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Appendix D

Scenario Outline

Form ES-D-1

Facility: <u>River Bend Station</u>	Scenario No.: <u>1</u>	Op-Test No.: _____	
Examiners: _____ Operators: _____ _____ _____			
Initial Conditions:			
<p><u>Mode 1, Reactor power 68%. Power ascension in progress following downpower for Feedwater pump 'C' seal replacement. APRM B in bypass due to downscale failure. FWS-P1A & B in service.</u></p> <p>Turnover: Shift priorities: 1) Start lube oil system for FWS-P1C in preparation for pump start. 2) Place 3rd Feed Reg Valve in service. 3) Raise reactor power in accordance with Reactivity Control Plan Step 20, then await further guidance from reactor engineering.</p>			
Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (CRS,BOP)	Start Feedwater pump "C" lube oil system per SOP-0009.
2	NA	N (CRS,ATC)	Place 3 rd Feedwater Regulating Valve in service per SOP-0009.
3	NA	R (ATC)	Raise reactor power in accordance with the reactivity control plan Step 20.
4	NMS015F	I (CRS,ATC)	(Tech Spec) APRM F Upscale failure due to flow converter downscale failure and half scram.
5	MSC011	C(CRS)	(Tech Spec) 171' airlock inner door seal failure.
6	p870_54a: g_5 FAIL ON	C(CRS,BOP)	Steam Packing Exhauster failure requiring equipment rotation.
7	EHC001 RPS001A	M (ALL)	Main Turbine Trip/Anticipated Transient Without Scram with MSIVs open due to failure of RPS to completely de-energize.
8	FWS004B	C (CRS,ATC)	Feedwater Master Level Controller output fails high.
9	EHC002B	C (CRS,BOP)	Main Turbine Bypass Valves fail closed.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Total Malfunctions (5-8) **(7)**APRM F, 171' airlock, Stm Packing Exh.,Turb trip, ATWS, Master Controller, Turb Bypass Valves.

Malfunctions after EOP entry (1-2) **(2)** Feedwater Master Controller, Turbine Bypass Valves

Abnormal Events (2-4) **(2)** AOP-2,AOP-3

Major Transients (1-2) **(1)** ATWS

EOPs entered (1-2) **(2)** EOP-1, EOP-2

EOP contingencies (0-2) **(1)** EOP-1A

Critical Tasks (2-3) **(2)** Terminate injection to <-56", Begin control rod insertion

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Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 1 </u>			Page ____ of ____
Event Description: <u>Start Feedwater pump "C" lube oil system per SOP-0009</u>			
Event Initiation: Initiated by crew.			
CUE: Turnover item.			
Time	Position	Applicant's Actions or Behavior	
	CRS	Direct the BOP to start up the lube oil system for Feedwater pump C in accordance with SOP-0009 Section 4.1	
	BOP	Startup the lube oil system for Feedwater pump C as follows: <ul style="list-style-type: none"> Communicate with Turbine Building operator to verify adequacy of reservoir oil level. 	
	ROLE PLAY	As Turbine Building operator, notify the BOP that oil level on FWL-PI119C is approximately midrange.	
	BOP	Continue startup the lube oil system for Feedwater pump C as follows: <ul style="list-style-type: none"> Check operation of FWS-P2C as follows: <ul style="list-style-type: none"> Place control switch to START On H13-P680, check red RX FWP P1C MN LO PMP PRESS NORM light is on. Return the pump control switch to STOP. Check operation of FWS-P3C as follows: <ul style="list-style-type: none"> Place control switch to START On H13-P680, check red RX FWP P1C MN LO PMP PRESS NORM light is on. Return the pump control switch to STOP. Communicate with the Turbine Building operator to verify adequacy of the gear increaser oil level in the bulls-eye. 	
	ROLE PLAY	As Turbine Building operator, notify the BOP that oil level is visible in the C gear increaser bulls-eye.	

