



INITIAL LICENSE EXAM

OPERATING TEST #1

SCENARIO #1

Revision 0

Week of March 6, 2006

Facility: Wolf Creek

NRC Scenario No.: 1

Op-Test No.: 1

Source:

New X Bank - Significantly Modified _____. Bank - Initial Condition Change _____.

See page 3 for Examiner/student assignments

Initial Conditions: 55% power, "B" Main Feed Pump (MFP) rolling at 1100 rpmTurnover: Place 2nd MFP on line, maintain current power for flux map

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N-BOP	Place 2 nd MFP on line
2	mPCS02 A	R-ATC	Turbine Impulse Pressure AC PT-505 fails low causing control rod insertion.
3	mMSS0 1C2	I-BOP	"C" SG Pressure Instrument fails low, affecting Steam Flow indication and MFP Speed Control.
4	mCCW1 8B	C-ATC C-BOP	Component Cooling Water System (CCW) Leak in the "B" Train Safety Loop. Requires removing "B" Train CCW and ECCS pumps from service.
5	mRCS07 B	M	Small Break LOCA, Safety Injection
6	mCCW0 6A r19064B	C-ATC	"A" Train CCW pump A trips on SI and the C pump fails to auto start.
7	mPSC10 C	C-BOP	Containment Isolation Phase A fails to automatically actuate

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

SCENARIO MISCELLANEOUS INFORMATION

SCENARIO SUMMARY: The objective of this scenario is to mitigate a small break Loss Of Coolant Accident, complicated by the loss of one train of Emergency Core Cooling System (ECCS). The scenario begins at 55% power with the crew placing the second Main Feed Pump in service. Two instrument failures occur requiring operator action to stabilize the plant and evaluation of Technical Specifications.

A leak in the operating Component Cooling Water (CCW) train requires swapping to the standby train and subsequent shutdown of the CCW train. Procedural requirements place all ECCS pumps served by the affected train out of service. This will also require the SRO to evaluate Technical Specifications.

Following the small break LOCA, operator actions are required. The running CCW pump in the only available train, trips and the standby pump does not autostart. Containment Isolation Signal Phase A also fails to actuate automatically challenging containment integrity. Both failures can be corrected by manual actions.

CRITICAL PARAMETERS:

The following parameters may be of value in evaluating crew performance when the scenario is completed:

OPERATOR ACTIONS TABLE NOTES:

1. Critical Tasks are indicated by "C" in the position column and indicated in bold type.
2. Actions required throughout the event are indicated as continuous ('cont') in the position column.
3. Shaded cells indicate procedural entry points.

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 1 Event No.: 1****Event Description:** Place second Main Feed Pump “B” in service. SYS AE-121 TURBINE DRIVEN MAIN FEED WATER PUMP STARTUP procedure in progress at step 6.2.23.

Time	Position	Applicant's Actions or Behavior	Notes
	SRO	Provide RO a band to maintain for Tavg and Power during pump startup. Direct BOP to place “B” MFP on line using the procedure.	
	RO <u>‘cont’</u>	Maintain Rx power and Tavg within band provided by SRO	
	BOP	Verifies oil temperature > 110 degrees by contacting local operator.	
	BOP <u>‘cont’</u>	Monitor SG levels and running “A” MFP to ensure secondary remains stable.	
	BOP	Increase MFP speed to 3600 rpm and transfer control to auto.	
	BOP	Contact local operator and verify seal dP.	
	BOP	Increase “B” MFP speed till it indicates 0-100 rpm above “A” and place control on the Master Speed Controller.	
	BOP	Inform SRO that the procedure is complete.	

Termination Criteria: The Master Speed Controller is controlling both MFP’s. All SG levels are stable at or trending to program level (50%).

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 1 Event No.: 2****Event Description:** Turbine Impulse Pressure AC PT-505 fails low causing control rod insertion.

Time	Position	Applicant's Actions or Behavior	Notes
	RO	Note and Communicate that control rods are stepping in. Place rod control in manual after confirmation that a loss of load is not in progress.	<i>Rods should be taken to manual in time to prevent a Rx Trip.</i>
	BOP	Confirm that a turbine loss of load is not occurring.	
	SRO	Monitor/acknowledge communications. Direct above actions be performed if not already done.	
	RO/BOP	Note and communicate that AC PT-505 has failed low.	
	SRO	Enter and direct OFN SB-008, INSTRUMENT MALFUNCTIONS, Attachment D.	
	RO/BOP	Identifies failed channel as AC PT-505. Ensure rods in manual.	
	BOP	Select out failed channel	
	SRO/RO	Conduct reactivity brief with RO to return rods to the pre-event position and restore Tav. Return rods to Automatic.	
	BOP	Perform steps to place Steam Dumps in Steam Pressure Mode.	
	SRO	Contact Work Week Manager (WWM) for INC assistance in tripping bi-stables and troubleshooting.	
	BOP	Check C-16 Lo Tav. NOT LIT Check HOLD light NOT LIT Place AMSAC in proper state	<i>AMSAC is not modeled. Booth Operator will meet BOP at door with cue.</i>

	SRO	Review and comply with T.S. 3.3.1, Function 18.f, Condition T.	<i>Verify P-13 within 1 hour.</i>
Termination Criteria: Control Rods in Auto. Tavg within 1 degree of Tref. T.S. Identified			

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 1 Event No.: 3****Event Description:** “C” SG Pressure Instrument fails low, affecting Steam Flow indication and MFP Speed Control.

Time	Position	Applicant's Actions or Behavior	Notes
	BOP	Note and communicate alarm 110C, “C” SG Level is decreasing or “C” MFRV is closing.	
	BOP	Place “C” MFRV in manual and restore feed flow.	<i>This action should be taken in time to prevent a Rx Trip.</i>
	SRO	Monitor/acknowledge communications. Direct above actions be performed if not already done.	
	SRO	Enter and direct Alarm Response ALR 00-110C	SRO may enter the OFN directly
	RO	Check SG “C” instrumentation. Note and communicate that Steam Pressure Channel AB PT-535 has failed low.	
			<i>Note: Steam Flow is an input to the MFP Speed Control and will force the MFPs to continue slowing down till the affected channel is selected out.</i>
	SRO	Perform RNO column. Direct BOP to select out failed channel.	
	SRO	Direct BOP to return MFRV to Automatic when SG level is restored.	<i>Should provide a band or value.</i>
	BOP 'cont'	Restore SG level to program and place MFRV in Auto per SRO directive.	
	SRO	Enter and direct OFN SB-008, INSTRUMENT MALFUNCTIONS, Attachment C	<i>If SRO entered the OFN directly based on Steam Flow, Attach. A will direct them to Attach. C.</i>
	SRO/RO	Identify failed channel	

	SRO/BOP	Check if channel selected for control. Place MFRV in manual Select Alternate Channel	<i>May have already been completed.</i>
	SRO	Contact Work Week Manager (WWM) for INC assistance in tripping bi-stables and troubleshooting.	
	SRO	Monitor and comply with T.S.'s 3.3.2 Function 1.e., 3.a(3), 4.d.(1) and (2), 5.c, 6.e, and 7. 72 hours to trip Bi-stables. 3.3.3 and 3.3.4 – No Action Required 3.3.6, Table 3.3.6-1, Function 4 3.3.7, Table 3.3.7-1, Function 4	<i>T.S 3.3.2 contains the only required actions.</i> <i>3.3.6 and 3.3.7 should be referenced, however no actions are required.</i>
	SRO/BOP	Ensure "C" MFRV back in auto and controlling SG level.	
Termination Criteria: "C" SG level stable at or trending to program (50%). "C" MFRV back in Auto. T.S.'s identified.			

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 1 Event No.: 4****Event Description:** Component Cooling Water System (CCW) Leak in the "B" Train Safety Loop. Requires removing "B" Train CCW and ECCS pumps from service.

Time	Position	Applicant's Actions or Behavior	Notes
	ALL	Various CCW Alarms annunciate and clear. Crew should investigate alarms.	<i>At any point, the SRO may enter the OFN directly and the following diagnostics may not be performed.</i>
	RO/BOP	Recognize Auto make-up has initiated from Demin Water system (AN).	<i>No audible alarm. Crew may not recognize make-up in progress.</i>
	RO/BOP	Recognize CCW 'B' surge tank level is decreasing.	
	ALL	Annunciator 104D for RHR Pump Room Sump Level high alarms.	
	SRO	Direct Local Operator to be dispatched to investigate sump level alarm.	<i>At some point, the Building Watch will report a leak on CCW Train 'B' Safety Loop.</i>
	SRO	Enter and Direct OFN EG-004, "CCW MALFUNCTIONS".	
	SRO	Direct starting an "A" Train CCW pump.	
	RO/BOP	Make Announcement and start an "A" Train CCW pump.	
	RO/BOP 'cont'	Check CCW inventory. Isolate CCW to Radwaste. Ensure DI water Make-up. Start second AN pump. Cycle "B" ESW make-up valves to "B" CCW as required to maintain level between 40 and 60%.	<i>SRO should assign continuous action to one of the board operators.</i>
	SRO	Identify CCW leak. (RHR sumps increasing) Check Location of Leak. ("B" Safety Loop)	<i>Building Watch will report leak is on the "B" Safety Loop and cannot be isolated.</i>

	SRO	Determine Leak not on Service Loop in Containment and go to step 12. Determine Leak not on Service Loop outside Containment and go to step 19	
	SRO	Direct Service Loop be swapped to "A" Train CCW and Shutdown "B" CCW Train.	
	RO/BOP	Swap Service Loop to "A" Train CCW. Place both "B" Train CCW pumps in Pull to Lock (PTL). Recognize leak cannot be isolated and direct building watch to close EG-V148 for DI water make-up. Place ECCS pumps in PTL. CCP SI RHR SFP Cooling.	
	SRO	Direct board operator to co-ordinate with the Bldg Watch and place SFP Cooling on "A" CCW Train.	
	SRO	Identify Tech Specs. 3.7.7 CCW One Train inoperable, 72 Hours to restore. 3.5.2 ECCS Operating Determine Safety function is not lost and it would be 72 hours to restore. May apply or request an evaluation to apply 3.0.6 and not enter 3.5.2.	
<p>CCW Service Loop aligned to "A" Train.</p> <p>Termination Criteria: All "B" Train ECCS pumps and CCW pumps are in PTL.</p> <p>Tech Specs Identified.</p>			

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 1 Event No.: 5****Event Description:** Small Break LOCA, Safety Injection

Time	Position	Applicant's Actions or Behavior	Notes
	SRO/RO BOP	Note and communicate RCS pressure is decreasing.	
	SRO/RO BOP	Monitor RCS pressure for entry into DNB Tech. Spec. at < 2220 psig. T.S. 3.4.1, two hours to restore.	
	RO	As RCS pressure decreases, may energize PZR B/U heaters.	<i>Monitor for DNB T.S.</i>
	RO	Note and communicate that PZR level is decreasing.	
	SRO	Enter and direct OFN BB-007 "RCS Leakage".	
	RO	Checks PZR Level – decreasing. Increase charging flow. Isolate Letdown.	
	SRO/RO	Check Charging Pump Suction. Check PZR pressure – stable.	
	SRO/BOP	Check S/G Tubes – intact. <ul style="list-style-type: none"> • Dispatch HP • Contact Chemistry. 	
	SRO/RO	Fold Out Page criteria are met when charging is maximized, letdown isolated and PZR level continues to decrease <u>OR</u> SRO determines they cannot maintain PZR Pressure.	
	SRO	Direct a Reactor Trip and Initiate Safety Injection. Transition to EMG E-0.	<i>Auto Actuation may occur before the SRO can order manual actuation.</i>

Termination Criteria:

Reactor is tripped and Safety Injection Actuated.

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 1 Event No.: 6 and 7****Event Description:** Upon Reactor trip and Safety Injection, the running CCW pump trips and the standby pump fails to auto start. Containment Isolation Phase A (CIS-A) fails to auto actuate.

Time	Position	Applicant's Actions or Behavior	Notes
	SRO	Enter and Direct actions of EMG E-0, "Reactor Trip or Safety Injection."	
	RO/BOP	Perform Immediate Actions of EMG E-0.	
	RO	Verify Rx Trip <ul style="list-style-type: none"> Rod Bottom Lights Lit. Rx Trip and Bypass Bkrs open. Neutron Flux decreasing (Intermediate Range & Gamma metrics) Transfer NR-45 recorder to Intermediate Range Verify Vital AC Power <ul style="list-style-type: none"> Both NB buses - normal voltage / aligned to off site power. Verify SI actuated Determine SI is actuated. Annunciators 30A and 30B are lit.	
	BOP	Verify Turbine trip. <ul style="list-style-type: none"> Main Stop valves all closed. Generator and exciter bkrs open. 	
	SRO	At completion of Immediate Actions determine if there are any immediate concerns.	
	RO	Notes that no CCW pump is running in the only available Train and informs SRO.	
	ALL	One person from the crew should recognize adverse containment values have been exceeded and communicate this to the rest of the crew.	

	SRO/RO "C"	Start the standby "A" Train CCW pump.	CRITICAL TASK: <i>The standby pump must be started prior to the end of the scenario. completion. May be performed in Attach. F.</i>
	SRO/RO	Notes that CIS-A, CRVIS and CPIS has failed to actuate on Status Panels SB066X and 66Y.	
	SRO/RO "C"	Manually Actuate CIS-A. CRVIS and CPIS will actuate on the manual CIS-A, operator may actuate CRIVS or CPIS separately prior to the CIS-A.	CRITICAL TASK: <i>The CIS-A signal must be actuated prior to the end of the scenario. completion of. May be performed in Attach. F.</i>
	SRO	Read steps and confirm Immediate Actions Complete.	
	SRO /RO	Check if SI is required - YES	
	SRO /RO	Perform EMG E-0 Attach. F for Automatic Signal verification.	
	RO "C"	If not previously started then during performance of Attach. F., start the standby CCW pump	
	RO "C"	If not previously actuated, then during the performance of Attach. F., actuate CIS-A.	
	SRO/BOP	Verify AFW > 270 Klbm/hr. Close AC HIS-134 Reduce AFW to 270 Klbm/hr Establish S/G Pressure Control	
	SRO /BOP	Check PORV/Block Valves. Check PZR Spray Valves. Check PZR Safety Valves. Check if RCPs should be stopped.	
	SRO	Direct Monitoring Critical Safety Function Status Trees using EMG F-0.	
	SRO /RO	Check if S/G's are not faulted. Check if S/G Tubes are intact. • Dispatch HP Check S/G levels – controlled increase	

	SRO/RO	Check if RCS Intact in Containment NO Ensure BIT inlet and outlets open. Transition to EMG E-1	
	SRO	Enter and Direct EMG E-1," LOSS OF REACTOR OR SECONDARY COOLANT".	
	SRO	Conduct Transition Brief for EMG E-1.	
	SRO/RO	Check if RCPs should be stopped. .	
	SRO/BOP	Check SG Pressures. Check SG Levels.	
	SRO/RO	Reset SI. Reset CIS-A and CIS-B.	
Termination Criteria: The Scenario may be terminated after transition to EMG E-1 and SI is reset.			

CRITICAL TASK SUMMARY

POSITION	EXPECTED RESPONSE	ACCEPTANCE CRITERIA	SAT/ UNSAT
RO	Start the Standby CCW pump	Prior to the end of the Scenario or prior to RCP temperatures exceeding trip criteria.	
RO	Manually actuate CIS-A	Prior to the end of the Scenario.	



INITIAL LICENSE EXAM

OPERATING TEST #1

SCENARIO # 2

Revision 0

Week of March 6, 2006

Facility: Wolf Creek Generating Station

Scenario No.: 2 (Mod) Op-Test No.: 1

Examiners: _____ Operators: _____

Initial Conditions: 100% power, Normal Operations

Turnover: , "A" Emergency Diesel Generator (EDG) is Out of Service. _____
Severe Thunder Storm Watch in Effect for Coffey County. _____

Block Valve BB HV-8000A closed and power removed. _____
due to PORV blowing fuses . _____

Event No.	Malf. No.	Event Type*	Event Description
1	mWAT06 A	R-ATC	Circ Water Pump "A" trips causing a Main Turbine Setback to 80%.
2	mPRS01A	I-ATC	Pressurizer Pressure Instrument fails high
3	P24100C P24100D	C-ATC	Instrument Air to Containment, KA HV-29, fails closed causing a loss of normal charging and letdown.
4	mRCS02A	M	330 gpm Steam Generator Tube Rupture on "A"
5	P19019B P19028B	C-ATC	Both Essential Service Water Pumps fail to automatically start on Safety Injection
6	rPRS07	C-ATC	Block Valve BB HV-8000B fails to open, affecting RCS depressurization. Requires entry into contingency procedure EMG C-33 for SGTR with Loss of Pressure Control.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

SCENARIO MISCELLANEOUS INFORMATION

SCENARIO OBJECTIVE:

The objective of this scenario is to mitigate a Steam Generator Tube Rupture (SGTR) with a loss of Pressure control requiring the use of a Contingency Procedure..

The SRO will evaluate Technical Specifications for the PZR pressure channel and the Rod Insertion Limit resulting from the Main Generator Setback.

The scenario begins with a trip of a running Circulating Water Pump causing a Turbine Setback. Following the setback is a failure of a PZR pressure instrument. Both require operator actions to stabilize the plant and the use of Off Normal procedures. Prior to the trip there is a Loss of Instrument Air to Containment, also requiring use of an Off Normal Procedure. The crew will have to mitigate the effects on charging and Pressurizer pressure.

Post trip failures include both Essential Service Water pumps fail to auto start on the Safety Injection. The operator must start at least one pump prior to the end of the scenario. When the crew prepares to de-pressurize the RCS as part of the SGTR mitigation, the PZR Block valve for the only available PORV fails while in the closed position. With Instrument Air already lost to containment and no available means to de-pressurize the RCS, the crew must transition to EMG C-33, "SGTR WITHOUT PRESSURIZER PRESSURE CONTROL", contingency procedure. Success path in EMG C-33 is to secure ECCS pumps.

