVC*FN1A to AUTO.

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

PERFORMANCE INFORMATION

JPM Number: 032

Revision: 5, Chg. 1

Task Title: SUBSEQUENT ACTIONS IN RESPONSE TO CONTROL ROOM
RADIATION MONITOR 3HVC-RE91 ALARM

STEP 9 _____

Performance Step: Notify US that the control room ventilation is in the full recirculation filtered air mode.

GRADE _____

Standards: Informs the US that the "B" Train of control room ventilation is in the full recirculation filtered air mode.

Grade: SAT _____ UNSAT _____

Cue: The evaluation for this JPM is concluded.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: 032

Revision: 5, 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): 8

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: 032

Initial Conditions: While operating at 100% power, "Radiation Alert" and "RAD Hi" annunciators were received. The control room team has determined that 3 HVC-RE91 is in alarm.

Initiating Cues: In carrying out the responses of AOP 3573, Radiation Monitor Alarm Response, the US has directed you to place Control Room ventilation in full recirculated filtered air using the "B" Control Building Filter in accordance with OP 3314F, "Control Building Heating, Ventilation, Air Conditioning, and Chill Water", Section 4.11.2.

JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

JPM ID Number: 050(A)

From JPM Exam Bank

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

II. Initiated:

A. Oxforth
Developer

3/11/97
Date

Steve Jackson
Verified Current

11/16/01
Date

III. Reviewed:

Martin
Technical Reviewer

11/19/01
Date

IV. Approved:

L. Palone *mfw* 11/20/01
Cognizant Plant Supervisor (optional)

D.A. Lazarony *mfw* 11/20/01
Nuclear Training Supervisor

3/27/97 *mfw* 11/20/01
Date

3/27/97 *mfw* 11/20/01
Date

JOB PERFORMANCE MEASURE APPROVAL SHEET

SUMMARY OF CHANGES

AI # 2001-1235	Update Title page EOP 35, ES-0.1 to Rev. 18	

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: 050(A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

System: SO1

Time Critical Task: () YES (X) NO

Validated Time (minutes): 5

Alternate Path: YES

Task Number(s): 000*013*05*01, 000*065*05*02, 010*005*01*01, 010*013*04*01

Applicable To: SRO _____ RO _____ PEO _____

K/A Number: 000-027-EA1.01

K/A Rating: 4.0 / 3.9

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

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

Task Standards: Satisfactorily complete EOP actions to control pressurizer pressure using EOP 35 ES-0.1.

Required Materials: None.

General References: EOP 35, ES-0.1, Rev. 1847

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: 050(A)

Revision: 5, Chg. 2

Simulator Requirements:

1. Reset to IC-20, 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 to 10% open. Trip the TDFW pumps to minimize feedwater oscillations.
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"

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".
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.

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

JOB PERFORMANCE MEASURE GUIDE (Continued)

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 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: 050(A)

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 _____

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

GRADE _____

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: 050(A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

STEP 3 _____

Performance Step: Check PZR status: Check PZR pressure - LESS THAN 2250 psia. Then proceed to step 5.d.

GRADE _____

Standards: Monitors pressure and observes that pressure is less than 2250 psia.

Grade: SAT _____ UNSAT _____

STEP 4 _____

Performance Step: Verify PZR PORVs - CLOSED. (step 5.d)

GRADE _____

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 _____ UNSAT _____

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 5 _____

Performance Step: Verify PZR spray valves - CLOSED. (Step 5.e)

GRADE _____

Standards: Identifies that loop #1 PZR spray valve, RCS*PCV455B is OPEN.

PERFORMANCE INFORMATION

JPM Number: 050(A)

Revision: 5, Chg. 2

Task Title: PRESSURIZER PRESSURE CONTROL FOLLOWING REACTOR TRIP

			Grade:	SAT _____	UNSAT _____
STEP	<u>6</u>	<u>X</u>	Performance Step:	<div style="border: 1px solid black; padding: 5px;"> Proceed to RNO column CLOSE the spray valves. (Step 5.e RNO) </div>	
			Alternate Path:		
GRADE	_____	<u>X</u>	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: 050(A)

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: 050(A)

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: 050(A)

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): 4

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: 050(A)

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.