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	BOP	<p>Continue startup the lube oil system for Feedwater pump C as follows:</p> <ul style="list-style-type: none"> • Check operation of FWL-P5C as follows: <ul style="list-style-type: none"> ○ Place the pump control switch to START ○ On H13-P680, check red RX FWP P1C GEAR INCR LO PRESS NORM light is ON. ○ Return the pump control switch to STOP.
	BOP	<ul style="list-style-type: none"> • Place the control switches for the following pumps to AUTO: <ul style="list-style-type: none"> ○ FWL-P1C ○ FWL-P5C • At H13-P680, depress RX FWP P1C LUBE OIL SYSTEM START pushbutton and check the following: <ul style="list-style-type: none"> ○ FWL-P1C starts ○ FWL-P5C starts ○ RX FWP P1C MN LO PUMP PRESS NORM red light is ON ○ RX FWP P1C GEAR INCR LO PRESS NORM red light is ON • Place the control switches for the following pumps in AUTO: <ul style="list-style-type: none"> ○ FWL-P2C ○ FWL-P3C • Communicate with Turbine Building operator to verify proper oil flows through sight glasses on feed pump, motor bearings, and gear increaser supply on Feedwater pump C.
	ROLE PLAY	As Turbine Building operator, accept direction to verify proper oil flow on Feedwater pump C. Report that oil flow is satisfactory.
	<i>Termination Point</i>	<i>Event is terminated upon completion of SOP-0009 Section 4.1</i>

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 2 </u>			Page ____ of ____
Event Description: <u>Place 3rd Feedwater Regulating Valve in service per SOP-0009</u>			
Event Initiation: Initiated by crew.			
CUE: Turnover item.			
Time	Position	Applicant's Actions or Behavior	
	CRS	Direct the ATC to place the 3 rd Feedwater Regulating Valve in service accordance with SOP-0009 Section 4.11	
	BOP	<p>Place the 3rd FWREG Valve in Service as follows:</p> <ul style="list-style-type: none"> ○ Verify at least one FWREG valve is in service on master level control per Section 4.9. ○ Verify closed FWS-MOV27A(B)(C), FWREG VLV 1A(1B)(1C) INLT Valve ○ Ensure C33-R601A(R613)(R601B), FWREG VALVE A(B)(C) FLOW CONTROLLER IN MANUAL, set at 0%. ○ IF the amber CONT SIGNAL FAILURE light is ON, THEN depress the A(B)(C) FWREG VLV CONT SIGNAL FAILURE RESET Pushbutton ○ Test stroke C33-LVF001A(B)(C), FWREG VALVE A(B)(C) as follows: <ul style="list-style-type: none"> ○ Communicate with the turbine building operator to locally monitor valve position. ○ Use the OPEN and CLOSE pushbuttons on C33-R601A(R613)(R601B), FWREG VALVE A(B)(C) FLOW CONTROLLER to stroke open and closed C33-LVF001A(B)(C). ○ Communicate with turbine building operator to verify proper valve movement and smooth operation. ○ Check C33-LVF001A(B)(C) full closed. ○ Open FWS-MOV27A(B)(C), FWREG VLV 1A(1B)(1C) INLT Valve. ○ Open C33-LVF001A(B)(C), FWREG VALVE A(B)(C) until all in service FWREGs are at the same position. ○ Place C33-R601A(R613)(R601B) in AUTO. 	
	ROLE PLAY	Accept direction from ATC to locally verify smooth operation of regulating valve and report back that operation was smooth following the full stroke exercise.	
	Termination Point	Event is terminated when all 3 Feedwater Regulating Valves are in service.	

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Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 3 </u>		Page ____ of ____
<p>Event Description: Raise reactor power in accordance with the reactivity control plan Step 20</p> <p>Event Initiation: Initiated by crew.</p> <p>CUE: Turnover item.</p>		
Time	Position	Applicant's Actions or Behavior
	CRS	Direct the reactor power ascension in accordance with the Reactivity Control Plan (RCP)
	ATC	<ul style="list-style-type: none"> ○ Accept the direction for power ascension. ○ Withdraw control rods in accordance with RCP by using SOP-0071. <ul style="list-style-type: none"> ○ At H13-P680, on the ROD SELECT MODULE, select the rod to be moved. ○ Depress SELECTED GROUP button to check positions of control rods within group are correct prior to movement ○ Check that a Rod Withdraw Block or Inhibit does not exist. ○ On H13-P680, depress and hold, WITHDRAW Pushbutton until the IN indicator is lit or the start of rod motion is observed. ○ Check that the new rod notch position displayed is the next highest even number. ○ Repeat the rod motion as needed to satisfy the steps indicated on the turnover sheet. ○ Report the power ascension complete.
	<i>Termination Point</i>	<i>Event is terminated when Step 20 of the Reactivity Control Plan has been completed.</i>

