Facility: Millstone Unit 3	Date of Examination: January 7-10, 2002
Exam Level (circle one): RO / SRO(I)	Operating Test No.: **B-1**

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:

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-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.

			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.

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 — 10/6/99
Developer — Date

Steve Jackson — 11/16/01
Verified Current — Date

III. Reviewed:

Martin — 11/19/01
Technical Reviewer — 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.

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**	
	**May not closed due to CTMT sump pump operation. 3DAS -CTV25 WILL close and provide minimum safety function.*		
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
	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
	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 — 3/10/97
Developer — Date

Steve Jackson — 11/16/01
Verified Current — Date

III. Reviewed:

Martin — 11/19/01
Technical Reviewer — 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.

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.

****** 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** _____

STEP	4	X	**Performance Step:**	RESET FWI at MB2.
GRADE		X	**Standards:**	Depresses both train A and train B FWI "reset" pushbuttons.
			Grade:	**SAT** _____ **UNSAT** _____
STEP	5	X	**Performance Step:**	RESET FWI at MB5.
GRADE		X	**Standards:**	Depresses the "FW Isol Reset" "Startup" pushbutton and observes that the white indicating light comes ON.
			Grade:	**SAT** _____ **UNSAT** _____
			Comments:	The valves operated in JPM step 6 may be operated in any order.
STEP	6	X	**Performance Step:**	Adjust SG feed regulating and SG feed regulating bypass valve controllers to zero output.
GRADE			**Standards:**	Observes that the SG feed regulating bypass valve controllers are in manual with zero output indicated.
GRADE		X	**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

JPM Number: 123 Revision: 1, Chg. 1

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

				FRV shifts from dual indication to green ON.
GRADE	____	X	**Standards:**	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.

			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	7	X	**Performance Step:**	RESET the FW isolation trip valves, THEN OPEN the valves.
GRADE		X	**Standards:**	Rotates the "reset" control switch for valve 3FWS*CTV41A to the "reset" position.
GRADE		X	**Standards:**	Rotates the "reset" control switch for valve 3FWS*CTV41B to the "reset" position.
GRADE		X	**Standards:**	Rotates the "reset" control switch for valve 3FWS*CTV41C to the "reset" position.
GRADE		X	**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		X	**Standards:**	Depresses the "open/auto" pushbutton for FWS*CTV41A and observes that the indicating lights shift to green OFF, red ON.
GRADE		X	**Standards:**	Depresses the "open/auto" pushbutton for FWS*CTV41B and observes that the indicating lights shift to green OFF,

				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

in. the examinee should acknowledge this alarm. However, this is not required to complete the critical nature of the step.

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	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 Revision: 1, Chg. 1

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.

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

				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

JPM Number: 123 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 Martin
Technical Reviewer — 11/19/01 6/13/97 Date

R. Carr
Instructional Reviewer — 6/13/97 Date

II. Approved:

Operations Manager — Date

Nuclear Training Supervisor — 11/20/01 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 stabalize 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	8		**Performance Step:**	Verify SHUTDOWN MARGIN - ADEQUATE
GRADE			**Standards:**	Checks the shutdown margin calculation and determines that adequate shutdown margin exists.
STEP	9		**Performance Step:**	Verify reactor power - GREATER THAN 50%.
GRADE			**Standards:**	Checks the power range meters on MB4 and determines that reactor power is greater than 50%.
STEP	10		**Performance Step:**	Determine QPTR as follows: • 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	13	X	**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)
GRADE	____	X	**Standards:**	The rod control disconnect switch box is unlocked. Opens the switch box.
			Cue:	If the examinee asks for the key to the box inform him that the box is already unlocked.
STEP	14	X	**Performance Step:**	Place each rod disconnect switch for the affected bank, *except the misaligned rod*, to the ROD DISCONNECTED position.
GRADE	____	X	**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.
STEP	15	X	**Performance Step:**	Place control bank SEL switch to affected bank position.
GRADE	____	X	**Standards:**	Places the control bank SEL switch to the CBD position.
STEP	16	____	**Performance Step:**	Check misaligned rod higher than associated bank using DRPI display.
GRADE	____	____	**Standards:**	Checks the DRPI display and verifies that rod D4 is higher than the remaining rods in control bank D.