The following is the expected major procedure flow path:

- OFN MA-001, LOAD REJECTION OR TURBINE TRIP
- OFN SB-008, INSTRUMENT MALFUNCTIONS
- OFN KA-019, LOSS OF INSTRUMENT AIR
- OFN BB-07A, STEAM GENERATOR TUBE LEAK
- EMG E-0, REACTOR TRIP OR SAFETY INJECTION
- EMG E-3, STEAM GENERATOR TUBE RUPTURE
- EMG C-33, SGTR WITHOUT PRESSURIZER PRESSURE CONTROL

CRITICAL PARAMETERS:

The following parameters may be of value in evaluating crew performance when the scenario is completed:

- RCS Pressure and Temperatures
- RWST Level

OPERATOR ACTIONS TABLE NOTES:

1. Critical Tasks are indicated by "C" in the position column and indicated in bold type.
2. Actions required throughout the event are indicated as 'cont' in the position column.
3. Shaded cells indicate procedural entry points.

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 2 Event No.: 1****Event Description: Circ Water Pump trip, Main Turbine Setback.**

Time	Position	Applicant's Actions or Behavior	Notes
	RO	Notes and Communicates annunciator 08A, Circ Water Pump Trip is in Alarm. Verifies CWP A has tripped.	
	SRO	Direct placing CWP A handswitch in "STOP" position to start closing discharge valve.	<i>This action should be performed in time to prevent a Unit trip on low vacuum.</i>
	SRO	Direct dispatching Site Watch to locally close CWP A discharge valve remaining 25%.	
	ALL	Confirm Setback has occurred. Generator MW load decreasing. Control rods inserting in Auto.	
	SRO	Enter and Direct OFN MA-001. LOAD REJECTION OOR TURBINE TRIP	
	BOP	Check Turbine Not Tripped. Checks Stator Cooling - Normal	
	RO	Verify Control Rods inserting in Auto in response to Temperature mis-match.	
	BOP	Checks CWPs – all Running Use RNO Ensure Handswitch in stop and Site Watch dispatched. Reference plant procedures for Circ Water System Operation.	<i>Should already be performed.</i>
	RO	Check PZR Pressure and Level stable or trending to program. Make adjustments as required.	
	BOP	Check SG Levels stable or trending to program. Make adjustments as required.	
	BOP	Confirm Load Rejection has stopped.	
—	SRO	Recognize that at current core life MTC would be negative.	

	BOP	Verify SG Atmospherics are closed. Reset C-7 signal to steam dumps by placing Steam Dump Selector switch in reset and return to Tavg mode.	
	SRO	Direct crew to maintain stable plant conditions.	
	SRO	If power decreased to <70%, Contact Work Week Manager (WWM) to request INC assistance.	
	SRO	Refer to Tech Specs. 3.1.6 Control Rod Insertion Limits RIL LO and LO-LO annunciators may alarm. Direct boration of the RCS to restore rods within two hours. 3.2.3 Axial Flux Difference	<i>The SRO may direct the RO to borate per the 10% downpower pre-shift brief.</i>
	SRO/BOP	Determine SG Safeties remained closed during load rejection.	
	SRO	Determine Thermal Power change was >15% in one hour and notify Chemistry for sampling.	<i>T.S. action</i>
	SRO/BOP	Reset Load Limiter by slowly reducing Load Potentiometer till the Load Limit light extinguishes.	
	SRO	Contact System Operations for Load Requirements.	
Termination Criteria: Unit Stable at approximately 80%, Tech Specs identified.			

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 2 Event No.: 2****Event Description: PZR Pressure Channel Fails High**

Time	Position	Applicant's Actions or Behavior	Notes
	RO	Notes and communicates alarms for PZR PORV Open.	
	RO	Places Master Pressure Controller in Manual and decreases output.	<i>RO may select out the failed channel. Action must be taken in time to prevent a Rx Trip.</i>
	RO/BOP/ SRO	Monitor RCS pressure for entry into DNB Tech. Spec. at < 2220 psig.	<i>T.S. 3.4.1, two hours to restore.</i>
	SRO/RO	As RCS pressure decreases to < 2220, the crew may energize 2 nd set of PZR back-up heaters.	<i>Crew may enter appropriate ALR's which will direct entry to OFN SB-008</i>
	SRO	Enter and direct OFN SB-008, Attach. "K"	
	RO	Identify BB PI-457 indicates high. Select out failed channel. Ensure system stable and return to automatic. Monitor system response.	
	SRO	Contact Work Week Manager (WWM) and request I&C assistance to trip bi-stables and repair channel. Review and comply with Tech Specs. 3.3.1 Reactor Trip System Table 3.3.1, Functions 6 and 8. 3.3.2 ESFAS Instrumentation Table 3.3.2, Functions 1.d , 3.a(3), 5.c, 6.e, 7and 8.b 3.3.4, Remote S/D, N/A 3.3.6, CPIS Instrumentation, Function 4 3.3.7, CREVS Instrumentation, Function 4	<i>3.3.1 and 3.3.2 72 hours to place channel in trip. 3.3.2, function 8.b. Verify P-11 bi-stable within 1 hour. 3.3.4/3.3.6/3.3.7 No Action Required</i>

Termination Criteria: Master pressure controller back in Auto with pressure between 2220 and 2250 psig. T.S. actions identified.

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 2 Event No.: 3****Event Description: KA-HV-029, Instrument Air to Containment Isolation valve fails closed.**

Time	Position	Applicant's Actions or Behavior	Notes
	RO/BOP	Plant response is approximately 60 seconds after KA HV-029 fails. <ul style="list-style-type: none"> • PZR Spray valves fail closed. <ul style="list-style-type: none"> • Letdown Isolates • Charging flow to the RCS isolates. • CCW alarms occur due to flow imbalance. • Letdown HX temperature alarms 	
	RO/BOP	Identify plant response is indicative of a loss of instrument air. Identify KA HV-029 has closed. Dispatch Building Watch to investigate.	
	SRO/RO	Place PZR B/U Heaters in Auto to minimize pressure rise.	
	SRO	Enter and Direct OFN KA-019, LOSS OF INSTRUMENT AIR.	
	SRO	Make Plant Announcement. Check Instrument Air Pressures. Ensure can still maintain plant control.	
	SRO/RO	Check PZR Level – stable. <ul style="list-style-type: none"> • Start “A” CCP • Establish Alternate Seal Injection. <ul style="list-style-type: none"> • Stop the NCP • Establish Excess Letdown to the PRT. 	<i>Should recognize the need to start an “A” Train CCW pump prior to starting the CCP.</i>
	SRO/BOP	Continue procedure steps to check for proper operation of Instrument Air system.	
	SRO	Contact WWM for assistance with KA HV-029.	

Termination Criteria:**Charging aligned to Alternate Seal Injection, Excess Letdown in Service.**

OPERATOR ACTIONS

Op-Test No.: # 1 Scenario No.: 2 Event No.: 4

Event Description: Steam Generator Tube Rupture

Time	Position	Applicant's Actions or Behavior	Notes
	SRO/RO BOP	Note and communicate RCS pressure is decreasing.	
	SRO/RO BOP	Monitor RCS pressure for entry into DNB Tech. Spec. at < 2220 psig. T.S. 3.4.1, two hours to restore.	<i>Monitor for DNB T.S.</i>
	RO	As RCS pressure decreases, may energize PZR B/U heaters.	
	BOP	Note and Communicates that "A" SG level is increasing.	
	RO	Note and communicate that PZR level is decreasing.	
	RO/BOP	Note and communicate Annunciator 061A and B, Process Rad Hi and Hi-Hi.	
	SRO	Determine from RM-11 panel that GE RE-92, Condenser Off-gas is in alarm.	
	SRO	Enter and direct OFN BB-07A "Steam Generator Tube Leakage".	
	RO	Checks PZR Level – decreasing. Increase charging flow. May Re-Start the NCP Isolate Letdown.	<i>RO should increase charging flow and isolate letdown.</i>
	SRO/RO	Check Charging Pump Suction. Check PZR pressure – stable.	
	SRO/BOP	Check S/G Tubes – intact. • Dispatch HP • Contact Chemistry.	
	SRO/RO	Fold Out Page criteria is met when charging is maximized and PZR level continues to decrease <u>OR</u> SRO determines they cannot maintain PZR Pressure.	<i>The crew may not perform all steps listed for OFN BB-07A.</i>

	SRO	Direct Reactor Trip and Safety Injection. Transition to EMG E-0	
Termination Criteria: Reactor Tripped and Safety Injection Actuated.			

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: 2 Event No.: 5****Event Description: Reactor Trip Safety Injection due to SGTR, ESW pumps fail to start..**

Time	Position	Applicant's Actions or Behavior	Notes
	SRO	Enter and Direct actions of EMG E-0, "Reactor Trip or Safety Injection."	
	RO/BOP	Perform Immediate Actions of EMG E-0.	
	RO	Verify Rx Trip <ul style="list-style-type: none"> • Rod Bottom Lights Lit. • Rx Trip and Bypass Bkrs open. • Neutron Flux decreasing (Intermediate Range & Gamma metrics) • Transfer NR-45 recorder to Intermediate Range Verify Vital AC Power <ul style="list-style-type: none"> • Both NB buses - normal voltage / aligned to off site power. Verify SI actuated <ul style="list-style-type: none"> • Determine SI is actuated. Annunciators 30A and 30B are lit. 	
	BOP	Verify Turbine trip. <ul style="list-style-type: none"> • Main Stop valves all closed. • Generator and exciter bkrs open. 	
	SRO	At completion of Immediate Actions determine if there are any immediate concerns.	
	RO	Notes that no ESW pump is running in either Train and informs SRO.	
	SRO/RO "C"	Start Both ESW pumps	<i>CRITICAL TASK: Start at least one ESW pump prior to the end of the scenario.</i>

	SRO	Read steps and confirm Immediate Actions Complete.	
	SRO /RO	Check if SI is required - YES	
	SRO /RO	Perform EMG E-0 Attach. F for Automatic Signal verification.	
	RO "C"	If not previously started then during performance of Attach. F., start ^{both} ESW pumps. <i>AT LEAST ONE</i>	
	SRO/BOP	Verify AFW > 270 klbm/hr. Close AC HIS-134 Reduce AFW to 270 klbm/hr Establish S/G Pressure Control	
	SRO/BOP 'cont'	Monitor Fold Out Page. When "A" SG level exceeds 6% Narrow Range, Isolate all AFW flow to "A" SG.	
	SRO /BOP	Check PORV/Block Valves. Check PZR Spray Valves. Check PZR Safety Valves. Check Id RCPs should be stopped.	
	SRO	Direct Monitoring Critical Safety Function Status Trees using EMG F-0.	
	SRO /BOP	Check if S/G's are not faulted. Check if S/G Tubes are intact. • Dispatch HP Check S/G levels – controlled increase. No Transition to EMG E-3	
	SRO	Enter and Direct EMG E-3, Steam Generator Tube Rupture.	<i>A Transition Brief is not desired nor required when in SGTR procedures.</i>
	SRO/RO	Check if RCPs should be stopped. Verify RCS pressure >1400.	
	SRO/BOP "C"	Identify "A" SG is ruptured. Isolate "A" SG. • ARV set at 1125 • Steamline drain isolated • Blowdown and Sampling isolated • Close MSIV • Ensure Steam Bypass closed • Isolate AFW when Level is >6%.	Critical Task: Isolate steam flow from the ruptured SG in time to prevent a transition to EMG C-31

	SRO/RO	Establish SG Pressure Control. Place Steam Dumps in Steam Pressure Mode.	
	All	Verify Ruptured SG isolated.	<i>Hold Point till MSIV is closed.</i>
	SRO/BOP	Check Ruptured SG >275 psi	
	RO 'cont'	Block Low Steam Line Pressure SI when RCS pressure <1970 psi	
	SRO/BOP	Determine Target Conditions Initiate RCS Cooldown <ul style="list-style-type: none"> • Slowly lower setpoint to open Group 1 Steam Dump Valves • When Tavg <P-12, place Steam Dumps in Bypass interlock • Set Steam Dump Potentiometer to Target Value. • Increase AFW flow to intact SGs 	
	BOP 'cont'	Monitor cooldown, ensure steam dumps begin closing as target temperature is approached.	
	SRO/RO	Check PZR PORVs and Block Valves Check PZR Safeties. Reset SI Reset CIS-A and CIS-B	
	SRO/RO	Establish Instrument Air to Containment	<i>Recognize can not be performed.</i>
	SRO/RO 'cont'	Stop both RHR pumps. RO monitor RCS pressure for restart.	
	SRO/BOP	Check if Cooldown should be stopped. Ensure steam dumps close when target is reached. Adjust controller to maintain below target. Check Ruptured SG Pressure stable or increasing.	
	SRO/RO	Check Subcooling >50 degrees	
	SRO/RO	Depressurize RCS using spray <ul style="list-style-type: none"> • Normal Spray not available – RNO 	
	SRO/RO	Depressurize RCS using PORVs When Attempt is made to open the block valve the breaker will trip. SRO use RNO	

	SRO/RO	Depressurize RCS using Aux Spray in Attach D of EMG E-3.	
	SRO	Attach D, step 1, if KA HV-029 is closed then use RNO. Transition to EMG C-33, SGTR WITHOUT PRESSURIZER PRESSURE CONTROL>	
Termination Criteria: EMG E-3 completed to Attach D. Transition to EMG C-33			

OPERATOR ACTIONS

Op-Test No.: # 1 Scenario No.: 2 Event No.: 6

Event Description: "EMG C-33", SGTR WITHOUT PRESSURIZER PRESSURE CONTROL

Time	Position	Applicant's Actions or Behavior	Notes
	SRO	Enter and Direct EMG C-33	<i>A Transition Brief is not desired nor required when in SGTR procedures.</i>
	SRO/BOP	Check Ruptured SG Level <78% RNO go to step 13	<i>If level has not reached 78% at this time the crew will work through the RNO's of the procedure and eventually end up at step 13.</i>
	SRO/RO/ BOP	Check if SI can be Terminated. <ul style="list-style-type: none"> • Subcooling >30 degrees • SG levels or AFW Flow <ul style="list-style-type: none"> • RVLIS level • Ruptured SG level 	
	SRO/RO 'C'	Stop ECCS pumps. <ul style="list-style-type: none"> • All but one CCP • Stop both SI pumps • Stop both RHR pumps 	<i>Critical Task:</i> <i>ECCS pumps must be secured prior to the SG Safety on the Ruptured SG lifting due to water solid conditions.</i>

Termination Criteria:

The Scenario may be terminated when all ECCS pumps are secured except for one CCP.

CRITICAL TASK SUMMARY

POSITION	EXPECTED RESPONSE	ACCEPTANCE CRITERIA	SAT/ UNSAT
RO	Start Both ESW pumps.	At Least one ESW pump must be started to supply cooling to an ECCS train prior to the end of the scenario.	
BOP	Isolate Ruptured SG		
RO	Secure ECCS pumps.		



INITIAL LICENSE EXAM

OPERATING TEST # 1

SCENARIO # Back Up

Revision 0

Week of March 6, 2006

Facility: Wolf Creek Generating Station

Scenario No.: B/U (Bank) Op-Test No.: 1

Examiners: _____ Operators: _____

Initial Conditions: 100% power, Normal operations

Turnover: Normal Charging Pump and "A" AFW pump are out of service

Event No.	Malfunction No.	Event Type*	Event Description
1	mPRS01B	I	Pressurizer Pressure Channel for lower selected channel fails high, affects only one PORV and not the Master Pressure Controller
2	mFWM05 A	C	"A" Main Feed Pump speed controller fails low
3	mRCS06B	M	Small Break LOCA
4	Various	C	Automatic Safety Injection fails to actuate on both trains, Manual available
5	P17023B P17027B mCVC13A mCVC13B	C	A and B Charging pumps trip on safety injection, A and B Safety Injection pumps fail to start automatically. This results in no High Head or Intermediate Head Injection. The Safety Injection pumps may be manually started.
6	mMSS07E	C	"A" Steam Generator Atmospheric Relief valve fails open post trip.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

SCENARIO MISCELLANEOUS INFORMATION

SCENARIO OBJECTIVE:

The overall objective of this scenario is for the crew to mitigate a small break LOCA with a failure of both high head and intermediate head safety injection. The plant is at 100% power Middle of Life. The NCP and "A" AFW pump are DNO'd. The crew will respond to instrument / component malfunctions using appropriate ALR's and OFNs. A LOCA develops and the crew should respond per the EMGs. When RCS pressure decreases to <1830 psig and Containment pressure increases greater than 3.5 psig, the SI does not auto actuate, but will work when manually initiated. Post trip the following fail to operate correctly: 'A' and 'B' CCPs trip and SI pumps fail to auto start. Post trip, S/G 'A' ARV fails open with no control available and must be locally isolated.

The following is the expected major procedure flow path:

- OFN SB-008, "INSTRUMENT MALFUNCTIONS"
- ALR'S for MFP Malfunction.
- EMG E-0, "REACTOR TRIP OR SAFETY INJECTION"
- EMG E-1, "LOSS OF REACTOR OR SECONDARY COOLANT"
- EMG E-2, "FAULTED STEAM GENERATOR ISOLATION"

CRITICAL PARAMETERS:

The following parameters may be of value in evaluating crew performance when the scenario is completed:

- PZR Pressure
- SG NR Levels
- WR Pressure
- RVLIS indications
- SG Pressures

OPERATOR ACTIONS TABLE NOTES:

1. Critical Tasks are indicated by "C" in the position column and indicated in bold type.
2. Actions required throughout the event are indicated as 'cont' in the position column.
3. Shaded cells indicate procedural entry points.

OPERATOR ACTIONS

Op-Test No.: # 1 Scenario No.: Back Up Event No.: 1

Event Description: PZR pressure channel 456 failure

Time	Position	Applicant's Actions or Behavior	Notes
	RO	Note and communicate alarm 035B PORV OPEN. Recognize BB PT-456 has failed high.	<i>(While not a Critical Task, due to the block valve auto closing, PT-456 controls the second PORV on a hard setpoint. RCS pressure will continue to cycle on the block valve setpoint of 2185 eventually resulting in a PRT rupture. Taking manual control of the Master Pressure Controller will not stop the cycling. The crew must select out the failed channel.)</i>
	RO	Places Master Pressure Controller in Manual and decreases output.	
	RO/BOP/SRO	Monitor RCS pressure for entry into DNB Tech. Spec. at < 2220 psig.	<i>T.S. 3.4.1, two hours to restore.</i>
	SRO/RO	As RCS pressure decreases to < 2220, the crew may energize 2 nd set of PZR back-up heaters.	<i>Crew may enter appropriate ALR's which will direct entry to OFN SB-008</i>
	SRO	Enter and direct OFN SB-008, Attach. "K"	
	RO	Identify BB PI-456 indicates high. Select out failed channel. Ensure system stable and return to automatic. Monitor system response.	