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Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 4 </u> Page ____ of ____		
Event Description: (Tech Spec) APRM F Upscale failure due to flow converter downscale failure and half scram Event Initiation: At lead evaluator discretion. CUE: Annunciator: H13-P680 6A A03 APRM B or F Upscale Trip or INOP & H13-P680 5A A10 RPS TRIP LOGIC B OR D ACTIVATED		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Recognize and report APRM F failure and half scram condition. Per ARP 680-5-A10 Verify no individual rod scrams.
	CRS	<ul style="list-style-type: none"> Accept report of failed APRM Notify maintenance of failed instrument. Make OSP-0046 notifications, notify Reactor Engineering. Enter Technical Specification 3.3.1.1. Condition A. Recognize potential LCO for TS 3.3.2.1 Direct ATC to remove APRM B from bypass and place APRM F in bypass, then reset the half scram.
	ATC	<ul style="list-style-type: none"> Remove APRM B from bypass and place APRM F in bypass Reset the half scram.
	ROLE PLAY	<ul style="list-style-type: none"> As Work Management or Maintenance accept report of failed instrument.
	<i>Termination Point</i>	<i>Event is terminated when CRS has applied Technical Specifications to the APRM failure and has given direction to bypass the APRM and reset the half scram.</i>

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 5 </u>		
Page ____ of ____		
Event Description: (Tech Spec) 171' airlock outer door seal failure Event Initiation: At lead evaluator discretion. Cue: Annunciator: H13-P863/71/B05 AUX BLDG/CNMT AL OUTBOARD DOOR SEAL FAILURE		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report annunciator status to CRS Respond to annunciator per ARP. Dispatch personnel to locally verify status of airlock.
	CRS	<ul style="list-style-type: none"> Accept report of airlock annunciator status.
	ROLE PLAY	<ul style="list-style-type: none"> As reactor building operator, accept direction to locally verify status of airlock. Report that the 171' airlock outer door seal has failed.
	CRS	<ul style="list-style-type: none"> Upon receipt of confirmation of door seal failure, enter Technical Specification 3.6.1.2 Condition A. Within 1 hour of inoperability, verify OPERABLE door (inner door) is CLOSED. Within 24 hours of inoperability, verify OPERABLE door (inner door) is LOCKED.
	<i>Termination Point</i>	<i>Event is terminated when the CRS has applied Technical Specifications to the airlock failure.</i>

Op-Test No.: _____ Scenario No.: <u>1</u> Event No.: <u>6</u>		Page ____ of ____
<p>Event Description: Steam Packing Exhauster B failure requiring equipment rotation.</p> <p>Event Initiation: At lead evaluator discretion.</p> <p>Cue: Annunciator: H13-P870 54 G05 STEAM PACKING EXH FAN MOTOR HIGH TEMPERATURE</p>		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report annunciator status on Steam Packing Exhauster. Dispatch Turbine Building operator to verify local status of Steam Packing Exhauster.
	CRS	<ul style="list-style-type: none"> Accept report of Steam Packing Exhauster high temperature condition. Direct BOP to swap Steam Packing Exhauster A in accordance with ARP and SOP-0115. Notify maintenance of high temperature condition on the Steam Packing Exhauster B.
	ROLE PLAY	<ul style="list-style-type: none"> As Turbine Building operator accept direction to verify local status of Steam Packing Exhauster. Provide local report that the B exhauster motor is extremely hot.
	BOP	<ul style="list-style-type: none"> Swap Steam Packing Exhausters per SOP-0015 Section 5.3 as follows: Partially open TME-MOVD1 for the fan to be started. WHEN at least 3 minutes have elapsed, THEN close TME-MOVD1 for the fan to be started. Start TME-SPEM-A. Throttle open TME-MOVD1 while closing TME-MOVD2 to maintain greater than or equal to 10 inches and less than or equal to 14 inches of water as indicated on TME-PIEPR-9. WHEN TME-MOVD2 is completely closed, THEN stop TME-SPEM-B.
	ROLE PLAY	<ul style="list-style-type: none"> After equipment rotation, as Turbine Building operator notify BOP that Packing Exhauster A is running fine with normal vibration and temperature.
	<i>Termination Point</i>	<i>Event is terminated when the standby Steam Packing Exhauster has been placed in service and the previously running Steam Packing Exhauster has been secured.</i>