JOB PERFORMANCE MEASURE APPROVAL SHEET

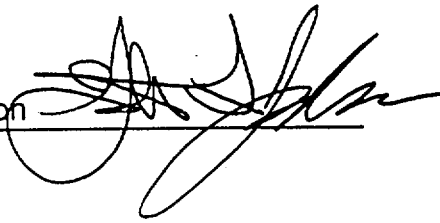
I. JPM Title: VENT UNISOLATED SI ACCUMULATORS

JPM ID Number: NRC-S.01

Revision: 0

II. Initiated:

Steve Jackson
Developer



09/12/01
Date

III. Reviewed:

Ray Martin
Technical Reviewer



11-19-01
Date

IV. Approved:

Cognizant Plant Supervisor (optional)

Date

Nuclear Training Supervisor



11/20/01
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: NRC-S.01

Revision: 0

Task Title: VENT UNISOLATED SI ACCUMULATORS

System: ECC

Time Critical Task: () YES (X) NO

Validated Time (minutes): 10

Alternate Path: YES

Task Number(s): 006*01*57

Applicable To: SRO X RO X PEO _____

K/A Number: 006-A1-13

K/A Rating: 3.5 / 3.7

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

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

Task Standards: Vent Any Unisolated SI Accumulators IAW ES-1.2, Post LOCA
Cooldown and Depressurization, Step 22

Required Materials: ES-1.2, Post LOCA Cooldown and Depressurization, Step 22,
Rev.12

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: NRC-S.01

Revision: 0

Simulator Requirements:

1. Reset to IC-18, 100% power, MOL. Insert MALF RC03A, Severity 0.3 and run until unit reaches conditions at step 22 of ES-0.1.
2. Insert I/O (SI) 3SIL*MV8808B, CLOSE - FALSE to prevent the "B" Accumulator outlet isolation valve from closing.
3. Remove the malfunction, acknowledge the annunciator and place the simulator in "FREEZE".
4. After the examinee has received the initial conditions and initiating cues, place the simulator in "RUN".

Approximate simulator setup time is 3-5 minutes.

Initial Conditions:

The plant has experienced a Loss of Coolant Accident. The control room crew has responded by using the Emergency Operating Procedures and has just completed step 21 of ES-1.2, Post LOCA Cooldown and Depressurization. Shutdown Margin has been verified adequate and ECCS has been verified NOT required.

Initiating Cues:

The US has directed you to complete step 22 of ES-1.2, Post LOCA Cooldown and Depressurization.

**** 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: NRC-S.01

Revision: 0

Task Title: VENT UNISOLATED SI ACCUMULATORS

Start Time: _____

STEP 1 _____

Performance Step: CHECK RCS subcooling based on CETCs greater than 32° F.

GRADE _____

Standards: Candidate checks that RCS subcooling based on CETCs greater than 32° F using PPC, Real -Time MMI, or MB indications.

Cue: RCS subcooling based on CETCs greater than 32° F.

Grade: SAT _____ UNSAT _____

STEP 2 _____

Performance Step: VERIFY PZR level Greater than - 16%

GRADE _____

Standards: Candidate verifies PZR level - Greater than - 16% at MB4 or with PPC.

Grade: SAT _____ UNSAT _____

STEP 3 _____

Performance Step: Locally Unlock and Place the SI accumulator isolation valve breakers to ON.

- 32-2R-F4M
- 32-2R-R5F
- 32-2W-F4M
- 32-2W-R3J

Comment: Use the following REMOTES:
SIR 15, SIR 16, SIR 17, SIR 18

GRADE _____ X

Standards: Candidate simulates contacting PEO to Locally Unlock and Place the SI accumulator isolation valve breakers to ON

Cue: Simulator instructor energize the valves and report local actions.