	SRO	<p>Contact Work Week Manager (WWM) and request I&C assistance to trip bi-stables and repair channel.</p> <p>Review and comply with Tech Specs.</p> <p>3.3.1 Reactor Trip System Table 3.3.1, Functions 6 and 8.</p> <p>3.3.2 ESFAS Instrumentation Table 3.3.2, Functions 1.d and 8.b</p> <p>3.3.4, Remote S/D, N/A</p> <p>3.3.6, CPIS Instrumentation, Function 4</p> <p>3.3.7, CREVS Instrumentation, Function 4</p>	<p><i>3.3.1 and 3.3.2 72 hours to place channel in trip.</i></p> <p><i>3.3.2, function 8.b. Verify P-11 bi-stable within 1 hour.</i></p> <p><i>3.3.4/3.3.6/3.3.7 No Action Required</i></p>
<p>Termination Criteria: Master pressure controller back in Auto with pressure between 2220 and 2250 psig. T.S. actions identified.</p>			

Op-Test No.: # 1 Scenario No.: Back Up Event No.: 2

Event Description: “A” Main Feed Pump Auto Speed Control Failure

Time	Position	Applicant's Actions or Behavior	Notes
	BOP	Notes and communicates level in all 4 SGs is decreasing.	
	BOP	Determine from MFP speed controller indications that "A" MFP speed is decreasing.	
	SRO/BOP	Notes and communicates alarms 108B-111B for SG Level Deviations and 108C-111C for SG Flow Mismatch.	<i>Alarms may not occur depending on the speed of the BOPs response.</i>
	BOP	Take manual control of "A" MFP speed controller and match signal with pre-event setting.	<i>Action must be taken in time to prevent a Reactor Trip.</i>
	SRO	Direct BOP to restore SG levels.	<i>SRO may review OFN and/or ALRs, but there is no guidance for the speed controllers.</i>
	SRO	Contact Work Week Manager for assistance in troubleshooting.	

Termination Criteria: “A” MFP speed controller in manual.
SG levels stable at or trending to program. (50%)

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: Back Up Event No.: 3****Event Description: Small Break LOCA, Safety Injection (5000 gpm)**

Time	Position	Applicant's Actions or Behavior	Notes
	SRO/RO BOP	Note and communicate RCS pressure is decreasing.	
	RO	As RCS pressure decreases, may energize PZR B/U heaters.	
	RO	Note and communicate that PZR level is decreasing.	
	SRO	Enter and direct OFN BB-007 "RCS Leakage".	
	RO	Checks PZR Level – decreasing. Increase charging flow. Isolate Letdown.	
	ALL	Reactor Trip occurs due to OTDT setpoint	
	SRO	Transition to EMG E-0.	

Termination Criteria: Reactor is tripped..

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: Back Up Event No.: 4 and 5****Event Description:** Upon Reactor trip, Safety Injection fails to automatically actuate, both high head CCPs trip and Both Intermediate head SI pumps fail to start..

Time	Position	Applicant's Actions or Behavior	Notes
	SRO	Enter and Direct actions of EMG E-0, "Reactor Trip or Safety Injection."	
	RO/BOP	Perform Immediate Actions of EMG E-0.	
	RO "C"	Verify Rx Trip <ul style="list-style-type: none"> Rod Bottom Lights Lit. Rx Trip and Bypass Bkrs open. Neutron Flux decreasing (Intermediate Range & Gamma metrics) Transfer NR-45 recorder to Intermediate Range Verify Vital AC Power <ul style="list-style-type: none"> Both NB buses - normal voltage / aligned to off site power. Verify SI actuated Determine SI is <u>not</u> actuated. Annunciators 30A and 30B are <u>not</u> lit.	CRITICAL TASK: Determine SI did not actuate and manually initiate SI.
	BOP	Verify Turbine trip. <ul style="list-style-type: none"> Main Stop valves all closed. Generator and exciter bkrs open. 	
	SRO	At completion of Immediate Actions determine if there are any immediate concerns.	
	ALL	One person from the crew should recognize adverse containment values have been exceeded and communicate this to the rest of the crew.	
	SRO/RO	Notes both CCP's have tripped. May also note that SI pumps are not running.	

	SRO/RO "C"	Notes that RCS Pressure is less than 1400 psig and Reactor Coolant Pump Trip Criteria is met.. Prior to securing RCPs, should start at least one Safety injection pump.	CRITICAL TASK: Trip all RCPs prior to the end of the scenario. <i>While not critical, Safety injection flow should be started prior to tripping RCPs..</i>
	SRO	Read steps and confirm Immediate Actions Complete.	
	SRO /RO "C"	Check if SI is required - YES	<i>If not previously actuated, should determine SI is required.</i>
	SRO /RO	Perform EMG E-0 Attach. F for Automatic Signal verification.	
	RO "C"	If not previously started then during performance of Attach. F., start both SI pumps.	CRITICAL TASK: Start at least one SI pump.
	SRO/BOP	Verify AFW > 270 klbm/hr. Close AC HIS-134 Reduce AFW to 270 klbm/hr Establish S/G Pressure Control	
	SRO /BOP	Check PORV/Block Valves. Check PZR Spray Valves. Check PZR Safety Valves.	
	SRO/BOP "C"	Check if RCP's should be stopped.	If not previously performed the crew should stop all RCPs.
	SRO	Direct Monitoring Critical Safety Function Status Trees using EMG F-0.	
	SRO /RO	Check if S/G's are not faulted. Check if S/G Tubes are intact. • Dispatch HP Check S/G levels – controlled increase	
	SRO/RO	Check if RCS Intact in Containment NO Ensure BIT inlet and outlets open. Transition to EMG E-1	
	SRO	Enter and Direct EMG E-1," LOSS OF REACTOR OR SECONDARY COOLANT".	

	SRO	Conduct Transition Brief for EMG E-1.	<i>During the transition brief the "A" SG atmospheric relief valve fails full open.</i>
	SRO/RO	Check if RCP's should be stopped.	
	SRO/BOP	Check SG Pressures. Notes that SG pressures are decreasing more rapidly. Notes that "A" ARV is open.	
	SRO/BOP	Attempt to manually close "A" ARV. Dispatch Local Operator to isolate ARV.	
	SRO	Transition to EMG E-2 based on the Fold Out Page or Step 2 of EMG E-1.	
Termination Criteria: "A" ARV identified as being open. Transition to EMG E-2.			

OPERATOR ACTIONS**Op-Test No.: # 1 Scenario No.: Back Up Event No.: 6****Event Description: "A" SG faulted due to stuck open ARV**

Time	Position	Applicant's Actions or Behavior	Notes
	SRO	Conduct Transition Brief for EMG E-2	<i>ARV will not be isolated by the local operator till the crew has completed the critical task.</i>
	SRO	Enter and direct EMG E-2	
	SRO/BOP "C"	Fast Close MSIVs. Isolate AFW to "A" SG	CRITICAL TASK: Fast close MSIVs and isolate AFW to the faulted SG. (MAY be performed on the Fold Out Page of E-1)
	SRO/BOP	Check for break in Area 5. -NO	
	SRO/BOP	Check if any SG is not faulted. Identify "A" SG is faulted.	<i>Cooldown due to SI flow will be apparent. Crew must determine that only "A" SG is faulted.</i>
	SRO/BOP	Isolate Faulted SG.	<i>If not already performed, then isolate AFW and dispatch operator to locally close or isolate "A" ARV.</i>

SCENARIO **The Scenario may be terminated after**
Termination Criteria: **"A" SG is isolated.**

CRITICAL TASK SUMMARY

POSITION	EXPECTED RESPONSE	ACCEPTANCE CRITERIA	SAT/ UNSAT
RO	Actuate Safety Injection And Start at least one SI Pump	Prior to a needless red or orange path and prior to the end of the scenario.	
RO/BOP	Trip all RCPs	Prior to a needless red or orange path and prior to the end of the scenario.	
BOP	Isolate the Faulted SG	Prior to RCS Cold leg temperatures reaching 240 degrees or before transition to EMG C-21	

JOB PERFORMANCE MEASURE

JPM NO: S -1	K/A NO: 4.5E06EA2.2
COMPLETION TIME: 25 Minutes	K/A RATING: 3.5/4.1
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Align Alternate High Head Injection.	SAFETY FUNCTION: 2
DUTY: Operate the Emergency Core Cooling System.	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: EMG FR-C2

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph L. Ewy

DATE:

12/13/05

Init IC 174 IC 174 was developed with power removed from "B" CCP and BG HV8105. JPM S-2, NB02 de-energized, will be in progress and may affect power indications for some of the "B" Train components. Only one train is required to satisfy this JPM.

RUN when the evaluators are ready.

DNO tag the "B" CCP and put the handswitch in pull-to-lock.
Ensure Blue placard is on "B" CCP handswitch.

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

For the evolution required for you to perform, your area of the main control boards will reflect the proper plant conditions. Recognize due to other evaluations in progress, some main control board indications may differ from what you expect.

Initial Conditions: The Plant has experienced a LOCA. The crew is currently performing EMG FR-C2. CCP "A" has tripped and locked out. CCP "B" is DNO tagged.

Initiating Cues: The Control Room Supervisor directs you to perform Attachment A of EMG FR-C2.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide a current copy of EMG FR-C2, Attachment A.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930)

Task Standard: Upon completion of this JPM, the Candidate will have established alternate high head injection per Attachment A of EMG FR-C2.

START TIME: _____

STOP TIME: _____

**TASK
NUMBER - ELEMENT**
CUE**STANDARD****SCORE**

1. Verify charging pump suction:

- At least one charging pump suction from RWST valve is open.
- Or
- Both VCT outlet valves are open.

Step A1

Locate BN HIS-112D on MCB panel RL001. Realize that the switch indicates RED.

Locate BG HIS-112B on MCB panel RL001. Note the GREEN light is illuminated.

S U

Comments:

2. Check any CCP's running.

STEP A2

Locate BG HIS-1A and 2A on MCB panel RL001. Realize that "A" CCP has tripped by the AMBER light lit. Note that the "B" CCP is DNO tagged.

Go to the RNO.

S U

Comments:

3. Perform the following:

- Manually start the CCP's.
- * Start the Normal Charging Pump (NCP) on recirculation, if neither CCP can be started.

STEP A2 RNO

The Operator may ask permission to reset the handswitch and attempt to start "A" CCP.

Realize neither CCP can be started.

Locate BG HIS-3 on MCB panel RL001. Rotate the handswitch to the right. Note the RED light is illuminated.

S U

Comments:

* Indicates Critical Task

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

4. Reset safety injection.

STEP A3

Operator may recognize this step has already been performed.

Locate and depress SB HS-42A and SB HS-43A on MCB panel RL002.

Operator may use the NPIS screen "NORM" to check if SI is reset.

S U

Comments:

5. Reset CISA and CISB.

STEP A4

Locate and depress on MCB panel RL018:

- SB HS-56
- SB HS-53
- SB HS-55
- SB HS-52

S U

Comments:

* Indicates Critical Task

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

6. Establish instrument air to Containment:

- Ensure ESW to Air Compressor Valves are open.
- Reset and close air compressor breaker reset switches.

- Check that instrument air pressure is greater than 105 psig.

- Check that the Pressurizer master controller is reading less than a 50% output signal.

- Open the Instrument Air Supply Containment Isolation Valve.

Operator may recognize this step has already been performed.

Locate EF HIS-43 and 44 on MCB panel RL019. Note that EF HIS-43 indicates RED.

Locate KA HIS-2C and 3C on MCB panel RL024. Rotate both handswitches left to reset and right to close.

Locate KA PI-40 on MCB panel RL024. Note pressure is greater than 105 psig.

Locate BB PK-455A on MCB panel RL002. Ensure output signal is less than 50%.

Locate KA HIS-29 on MCB panel RL024 and depress the OPEN pushbutton. Note the RED light illuminates.

S U

Comments:

STEP A5

* Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>7. Establish the normal charging header flow path:</p> <ul style="list-style-type: none"> • Open the Charging Header Back Pressure Control Valve. • Open the Charging Pumps To Regenerative HX Containment Isolation Valves. 	<p>Operator may dispatch the Auxiliary Building watch to manually open BG HV-8105. Cue the Auxiliary Building is not accessible.</p> <p><i>Dowmeter alarmed on entry to rooms.</i></p>	<p>Locate BG HC-182 on MCB panel RL001 and rotate the potentiometer to the full open position. Note the meter reads 100%.</p> <p>Locate BG HIS-8105 and 8106 on MCB panel RL001. Depress the OPEN pushbutton for BG HIS-8106 and note RED light is illuminated. No power is available to BG HIS-8105.</p> <p>Go to the RNO.</p>	<p>S U</p> <p>Comments:</p>
STEP A6			
<p>8. Go to Step A11, if flow path through normal charging header cannot be established.</p>		<p>Proceed to Step A11.</p>	<p>S U</p> <p>Comments:</p>
STEP A6 RNO			

* Indicates Critical Task

[illegible]

* Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
12. Check that the NCP is running.		Locate BG HIS-3 on MCB panel RL001. Note the RED light is illuminated.	S U Comments:
STEP A15			
13. Establish NCP flow path to the BIT: <ul style="list-style-type: none"> • Ensure one train of valves from the charging header to the BIT is open. • * Open the NCP discharge flow control valve. • * Open the CCP discharge flow control valve. 		Recognize the blue placard is on BG HIS-2A, which means BG-V8483A is open. Locate EM HIS-8803A on MCB panel RL018. Note the RED light is lit. Locate BG FK-462 on MCB panel RL001. Press the MAN pushbutton and then the upper OUTPUT pushbutton to increase until the meter reads 100%. Locate BG FK-121 on MCB panel RL001. Press the MAN pushbutton and then the upper OUTPUT pushbutton to increase until the meter reads 100%.	S U Comments:
STEP A16			

* Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
14. Check that flow is indicated on the CCP's to BIT flow meters.		Locate EM FI-917A and B on MCB panel RL018. Realize flow is indicated on EM FI-917A.	S U Comments:
STEP A17			
15. Return to Procedure and Step In Effect.	Acknowledge report. THE JPM IS COMPLETE. <u>RECORD STOP TIME ON PAGE 1.</u>	Report task complete.	S U Comments:
STEP A18			

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

For the evolution required for you to perform, your area of the main control boards will reflect the proper plant conditions. Recognize due to other evaluations in progress, some main control board indications may differ from what you expect.

Initial Conditions: The Plant has experienced a LOCA. The crew is currently performing EMG FR-C2. CCP "A" has tripped and locked out. CCP "B" is DNO tagged.

Initiating Cues: The Control Room Supervisor directs you to perform Attachment A of EMG FR-C2.

JOB PERFORMANCE MEASURE

JPM NO: S-2	K/A NO: 4.1EPE055 EA1.07
COMPLETION TIME: 15 Minutes	K/A RATING: 4.3/4.5
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Re-energize the affected NB bus from the normal offsite power supply IAW OFN NB-030.	Safety Function: 6
DUTY: Station Blackout	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: OFN NB-030

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph L. Ewy

DATE:

12/13/05

Init IC 174 IC 174 was developed with power removed from NB02 JPM S-1, Alternate High Head Injection, will be in progress. Hang DNO tags on KJ HS-108A, B EDG start button, and NE HIS-26, D/G output breaker and put handswitch NE HIS-26 in pull-to-lock.

RUN when the evaluators are ready.

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

For the evolution required for you to perform, your area of the main control boards will reflect the proper plant conditions. Recognize due to other evaluations in progress, some main control board indications may differ from what you expect.

Initial Conditions: The Plant has experienced a lockout of bus NB02 and control room personnel are performing steps in OFN NB-030, Loss of AC Emergency Bus NB01 (NB02). Electrical Maintenance has repaired the bus lockout and has reset the bus lockout. "B" EDG was locally secured and DNO tagged during maintenance activities.

Initiating Cues: The Control Room Supervisor directs you to continue in OFN NB-030, Attachment B, Step B12, RNO b.3, to perform steps required to energize bus NB02 from its normal source of power.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide an information only copy of Attachment B of OFN NB-030, with place keeping marked, to the examinee.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930)**

When Evaluators are ready, go to RUN

Task Standard: Upon completion of this JPM, the Operator will have performed the steps of the procedure necessary to energize NB02 thru XNB02 from its normal offsite source.

START TIME: _____

STOP TIME: _____

CUE

STANDARD

SCORE

* Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>4. Verify the normal offsite power supply is available:</p> <ul style="list-style-type: none"> Annunciator 00-022A ESF transformer XNB02 <p>STEP B16</p>		<p>Locate annunciator window 22A. Note the window is clear.</p> <p>Locate NB HIS-1 on MCB panel RL016. Note that the GREEN light is lit for open breaker.</p> <p>Proceed to RNO b.</p>	<p>S U</p> <p>Comments:</p>
<p>5. Perform the following:</p> <ul style="list-style-type: none"> * Close 13.8 kV XMR01 to XNB02 breaker PA0201, if the PA02 lockout relay is reset. Go to Step B17, if ESF transformer XNB02 can be energized. <p>STEP B16, RNO b.</p>		<p>Locate NB HIS-1 on MCB panel RL016. Rotate the handle to the right to close.</p> <p>Note ESF transformer XNB02 is energized.</p> <p>Proceed to Step B17.</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE S U
<p>6. Re-energize bus NB02 from its normal offsite power supply:</p> <ul style="list-style-type: none"> * Place NB02 normal supply sync. Transfer switch to the ON position. * Close NB02 normal supply breaker. Place NB02 normal supply sync. Transfer switch to OFF. Check that bus NB02 is energized. 	<p>Acknowledge report.</p> <p>THE JPM IS COMPLETE.</p> <p><u>RECORD STOP TIME ON PAGE 1.</u></p>	<p>Locate NB HS-8 on MCB panel RL015. Rotate the handle to the right to the ON position.</p> <p>Locate NB HIS-4 on MCB panel RL015. Rotate the handle to the right to close the breaker.</p> <p>Locate NB HS-8 on MCB panel RL015. Rotate the handle to the left to the OFF position.</p> <p>Locate NB EI-2 on MCB panel RL015. Note voltage is displayed on the meter or that NB ZL-6 white light is illuminated for NB02.</p> <p>Report that NB02 is energized.</p>	<p>Comments:</p>
STEP B17			

* Indicates Critical Task

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

For the evolution required for you to perform, your area of the main control boards will reflect the proper plant conditions. Recognize due to other evaluations in progress, some main control board indications may differ from what you expect.