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Op-Test No.: _____ Scenario No.: <u>1</u> Event No.: <u>7</u>		Page ____ of ____
<p>Event Description: Main Turbine Trip/Anticipated Transient Without Scram with MSIVs open due to failure of RPS to de-energize.</p> <p>Event Initiation: At lead evaluator discretion.</p> <p>Cue: Numerous annunciators, turbine trip light indication, control rods remain withdrawn with a scram signal present.</p>		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Place the mode switch to shutdown Determine that all control rods did not fully insert Arm and depress all four manual scram pushbuttons Determine that all control rods did not fully insert Arm and initiate Alternant Rod Insertion Determine that all control rods did not fully insert Give the SRO an ATWS report
	SRO	<p>Accept ATWS report from ATC</p> <ul style="list-style-type: none"> Enter EOP-1 and transition to EOP-1A RPV control ATWS Direct the following EOP-1A actions: <ul style="list-style-type: none"> ATC Trip both reactor recirc pumps BOP Terminate and prevent injection with HPCS BOP Inhibit ADS BOP Install EOP-5 Enclosures 16 and 24 ATC Terminate injection with feedwater and lower reactor water level to -60" to -140" BOP Initiate Standby liquid control system BOP Install EOP-5 Enclosures 14 and 10 BOP Maximize CRD cooling water flow Direct a pressure band of 800-1090 psig with Bypass Valves and Drains

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	ATC	<ul style="list-style-type: none"> • Trip both reactor recirc pumps as follows: <ul style="list-style-type: none"> ○ Depress STOP, RECIRC PUMP BREAKER 5A. ○ Depress STOP, RECIRC PUMP BREAKER 5B. ○ TRIP LFMG BRKR 1A ○ TRIP LFMG BRKR 1B
	BOP	<ul style="list-style-type: none"> • Terminate and prevent injection with High Pressure Core Spray as follows: <ul style="list-style-type: none"> ○ Override Injection / Initiate High Pressure Core Spray ○ Verify E22-F004 amber override light is lit. ○ Stop the High Pressure Core Spray pump. ○ Notify the SRO that injection from HPCS has been terminated and prevented. • Inhibit ADS as follows: <ul style="list-style-type: none"> ○ Place Div I ADS key lock switch to INHIBIT ○ Place Div II ADS key lock switch to INHIBIT • Install EOP-5 enclosures 16 and 24 <ul style="list-style-type: none"> ○ Request the back panel operator to perform needed actions ○ Verify that IAS-MOV106 is open
	ATC	<ul style="list-style-type: none"> • <u>CRITICAL TASK</u> Terminate injection with feedwater and lower reactor water level to -60" to -140" <ul style="list-style-type: none"> ○ Place the master RPV level controller into manual ○ Lower master controller output signal to "0" ○ When level is <-60" control level in the band by using the OPEN / CLOSED pushbutton on the selected controller. <p><i>Reference Event 8</i></p>