Grade: SAT _____ UNSAT _____

PERFORMANCE INFORMATION

JPM Number: NRC-S.01

Revision: 0

Task Title: VENT UNISOLATED SI ACCUMULATORS

STEP	<u>4</u>	<u> </u>	Performance Step:	CONFIRM power supplied to SI accumulator isolation valves.
GRADE	<u> </u>	<u> </u>	Standards:	OBSERVE "power on" white lights for SI Accumulator Isolation valves illuminate at MB2 RECEIVE report: PEO has Locally Unlocked and Placed the SI accumulator isolation valve breakers to ON
			Grade:	SAT <u> </u> UNSAT <u> </u>
STEP	<u>5</u>	<u>X</u>	Performance Step:	CLOSE all SI accumulator isolation valves
GRADE	<u> </u>	<u> </u>	Standards:	Candidate turns the control switch for 3SIH*MV8808A to the close position and observes that the indicating lights for 3SIH*MV8808A are green ON, red OFF. The valve is CLOSED.
GRADE	<u> </u>	<u> </u>	Standards:	Candidate turns the control switch for 3SIH*MV8808C to the close position and observes that the indicating lights for 3SIH*MV8808C are green ON, red OFF. The valve is CLOSED
GRADE	<u> </u>	<u>X</u>	Standards:	Candidate turns the control switch for <u>3SIH*MV8808B</u> to the close position and observes that the indicating lights for <u>3SIH*MV8808B</u> are green OFF , red ON . The valve position does not change. The valve is still OPEN
GRADE	<u> </u>	<u> </u>	Standards:	Candidate turns the control switch for 3SIH*MV8808D to the close position and observes that the indicating lights for 3SIH*MV8808D are green ON, red OFF. The valve is CLOSED
			Grade:	SAT <u> </u> UNSAT <u> </u>

PERFORMANCE INFORMATION

JPM Number: NRC-S.01

Revision: 0

Task Title: VENT UNISOLATED SI ACCUMULATORS

STEP 6 X

Performance Step:

Vent any unisolated accumulators
Verify SI accumulator nitrogen supply
valves (3SIL*CV8880 and
3SIL*CV8968) closed on MB2

Alternate Path

GRADE X

Standards:

Candidate observes SI accumulator
nitrogen supply valves (3SIL*CV8880
and 3SIL*CV8968) closed on MB2.
Green CLOSED indicating lights are
ON and red OPEN indicating lights are
OFF.

Grade:

SAT

UNSAT

STEP 7 X

Performance Step:

OPEN 3SIL*SV8875B OR
3SIL*SV8875F

GRADE X

Standards:

Candidate pushes the controller for
EITHER 3SIL*SV8875B OR
3SIL*SV8875F to the open position
and observes that the indicating lights
are green OFF, red ON. The valve is
OPEN.

Grade:

SAT

UNSAT

STEP 8 X

Performance Step:

OPEN one SI accumulator vent control
valve (3SIL*HC943A OR
3SIL*HC943B).

GRADE X

Standards:

Candidate operates **EITHER**
3SIL*HC943A OR 3SIL*HC943B to
the open position and observes that
the up arrow light is on. The valve
position is >0%.
Candidate observes pressure in
accumulator decreasing on SIL-PI962
or 963.

GRADE X

Standards:

Candidate observes pressure in
accumulator decreasing on SIL-PI962
or 963.

PERFORMANCE INFORMATION

JPM Number: NRC-S.01

Revision: 0

Task Title: VENT UNISOLATED SI ACCUMULATORS

GRADE X **Standards:** Candidate observes ANN MB2A, 4-7B, SI ACC B PRESSURE LO

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

STEP 9 **Performance Step:** Locally Place the SI accumulator isolation valve breakers to OFF and Lock.

- 32-2R-F4M
- 32-2R-R5F
- 32-2W-F4M
- 32-2W-R3J

Comment: Use the following REMOTES:
SIR 15
SIR 16
SIR 17
SIR 18

GRADE X **Standards:** Candidate simulates contacting PEO to Locally Unlock and Place the SI accumulator isolation valve breakers to OFF and Lock

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

STEP 10 **Performance Step:** CONFIRM power removed from SI accumulator isolation valves.

GRADE **Standards:** OBSERVE "power on" white lights for SI Accumulator Isolation valves extinguished at MB2
RECEIVE report from PEO that they have Placed the SI accumulator isolation valve breakers to OFF and have Locally Locked the breakers.

Cue: Simulator instructor de-energize the valves and report local actions.

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

PERFORMANCE INFORMATION

JPM Number: NRC-S.01

Revision: 0

Task Title: VENT UNISOLATED SI ACCUMULATORS

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: NRC-S.01

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): 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:

NRC-S.01

Initial Conditions:

The plant has experienced a Loss of Coolant Accident. The control room crew has responded by using the Emergency Operating Procedures and has just completed step 21 of ES-1.2, Post LOCA Cooldown and Depressurization. Shutdown Margin has been verified adequate and ECCS has been verified NOT required.

Initiating Cues:

The US has directed you to complete step 22 of ES-1.2, Post LOCA Cooldown and Depressurization.