Initial Conditions: The Plant has experienced a lockout of bus NB02 and control room personnel are performing steps in OFN NB-030, Loss of AC Emergency Bus NB01 (NB02). Electrical Maintenance has repaired the bus lockout and has reset the bus lockout. "B" EDG was locally secured and DNO tagged during maintenance activities.

Initiating Cues: The Control Room Supervisor directs you to continue in OFN NB-030, Attachment B, Step B12, RNO b.3, to perform steps required to energize bus NB02 from its normal source of power.

JOB PERFORMANCE MEASURE

JPM NO: S-3	K/A NO: 3.2.006 A1.13
COMPLETION TIME: 10 Minute	K/A RATING: 3.5/3.7
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Perform Safety Injection accumulator operations IAW SYS EP-200.	SAFETY FUNCTION: 3
DUTY: RCS Inventory Control	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: SYS EP-200

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph L. Eury

DATE:

12/8/05

Init into IC 175

ASISAG(3)=960 is part of IC, check Ann. 045B lit.

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is stable in Mode 3. Accumulator "C" pressure is \approx 600 psig, annunciator 045B is lit.

Initiating Cues: The Control Room Supervisor directs you to increase SI Accumulator "C" pressure to 630 psig using section 6.6 of SYS EP-200. Prerequisites have been completed.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide an information only copy of SYS EP-200.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930)

Task Standard: Upon completion of this JPM, the Operator will have increased Safety Injection Accumulator "C" pressure to 630 psig using section 6.6 of SYS EP-200.

START TIME: _____

STOP TIME: _____

STANDARD

SCORE

* Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
4. * Open the Accumulator Tank "C" nitrogen supply valve.		Locate EP HIS-8875C on MCB panel RL018. Open the valve by pressing the OPEN pushbutton. Note the Red light comes on and the Green light goes out.	S U Comments:
STEP 6.6.6.1.		Locate EP PI-964 and EP PI-965 on MCB panel RL018. Verify pressure is \approx 630 psig. <i>\approx 650 high alarm</i> <i>585 - 665 high</i> Locate EP HIS-8875C on MCB panel RL018. Close the valve by pressing the CLOSE pushbutton. Note the Green light comes on and the Red light goes out.	S U Comments:
STEP 6.6.6.2.			

* Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>6. Close the Accumulator Tanks nitrogen supply valve.</p> <p>STEP 6.6.8</p>		<p>Locate EP HIS-8880 on MCB panel RL018. Close the valve by pressing the CLOSE pushbutton. Note the Green light comes on and the Red light goes out.</p>	<p>S U</p> <p>Comments:</p>
<p>7. Section 6.6, increasing Accumulator pressure is complete.</p> <p>STEP 6.6.9</p>	<p>THE JPM IS COMPLETE.</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>	<p>Initial and date the step.</p>	<p>S U</p> <p>Comments:</p>

*Indicates Critical Task

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is stable in Mode 3. Accumulator "C" pressure is \approx 600 psig, annunciator 045B is lit.

Initiating Cues: The Control Room Supervisor directs you to increase Safety Injection Accumulator "C" pressure to 630 psig using section 6.6 of SYS EP-200. Prerequisites have been completed.

JOB PERFORMANCE MEASURE

JPM No. S-3 (SRO)	K/A NO: 4.2A068AK3.03, AK3.09
COMPLETION TIME: 10 Minutes	K/A RATING: 3.7/4.4 and 3.9/4.4
JOB TITLE: SRO	REVISION: 0
TASK TITLE: Establish Plant Control From The ASP	SAFETY FUNCTION: 4
DUTY: Control Room Evacuation	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: OFN RP-013, Control Room Not Habitable

TOOLS/EQUIPMENT: None

PREPARER:

Ralph L. Ewy

DATE:

12/2/2005

INIT IC 175

Read to Performer:

Initial Conditions: You are the Control Room Supervisor. The Control Room has been evacuated due to toxic fumes in accordance with OFN RP-013. You have completed step 6 and are arriving at the Auxiliary Shutdown Panel.

Initiating Cues: In accordance with OFN RP-013, step 7, take control of the Plant and supervise Plant shutdown.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide the Candidate with an information only copy of OFN RP-013, Control Room Not Habitable.
THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

When evaluators are ready:

Task Standard: Upon completion of this JPM, the Candidate will have taken control of the Plant from the Auxiliary Shutdown Panel, established AFW control, taken action to control the Plant cooldown, and taken action to restore pressurizer level.

START TIME: _____

STOP TIME: _____

TASK
NUMBER - ELEMENT

CUE**STANDARD****SCORE**

S U

Comments:

1. * At the ASP, Transfer Controls For Aux Feedwater System And Atmospheric Reliefs To Local

On RP118A, locate and select to local:

- AL HS-9
- AL HS-6
- AL HS-1
- AL HS-3
- AL HS-8
- AL HS-11

On RP118B, locate and select to local:

- AL HS-10
- AL HS-5
- AL HS-2
- AL HS-4
- AL HS-7
- AL HS-12
- FC HS-313

STEP 7

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

2. Operate Available Equipment From the ASP, As Necessary, To establish Stable Plant Conditions

Monitor Plant parameters.

S U

Comments:

STEP 8

3. On Shift Personnel Establish Communications With ASP From Designated Areas

CUE:

All On Shift Personnel Have Established Communications

S U

Comments:

STEP 9

4. Check Neutron Flux – DECREASING

- SE NI-61X
- SE NI-61Y

On RP118A, locate SE NI-61X and Y. Note flux decreasing

S U

Comments:

STEP 10

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

<p>5. Turbine Building Operator, Check Site Power – AVAILABLE</p> <p>STEP 11</p>	<p>When called, CUE:</p> <p>Breakers PA0110 and PA0202 are closed. PA01 and PA02 Voltage Is Normal.</p>	<p>Contact the Turbine Building Operator at PA01/PA02</p>	<p>S U</p> <p>Comments:</p>
<p>6. *Check RCS Cold Leg Temperatures –</p> <ul style="list-style-type: none"> • STABLE AT 561°F <p>OR</p> <ul style="list-style-type: none"> • TRENDING TO 561°F <p>STEP 12</p>	<p>NOTE: It is not necessary to check all indicators</p>	<p>On RP118A, locate</p> <ul style="list-style-type: none"> • BB TI-433X • BB TI-443X • BB TI-423X <p>On RP118B, locate</p> <ul style="list-style-type: none"> • BB TI-413X <p>Note temperature is less than 561°F and trending lower. Perform the RNO.</p>	<p>S U</p> <p>Comments:</p>

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

7. IF temperature less than 561°F AND decreasing, THEN

- Stop dumping steam
- * IF cooldown continues, THEN control total feed flow to limit RCS cooldown. Maintain greater than 270,000 lbm/hr until NR level greater than 6% on at least one SG

STEP 12 RNO

S U

Comments:

Locate AB ZL-1B and 3B on RP118A and AB ZL-2B and 4B on RP118B. Note green lights only illuminated.

On RP118A, locate AL HK-6B, 8B, 9B, 11B and on RP118B, locate AL HK-10B, 5B, 7B, and 12B. Take each out of "lock detent open" and actuate to the left while monitoring total AFW flow on AL FI-1B, 2B, 3B, and 4B for a total of between 270K and 300K LBM/HR.

8. Check SG Levels:

- Narrow range level in at least one SG – GREATER THAN 6%

STEP 13

S U


Comments:

Locate AE LI-528X and AE LI-548X on RP118A, and AE LI-517X and AE LI537X on RP118B. Note none have level indicated. Maintain feed flow.

* Indicates critical task

TASK
NUMBER - ELEMENT

CUE**STANDARD****SCORE**

			S U
<p>9.  Check PZR level control</p> <ul style="list-style-type: none"> Dispatch an operator to control feed flow locally. Check PZR level >17% <p>STEP 14</p>	<p>When directed, CUE:</p> <p>I am standing by at BG FCV-462</p>	<p>Contact spare operator and dispatch to BG FCV-462 and BG FCV-121</p> <p>On RP118A, locate BB LI-459B and note level is 15%. Perform the RNO.</p>	<p>Comments:</p>

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE****S U**

Comments:

10. * Perform the following:

- Check letdown isolation. IF letdown is NOT isolated, THEN isolate letdown.
- Check PZR Heaters Are -OFF
- Control Charging To Restore PZR Level

On RP118A, locate BB HIS-8149CB and BB HIS-8149BB. Note red light only on HIS-8149BB. Depress the close PB and note green light only illuminated.

On RP118B, locate BB HIS-8149AB. Note green light only illuminated.

On RP118A, locate BB HIS-52A. Note red light and white light illuminated and actuate switch to the OFF position. Note green light only illuminated.

On RP118B, locate BB HIS-52B. Note red light and white light illuminated and actuate switch to the OFF position. Note green light only illuminated.

Contact Operator at Charging Flow Control Valve to increase charging.

When contacted to increase charging locally, CUE:

THE JPM IS COMPLETE

RECORD STOP TIME
ON PAGE 1

STEP 14.b. RNO

* Indicates critical task

Initial Conditions: You are the Control Room Supervisor. The Control Room has been evacuated due to toxic fumes in accordance with OFN RP-013. You have completed step 6 and are arriving at the Auxiliary Shutdown Panel.

Initiating Cues: In accordance with OFN RP-013, take control of the Plant and supervise Plant shutdown.

JOB PERFORMANCE MEASURE

JPM NO: S-4	K/A NO: 4.2.060AA1.02
COMPLETION TIME: 15 Minutes	K/A RATING: 2.9/3.1
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Manually Actuate CRVIS and FBIS.	SAFETY FUNCTION: 7
DUTY: Monitor the ESFAS System.	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

[] SATISFACTORY [] UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X _____

REFERENCES: OFN SP-010, Accidental Radioactive Release

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph S. Ewy

DATE:

12/12/05

Init IC 175
Key 1 to actuate Rad Monitors
RUN

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1. Annunciator 62A and 62B are in alarm. Fuel Handling is not in progress.

Initiating Cues: The Control Room Supervisor directs you to perform OFN SP-010, Accidental Radioactive Release.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide a current copy of OFN SP-010.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930)**.

Task Standard: Upon completion of this JPM, the Operator will have manually actuated CRVIS and FBIS and manually aligned two FBIS components that failed to automatically align.

START TIME: _____

STOP TIME: _____

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

<p>1. 1 Check Listed Gaseous Monitors – ANY HI-HI ALARM ACTUATED.</p> <ul style="list-style-type: none"> • GG RE-27 • GG RE-28 <p>STEP 1</p>		<p>Go to the RM11 Panel. Note GG RE-27 and GG RE-28 are indicating HI-HI (Red).</p>	<p>S U</p> <p>Comments:</p>
<p>2. Check If Control Room Ventilation Isolation is required:</p> <p>a. HI-HI alarm on any of the following monitors – ACTUATED.</p> <ul style="list-style-type: none"> • GG RE-27 • GG RE-28 <p>STEP 2</p>		<p>Note that GG RE-27 and GG RE-28 are both in HI-HI (Red).</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Step

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

<p>3. * Verify Control Room Ventilation Isolation:</p> <p>a. Check ESFAS status panel CRVIS section – ALL WHITE LIGHTS LIT.</p> <ul style="list-style-type: none"> • Red Train • Yellow Train <p>STEP 3.a</p>		<p>Go to SA066X and Y panels on RL017. Note no status lights for CRVIS are lit and go to RNO.</p>	<p>S U</p> <p>Comments:</p>
<p>4. Perform the following:</p> <ul style="list-style-type: none"> • * If CRVIS has not actuated, then manually actuate CRVIS. • If any CRVIS component is not properly aligned, then manually align the component. • If neither train of CRVIS is in service, then establish one in service. • If only one train of CRVIS can be placed in service, then within 90 minutes isolate out of service train. <p>STEP 3.a. RNO</p>		<p>Critical step is to actuate at least one train. Per procedure the candidate should actuate both trains.</p> <p>Locate and depress SA HS-9 and SA HS-13 on MCB panel RL017.</p> <p>Locate SA066X and SA066Y on RL017. Note upper status lights for CRVIS – All WHITE</p> <p>Note that both trains are in service.</p> <p>Note this step is N/A.</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Step

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

<p>5. Ensure the Control Room outer door is closed.</p> <p>STEP 3.b</p>	<p>When Candidate moves to check outer door, CUE:</p> <p>Outer door is closed.</p>	<p>Check outer door.</p>	<p>S U</p> <p>Comments:</p>
<p>6. Check if Containment Purge should be isolated:</p> <p>a. HI-HI alarm on any of the following monitors – ACTUATED</p> <ul style="list-style-type: none"> • GT RE-22 • GT-RE-31 • ST RE-32 • GT RE-33 <p>STEP 4</p>		<p>Go to the RM11 panel and note that none of the designated monitors is in alarm and go to Step 5.</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Step

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

			S U
<p>7. * Check if Fuel Building should be isolated:</p> <p>a. HI-HI alarm on any of the following monitors has ACTUATED.</p> <ul style="list-style-type: none"> • GG RE-27 • GG RE-28 <p>b. Check ESFAS status panel FBIS section – ALL WHITE LIGHTS LIT.</p> <p>STEP 5</p>		<p>Realize that GG RE-27 and GG RE-28 are both in HI-HI (Red).</p> <p>Locate SA066X and SA066Y on MCB panel RL017. Note no white lights lit for FBIS section and perform the RNO.</p>	<p>Comments:</p>
<p>8. Perform the following:</p> <ul style="list-style-type: none"> • * If FBIS has not actuated, then manually actuate FBIS. • * If any FBIS component is not properly aligned, then manually align component. Refer to ATTACHMENT B. <p>STEP 5.b. RNO</p>		<p>Critical step is to actuate at least one train. Per procedure the candidate should actuate both trains.</p> <p>Locate and depress SA HS-10 and SA HS-14 on MCB panel RL017.</p> <p>Locate SA066X and SA066Y on MCB panel RL017 and note all white lights not actuated on SA066X and Y for FBIS. Go to ATTACHMENT B.</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Step

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE
S U

Comments:

9. * Ensure Emergency Exhaust Fans are running.

- CGG02A
- CGG02B

Critical step is to ensure at least one train is completely aligned. Must start the non-running fan OR open the closed valve. Per procedure the candidate should actuate both trains.

Locate GG HIS-15A and 21A on MCB panel RL020.

* Note that GG HIS-21A indicates red light lit. Note that GG HIS-15A indicates green light only. Actuate GG HIS-15A to the run position and note red light only illuminated.

10. * Ensure the Fuel Building To Emergency Filter Units dampers are open.

- GG HZ-40 dampers GG-D025
- GG HZ-43 dampers GG-D018

* Locate GG HIS-40 and 43 on MCB panel RL020. Note green light only illuminated for GG HZ-43. Depress the OPEN pushbutton for GG HZ-43 and note red light only illuminated.

May note the upper level white lights lit on panel SA066X and Y for FBIS.

Step B1 and Step B2.

* Indicates Critical Step

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

11. Ensure the Fuel Building
Air Supply Fans are
stopped.

- SGG01A
- SGG01B

STEP B3.

Locate GG HIS-38A and
39A on MCB panel
RL020 and note green
lights only illuminated.

S U

Comments:

12. Ensure the Fuel Building
Air Supply Fan
Discharge Dampers are
closed.

- GG HZ-38 dampers
GG-D5
- GG HZ-39 dampers
GG-D6

STEP B4.

Damper indication is
integral to the fan
handswitch.

Locate GG HIS-38A and
39A and note the
damper green lights only
illuminated.

S U

Comments:

13. Ensure the Fuel Building
Air Inlet Dampers are
closed.

- GG RZ-36 dampers
GG-D3
- GG RZ-37 dampers
GG-D4

STEP B5.

Locate GG HIS-36A and
37A on MCB panel
RL020 and note green
lights only illuminated.

S U

Comments:

* Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
14. Ensure the Spent Fuel Pool Discharge to Auxiliary Building damper is closed. <ul style="list-style-type: none"> GG HZ-42 damper GG-D32 STEP B6.		Locate GG HIS-42 on MCB panel RL020 and note green light only illuminated.	S U Comments:
15. Ensure the Fuel Building Exhaust to Auxiliary Building Ventilation damper is closed. <ul style="list-style-type: none"> GL HZ-62 damper GL-D58 STEP B7.		Locate GL HIS-62 on MCB panel RL020 and note green light only illuminated.	S U Comments:

* Indicates Critical Step

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

16. Align other ventilation systems discharging to the Unit Vent:

- Ensure the Access Control Exhaust Fans are stopped.
 - GK HIS-47 for CGK02A
 - GK HIS-49 for CGK02B
- Ensure the Main Steam Enclosure Exhaust Fans are stopped.
 - GF HIS-17 for CGF03a
 - GF HIS-18 for CGF03B
- Ensure Aux/Fuel Normal Exhaust Fans are in slow speed.
 - GL HIS-30 for CGL03A
 - GL HIS-31 for CGL03B

Locate GK HIS-47 and 49 on panel RP068. Note green lights only illuminated.

Locate GF HIS-17 and 18 on panel RP068. Note red light illuminated on GF HIS-17. Rotate the switch to the stop position and note green light only illuminated. Operator should note that this causes an AUTO start of GF HIS-18 and rotate that switch to the stop position and note green light only illuminated.

Locate GL HIS-30 and 31 on MCB panel RL020. Note both indicate fast speed. Select slow on each handswitch and note slow red light illuminated on each.

**THE JPM IS
COMPLETE**

RECORD STOP TIME
ON PAGE 1.

STEP B8.

S U

Comments:

* Indicates Critical Step

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1. Annunciator 62A and 62B are in alarm. Fuel Handling is not in progress.

Initiating Cues: The Control Room Supervisor directs you to perform OFN SP-010, Accidental Radioactive Release.