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	BOP	<ul style="list-style-type: none"> • Initiate Standby liquid control system as follows: <ul style="list-style-type: none"> ○ Place SLC PUMP A(B) (NOT BOTH), control switch to RUN. ○ Verify the following: <ul style="list-style-type: none"> • SQUIB CONTINUITY A(B), light goes Off. • C41-F001A(B), SLC PUMP A(B) SUCT VLV, Opens. • C41-C001A(B), SLC PUMP A(B), Starts. ○ Notify SRO of SLC injection status. ○ Verify IAS-MOV106 is Open. ○ Record SLC Tank Level gallons. • <u>CRITICAL TASK</u> Begin control rod insertion <ul style="list-style-type: none"> ○ Request the back panel operator to perform needed actions to install needed Enclosures • Maximize CRD cooling water flow as follows: <ul style="list-style-type: none"> ○ Start C11-C001AP(BP), CRD AUX OIL PUMP A(B). ○ Verify C11-C001A(B), CRD PUMP A(B), white control power available light on. ○ Start C11-C001A(B), CRD PUMP A(B). ○ Place CRD HYDRAULICS FLOW CONTROLLER, in MANUAL and raise signal to 100%. ○ Fully Open C11-F003, CRD DRIVE WATER PRESS CONTROL VALVE. ○ Verify IAS-MOV106 is Open. • Stabilize/maintain pressure 800-1090 psig with Bypass Valves and Drains. <p><i>Reference Event 9</i></p>
	ROLE PLAY	<ul style="list-style-type: none"> • If directed, accept direction as Control Building operator to report to the Division III Diesel Generator
	<i>Termination Point</i>	<i>Event is terminated when Critical Tasks have been performed and the plant has been stabilized.</i>

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Op-Test No.: _____ Scenario No.: <u>1</u> Event No.: <u>9</u>		Page ____ of ____
<p>Event Description: Main Turbine Bypass Valves fail closed.</p> <p>Event Initiation: Event is initiated 5 minutes after the Mode Switch is not in RUN position.</p> <p>Cue: GREEN closed lights on for Turbine Bypass Valves with reactor pressure above the pressure setpoint.</p>		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report failure of Bypass Valves Utilize other methods of pressure control (additional drains and safety relief valves as necessary)
	SRO	<ul style="list-style-type: none"> Accept report of failed Bypass Valves Direct BOP to use alternate methods of pressure control (additional drains and safety relief valves as necessary)
	<i>Termination Point</i>	<i>Event is terminated when alternate pressure control methods have been placed in service.</i>

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Appendix D

Scenario Outline

Form ES-D-1

Facility: <u>River Bend Station</u>	Scenario No.: <u>2</u>	Op-Test No.: _____
Examiners: _____ Operators: _____ _____ _____		
Initial Conditions: <u>Mode 1, 100% power, Division 1 work week, Div 1 DG tagged out</u>		
Turnover: <u>Shift Priorities: 1) Alternate HDL Pumps from A to B due to report of seal leakage on A. 2) Run STP-402-0201 for scheduled surveillance.</u>		

Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (CRS,ATC)	Alternate HDL Pumps from A to B due to reported seal leakage.
2	NA	N (CRS,BOP)	Run STP-402-0201 for scheduled surveillance.
3	CRDM2809 Uncoupled	R(ATC) C(CRS)	(Tech Spec) Control Rod Drop – Control Rod 28-09
4	CRD001A	C (CRS,BOP)	(Tech Spec) CRD pump trip
5	FWS001A	C (CRS, ATC)	Feedwater A pump trip
6	ED004F	C (ALL)	Trip of NJS-LDC1F/Loss of Feed/Reactor Scram
7	RCS007 E22MOV F004 BREAKER TRIP RCIC001	M (ALL)	Coolant leak in the drywell with loss of power to E22-F004 and trip of RCIC
8	ED003H RHR009B RHR001C	C (CRS,BOP)	ENS-SWG1A bus loss, RHR B fails to auto start, E12-F042C injection valve fails.

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

Total Malfunctions (5-8) **(6)** Rod drop, CRD trip, Feedpump trip, NJS Bus, Leak, E12-F042C
 Malfunctions after EOP entry (1-2) **(2)** Leak, E12-F042C
 Abnormal Events (2-4) **(3)** AOP-0061, AOP-0006, AOP-0003
 Major Transients (1-2) **(1)** Leak
 EOPs entered (1-2) **(2)** EOP-1, EOP-2
 EOP contingencies (0-2) **(2)** Alternate Level Control, Emergency Depressurization
 Critical Tasks (2-3) **(3)** Insert control rod 28-09, Open SRVs to depressurize vessel, manually start RHR B.