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: LOCAL ISOLATION OF FAULTED STEAM GENERATOR
(Main Steam Valve and Auxiliary Buildings)

JPM ID Number: 080 From JPM Exam Bank

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

II. Initiated:

A. Oxfurth
Developer

10/19/99
Date

Steve Jackson
Verified Current

11/16/01
Date

III. Reviewed:

Martin
Technical Reviewer

11/19/01
Date

IV. Approved:

Cognizant Plant Supervisor (optional)

Date

M. J. Hill
Nuclear Training Supervisor

11/20/01
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

Student: _____

JPM ID Number: 080

Revision: 2, Chg. 1

Task Title: LOCAL ISOLATION OF FAULTED STEAM GENERATOR
(Main Steam Valve and Auxiliary Buildings)

System: E20

Time Critical Task: () YES (X) NO

Validated Time (minutes): 15

Task Number(s): 000*022*05*01

Applicable To: SRO _____ RO _____ PEO _____

K/A Number: 000-040-EA1.03 K/A Rating: 4.3 / 4.3

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

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

Task Standards: Satisfactorily complete the local isolation of a faulted steam generator in the Main Steam Valve and Auxiliary Buildings IAW Attachment A to EOP E-2.

Required Materials: Locked Valve Key.

General References: EOP E-2 Attachment A, Rev. 8, Related JPM: 079

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

JOB PERFORMANCE MEASURE GUIDE (Continued)

JPM Number: 080

Revision: 2, Chg. 1

Initial Conditions:

The plant has tripped and safety injection initiated due to a fault on the "A" steam generator inside containment. The control room team is carrying out the actions of EOP 35 E-2. The faulted S/G cannot be completely isolated from the control room. The outside rounds PEO is performing the required isolation in the Control and ESF Bldgs.

Initiating Cues:

The US has directed you to use Attachment A to EOP E-2 to locally isolate the faulted "A" steam generator in the main steam valve and auxiliary buildings. You have a Locked Valve Key.

****** 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: 080

Revision: 2, Chg. 1

Task Title: LOCAL ISOLATION OF FAULTED STEAM GENERATOR
(Main Steam Valve and Auxiliary Buildings)

Start Time: _____

Comments: JPM steps 1 - 7 can be performed in any order.

STEP 1 X

Performance Step: Close feed line isolation valve (3FWS*MOV35A)

GRADE _____ X

Standards: Locates valve 3FWS*MOV35A (Main Steam Valve Bldg. El. 45', handwheel on 53' level) and positions the disengage lever to the disengage position.

Cue: The lever is in the disengage position.

GRADE _____ X

Standards: Rotates the valve handwheel in the clockwise direction to close the valve.

Cue: The valve handwheel rotates and the stem position indicator goes down. Eventually some resistance is met and the valve comes to a hard stop.

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

STEP 2 X

Performance Step: Close feed bypass line isolation (3FWS*V17).

GRADE _____ X

Standards: Locates valve 3FWS*V17 (Main Steam Valve Bldg. El. 45', handwheel on 53' level) and rotates handwheel in clockwise direction to fully close the valve.

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

Cue: Valve handwheel rotates. Eventually

PERFORMANCE INFORMATION

JPM Number: 080

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(Main Steam Valve and Auxiliary Buildings)

some resistance is met and the valve comes to a hard stop.

Comments:

The examinee may recognize that for the next step gloves are required to operate the valve. Simulate that gloves have been provided.

STEP 3 X

Performance Step: Close blowdown line isolation valve (3BDG-V939).

GRADE X

Standards: Locates valve 3BDG-V939 (Main Steam Valve Bldg. El. 55', West Platform) and rotates the handwheel in clockwise direction to fully close the valve.

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

Cue: Valve handwheel rotates. Eventually some resistant is met and the valve comes to a hard stop.

STEP 4 X

Performance Step: Close main steam line drain isolation valve (3DTM-V982).

GRADE X

Standards: Located valve 3DTM-V982 (Main Steam Valve Bldg. El. 55', East Platform) and rotates handwheel in clockwise direction to fully close the valve.

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

Cue: Valve handwheel rotates and the handwheel lowers. Eventually some

PERFORMANCE INFORMATION

JPM Number: 080

Revision: 2, Chg. 1

Task Title: LOCAL ISOLATION OF FAULTED STEAM GENERATOR
(Main Steam Valve and Auxiliary Buildings)

resistance is met and the valve comes to hard stop.