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	17	X	**Performance Step:**	Insert misaligned rod until next lower position DRPI LED just changes state.
GRADE		X	**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.
			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.
STEP	18	X	**Performance Step:**	Reset affected group step counter to a value of 2 steps higher than affected rod's indicated DRPI position.
GRADE		X	**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 than 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	25	X	**Performance Step:**	Place control bank SEL switch in Man
GRADE	____	X	**Standards:**	Rotates the control bank SEL switch to the MAN position.
STEP	26	____	**Performance Step:**	Notify the US that the misaligned rod has been realigned with the rest of the rods in control bank D.
GRADE	____	____	**Standards:**	Informs 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.**

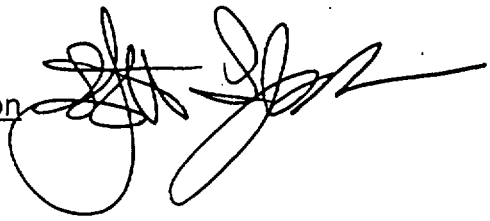
JOB PERFORMANCE MEASURE WORKSHEET

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

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.

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 ≤ 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 necesary 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	13	____	**Performance Step:**	IF train A SI and QSS pumps not running, STOP 3HVQ*ACU1A, and PLACE in "AUTO" (VP1).
GRADE	____	____	**Standards:**	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.
			Grade:	**SAT** _____ **UNSAT** _____
	____	____		
STEP	14	____	**Performance Step:**	IF AFW Pumps are not running: • STOP "3HVQ*FN5A/6A" (VP1). • Wait 90 seconds and VERIFY "3HVQ*FN5B/6B" running.
GRADE	____	____	**Standards:**	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
			Grade:	**SAT** _____ **UNSAT** _____
			Comments:	Since the "B" train RHR pump is running, the examinee may match flags for 3HVQ*ACU1B and 3HVQ*FN5B/6B.
STEP	15	____	**Performance Step:**	Notify the US that the RHR system has been shifted from Loop A to Loop B.
GRADE	____	____	**Standards:**	Informs the US that section 4.8 of

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:

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 K/A Rating: 2.9 / 3.1
2.1.20 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.

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	2	X	**Performance Step:**	To stop Kitchen Exhaust Ventilation System PERFORM the following (VP1): 1. PLACE 3HVC-FN6, "KITCHEN EXH FAN," to "OFF." 2. CLOSE the following "KITCHEN EXH AIR ISOL:" • 3HVC*AOV20 • 3HVC*AOV21 (step 4.11.2.a)
GRADE		X	**Standards:**	Rotates the 3HVC-FN6, "KITCHEN EXH FAN" control switch to the OFF position.
GRADE		X	**Standards:**	Presses the "CLOSE" pushbutton for 3HVC*AOV20 and observes the indicating lights shift to green ON, red OFF.
GRADE		X	**Standards:**	Presses the "CLOSE" pushbutton for 3HVC*AOV21 and observes the indicating lights shift to green ON, red OFF.
			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	5	X	**Performance Step:**	PLACE 3HVC*AOD119B, "RECIRC DMPR" in "EMERGENCY" (VP1)
GRADE		X	**Standards:**	Presses the "EMERGENCY" pushbutton for 3HVC*AOD119B until the indicating lights shift to green OFF, red ON.
			Grade:	**SAT** _____ **UNSAT** _____

STEP	6	X	**Performance Step:**	PLACE 3HVC*FN1B, "FILTER UNIT FAN/DMPRS" to "AUTO" and OBSERVE the following (VP1): 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)
GRADE		X	**Standards:**	Rotates the control switch for 3HVC*FN1B to "AUTO" and observes the following: 1. Indicating lights for 3HVC*MOD33B shift to green OFF, red ON.