JOB PERFORMANCE MEASURE

JPM NO: S-5	K/A NO: 3.8 029 A1.03
COMPLETION TIME: 20 Minutes	K/A RATING: 3.0/3.3
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Start Up the Containment Mini Purge.	SAFETY FUNCTION: 8
DUTY: Operate Plant Service Systems	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X _____ PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X _____

REFERENCES: SYS GT-120, CONTAINMENT MINI PURGE SYSTEM OPERATIONS

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph L. Eury

DATE:

12/12/05

**INIT IC 176
RUN**

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the Reactor Operator, the plant is stable in Mode 2. Outside temperature is 70°F. A gaseous release permit has been issued and is complete to the point of starting the release.

Initiating Cues: The Control Room Supervisor directs you to place the Containment Mini Purge Exhaust System in operation using section 6.1 of SYS GT-120. The prerequisites of SYS GT-120 have been verified and signed off.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide an information only copy of SYS GT-120.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930).

Task Standard: Upon completion of this JPM, the Operator will have started up the Containment Mini Purge Exhaust System.

START TIME: _____

STOP TIME: _____

*Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
3. *Start the Containment Mini Purge Exhaust fan and verify its discharge damper opens. <ul style="list-style-type: none"> GT HIS-20 <u>AND</u> GT HZ-20 STEP 6.1.3		Locate GT HIS-20 and GT HZ-20 on MCB panel RL020. Note the RED light lit for the fan and the RED light lit for the damper.	S U Comments:
4. Open the Containment Mini Purge Exhaust Inner Containment Iso and record the time and date opened. <ul style="list-style-type: none"> *GT HIS-11 Time and date STEP 6.1.4	THE JPM IS COMPLETE <u>RECORD STOP TIME ON PAGE 1</u>	Locate GT HIS-11 on MCB panel RL020. Note the RED light is illuminated. Record time and date opened.	S U Comments:

*Indicates Critical Step

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the Reactor Operator, the plant is stable in Mode 2. Outside temperature is 70°F. A gaseous release permit has been issued and is complete to the point of starting the release.

Initiating Cues: The Control Room Supervisor directs you to place the Containment Mini Purge Exhaust System in operation using section 6.1 of SYS GT-120. The prerequisites of SYS GT-120 have been verified and signed off.

JOB PERFORMANCE MEASURE

JPM NO: S-6	K/A NO: 4.2APE005AK3.06
COMPLETION TIME: 20 Minutes	K/A RATING: 3.9/4.2
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Perform OFN SF-011 to realign a misaligned rod	SAFETY FUNCTION 1
DUTY: Monitor Reactivity	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: OFN SF-011, Realignment Of Dropped, Misaligned Rod(s), And Control Group Malfunctions

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph L. Ewy

DATE:

12/13/05

INIT 176

Do not go to run until just before JPM begins so T_{avg} does not become an issue during the JPM.

RUN

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the Reactor Operator. Control rod M12 has been misaligned for twenty minutes. The reactor is stable at 80% power. The problem causing the misaligned rod has been corrected.

Initiating Cues: The Control Room Supervisor directs you to realign rod M12 per step 20 of OFN SF-011. All notifications have been made in compliance with the note prior to step 20.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide an information only copy of OFN SF-011.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM the Operator will have placed rod M12 in proper alignment in accordance with OFN SF-011.

START TIME: _____

STOP TIME: _____

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>1. Check If Rod Can Be Moved At Normal Rate.</p> <ul style="list-style-type: none"> Misaligned less than 12 steps <p>OR</p> <ul style="list-style-type: none"> Misaligned for less than one hour <p>STEP 20</p>		<p>On RL022, Monitor DRPI and note the rod is misaligned by more than 12 steps</p> <p>Note the initiating cue stated the rod has been misaligned for 20 minutes</p> <p>Determine rod can be moved at normal rate.</p>	<p>S U</p> <p>Comments:</p>
<p>2. Prepare To Realign Rod</p> <ul style="list-style-type: none"> *Place rod bank AUTO/MANUAL selector switch to the bank with misaligned rod <p>STEP 21.a</p>		<p>On RL003, rotate SE HS-9 to Bank D</p>	<p>S U</p> <p>Comments:</p>
<p>3. Prepare To Realign Rod</p> <ul style="list-style-type: none"> Direct INC to locally verify rod bank selected by SE HS-9 is aligned properly by light indications on associated cabinets <p>Step 21.b</p>	<p>When contacted as INC, CUE:</p> <p>Light indication is that rod bank D is selected.</p>	<p>Contact INC and request they locally verify that light indication denotes control bank D is selected</p>	<p>S U</p> <p>Comments:</p>

*Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>4. Prepare To Realign Rod</p> <ul style="list-style-type: none"> * At RL003, record position of group step counter for group containing misaligned rod <p>STEP 21.c</p>		<p>At RL003, locate step counter for control group D, note and record the position is 175</p>	<p>S U</p> <p>Comments:</p>
<p>5. Prepare To Realign Rod</p> <ul style="list-style-type: none"> * IF rod is misaligned high with respect to other rod in group THEN insert rods in misaligned bank until next set of DRPI LEDS – LIT <p>STEP 21.d</p>		<p>Note initiating cue was the rod is misaligned high.</p> <p>On RL003, locate SF HS-2 controller. Move controller to the IN position while monitoring DRPI on RL022. Release SF HS-2 when next set of LEDS lights.</p>	<p>S U</p> <p>Comments:</p>
<p>6. Prepare To Realign Rod</p> <ul style="list-style-type: none"> IF rods are misaligned low with respect to other rods in group, THEN perform the following: <p>STEP 21.e</p>		<p>Realize step is NA</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>7. Prepare To Realign Rod</p> <ul style="list-style-type: none"> * At lift coil disconnect panel, place all lift coil disconnect switches for other rods in affected bank to ROD DISCONNECTED position. <p>STEP 21.f</p>		<p>Locate panel on north wall behind Control Boards. Pull out on and move switch D4, D12, M4, and H8 to the ROD DISCONNECTED position (UP).</p>	<p>S U</p> <p>Comments:</p>
<p>8. Prepare To Realign Rod</p> <ul style="list-style-type: none"> * At RL003, record position of group step counter for group misaligned. <p>STEP 21.g</p>		<p>At RL003, locate step counter for control group D, note and record the position is 170</p>	<p>S U</p> <p>Comments:</p>
<p>9. Adjust Turbine Load As Necessary To Maintain T_{avg} Within 3°F of T_{ref}.</p> <p>STEP 22</p>	<p>As CRS, CUE:</p> <p>The rest of the crew will control T_{avg}.</p>	<p>On RL003, locate and note whether adjustment is necessary at this time.</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>10. Realign Misaligned Rod To Associated Group Position</p> <ul style="list-style-type: none"> Check misaligned rod – IN SHUTDOWN GROUP At Pulse-to-Analog Converter cabinet, hold AUTO-MANUAL switch in MANUAL <p>STEP 23.a and RNO</p>	<p><u>NOTE: Booth Operator action:</u></p> <p><i>rCRF01, Manual</i></p>	<p>Realize misaligned rod is in Control Group and perform the RNO.</p> <p>Contact INC personnel at the Pulse-to-Analog Converter Cabinet and instruct them to hold the switch in MANU AL</p>	<p>S U</p> <p>Comments:</p>
<p>11. *Realign misaligned rod to associated group position</p> <p>STEP 23.b</p>		<p>On RL003, locate SF HS-2 controller. Move controller to the IN position while monitoring DRPI and the rod demand step counter for Bank D. Release SF HS-2 when DRPI indicates all rods aligned.</p>	<p>S U</p> <p>Comments:</p>

*Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>12. Check misaligned rod – IN SHUTDOWN GROUP</p> <p>At Pulse-to-Analog converter cabinet, release AUTO-MANUAL switch</p> <p>STEP 23.c and RNO</p>	<p><u>NOTE: Booth Operator action:</u></p> <p><i>rCRF01, AUTO</i></p>	<p>Realize the rod is in a Control Group and perform RNO.</p> <p>Contact INC personnel at cabinet and instruct them to release the switch</p>	<p>S U</p> <p>Comments:</p>
<p>13. Reset Misaligned Rod</p> <ul style="list-style-type: none"> * At lift coil disconnect panel, place all lift coil disconnect switches for affect bank to ROD CONNECTED position <p>STEP 24.a</p>		<p>Locate panel on north wall. Pull out on and move switch D4, D12, M4, and H8 to the ROD CONNECTED position (DOWN).</p>	<p>S U</p> <p>Comments:</p>
<p>14. Reset Misaligned Rod</p> <ul style="list-style-type: none"> * At RL003, open window and reset affected group step counter by hand to position recorded in Step 21.g <p>STEP 24.b</p>		<p>On RL003, open the window for CBDA and reset counter to 170</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>15. Reset Misaligned Rod</p> <ul style="list-style-type: none"> *On RL003, reset rod control urgent failure alarm. <p>STEP 24.c</p>		<p>On RL003, locate and depress SF HS-4. Acknowledge urgent failure alarm and note the annunciator goes out.</p>	<p>S U</p> <p>Comments:</p>
<p>16. Verify proper operation of affected rods by moving affected rods 6 steps in each direction.</p> <p>STEP 24.d</p>		<p>On RL003, locate SF HS-2 controller. Move controller to the OUT position while monitoring DRPI and the rod demand step counter for Bank D. Release SF HS-2 when step counter indicates 6 steps out. Verify proper response on DRPI.</p> <p>On RL003, locate SF HS-2 controller. Move controller to the IN position while monitoring DRPI and the rod demand step counter for Bank D. Release SF HS-2 when step counter indicates 6 steps in. Verify proper response on DRPI.</p>	<p>S U</p> <p>Comments:</p>

*Indicates Critical Step

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>17. Move affected group to position recorded in Step 21.c</p> <p>STEP 24.e</p>		<p>On RL003, locate SF HS-2 controller. Move controller to the OUT position while monitoring DRPI and the rod demand step counter for Bank D. Release SF HS-2 when step counter indicates 175. Verify proper response on DRPI.</p>	<p>S U</p> <p>Comments:</p>
<p>18. *Place ROD BANK AUTO/MAN SEL switch in MAN position</p> <p>STEP 24.f</p>	<p>After candidate selects manual on rod control Cue: Master Cyclor binary counter is correct.</p> <p>THE JPM IS COMPLETE</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>	<p>On RL003, locate SE HS-9. Rotate switch from bank D position to MAN position.</p>	<p>S U</p> <p>Comments:</p>

*Indicates Critical Step

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the Reactor Operator. Control rod M12 has been misaligned for twenty minutes. The reactor is stable at 80% power. The problem causing the misaligned rod has been corrected.

Initiating Cues: The Control Room Supervisor directs you to realign rod M12 per step 20 of OFN SF-011. All notifications have been made in compliance with the note prior to step 20.

Simulator S-7

JOB PERFORMANCE MEASURE

JPM NO: S-7	K/A NO: 4.1EPE011EA1.12
COMPLETION TIME: 15 Minutes	K/A RATING: 4.1/4.4
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Align Containment Spray System for recirculation IAW EMG ES-12.	SAFETY FUNCTION: 5
DUTY: Monitor and Operate Containment Spray.	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: EMG ES-12

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph L. Eury

DATE:

12/13/05

INIT 177

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the Reactor Operator. The Plant experienced a large break LOCA. The crew has progressed through EMG E-0, E-1, and have transitioned to EMG ES-12 where they are holding at step 12.

Initiating Cues: The Control Room Supervisor directs you to perform Step 12 and 13 of EMG ES-12, as necessary.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide an information only copy of EMG ES-12, Steps 12 and 13.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930)**.

Task Standard: Upon completion of this JPM, the Operator will have aligned the Containment Spray System for recirculation.

START TIME: _____

STOP TIME: _____

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

1. Check if the Containment Spray System should be aligned for recirculation:

- Containment Spray Pumps – ANY RUNNING.
- *RWST level – LESS THAN 12%.

Locate EN HIS-3 and 9 on MCB panel RL017. Note RED light only is illuminated.

Locate BN LI-930, 931, 932, and 933 on MCB panel RL018. Note all indicators indicate less than 12%. Locate annunciator 47C and note it is illuminated.

S U

Comments:

STEP 12

2. Align the Containment Spray System for recirculation:

- *Open both Containment Recirculation Sump to Containment Spray Pump valves.

Locate EN HIS-1 and 7 on MCB panel RL017. Depress the OPEN pushbutton and note red light only is illuminated on EN HIS-1. Note no indication on EN HIS-7.

Go to the RNO.

S U

Comments:

STEP 13

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
3. * If either valve cannot be opened, then stop the associated Containment Spray pump.		<p>Locate EN HIS-9 on MCB panel RL017. Rotate the handswitch left to the OFF position. Note green light only illuminated.</p> <p>Report Containment Spray pump "B" has been secured.</p>	<p>S U</p> <p>Comments:</p>
STEP 13.a. RNO	<p>Acknowledge Report</p> <p>THE JPM IS COMPLETE</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>		<p>S U</p> <p>Comments:</p>
4. * Close both RWST to Containment Spray pump valves.		<p>Locate EN HIS-3 and 4 on MCB panel RL017. Depress the CLOSE pushbutton on both handswitches. Note green light only illuminated.</p> <p>Report Steps 12 and 13 are complete.</p>	
STEP 13.b.			

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the Reactor Operator. The Plant experienced a large break LOCA. The crew has progressed through EMG E-0, E-1, and have transitioned to EMG ES-12 where they are holding at step 12.

Initiating Cues: The Control Room Supervisor directs you to perform Step 12 and 13 of EMG ES-12, as necessary.

JOB PERFORMANCE MEASURE

JPM NO: S-8	K/A NO: 4.5E05EK3.2
COMPLETION TIME: 15 Minutes	K/A RATING: 3.7/4.1
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Establish Main Feed Flow to SG	SAFETY FUNCTION 4
DUTY: Response To Loss Of Secondary Heat Sink	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X _____

REFERENCES: EMG FR-H1, Response To Loss Of Secondary Heat Sink

TOOLS/EQUIPMENT:

PREPARER:

Ralph L. Ewy

DATE:

12/6/2005

INIT IC 177

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the Balance of Plant Operator. The Plant is experiencing a post trip loss of heat sink. Attempts to establish feed flow to the SGs with any Aux Feedwater pump per EMG FR-H1 have been unsuccessful. The crew has just completed step 10 to establish Feedwater Control.

Initiating Cues: The CRS assigns you to begin with step 11 of EMG FR-H1 and attempt to establish feed to Steam Generator B. The Turbine Building operator is standing by.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide the Candidate with an information only copy of EMG FR-H1.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930).

When evaluators are ready: Go to RUN

Task Standard: Upon completion of this JPM, the Candidate will have commenced feeding "B" SG from a condensate pump.

START TIME: _____

STOP TIME: _____

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

			S U
1. Check Both Main Feedwater Pumps – Tripped		Checks Red Light illuminated on both handswitches or Both MCB Annunciators lit.	Comments:
2. Ensure Low Pressure Heater Condensate Iso Valves – AT LEAST ONE SET OPEN		<p>Locate Heater Iso valves and Bypass Valve on RL024 and determine the heater Iso valves are open by noting red lights on</p> <p>1. AD ZL-55</p> <p>Or</p> <p>2. AD ZL-43</p> <p>Or</p> <p>3. AD ZL-30</p>	
3. MSIVs – AT LEAST ONE OPEN		Recognize all four MSIVs are open on RL025.	
AB HIS-14			
AB HIS-17			
AB HIS-11			
AB HIS-20			
STEPS 11, 12 and 13			

*Indicates Critical Task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

			S U
<p>4. Start one Turbine Driven Main Feedwater Pump.</p> <ul style="list-style-type: none"> • Actuate both MFP FWIS Block Switches • Place Both MFP Speed Control in Manual. • Place Both MFP speed potentiometers at zero speed • Ensure SI Reset • *Reset BOTH MFP Trip Circuits. <p>Step 14 and RNO</p>		<p>At RP068, place FC HIS-510 and FC HIS-1510 in Block Position.</p> <p>At RL005, Place FC HIS-88 and FC HIS-188 in Manual.</p> <p>At RL005, place both MFP speed pots to zero.</p> <p>Ensure SI reset by verifying alarms 30A and 31 A not lit, or reset using SB HIS-42A and 43A on RL001.</p> <p>Attempt to reset both MFPs. Recognize MFPs will not reset and perform RNO for step 14.</p> <p>Go to Step 17</p>	<p>Comments:</p>

*Indicates Critical Task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

4. Start Motor Driven Main Feed Pump.

- Ensure PB04 is energized.
- *Open Suction/Discharge valves.
- Local vent using AE-V344 and locally close BM-V185.
- *Start the MD MFP.
- Fill and vent seal cooler as resources permit.

Acknowledge request and CUE: **Pump is vented and BM-V185 is closed.**

Acknowledge request, CUE: **Will fill and vent seal cooler using SYS AE-122.**

Verifies power to pump by checking pump indication or verifying PB04 power.

Press Open on push button AE HS-103. Verifies suction and discharge valves indicate open.

Dispatch local operator.

Places AE HIS-104 to the START position. Verify red light lit and green light out. Amy see flow indicated.

Dispatch local operator.

STEP 17

*Indicates Critical Task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

<p>5. Control Main Feedwater Flow To At Least One SG:</p> <ul style="list-style-type: none"> * Open main feedwater reg bypass valve <p>OR</p> <ul style="list-style-type: none"> * Open main feedwater reg valve <p>STEP 18</p>	<p>If the Candidate asks the CRS which valves and which SG to use, CUE:</p> <p>Use the Bypass valve and feed SG B.</p>	<p>Per the Caution flow should be established slowly.</p> <p>Locate AE LK-560 on RL006. Depress the Manual PB and depress the raise PB until dual indication is observed.</p>	<p>S U</p> <p>Comments:</p>
<p>6. Check SG Levels</p> <ul style="list-style-type: none"> Bleed and Feed – NOT ESTABLISHED Check Check narrow range level in at least one SG – GREATER THAN 6% <p>STEP 19 and RNO</p>	<p>When candidate checks level increasing and feed flow established, CUE</p> <p>THE JPM IS COMPLETE</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>	<p>Realize bleed and feed not in progress</p> <p>Locate level indicators on RL026 and check level in SG B. Performs RNO.</p> <p>Checks Core Exit TC's stable or decreasing.</p> <p>Checks Wide Range Level in "B" SG increasing.</p> <p>Maintains feed flow to "B" SG</p>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Task

Initial Conditions: You are the Balance of Plant Operator. The Plant is experiencing a post trip loss of heat sink. Attempts to establish feed flow to the SGs with any Aux Feedwater pump per EMG FR-H1 have been unsuccessful. The crew has just completed step 10 to establish Feedwater Control.