STEP 5 X

Performance Step: Close main steam line drain isolation valve (3DTM-V81).

GRADE X

Standards: Locates valve 3DTM-V81 (Main Steam Valve Bldg. El. 55', East Platform) inserts key, unlocks and removes the locking device.

Cue: The locking device is removed.

GRADE X

Standards: Rotates the valve handwheel in a clockwise direction to fully close the valve.

Grade: SAT UNSAT

Cue: Valve handwheel rotates and valve stem lowers. Eventually some resistance is met and the valve comes to a hard stop.

STEP 6 X

Performance Step: Closes atmospheric steam dump line isolation valve (3MSS*MOV18A).

GRADE X

Standards: Locates valve 3MSS*MOV18A (Main Steam Valve Bldg. El. 66') and positions the disengage lever to the disengage position.

Cue: Lever is the disengage position.

GRADE X

Standards: Rotates the valve handwheel in the clockwise direction to close the valve.

PERFORMANCE INFORMATION

JPM Number: 080

Revision: 2, Chg. 1

Task Title: LOCAL ISOLATION OF FAULTED STEAM GENERATOR
(Main Steam Valve and Auxiliary Buildings)

Grade: SAT _____ UNSAT _____

Cue: The valve handwheel rotates and the stem position indicator lowers. Eventually some resistance is met and the valve comes to a hard stop.

Comments: The valve in the next JPM step may be located in a controlled, potentially contaminated area. The examiner has the option of simulating entry or going through the required RWP entries and appropriate dress out.

STEP 7 X

Performance Step: Closes blowdown sample line isolation valve (3SSR*V702).

GRADE _____ X

Standards: Locates valve 3SSR-V702 (Auxiliary Bldg. Penetration area) and rotates the handwheel in the fully clockwise direction to close the valve.

Grade: SAT _____ UNSAT _____

Cue: The valve handwheel rotates. Eventually some resistance is met and the valve comes to a hard stop.

STEP 8 _____

Performance Step: Notify control room that the actions required to isolate a faulted steam generator in the main steam valve and auxiliary buildings IAW Attachment A to EOP E-2 have been completed.

GRADE _____ _____

Standards: Examinee reports to the US that he has isolated the A S/G in the main steam valve and auxiliary buildings

PERFORMANCE INFORMATION

JPM Number: 080

Revision: 2, Chg. 1

Task Title: LOCAL ISOLATION OF FAULTED STEAM GENERATOR
(Main Steam Valve and Auxiliary Buildings)

IAW Attachment A to EOP E-2.

Grade: SAT _____ UNSAT _____

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: 080

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:

080

Initial Conditions:

The plant has tripped and safety injection initiated due to a fault on the "A" steam generator inside containment. The control room team is carrying out the actions of EOP 35 E-2. The faulted S/G cannot be completely isolated from the control room. The outside rounds PEO is performing the required isolation in the Control and ESF Bldgs.

Initiating Cues:

The US has directed you to use Attachment A of EOP E-2 to locally isolate the faulted "A" steam generator in the main steam valve and auxiliary buildings. You have a locked valve key.

JOB PERFORMANCE MEASURE WORKSHEET

I. JPM Title: START THE SBO DIESEL

ID Number: JPM 104

From JPM Exam Bank

Revision: 2

II. Initiated:

R. L. Lueneburg
Developer

2/3/97
Date

Steve Jackson
Verified Current

11/16/01
Date

I. Reviewed:

R Martin
Technical Reviewer

11/19/01
Date

Instructional Reviewer

Date

II. Approved:

Operations Manager

Date

mykhel
Nuclear Training Supervisor

11/20/01
Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: Millstone Unit 3

Examinee: _____

JPM Tracking Number: 104

Validation Time: 10 minutes

Task Title: START THE SBO DIESEL

Time Critical Task: () YES (X) NO

Task Number: 000*027*05*01

K/A Number: 000-055-EK3.02

K/A Rating: 4.3 / 4.6

Applicable Methods of Testing:

Simulate Performance X

Actual Performance _____

Classroom _____

Simulator _____

Plant X

Task Standards:

Satisfactorily start the SBO Diesel using EOP 35 ECA 0.0, Loss of All AC Power, Attachment G.

Required Materials:

PEO Rounds Key (Open SBO Enclosure Doors) this door is usually not locked.