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[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: <u>2</u> Event No.: <u>1</u>		Page ____ of ____
<p>Event Description: Alternate HDL Pumps from A to B due to reported seal leakage.</p> <p>Event Initiation: Initiated by crew.</p> <p>Cue: From turnover sheet.</p>		
Time	Position	Applicant's Actions or Behavior
	SRO	<ul style="list-style-type: none"> Direct ATC to alternate Heater Drain Pumps from HDL-P1A to HDL-P1B in accordance with SOP-0010.
	ATC	<ul style="list-style-type: none"> Alternate from HDL-P1A to HDL-P1B as follows: <ul style="list-style-type: none"> Open HDL-MOV58B by placing the control switch in OPEN on H13-P870. Communicate with Turbine Building operator to determine if pump is rotating. If not rotating, then have Turbine Building operator verify HDL-V601 is open.
	ROLE PLAY	<ul style="list-style-type: none"> As Turbine Building operator report that HDL-P1B is NOT rotating and that HDL-V601 is open. If requested also notify ATC that oil level is satisfactory and the pump is ready to be started.
	ATC	<ul style="list-style-type: none"> Continue alternating HDL pumps as follows: <ul style="list-style-type: none"> Start HDL-P1B by depressing the START pushbutton on H13-P680. Open HDL-MOV55B by depressing the OPEN pushbutton on H13-P680. Close HDL-MOV58B by placing the control switch in the CLOSE position on H13-P870. Close HDL-MOV55A by depressing the CLOSE pushbutton on H13-P680. Stop HDL-P1A by depressing the STOP pushbutton on H13-P680. Communicate with the Turbine Building operator to verify idle pump is not rotating backwards.
	ROLE PLAY	When requested, notify ATC that HDL-P1A is NOT rotating backwards.
	<i>Termination Point</i>	<i>Event is terminated when HDL-P1B is in service and HDL-P1A is secured.</i>

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Op-Test No.: _____ Scenario No.: <u>2</u> Event No.: <u>2</u>		Page ____ of ____
<p>Event Description: Run STP-402-0201 for scheduled surveillance.</p> <p>Event Initiation: Initiated by crew.</p> <p>Cue: From turnover sheet.</p>		
Time	Position	Applicant's Actions or Behavior
	CRS	<ul style="list-style-type: none"> Direct BOP to perform STP-402-0201
	BOP	<ul style="list-style-type: none"> Perform STP-402-0201 as follows: Contact Electrical Maintenance to obtain current and voltage readings on the filter train heater during the HVC-FN1A start.
	ROLE PLAY	<ul style="list-style-type: none"> As Electrical Maintenance personnel take direction to obtain current and voltage reading on the filter heater during the HVC-FN1A start.
	BOP	<ul style="list-style-type: none"> Open HVC-AOD19C. Open HVC-AOD19E Start HVC-FN1A and record start time Check open HVC-AOD43A Check open HVC-AOD3A Close HVC-MOV1A Close HVC-MOV1B Acknowledge annunciator H13-P863-74A-G02. (<i>Expected for this evolution</i>). Communicate with Control Building operator to verify local status checking for normal appearance, sound, and vibration. Communicate with Electrical Maintenance to obtain current and voltage readings.
	ROLE PLAY	<p>As Control Building operator report that HVC-FN1A filter train is running normally.</p> <p>As Electrical Maintenance report that current and voltage readings are normal and they will be logged in the procedure prior to the end of the shift.</p> <p>As back panel operator, provide outside air temperature of 82°F when requested.</p>
	<i>Termination Point</i>	<i>Event is terminated when HVC-FN1A is in service in accordance with STP-402-0201.</i>