Initiating Cues: The Control Room Supervisor assigns you to begin with step 11 of EMG FR-H1 and attempt to establish feed to Steam Generator B. The Turbine Building operator is standing by.

JOB PERFORMANCE MEASURE

P-1	K/A NO: 4.2A024AA1.04
COMPLETION TIME: 10 Minutes	K/A RATING: 3.6/3.7
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Local Manual Boration	SAFETY FUNCTION: 1
DUTY: Borate The RCS	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT X CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED X PERFORMED _____

REFERENCES: OFN BG-009, Attachment A

TOOLS/EQUIPMENT: NONE

PREPARER:

Ralph L. Ewy

DATE:

12/2/2005

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are an extra Licensed Operator on shift; the plant was in Mode 1. A reactor trip has recently occurred.

Initiating Cues: Attempts to establish Emergency Boration have failed. The Control Room Supervisor informs you that OFN BG-009, Attachment A, is being performed and that BG FCV-110A, Boric Acid Blending Tee Inlet Isolation Valve, will not open from the Control Room. The CRS directs you to fail open BG FCV-110A in accordance with step A2.

NO EQUIPMENT WILL BE OPERATED IN THE PLANT – SIMULATE ONLY

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide copy of OFN BG-009, Attachment A.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930).

Task Standard: Upon completion of this JPM the operator will have locally established Emergency Boration by opening BG HV-8104.

START TIME: _____

STOP TIME: _____

NUMBER - ELEMENT

STANDARD

SCORE

Comments:

TASK
NUMBER - ELEMENT

CUE**STANDARD****SCORE**

<p>3. * If valve can not be opened, the go to step A8.</p> <p>STEP A.2.RNO.c</p>		<p>Note the valve actuator does not move and go to step A8.</p>	<p>S U</p> <p>Comments:</p>
<p>4. * Locally open Emergency Boration Valve</p> <ul style="list-style-type: none"> BG HV-8104 <p>STEP A8.a</p>	<p>CUE:</p> <p>Valve stem is moving. Valve indicates open.</p> <p>If Operator chooses to check local flow meter, CUE:</p> <p>Flow is pegged high.</p> <p>If Operator contacts Control Room CUE:</p> <p>Boration flow is greater than 90 gpm.</p>	<p>Locate valve on the 1978' level of the Aux. Bldg., in the "A" SI Pump Room. Engage the manual operator by pulling gently down on the clutch lever and turning the handwheel several turns until the clutch key is engaged. Then pull the clutch lever all the way down and turn the handwheel in the counter-clockwise direction.</p>	<p>S U</p> <p>Comments:</p>

* Indicates critical task

TASK
NUMBER - ELEMENT**CUE****STANDARD****SCORE**

5. Report status of valve
to Control Room.

Acknowledge report.

**THE JPM IS
COMPLETE**

RECORD STOP TIME
ON PAGE 1

Simulate paging the
control room and
reporting BG HV-8104 is
open.

S U

Comments:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are an extra Licensed Operator on shift; the plant was in Mode 1. A reactor trip has recently occurred.

Initiating Cues: Attempts to establish Emergency Boration have failed. The Control Room Supervisor informs you that OFN BG-009, Attachment A, is being performed and that BG FCV-110A, Boric Acid Blending Tee Inlet Isolation Valve, will not open from the Control Room. The CRS directs you to fail open BG FCV-110A in accordance with step A2.

NO EQUIPMENT WILL BE OPERATED IN THE PLANT – SIMULATE ONLY

JOB PERFORMANCE MEASURE

JPM NO: P-2	K/A NO: 4.2A068AA1.23
COMPLETION TIME: 15 Minutes	K/A RATING: 4.3/4.4
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Turbine Building Operator OFN RP-017	SAFETY FUNCTION: 4
DUTY: Perform OFN RP-017, Control Room Evacuation	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT X CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED X PERFORMED _____

REFERENCES: OFN RP-017, Control Room Evacuation, Attachment B.

TOOLS/EQUIPMENT:

PREPARER:

Ralph L. Eury

DATE:

11/30/2005

Staging:

Have the candidate go to the 2047' level of the Communications Corridor, outside the Control Room and then provide the initiating cue.

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

NO EQUIPMENT WILL BE OPERATED IN THE PLANT – SIMULATE ONLY

Read to Performer:

Initial Conditions: You are an extra licensed operator on shift. You are designated as the operator to perform the Turbine Building Actions for OFN RP-017, CONTROL ROOM EVACUATION.

Initiating Cues: You hear the following gaitronics announcement: "Reactor Trip, Evacuating the Control Room due to fire, entering OFN RP-017".

This is a timed JPM.

<p>ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.</p>
--

Notes: Provide the Candidate with a training only copy of OFN RP-017, Attachment B during the completion of element 2.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930).

Task Standard: Upon completion of this JPM, the Candidate will have simulated tripping the RCPs from their PA01 and PA02 breakers and simulated tripping the turbine at either PG Load Centers PG11 and PG12 or at the EHC skid.

START TIME: _____ Phase A Actions Complete Time: _____

STOP TIME: _____

TASK
NUMBER - ELEMENT

CUE**STANDARD****SCORE**

			S U
<p>1. * Locally Trip RCPs.</p> <ul style="list-style-type: none"> • PA0107 for RCP A – TRIPPED • PA0108 for RCP B – TRIPPED • PA0205 for RCP C – TRIPPED • PA0204 for RCP D - TRIPPED <p>STEP B1</p>	<p>As each handswitch is rotated to the left, CUE;</p> <p>Noise of breaker opening</p> <p>Green light only is illuminated.</p> <p>Record this time.</p> <p>CUE : This is the end of the Phase A time critical portion of this JPM, continue with the procedure actions.</p>	<p>Locate Breaker PA0107, PA0108, PA0205, and PA0204 cubicles in turn and simulate rotating the trip handle to the left. Note sound of breaker opening and green light only illuminated.</p> <p>Phase A actions must be completed within 5 minutes.</p>	<p>Comments:</p>
<p>2. Obtain A Copy Of This Procedure.</p> <p>STEP B2</p>	<p>After the candidate locates the locker and simulates opening the locker, CUE:</p> <p>Procedure is in hand. Provide the candidate with an information only copy of OFN RP-017, Attachment B.</p>	<p>Locate the Emergency Locker located on the 2033' level near columns TE and T-3. Key to the locker is on Turbine Bldg Operator Key Ring.</p>	<p>Comments:</p>

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

<p>3. Perform the following</p> <ul style="list-style-type: none"> Obtain radio and flashlight Obtain pocket ion chambers and TLDs Select Channel 1 on the radio <p>STEP B3</p>	<p>CUE: Equipment is in hand and the radio is selected to channel 1</p>	<p>Simulated removing equipment from locker:</p> <ul style="list-style-type: none"> Radio and flashlight Pocket ion chambers Simulated selecting channel 1 on the radio 	<p>S U</p> <p>Comments:</p>
<p>4. * Inform SRO that Phase A actions are complete</p> <p>STEP B4</p>	<p>Acknowledge report</p>	<p>Simulated calling Aux Shutdown Panel on channel 1 and report Phase A actions are complete</p>	<p>S U</p> <p>Comments:</p>
<p>5. On PK41 OPEN breaker for DC control power to PA01</p> <p>STEP B5</p>	<p>Cue: Simulate Entry</p> <p>CUE: PK4103 is OFF</p>	<p>Go to the security cage surrounding PK1 & PK2 on level 2033' Turbine Bldg NW. Indicate entry is required using the high security key to open PK4103.</p>	<p>S U</p> <p>Comments:</p>

* Indicates critical task

TASK

NUMBER - ELEMENT	CUE	STANDARD	SCORE
<p>6. On PK62 OPEN breaker for DC control power to PA02</p> <p>STEP B6</p>	<p>Cue: Simulate Entry</p> <p>CUE: PK6204 is OFF</p>	<p>Go to the security cage surrounding PK1 & PK2 on level 2033' Turbine Bldg NW. Indicate entry is required using the high security key to open PK6204.</p>	<p>S U</p> <p>Comments:</p>
<p>7. Verify Turbine Trip</p> <p>STEP B7</p>	<p>When the candidate indicates they are checking the position of Main Turbine Stop Valves 1, 2, 3, or 4. <u>If the turbine is operating (stop valves open)</u>, CUE:</p> <p>The valves are as you actually see them now.</p> <p><u>If the turbine should happen to be actually out of operation (stop valves closed)</u>, CUE</p> <p>The transducer rod is extended upward toward the valve body</p>	<p>Go to the Main Stop Valves on the 2033' level SE part of bldg just outside the Main Lube Oil Room and note the valves are not closed by noting the transducer rod is extended along the side of the valve stem. (The valve stem is not extended down out of the valve body)</p> <p>Realize the turbine is not tripped and perform the RNO</p> <p>Realize the turbine is not tripped and perform the RNO</p>	<p>S U</p> <p>Comments:</p>

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

			S U
8. * Locally trip turbine by either:		Critical step is to trip both pumps OR open the bypass valve.	Comments:
• Trip both EHC Pumps	CUE: Noise is heard, breaker indicates open	EITHER Locate PG1105 on 2016' level, south end of Turb Building. Depress trip PB and open the racking window for the breaker.	
	Noise is heard, breaker indicates open	AND Locate PG1205 on 2016' level, south end of Turb Building. Depress trip PB and open the racking window for the breaker.	
OR	<u>OR</u>	<u>OR</u>	
• Open Hyd Fluid Return Coolers Bypass Valve	Valve operator is turning to the left. Threads are retracting. Valve will no longer turn left.	Locate CH FV-1 above head level on west side of EHC skid, 2000' level on SE side of Turb Building. Simulated rotating the valve operator to the left.	
STEP B7 RNO			

* Indicates critical task

NUMBER - ELEMENT

SCORE

Page 7 of 8

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

NO EQUIPMENT WILL BE OPERATED IN THE PLANT – SIMULATE ONLY

Read to Performer:

Initial Conditions: You are an extra licensed operator on shift. You are designated as the operator to perform the Turbine Building Actions for OFN RP-017, CONTROL ROOM EVACUATION.

Initiating Cues: You hear the following gaitronics announcement: "Reactor Trip, Evacuating the Control Room due to fire, entering OFN RP-017".

This is a Time Critical JPM.

JOB PERFORMANCE MEASURE

JPM No. P-3	K/A NO: 4.1E055EK3.02
COMPLETION TIME: 10 Minutes	K/A RATING: 4.3/4.6
JOB TITLE: RO/SRO	REVISION: 0
TASK TITLE: Align the Fire Protection System to the CST	SAFETY FUNCTION: 4
DUTY: Operate Auxiliary Feedwater System	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT X CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED X PERFORMED _____

REFERENCES: EMG C-0

TOOLS/EQUIPMENT:

PREPARER:

Ralph L. Ewy

DATE:

12/2/2005

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

NO EQUIPMENT WILL BE OPERATED IN THE PLANT – SIMULATE ONLY

Initial Conditions: A loss of all AC power has occurred while in Mode 1. The Control Room Operators are at step 27 of C-0, "Loss of All AC Power and CST to AFP suction pressure is low.

Initiating Cues: The Control Room Supervisor directs you to manually align the Fire Protection System to the CST per EMG C-0, Step 27 RNO.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide an information only copy of C-0, Step 27.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM the Operator will have installed a jumper hose between the Fire Protection System header and the condensate reject to CST header flush connection.

START TIME: _____

STOP TIME: _____

**TASK
NUMBER - ELEMENT**

CUE

STANDARD

SCORE

			S	U
1.	<p>* Locally close</p> <ul style="list-style-type: none"> AP-V006, Condensate Reject Iso AD-V121, Condensate Valve Outlet Iso. BM-V153, SG Blowdown to CST Inlet Isolation 	<p>CUE: Chain is removed. Stem is retracting. Valve will no longer turn in the clockwise direction.</p> <p>Stem is retracting. Valve will no longer turn in the clockwise direction.</p> <p>Stem is retracting. Valve will no longer turn in the clockwise direction.</p>	<p>Locate valve in the CST Valve Room. Simulate removing the lock and chain. Rotate the handwheel in the clockwise direction. Monitor that the stem is retracted and the valve will not longer rotate in the clockwise direction.</p> <p>Locate valve in the Turbine Building SE of Condenser. Simulate rotating the handwheel in the clockwise direction. Monitor that the stem is retracted and the valve will no longer rotate in the clockwise direction.</p> <p>Locate valve in the Turbine Building SE of Condenser. Simulate rotating the handwheel in the clockwise direction. Monitor that the stem is retracted and the valve will not longer rotate in the clockwise direction.</p>	<p>Comments:</p>
<p>STEP 27 RNO a.</p>				

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

			S U
<p>2. * Obtain flange from AFW Emergency Locker</p> <p>STEP 27 RNO b.</p>	<p>CUE: The flange is in hand.</p>	<p>Locate Emergency Locker outside the Aux Boiler room main door. Simulate removing the break away lock and removing the flange.</p>	<p>Comments:</p>
<p>3. * Connect the fire hose between:</p> <p>• KC-V278</p> <p>• Flush connection next to AP-V006</p> <p>STEP 27 RNO c.</p>	<p>CUE: Hose is in hand.</p> <p>CUE: The hose is threaded on the valve and the coupling is snug.</p> <p>CUE: The adapter is bolted to the flange.</p> <p>CUE: The fire hose is threaded to the adapter.</p>	<p>Simulate obtaining a 2 ½" fire hose from a hose house or the Brigade Locker.</p> <p>Locate the valve in the SE stairwell of the Turbine Bldg. Simulate placing the female end on the FP valve and turning the coupling clockwise until tight.</p> <p>Locate the flush connection next to AP-V006, remove the blank, and install the adapter.</p> <p>Attach the fire hose to the adapter.</p>	<p>S U</p> <p>Comments:</p>

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE**

<p>4. 4. Ensure diesel driven fire pump is running.</p> <p>STEP 27 RNO d.</p>	<p>CUE: Diesel driven fire pump is running</p>	<p>Simulate using a hand held radio and contact the Control Room and notify them to start the diesel driven fire pump.</p>	<p>S U</p> <p>Comments:</p>
<p>5. * Pressurize the fire hose.</p> <p>STEP 27 RNO e.</p>	<p>CUE: Valve will no longer turn.</p> <p>If asked,</p> <p>CUE: The hose has become solid to the touch and shows indication of being charged.</p>	<p>Actuate KC-V278 in the counter clockwise direction.</p> <p>May note hose distends because of system pressure.</p>	<p>S U</p> <p>Comments:</p>

* Indicates critical task

TASK**NUMBER - ELEMENT****CUE****STANDARD****SCORE****S U**

6. * Locally add water to CST.

- Open AP-V006

STEP 27 RNO f.

CUE: Handwheel is turning counter clockwise. Stem is rising. Handwheel will no longer turn.

If contacted, CUE: **Go on with other duties, we will monitor CST level.**

THE JPM IS COMPLETE

RECORD STOP TIME
ON PAGE 1

Open AP-V006 by actuating the handwheel in the counter clockwise direction. Check for rising stem.

Should contact Control Room for further instructions.

Comments:

* Indicates critical task

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

NO EQUIPMENT WILL BE OPERATED IN THE PLANT – SIMULATE ONLY

Initial Conditions: A loss of all AC power has occurred while in Mode 1. The Control Room Operators are at step 27 of C-0, "Loss of All AC Power and CST to AFP suction pressure is low.

Initiating Cues: The Control Room Supervisor directs you to manually align the Fire Protection System to the CST per EMG C-0, Step 27 RNO.

JOB PERFORMANCE MEASURE

JPM NO: SRO-A.1.a	K/A NO: 2.1.5
COMPLETION TIME: 10 Minutes	K/A RATING: 3.4
JOB TITLE: SRO	REVISION: 0
TASK TITLE: Shift Staffing, Work Hour Limitations	Ability to locate and use procedures and directives related to shift staffing and activities.
DUTY: Conduct of Operations	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT _____ CLASSROOM X

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: AP 13-001, Guidelines for WCGS Staff Working Hours

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

SRO A.1.a

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1.

Initiating Cues: You are the Control Room Supervisor and one of the assigned ROs called in sick. You need to find a replacement RO. Assuming today is March 7th (0630), based on the work hour history evaluate whether any of the following 5 ROs could perform safety-related functions until 1830 without advanced approval. Assume the work hours will start at 0630. For each candidate indicate whether the answer is yes or no.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide cue sheet.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM, the Candidate will have determined the correct status for at least 4 of the 5 RO.

START TIME: _____

STOP TIME: _____

SRO A.1.a

**TASK
NUMBER - ELEMENT**

CUE

STANDARD

SCORE

1. Provide candidate with completed copy of the initiating cue		Candidate should locate procedure AP 13-00, Guidelines for WCGS Staff Working Hours and review JPM initiating cue	
2. *Review work hour history and determine that only 2 of the 5 ROs could work without advanced approval.	<p>THE JPM IS COMPLETE</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>	<p>Pass criteria is 4 of the 5 ROs work hour status being correctly determined</p> <p>RO1 - no, would work 16.5 hrs straight</p> <p>RO2 - Yes, would work 24 hrs in 48 hrs</p> <p>RO3 - No, less than 8 hours between work periods</p> <p>RO4 - Yes, would work 70 hrs in 7 days</p> <p>RO5 - No, would work 24.5 hrs in 48 hrs</p>	<p>S U</p> <p>Comments:</p>

SRO A.1.a

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1.

Initiating Cues: You are the Control Room Supervisor and one of the assigned ROs called in sick. You need to find a replacement RO. Assuming today is March 7th (0630), based on the work hour history evaluate whether any of the following 5 ROs could perform safety-related functions until 1830 without advanced approval. Assume the work hours will start at 0630. For each candidate indicate whether the answer is yes or no.