General References:

EOP 35 ECA 0.0, Loss of All AC Power, Attachment G, Rev. 15 |

READ TO THE EXAMINEE

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 materials normally available in the Control Room, including logs. Make all written reports, oral reports and log entries as if the evolution was actually being performed.

Initial Conditions:

A total loss of all AC power has occurred which resulted in a plant trip. The Control Room team is progressing through the EOP's and has dispatched Operators to attempt to locally start the EDGs.

Initiating Cues:

The US has directed you to start the SBO diesel using Attachment G from EOP 35 ECA 0.0.

JOB PERFORMANCE MEASURE WORKSHEET

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

Start Time: _____

STEP 1 _____

Performance Step: Check annunciator LOSS OF DC CONTROL POWER (SBO5-3) - NOT LIT.

GRADE _____

Standards: Observes that annunciator SBO5-3 is not lit.

Cue: Annunciator 5-3 is not lit.

Comments: The annunciator panel is not numbered but the sequence is the same as the main boards in the Control Room.

STEP 2 _____

Performance Step: Check enunciator ENGINE OVERSPEED (SBO1-5) - NOT LIT.

GRADE _____

Standards: Observes that annunciator SB01-5 is not lit.

Cue: Annunciator 1-5 is not lit.

Comments: JPM Steps 3 and 4 may be performed in any order.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP 3 _____

Performance Step: At the SBO alarm panel, RESET the primary lockout (86P relay).

GRADE _____

Standards: Observes position of lockout switch and flag indication.

Cue: The primary lockout relay flag is black and the switch is in the 12 o'clock position.

Comments: The primary lockout relay was reset already.

STEP 4 _____

Performance Step: At the SBO alarm panel, RESET the backup lockout (86B relay)

GRADE _____

Standards: Observes position of lockout switch and flag indication.

Cue: The backup lockout relay flag is black and the switch is in the 12 o'clock position.

Comments: The backup lockout relay was reset already.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

Comments: JPM step 5-9 may be performed in any order.

STEP 5 _____

Performance Step: At the SBO D/G control panel (section 1), perform the following:

Verify the LOCAL REMOTE SW in LOCAL.

GRADE _____

Standards: Observes that the rotary switch on section 1 of the SBO control panel is in the "LOCAL" position.

Cue: Switch handle is aligned to the "local" position.

Comments: There is no remote function, so the switch should always be in "LOCAL"!

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP	<u>6</u>	<u>X</u>	Performance Step:	Place the START MODE switch in EMERG.
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GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the start mode switch on Section 1 of the SBO diesel control panel to the right. Aligns the handle with the "EMERG" position.
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Cue:	The switch handle is aligned with the "EMERG" position and annunciator 4-1 "START MODE SWITCH IN EMERGENCY", alarms
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Comments:	The examinee should silence and acknowledge the alarm. This is not required to complete the critical nature of this step.
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STEP	<u>7</u>	<u>X</u>	Performance Step:	Place the UNIT/PARALLEL switch in UNIT.
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GRADE	<u> </u>	<u>X</u>	Standards:	Rotates the UNIT/PARALLEL switch to the "UNIT" position.
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Cue:	The switch is aligned to the "UNIT" position.
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PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP 8 _____ Performance Step: Verify the ENG SPEED SEL switch in NORMAL.

GRADE _____ Standards: Observes that the switch is aligned to the "normal" position.

STEP 9 _____ Performance Step: Verify the GOVERNOR SELECTOR switch in ELEC.

GRADE _____ Standards: Observes that the GOVERNOR SELECTOR switch is aligned to the "ELEC" position.

Cue: The selector switch is aligned to the "ELEC" position.

Comments: JPM steps 10 and 11 can be performed in any order.

STEP 10 _____ Performance Step: At the SBO D/G control panel (section 2), verify the VOLTAGE REGULATOR in AUTO.

GRADE _____ Standards: On section 2 of the SBO diesel control panel observes that the voltage regulator switch is in the "AUTO" position.