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. Oxfurth
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~~ m/w 11/20/01
Cognizant Plant Supervisor (optional) — ~~3/27/97~~ m/w 11/20/01 Date

11/20/01
D.A. ~~Lazarony~~ m/w 11/20/01
Nuclear Training Supervisor — 11/20/01 ~~3/27/97~~ m/w 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. 18~~17~~

*****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.

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

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 6 X **Performance Step:** Proceed to RNO column
CLOSE the spray valves.
(Step 5.e RNO)

Alternate Path:

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

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

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

PERFORMANCE INFORMATION

JPM Number: 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:

Roy 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.

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 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-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	4		**Performance Step:**	CONFIRM power supplied to SI accumulator isolation valves.
GRADE			**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** _____ **UNSAT** _____
STEP	5	X	**Performance Step:**	CLOSE all SI accumulator isolation valves
GRADE			**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			**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		X	**Standards:**	Candidate turns the control switch for 3SIH*MV8808B to the close position and observes that the indicating lights for 3SIH*MV8808B are green **OFF**, red **ON**. The valve position does not change. The valve is still **OPEN**
GRADE			**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** _____ **UNSAT** _____

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 — 10/19/99
Developer — Date

Steve Jackson — 11/16/01
Verified Current — Date

III. Reviewed:

Martin — 11/19/01
Technical Reviewer — Date

IV. Approved:

Cognizant Plant Supervisor (optional) — Date

Nuclear Training Supervisor — 4/20/01
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.

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

				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

				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.

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:

Martin
Technical Reviewer
11/19/01
Date

Instructional Reviewer
Date

II. Approved:

Operations Manager
Date

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	**6**	**X**	**Performance Step:**	Place the START MODE switch in EMERG.
GRADE	____	**X**	**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.
			Cue:	The switch handle is aligned with the "EMERG" position and annunciator 4-1 "START MODE SWITCH IN EMERGENCY", alarms.
			Comments:	The examinee should silence and acknowledge the alarm. This is not required to complete the critical nature of this step.
STEP	**7**	**X**	**Performance Step:**	Place the UNIT/PARALLEL switch in UNIT.
GRADE	____	**X**	**Standards:**	Rotates the UNIT/PARALLEL switch to the "UNIT" position.
			Cue:	The switch is aligned to the "UNIT" 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	**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	**11**		**Performance Step:**	Verify HYDR GOVERNOR CONTROL SELECTOR switch in AUTO.
GRADE			**Standards:**	Observes that the "HYDR GOVERNOR CONTROL SELECTOR SWITCH" is aligned to the "AUTO" position.
STEP	**12**	**X**	**Performance Step:**	At the SBO engine panel (SW end), place the MAINTENANCE NORMAL SWITCH in NORMAL.
GRADE		**X**	**Standards:**	Locates the engine panel at the engine end and rotates the maintenance normal switch to the "NORMAL" position.

Cue: The maintenance normal switch is aligned to the "NORMAL" 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	**13**	**X**	**Performance Step:**	At the SBO D/G control panel (section1), place the GENERATOR SW in START.
GRADE	____	**X**	**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.
			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.
STEP	**14**	____	**Performance Step:**	Check SBO engine speed - AT 900 rpm.
GRADE	____	____	**Standards:**	Checks that the tachometer meter increases to 900 rpm (after 2 1/2 minutes).
			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.)
			Comments:	The SBO diesel generator automatically excites at 900 rpm.

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	**17**	**X**	**Performance Step:**	Report to the US that the SBO diesel is running and that the diesel output breaker can be closed.
GRADE	____	**X**	**Standards:**	Informs the US that the SBO diesel is running and that the diesel output breaker can be closed.
			Cue:	As the US, inform the examinee to close the SBO diesel generator output breaker.
			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.

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**