1. RO1 has been on-shift since 0000 (March 7).
2. On March 6, RO2 worked from 0630 until 1900 (includes a 1/2 hour shift turnover).
3. RO3 worked from 1430 on March 6 to 0030 on March 7.
4. RO4 has been on vacation for the past two days (March 5 and 6), but worked 12 hours on March 1, 16 hours on March 2, 16 hours on March 3, and 14 hours on March 4.
5. On March 6, RO5 worked from 0630 until 1930 (includes a 1/2 hour shift turnover).

JOB PERFORMANCE MEASURE

JPM NO: SRO-A1B	K/A NO: 2.1.25
COMPLETION TIME: 10 Minutes	K/A RATING: 3.1
JOB TITLE: SRO	REVISION: 0
TASK TITLE: Determine Time to Boil and Core Uncovery based on a loss of Shutdown Cooling.	Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data.
DUTY: Conduct of Operations	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT _____ CLASSROOM X

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: OFN EJ-015

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are a spare licensed operator in the Control Room for Outage Support. The plant is in Mode 5 with water level in the reactor vessel at 3.5 feet below the vessel flange. Train "A" Residual Heat Removal (RHR) is in operation cooling the reactor core. Train "B" RHR System is in Standby. Reactor Coolant System temperature is 180°F. It has been 9 days since the reactor was shutdown.

Initiating Cues: Train "A" Residual Heat Removal pump tripped. Attempts to start "B" RHR pump are unsuccessful. The Control Room Supervisor directs you to determine the following using OFN EJ-015,"LOSS OF RHR COOLING" beginning at step 30.

- 1. the time to boiling
- 2. the time to start of core uncover.
- 3. the time to complete core uncover.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM, the Candidate will have

START TIME: _____

STOP TIME: _____

SRO A.1.b

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
1. Locate Copy of OFN EJ-015, and step 30.			
2. * Check plant - IN REDUCED INVENTORY CONDITION.		Recognize the initiating cues stated the water level in the reactor vessel is 3.5 feet below the vessel flange. <i>Answer: YES</i>	
3. * Estimate time to boiling using FIGURE 5		Locate Figure 5 of OFN EJ-015. Recognize it has been 9 days since shutdown and that the vessel is not pressurized. <i>Answer: 14 minutes \pm 1.</i>	
4. * Estimate time to onset of core uncover using FIGURE 6.		Locate Figure 6 of OFN EJ-015. Recognize it has been 9 days since shutdown. Utilize the ONSET OF CORE UNCOVERY graph line. <i>Answer: 127 minutes \pm 5.</i>	
5. * Estimate time to complete core uncover using FIGURE 6.	<p>THE JPM IS COMPLETE</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>	Locate Figure 6 of OFN EJ-015. Recognize it has been 9 days since shutdown. Utilize the COMPLETE CORE UNCOVERY graph line. <i>Answer: 268 minutes \pm 5.</i>	<p>S U</p> <p>Comments:</p>

* Indicates Critical Task

SRO A.1.b

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are a spare licensed operator in the Control Room for Outage Support. The plant is in Mode 5 with water level in the reactor vessel at 3.5 feet below the vessel flange. Train "A" Residual Heat Removal (RHR) is in operation cooling the reactor core. Train "B" RHR System is in Standby. Reactor Coolant System temperature is 180°F. It has been 9 days since the reactor was shutdown.

Initiating Cues: Train "A" Residual Heat Removal pump tripped. Attempts to start "B" RHR pump are unsuccessful. The Control Room Supervisor directs you to determine the following using OFN EJ-015, "LOSS OF RHR COOLING", beginning at step 30.

1. the time to boiling
2. the time to start of core uncover.
3. the time to complete core uncover.

JOB PERFORMANCE MEASURE

JPM NO: SRO-A2	K/A NO: 2.2.13
COMPLETION TIME: 15 Minutes	K/A RATING: 3.8
JOB TITLE: SRO	REVISION: 0
TASK TITLE: Review a Clearance Order for approval and identify the errors.	Knowledge of tagging and clearance procedures.
DUTY: Equipment Control	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:


CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT _____ CLASSROOM X

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: Drawings: M-12EN01, M-12BN01, E-13EN01, E-13EN02, E-13EN03, E-13BN04
 Procedure: AP 21E-001 "CLEARANCE ORDERS"

TOOLS/EQUIPMENT: NONE

PREPARER:



DATE:

01/03/2006

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is Mode 1. You are the Work Controls SRO. Containment Spray Pump B has a developed a serious leak on its discharge flow element EN FE-011. A Clearance Order has been prepared and tagging authority review performed by the on shift crew at the request of the Shift Manager.

Initiating Cues: The Control Room Supervisor has sent the clearance over for you to release for hanging. Review the clearance order and identify three errors.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Have copies of the following drawings to replace any marked up by the examinee.
M-12EN01, M-12BN01, E-13EN01, E-13EN02, E-13EN03, E-13BN04.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM, the Candidate will have rejected the clearance order based on the three errors.

START TIME: _____

STOP TIME: _____

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
1. Locates the proper drawings.		May locate in any sequence. M-12EN01 M-12BN01, E-13EN01, E-13EN02, E-13EN03, E-13BN04	S U Comments:
2. * Identifies the 3 errors on the clearance order.	<p>THE JPM IS COMPLETE</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>	<p>Can be identified in any sequence.</p> <ol style="list-style-type: none"> 1. Breaker listed for BN HV-03 is for BN HV-04. 2. Breaker listed for EN HV-07 is actually the cubicle for a relay and not the breaker. 3. EN V-024, RWST Test line valve is for wrong train. Should be EN V-025. 	S U Comments:

SRO A2

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is Mode 1. You are the Work Controls SRO. Containment Spray Pump B has a developed a serious leak on its discharge flow element EN FE-011. A Clearance Order has been prepared and tagging authority review performed by the on shift crew at the request of the Shift Manager.

Initiating Cues: The Control Room Supervisor has sent the clearance over for you to release for hanging. Review the clearance order and identify three errors.

WOLF CREEK GENERATING STATION

CLEARANCE ORDER

Clearance Number: S-EN-9000

Component Desired: EN FE-011

Work To Be Done: Shift Manager request

Date/Time: Today

Reason For Clearance	Requestor	Date/Time Tags to be Hung by	Estimated Date/Time of completion	Fire System(s) Effected
Excessive leakage	SM	Today		N/A

Shift Manager's Approval To Remove Equipment From Service And Hang Tags

Prepared By:

Tagging Authority Review:

Shift Manager:

Date/Time: ____ / ____ Effective Date/Time: ____ / ____

Clearance Order Acceptance	Work Order and Step	Phone Ext	ACAD	Date/Time	Ground Tag Issued	Clearance Order Release	Date/Time	Ground Tag Retrnd.	Date/Time Ground Removed

Shift Manager's Approval To Remove Tags

Restoration Section Prepared By:

Restoration Review (SR Only):

Shift Manager:

Date/Time: ____ / ____ EOL REVIEWED FOR RETEST: ☐

Special Instructions/Reference Documents/Clearance Order Summary

Change To Clearance Form Made?

Yes / No



CLEARANCE ORDER CONTINUATION SHEET

Clearance Number SEN900Page: 10 of 1

Components Required to Clear Equipment		Placement Section				Restoration			
Component Tagged	Component Description	Position	Seq	Tagged By	Verified By	Position	Seq	Removed By	Verified By
EN HIS-09	CTMT SPRAY PUMP B	PULL TO LOCK	1						
BN HIS-03	RWST to CTMT SPRAY PUMP B	CLOSED	2						
EN HIS-12	CTMT SPRAY PUMP B DISCHARGE	CLOSED	2						
EN HIS-07	CTMT SUMP TO CTMT SPRAY PUMP B	CLOSED	2						
NB0203	STMT SPRAY PUMP B SUPPLY BKR	OPEN/ RACKED DOWN	3						
NG01AEF2	BN HV-03 SUPPLY BKR	OFF	3						
NG02BBR1	EN HV-12 SUPPLY BKR	OFF	3						
NG02BFR1	EN HV-07 SUPPLY BKR	OFF	3						
BN HV-03	RWST to CTMT SPRAY PUMP B HANDWHEEL	CLOSED	4						
EN HV-12	CTMT SPRAY PUMP B DISCHARGE HANDWHEEL	CLOSED	4						
EN V-100	EDUCTOR TO SPRAY PUMP	CLOSED	4						
EN V-024	RWST TEST LINE ISOLATION	CLOSED	4						
EN V-068	CTMT SPRAY PUMP B DRAIN	OPEN	5						
EN V-115	CTMT SPRAY PUMP B VENT	OPEN	5						
EN V-107	TEST CONNECTION	OPEN	5						
EN V-089	TEST CONNECTION	OPEN	5						

JOB PERFORMANCE MEASURE

JPM NO: SRO-A3	K/A NO: 2.3.1
COMPLETION TIME: 10 Minutes	K/A RATING: 3.0
JOB TITLE: SRO	REVISION: 0
TASK TITLE: Given a Radiological Survey Map and Radiation Work Permit determine the Radiological conditions and controls required.	Knowledge of 10 CFR: 20 and related facility radiation control requirements
DUTY: Radiation Control	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT _____ CLASSROOM X

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES:

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1. You are on a tour in the Auxiliary Building.

Initiating Cues: The Control Room Supervisor states they have received a sump alarm on the "B" RHR Pump room sump and asks you to investigate. Given the survey map and RWP, evaluate the radiological condition in the area and provide the requested information

<p>ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.</p>
--

Notes: Provide survey map and RWP.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM, the Candidate will have correctly answered at least two of the three questions.

START TIME: _____

STOP TIME: _____

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
1. Reviews survey map and RWP.		At least two of the following three must be answered correctly.	
2. * Identify the classification for the room the sump is located in.		High Radiation Area. Based on the 2 at the door way to the RHR pump room.	S U Comments:
3. * Determine time till dosimeter will alarm in 300 mr/hour field.		Immediately. RWP rate setting is 150 mr/hour.	S U Comments:
4. * Identify three areas that would require contacting HP prior to entry.	THE JPM IS COMPLETE <u>RECORD STOP TIME ON PAGE 1</u>	Based on Special Instruction 3# on the RWP. 1. The room itself due to High Radiation Area. 2. The RHR pump seal housing due to Highly Contaminated Area. 3. The RHR pump room sump due to Highly Contaminated Area.	S U Comments:

* Indicates Critical Task

SRO A3

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1. You are on a tour in the Auxiliary Building.

Initiating Cues: The Control Room Supervisor states they have received a sump alarm on the "B" RHR Pump room sump and asks you to investigate. Given the survey map and RWP, evaluate the radiological condition in the area and provide the requested information

NOTE: Circle the correct answers to the following questions and provide the evaluator with your completed paperwork.

1. The area where the sump is located is a:

- A) Potential Hot Particle Area
- B) Contaminated Area
- C) High Radiation Area
- D) Radiation Area

2. If you had to access the pump discharge piping immediately in front of the RHR Pump, how long before your dosimeter will alarm.

- A) Immediately
- B) 45 seconds
- C) 2 minutes
- D) 4 minutes

3. Identify three areas on the Survey Map that require contact with HP prior to entry.

Administrative (Simulator Scenario #1)

SRO A.4.1

WOLF CREEK JOB PERFORMANCE MEASURE

JPM NO: SRO A.4	K/A NO: 2.4.41
COMPLETION TIME: 15 Minutes	K/A RATING: 4.1
JOB TITLE: SRO	REVISION: 0
TASK TITLE: After observing an event on the simulator, make the E-plan Classification and Protective Action Recommendation.	Knowledge of the emergency action level thresholds and classifications.
DUTY: Emergency Plan	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: AP 06-002, Radiological Emergency Response Plan
EPP 06-001, Control Room Operations
EPP 06-005, Emergency Classification
EPP 06-006, Protective Action Recommendations
APF 06-002-01, Emergency Action Levels
EPF 06-007-01, WCGS Emergency Notification

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

SRO A-4.1 Scenario #1

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the acting Shift Manager.

Initiating Cues: Analyze the events you have just experienced on the simulator, complete an EPF 06-007-01, WCGS Emergency Notification form. Use current plant status.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: After the Candidate indicates they would obtain the Emergency Notification form from the Shift Managers desk drawer, present the blank form attached to this JPM.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. . **(PIR 2003-2930)**

Task Standard: Upon completion of this JPM, the Candidate will have made the correct classification and the correct protective action recommendation per the performance page for the scenarion just completed.

START TIME: _____

STOP TIME: _____

SRO A-4.1 Scenario #1
TASK
NUMBER - ELEMENT

CUE

STANDARD

SCORE

			S	U
1. * This classification is for Scenario #1		EAL 3-LRCB1 – Yes 3-LRCB2 – Yes 3-LRCB3 – No 3-LRCB5 – Yes 3-LRCB6 – No 3-LRCB7 – No Alert		
2. * Perform Attachment A of EPP 06-006		PAR Perform Attachment A of EPP 06-006 Complete EMERGENCY ACTION NOTIFICATION as indicated on attached “Key”. <ul style="list-style-type: none">Sections 3, 4, 5, 7, and 8 are critical		
	THE JPM IS COMPLETE			
	RECORD STOP TIME ON PAGE 1			

* CRITICAL STEP

SRO A-4.1 Scenario #1

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the acting Shift Manager.

Initiating Cues: Analyze the events you have just experienced on the simulator, complete an EPF 06-007-01, WCGS Emergency Notification form. Use current plant status.

WOLF CREEK GENERATING STATION EMERGENCY NOTIFICATION1. **STATUS:** ☐ ACTUAL ☐ DRILL2. **CODE WORD** (County/State only): _____3. **NOTIFICATION TYPE:**☐ IMMEDIATE (Steps 1-8, & 13) ☐ FOLLOWUP (ALL)4. **EMERGENCY CLASSIFICATION:**

TIME: _____ DATE: ____/____/____

☐ UNUSUAL EVENT ☐ ALERT ☐ SITE AREA
☐ GENERAL ☐ RECOVERY ☐ TERMINATION5. **REASON FOR CLASSIFICATION:** (EAL)☐ 1-RER ☐ 2-SGTF ☐ 3-LRCB ☐ 4-MSLB
☐ 5-FEF ☐ 6-LEP/AC ☐ 7-FHA ☐ 8-SSFM
☐ 9-LPC/SC ☐ 10-FR ☐ 11-NP ☐ 12-OH
☐ 13-ADM

EAL Step Numbers _____

6. **METEOROLOGICAL DATA:**

WIND: AT: _____ MPH, FROM: _____ TOWARDS: _____ Degrees

STABILITY CLASS: _____ PRECIPITATION: ☐ YES ☐ NO7. **RADIOLOGICAL RELEASE STATUS:**☐ NONE ☐ PLANNED ☐ MONITORED
☐ TERMINATED ☐ UNPLANNED ☐ UNMONITORED
(If NONE, N/A steps 10, 11, & 12 for Follow-up Notifications)8. **PROTECTIVE ACTION RECOMMENDATION:** ☐ NONE

If making a PAR only, TIME OF PAR: _____

☐ Evacuate CCL & JRR☐ Evacuate Sub-zones ☐ Shelter Sub-zones0-2 MILES: ☐ CTR2-5 MILES: ☐ N-1 ☐ NE-1 ☐ E-1 ☐ SE-1
☐ S-1 ☐ SW-1 ☐ W-1 ☐ NW-15-10 MILES: ☐ N-2 ☐ NE-2 ☐ NE-3 ☐ E-2
☐ SE-2 ☐ SE-3 ☐ SE-4 ☐ S-2☐ SW-2 ☐ W-2 ☐ NW-2> 10 MILES: ☐ DISTANCE FROM PLANT: _____ MILES9. **CURRENT PLANT CONDITION:** ☐ IMPROVING ☐ STABILIZED ☐ DEGRADING TIME REACTOR TRIPPED _____10. **FIELD TEAM DATA:** ☐ Not Available; Time Collected: _____ At _____ Miles From CTMT =
_____ mR/hr GAMMA, _____ (uCi/cc) IODINE, _____ (uCi/cc) PART.11. **RELEASE RATE:** Release Start Time: _____ Estimated Total Release Time In Hours: _____
Data Collected (Time) _____ Release Rate = _____ Ci/Sec NOBLE GAS and _____ Ci/Sec RADIOIODINE12. **CENTERLINE DOSES (Based on):**☐ RAD MONITORING SYSTEM ☐ USAR SOURCE TERM ESTIMATE ☐ FIELD TEAM MONITORING DATA

	INTEGRATED DOSES PROJECTED (TIME):	
	RELEASE START	RELEASE STOPPED
	TEDE (REM)	THYROID (REM)
EAB		
2 MI		
5 MI		
10 MI		

COMMENTS: [Commitment Step 3.2.1] _____

13. **NOTIFICATION APPROVAL:** _____ / _____

Signature

Title

(FOR WCNOG USE ONLY)	PRIMARY CONTACT	ALTERNATE CONTACTS		PERSON/TIME
COFFEY COUNTY SHERIFF	620-364-2123	STATION RADIO	KHP 785-827-4437	
KANSAS DIVISION OF EMERGENCY MANAGEMENT	785-296-3176 LEAVE MESSAGE	STATE RADIO	STATE EOC ACTIVATED 785-274-1422	
NRC RESIDENT INSPECTOR	OFFICE EXT. 4574	SN. RESIDENT RESIDENT REG. IV BRANCH	Cell: 620-343-0577 Cell: 620-794-3977 Cell: 817-917-1214	
TOPEKA SYSTEM DISPATCH	785-575-6078			
ANI (ALERT OR HIGHER)	860-682-1301; OFF HOURS LEAVE MESSAGE			
INPO (ALERT OR HIGHER)	800-321-0614			

WOLF CREEK GENERATING STATION EMERGENCY NOTIFICATION

1. STATUS: ☐ ACTUAL ☐ DRILL

2. CODE WORD (County/State only): _____

3. NOTIFICATION TYPE:

☒ IMMEDIATE (Steps 1-8, & 13) ☐ FOLLOWUP (ALL)