Cue: The voltage regulator selector switch is aligned to the "AUTO" position.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP	<u>11</u>	<u> </u>	Performance Step:	Verify HYDR GOVERNOR CONTROL SELECTOR switch in AUTO.
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GRADE	<u> </u>	<u> </u>	Standards:	Observes that the "HYDR GOVERNOR CONTROL SELECTOR SWITCH" is aligned to the "AUTO" position.
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STEP	<u>12</u>	<u>X</u>	Performance Step:	At the SBO engine panel (SW end), place the MAINTENANCE NORMAL SWITCH in NORMAL.
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GRADE	<u> </u>	<u>X</u>	Standards:	Locates the engine panel at the engine end and rotates the maintenance normal switch to the "NORMAL" position.
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Cue:	The maintenance normal switch is aligned to the "NORMAL" position.
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PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP	<u>13</u>	<u>X</u>	Performance Step:	At the SBO D/G control panel (section1), place the GENERATOR SW in START.
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GRADE	_____	<u>X</u>	Standards:	On section 1 of the SBO diesel control panel rotates the generator switch to the "START" position and then releases the switch back to the mid-position.
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Cue:	You hear engine noise from vicinity of SBO diesel. The digital tachometer reading increases to 450 rpm and remains there for 2 1/2 minutes.
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STEP	<u>14</u>	_____	Performance Step:	Check SBO engine speed - AT 900 rpm.
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GRADE	_____	_____	Standards:	Checks that the tachometer meter increases to 900 rpm (after 2 1/2 minutes).
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Cue:	The digital tachometer reads 900 rpm (The "Digital Power Monitor" shows some indications and DC field volts and amps meters show indications. Generator frequency and voltage are indicated and the "Ready to Load" light comes on. Provide these indications if the examinee asks.)
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Comments:	The SBO diesel generator automatically excites at 900 rpm.
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PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP 15 _____ **Performance Step:** At the SBO D/G control panel (section 1), perform the following:

Using the VOLTAGE control switch, adjust generator voltage - BETWEEN 3950 and 4350 volts.

GRADE _____ _____ **Standards:** Observes the generator voltmeter reading.

Cue: Generator voltmeter reads 4200 volts.

STEP 16 _____ **Performance Step:** At the SBO D/G control panel (section 1), perform the following:

Using the GOVERNOR control switch, adjust generator frequency - BETWEEN 59.9 and 60.1 Hz.

GRADE _____ _____ **Standards:** Observes the generator frequency reading.

Cue: Generator frequency in 60Hz.

PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP	<u>17</u>	<u>X</u>	Performance Step:	Report to the US that the SBO diesel is running and that the diesel output breaker can be closed.
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GRADE	<u> </u>	<u>X</u>	Standards:	Inform the US that the SBO diesel is running and that the diesel output breaker can be closed.
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Cue:	As the US, inform the examinee to close the SBO diesel generator output breaker.
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Comments:	The step is considered critical because the examinee must obtain permission from the SM/US prior to closing the breaker. Only the Control Room will know if the electrical lineups to support putting the diesel on the bus have been completed.
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PERFORMANCE INFORMATION

Facility: Millstone Unit 3

System: A00

JPM Number: 104

Task Title: START THE SBO DIESEL

Denote Critical Steps with an "X"

NOTE Critical Steps must be completed correctly to achieve a satisfactory grade

STEP 18 X Performance Step: CLOSE the SBO diesel generator output breaker.

GRADE X Standards: Rotates the SBO diesel generator output breaker control switch to the "CLOSE" position.

Cue: The breaker control switch is aligned to the "CLOSE" position. You hear a load clunk from the panel beneath the control switch and the indicating lights above the control switch shift to green "OFF", red "ON". (Lights in room come on.)

STEP 19 Performance Step: Report to the US that the SBO diesel output breaker is closed.

GRADE Standards: Informs the US that the SBO diesel output breaker is closed.

Terminating Cue: The evaluation for this JPM is concluded.

Stop Time:

VERIFICATION OF COMPLETION

Job Performance Measure Number: 104

Revision: 2

Date Performed: _____

Examinee: _____

Evaluator: _____

Validated Time (min): 10

Actual time to Complete (min): _____

Result of JPM: _____

(Denote by an S for satisfactory or a U for unsatisfactory)

Result of oral questions:

Number of Questions: _____

Number of Correct Responses: _____

Score _____ %

EXAMINEE HANDOUT

INITIAL CONDITIONS AND INITIATING CUES

JPM Tracking Number: 104

Initial Conditions: A total loss of all AC power has occurred which resulted in a plant trip. The Control Room team is progressing through the EOP's and has dispatched Operators to attempt to locally start the EDGs.

Initiating Cues: The US has directed you to start the SBO diesel using Attachment G from EOP 35 ECA 0.0, Loss of All AC Power