4. EMERGENCY CLASSIFICATION:

TIME: Current DATE: 03/24/06☐ UNUSUAL EVENT ☒ ALERT ☐ SITE AREA
☐ GENERAL ☐ RECOVERY ☐ TERMINATION

5. REASON FOR CLASSIFICATION: (EAL)

☐ 1-RER ☐ 2-SGTF ☒ 3-LRCB ☐ 4-MSLB
☐ 5-FEF ☐ 6-LEP/AC ☐ 7-FHA ☐ 8-SSFM
☐ 9-LPC/SC ☐ 10-FR ☐ 11-NP ☐ 12-OH
☐ 13-ADMEAL Step Numbers LRCB 1, 2, 3, 5, 6, 7

6. METEOROLOGICAL DATA:

WIND: AT: _____ MPH, FROM: _____ TOWARDS: _____ Degrees

STABILITY CLASS: _____ PRECIPITATION: ☐ YES ☐ NO

7. RADIOLOGICAL RELEASE STATUS:

☒ NONE ☐ PLANNED ☐ MONITORED
☐ TERMINATED ☐ UNPLANNED ☐ UNMONITORED
(If NONE, N/A steps 10, 11, & 12 for Follow-up Notifications)8. PROTECTIVE ACTION RECOMMENDATION: ☒ NONE

IF making a PAR only, TIME OF PAR: _____

☐ Evacuate CCL & JRR☐ Evacuate Sub-zones ☐ Shelter Sub-zones0-2 MILES: ☐ CTR2-5 MILES: ☐ N-1 ☐ NE-1 ☐ E-1 ☐ SE-1
☐ S-1 ☐ SW-1 ☐ W-1 ☐ NW-15-10 MILES: ☐ N-2 ☐ NE-2 ☐ NE-3 ☐ E-2
☐ SE-2 ☐ SE-3 ☐ SE-4 ☐ S-2
☐ SW-2 ☐ W-2 ☐ NW-2> 10 MILES: ☐ DISTANCE FROM PLANT: _____ MILES9. CURRENT PLANT CONDITION: ☐ IMPROVING ☐ STABILIZED ☐ DEGRADING TIME REACTOR TRIPPED _____10. FIELD TEAM DATA: ☐ Not Available; Time Collected: _____ At _____ Miles From CTMT =
_____ mR/hr GAMMA, _____ (uCi/cc) IODINE, _____ (uCi/cc) PART.11. RELEASE RATE: Release Start Time: _____ Estimated Total Release Time In Hours: _____
Data Collected (Time) _____ Release Rate = _____ Ci/Sec NOBLE GAS and _____ Ci/Sec RADIOIODINE

12. CENTERLINE DOSES (Based on):

☐ RAD MONITORING SYSTEM ☐ USAR SOURCE TERM ESTIMATE ☐ FIELD TEAM MONITORING DATA

	INTEGRATED DOSES PROJECTED (TIME):	
	TEDE (REM)	THYROID (REM)
EAB		
2 MI		
5 MI		
10 MI		

COMMENTS: [Commitment Step 3.2.1] _____

13. NOTIFICATION APPROVAL: Sgt /

Signature

Title

(FOR WCNOG USE ONLY)	PRIMARY CONTACT	ALTERNATE CONTACTS		PERSON/TIME
COFFEY COUNTY SHERIFF	620-364-2123	STATION RADIO	KHP 785-827-4437	
KANSAS DIVISION OF EMERGENCY MANAGEMENT	785-296-3176 LEAVE MESSAGE	STATE RADIO	STATE EOC ACTIVATED 785-274-1422	
NRC RESIDENT INSPECTOR	OFFICE EXT. 4574	SN. RESIDENT RESIDENT REG. IV BRANCH	Cell: 620-343-0577 Cell: 620-794-3977 Cell: 817-917-1214	
TOPEKA SYSTEM DISPATCH		785-575-6078		
ANI (ALERT OR HIGHER)		860-682-1301; OFF HOURS LEAVE MESSAGE		
INPO (ALERT OR HIGHER)		800-321-0614		

JOB PERFORMANCE MEASURE

JPM NO: RO A1.a	K/A NO: 2.1.20
COMPLETION TIME: 20 Minutes	K/A RATING: 4.3
JOB TITLE: RO	REVISION: 0
TASK TITLE: Perform STS BG-001, Born Injection Flowpath Verification.	Ability to execute procedure steps.
DUTY: Conduct of Operations	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB X PLANT _____ CLASSROOM _____

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES:

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

Simulator Set Up: IC 30

Use the Fuse/Breaker Remote function and remove power from "B" BATP (PBG02B)
Use the Fuse/Breaker Remote function and remove power from Excess Letdown Valve BG HV8154A.
Hang DNO Tags on BG HIS-8154A and "B" BATP Handswitch.

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1. Boric Acid Transfer Pump B is tagged for out for seal replacement. The pump breaker is off and its inlet and outlet isolations are tagged closed.

Initiating Cues: The Control Room Supervisor directs you to perform STS BG-001, BORON INJECTION FLOW PATH VERIFICATION.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide STS BG-001 with Cover Sheet completed for Authorization to begin.


THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM, the Candidate will have

START TIME: _____

STOP TIME: _____

**TASK
NUMBER - ELEMENT**
CUE
STANDARD
SCORE

1.  Review Procedure. Determine Section 8.1 must be performed for current Mode.		Initial Conditions State Mode 1.	S U Comments:
2. * Perform Step 8.1.1 for RWST to RCS flowpath and verify PORVs available..		Completes Figure 1. Notes that the Blue Placard is on the "A" Train CCP and should use the "B" CCP for the line up. Verifies that both PORV and Block valves are available See key.	S U Comments:
3. * Perform Step 8.1.1 to verify Excess Letdown Flow Path		Completes Figure 4. Recognize Red Train flow path not available. See Key	S U Comments:
4. * Perform Step 8.1.2.		Completes Figure 2. Must use "A" CCP to complete flow path. Recognizes "B" Transfer Pump is not available Recognize same Excess Flow Path can be used. See Key	:

* Indicates Critical Task

RO A1.a

**TASK
NUMBER - ELEMENT**

CUE

STANDARD

SCORE

5. Complete Procedure

THE JPM IS Complete

Record Stop Time.

N/A remaining steps in
Procedure.

Sign Cover Sheet and
return to the SRO.

S U

Comments

* Indicates Critical Task

RO A1.a

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1. Boric Acid Transfer Pump B is tagged for out for seal replacement. The pump breaker is off and its inlet and outlet isolations are tagged closed.

Initiating Cues: The Control Room Supervisor directs you to perform STS BG-001, BORON INJECTION FLOW PATH VERIFICATION.

JOB PERFORMANCE MEASURE

JPM NO: RO-A1B	K/A NO: 2.1.25
COMPLETION TIME: 15 Minutes	K/A RATING: 2.8
JOB TITLE: RO	REVISION: 0
TASK TITLE: Determine Time to Boil and Core Uncovery based on a loss of Shutdown Cooling.	Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data.
DUTY: Conduct of Operations	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT _____ CLASSROOM X

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: OFN EJ-015

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are a spare licensed operator in the Control Room for Outage Support. The plant is in Mode 5 with water level in the reactor vessel at 3.5 feet below the vessel flange. Train “A” Residual Heat Removal (RHR) is in operation cooling the reactor core. Train “B” RHR System is in Standby. Reactor Coolant System temperature is 180°F. It has been 9 days since the reactor was shutdown.

Initiating Cues: Train “A” Residual Heat Removal pump tripped. Attempts to start “B” RHR pump are unsuccessful. The Control Room Supervisor directs you to determine the following using OFN EJ-015, “LOSS OF RHR COOLING” beginning at step 30.

- 1. the time to boiling
- 2. the time to start of core uncover.
- 3. the time to complete core uncover.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes:


THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930).

Task Standard: Upon completion of this JPM, the Candidate will have

START TIME: _____

STOP TIME: _____

RO A.1.b

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
1. Locate Copy of OFN EJ-015, and step 30.			
2.  Check plant - IN REDUCED INVENTORY CONDITION.		Recognize the initiating cues stated the water level in the reactor vessel is 3.5 feet below the vessel flange. <i>Answer: YES</i>	
3. * Estimate time to boiling using FIGURE 5		Locate Figure 5 of OFN EJ-015. Recognize it has been 9 days since shutdown and that the vessel is not pressurized. <i>Answer: 14 minutes ± 1.</i>	
4. * Estimate time to onset of core uncover using FIGURE 6.		Locate Figure 6 of OFN EJ-015. Recognize it has been 9 days since shutdown. Utilize the ONSET OF CORE UNCOVERY graph line. <i>Answer: 127 minutes ± 5.</i>	
5. * Estimate time to complete core uncover using FIGURE 6.	THE JPM IS COMPLETE <u>RECORD STOP TIME ON PAGE 1</u>	Locate Figure 6 of OFN EJ-015. Recognize it has been 9 days since shutdown. Utilize the COMPLETE CORE UNCOVERY graph line. <i>Answer: 268 minutes ± 5.</i>	S U Comments:

* Indicates Critical Task

RO A.1.b

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are a spare licensed operator in the Control Room for Outage Support. The plant is in Mode 5 with water level in the reactor vessel at 3.5 feet below the vessel flange. Train "A" Residual Heat Removal (RHR) is in operation cooling the reactor core. Train "B" RHR System is in Standby. Reactor Coolant System temperature is 180°F. It has been 9 days since the reactor was shutdown.

Initiating Cues: Train "A" Residual Heat Removal pump tripped. Attempts to start "B" RHR pump are unsuccessful. The Control Room Supervisor directs you to determine the following using OFN EJ-015, "LOSS OF RHR COOLING", beginning at step 30.

1. the time to boiling
2. the time to start of core uncover.
3. the time to complete core uncover.

JOB PERFORMANCE MEASURE

JPM NO: RO-A2	K/A NO: 2.2.13
COMPLETION TIME: 20 Minutes	K/A RATING: 3.6
JOB TITLE: RO	REVISION: 0
TASK TITLE: Prepare a Clearance Order to remove a leaking pump from service.	Knowledge of tagging and clearance procedures.
DUTY: Equipment Control	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT _____ CLASSROOM X

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES: Drawings: M-12EN01, M-12BN01, E-13EN01, E-13EN02, E-13EN03, E-13BN04
Procedure: AP 21E-001 "CLEARANCE ORDERS"

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is Mode 1. Containment Spray Pump B has a developed a serious leak on its discharge flow element EN FE-011.

Initiating Cues: The Control Room Supervisor directs you to identify the isolation boundaries that will be required to remove Containment Spray Pump B from service and isolate EN FE-011. List the components on the clearance order sheet provided in the proper sequence.

Component Names are **NOT** required.

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Have copies of the following drawings to replace any marked up by the examinee.
M-12EN01, M-12BN01, E-13EN01, E-13EN02, E-13EN03, E-13BN04.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. (PIR 2003-2930).

Task Standard: Upon completion of this JPM, the Candidate will have designated the correct isolation boundaries.

START TIME: _____

STOP TIME: _____

**TASK
NUMBER - ELEMENT**
CUE**STANDARD****SCORE**

1. Locates the proper drawings.		May locate in any sequence. M-12EN01 M-12BN01, E-13EN01, E-13EN02, E-13EN03, E-13BN04	S U Comments:
2. Identifies the Main Control Board Handswitches		See key for proper position. May list in any sequence. EN HIS-09, BN HIS-03, EN HIS-12, EN HIS-07	
3. * Identifies electrical power supplies.		See key for proper position and breaker number. Ctmt Spray Pump B BN HV-03 EN HV-12 EN HV-07	S U Comments:
4. * Identifies isolation valves.		See key for proper position. BN HV-03 EN HV-12 EN V-100 EN V-025	S U Comments: <i>EN HV-07 is an encapsulated valve and may or may not be listed.</i>

*Indicates Critical Task

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
5. * Identifies vent and drain valves.		<p>See key for proper position.</p> <p>At least one of the valves from each group must be selected.</p> <p>Drains:</p> <ul style="list-style-type: none"> • EN V-032 • EN V-068 • EN V-107 <p>Vents:</p> <ul style="list-style-type: none"> • EN V-089 • EN V-115 • EV V-095 	<p>S U</p> <p>Comments:</p>
6. * Identifies preferred sequence.	<p>THE JPM IS COMPLETE</p> <p><u>RECORD STOP TIME ON PAGE 1</u></p>	<p>Two critical tasks are associated with the sequence:</p> <ol style="list-style-type: none"> 1. Spay pump handswitch must be placed in Pull to Lock or the Pump breaker racked out prior to closing suction valves. 2. Vents and drains must be last. 	<p>S U</p> <p>Comments:</p>

*Indicates Critical Task

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is Mode 1. Containment Spray Pump B has a developed a serious leak on its discharge flow element EN FE-011.

Initiating Cues: The Control Room Supervisor directs you to identify the isolation boundaries that will be required to remove Containment Spray Pump B from service and isolate EN FE-011. List the components on the clearance order sheet provided in the proper sequence.

Component Names are **NOT** required.

KEY



FORM APF 21E-001-02 REV 01

CLEARANCE ORDER CONTINUATION SHEET

Components Required to Clear Equipment		Placement Section				Restoration			
Component Tagged	Component Description	Position	Seq.	Tagged D.	Verified D.	Position	Seq.	Removed D.	Verified D.
EN HIS-09	CTMT SPRAY PUMP B	PULL TO LOCK	1						
BN HIS-03	RWST to CTMT SPRAY PUMP B	CLOSED	2						
EN HIS-12	CTMT SPRAY PUMP B DISCHARGE	CLOSED	2						
EN HIS-07	CTMT SUMP TO CTMT SPRAY PUMP B	CLOSED	2						
NB0203	STMT SPRAY PUMP B SUPPLY BKR	OPEN/ RACKED DOWN	3						
NG02ABF1	BN HV-03 SUPPLY BKR	Verified OFF	3						
NG02BBR1	EN HV-12 SUPPLY BKR	Verified OFF	3						
NG02BEF3	EN HV-07 SUPPLY BKR	Verified OFF	3						
BN HV-03	RWST to CTMT SPRAY PUMP B HANDWHEEL	CLOSED	4						
EN HV-12	CTMT SPRAY PUMP B DISCHARGE HANDWHEEL	CLOSED	4						
EN V-100	EDUCTOR TO SPRAY PUMP B	CLOSED	4						
EN V-025	RWST TEST LINE ISOLATION	CLOSED	4						
EN V-032	PP & TEST CONNECTION	OPEN	5						
EN V-068	CTMT SPRAY PUMP B DRAIN	OPEN	5						
EN V-095	CTMT SPRAY PUMP B SUCTION HEADER VENT	OPEN							
EN V-115	CTMT SPRAY PUMP B VENT	OPEN	5						
EN V-107	TEST CONNECTION	OPEN	5						
EN V-089	TEST CONNECTION	OPEN	5						

JOB PERFORMANCE MEASURE

JPM NO: RO-A3	K/A NO: 2.3.1
COMPLETION TIME: 10 Minutes	K/A RATING: 2.6
JOB TITLE: RO	REVISION: 0
TASK TITLE: Given a Radiological Survey Map and Radiation Work Permit determine the Radiological conditions and controls required.	Knowledge of 10 CFR: 20 and related facility radiation control requirements
DUTY: Radiation Control	

The performance of this task was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

Reason, if UNSATISFACTORY:

EVALUATORS SIGNATURE: _____ DATE: _____

TASK PERFORMER: _____

LOCATION OF PERFORMANCE:

CONTROL ROOM _____ SIMULATOR/LAB _____ PLANT _____ CLASSROOM X

METHOD OF PERFORMANCE: SIMULATED _____ PERFORMED X

REFERENCES:

TOOLS/EQUIPMENT: NONE

PREPARER:

R. Acree

DATE:

01/03/2006

Read to Performer:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating and subsequent cues. You may use any approved reference materials normally available to you. Make all written reports, oral reports, and log entries as if the evolution was actually being performed. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The Plant is in Mode 1. You are on a tour in the Auxiliary Building.

Initiating Cues: The Control Room Supervisor states they have received a sump alarm on the "B" RHR Pump room sump and asks you to investigate. Given the survey map and RWP, evaluate the radiological condition in the area and provide the requested information

ASK IF THE OPERATOR UNDERSTANDS THE INITIATING CUES.

Notes: Provide survey map and RWP.

THE EVALUATOR OR EXAM GROUP SHALL VERIFY THAT THE PROCEDURE REVISION FOR THIS JPM IS CURRENT AND THAT ANY CHANGE AGAINST THE REFERENCED PROCEDURE DOES NOT INVALIDATE THIS JPM. **(PIR 2003-2930).**

Task Standard: Upon completion of this JPM, the Candidate will have correctly answered at least two of the three questions.

START TIME: _____

STOP TIME: _____

TASK NUMBER - ELEMENT	CUE	STANDARD	SCORE
1. Reviews survey map and RWP.		At least two of the following three must be answered correctly.	
2. * Identify the classification for the room the sump is located in.		High Radiation Area. Based on the 2 at the door way to the RHR pump room.	S U Comments:
3. * Determine time till dosimeter will alarm in 300 mr/hour field.		Immediately. RWP rate setting is 150 mr/hour.	S U Comments:
4. * Identify three areas that would require contacting HP prior to entry.	THE JPM IS COMPLETE <u>RECORD STOP TIME ON PAGE 1</u>	Based on Special Instruction 3# on the RWP. 1. The room itself due to High Radiation Area. 2. The RHR pump seal housing due to Highly Contaminated Area. 3. The RHR pump room sump due to Highly Contaminated Area.	S U Comments:

* Indicates Critical Task

Read to Performer:

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Initial Conditions: The Plant is in Mode 1. You are on a tour in the Auxiliary Building.

Initiating Cues: The Control Room Supervisor states they have received a sump alarm on the "B" RHR Pump room sump and asks you to investigate. Given the survey map and RWP, evaluate the radiological condition in the area and provide the requested information

NOTE: Circle the correct answers to the following questions and provide the evaluator with your completed paperwork.

1. The area where the sump is located is a:
 - A) Potential Hot Particle Area
 - B) Contaminated Area
 - C) High Radiation Area
 - D) Radiation Area

2. If you had to access the pump discharge piping immediately in front of the RHR Pump, how long before your dosimeter will alarm.
 - A) Immediately
 - B) 45 seconds
 - C) 2 minutes
 - D) 4 minutes

3. Identify three areas on the Survey Map that require contact with HP prior to entry.