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Op-Test No.: _____ Scenario No.: <u>2</u> Event No.: <u>3</u>		Page ____ of ____
Event Description: (Tech Spec) Control Rod Drop – Control Rod 28-09		
Event Initiation: At lead evaluator discretion		
Cue: Unexplained rise in reactor power		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Recognize and report an unexplained rise in reactor power. Take action to lower power to <100% Diagnose Rod Drop as cause for rise in power.
	SRO	<ul style="list-style-type: none"> Notify reactor engineering of the rise in power. Direct entry into AOP-0061, MISPOSITIONED CONTROL ROD
	ROLE PLAY	<ul style="list-style-type: none"> As Reactor Engineer, indicate the rise in power is in the vicinity of control rod 28-09 and suggest a coupling check.
	SRO	<ul style="list-style-type: none"> Direct ATC to perform a coupling check on 28-09 in accordance with SOP-0071 Section 5.4 Direct ATC to enter AOP-0061 when the rod drop has been confirmed by coupling check. Direct ATC to fully insert control rod 28-09 in accordance with AOP-0061. Enter Technical Specification LCO 3.1.3 Condition C.
	ATC	<ul style="list-style-type: none"> Perform a coupling check on 28-09 as follows: <ul style="list-style-type: none"> Select the rod on the full core display Check that position is at 48 Check that Rod Withdrawal Block or Inhibit does not exist Attempt to withdraw control rod past 48 by depressing C11A-S334 WITHDRAW pushbutton. Respond to CONTROL ROD OVERTRAVEL annunciator in accordance with ARP-680-07A-C02 Depress ROD UNCOUPLED pushbutton and observe red light on 28-09. <u>CRITICAL TASK</u> - In accordance with AOP-0061 full insert control rod 28-09.
	ROLE PLAY	<ul style="list-style-type: none"> If requested, as Reactor Building operator, take direction to locally isolate control rod 28-09 using V103 and V105 on CRDM 28-09.
	<i>Termination Point</i>	<i>Event is terminated when control rod 28-09 has been fully inserted and Technical Specifications have been applied to the control rod failure.</i>

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Op-Test No.: _____ Scenario No.: <u>2</u> Event No.: <u>4</u>		Page ____ of ____
Event Description: (Tech Spec) CRD pump		
Event Initiation: At lead evaluator discretion		
Cue: Annunciator: H13-P680 22A A01 CRD PUMP A OR B AUTO TRIP		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report trip of CRD pump "A" Communicate to Reactor Building operator CRD pump trip and verify readiness of CRD "B" for a start.
	SRO	<ul style="list-style-type: none"> Acknowledge trip of CRD pump "A". Direct BOP to perform ARP-601-22A-A01. Notify work management or maintenance of CRD pump trip. Enter Technical Specification 3.1.5 Condition B when the second accumulator fault occurs. <i>(Candidate may also enter Condition A on the first fault, but due to the short duration between faults, he may only enter Condition B which is more restrictive).</i>
	ROLE PLAY	<ul style="list-style-type: none"> As reactor building operator take direction to locally verify readiness of CRD "B" to be started and perform an inspection of CRD "A" to ascertain cause of trip. After receipt of 2nd accumulator fault, notify BOP that CRD "B" is ready to start. If needed to delay start of CRD pump, notify BOP that water is spraying from CRD A and you will establish a spray barrier prior to the CRD B start. As control building operator take direction to check local status of CRD "A" breaker indication to ascertain cause of trip. After 5 minutes report breaker indicates the CRD pump tripped on overcurrent.
	ATC	<ul style="list-style-type: none"> Acknowledge CRDM high temperature annunciators. <i>(~1 minute after trip)</i> Monitor for accumulator faults. <i>(1st fault ~6 minutes after trip; 2nd fault ~7 minutes after trip).</i>

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	BOP	<ul style="list-style-type: none"> • Perform ARP-601-22A-A01 to start CRD “B” as follows: <ul style="list-style-type: none"> ○ Start Aux Oil Pump C11-C001BP ○ Place Flow Controller C11-R600 to MANUAL ○ Close C11-R600 ○ Verify White Control Power Light on for CRD pump to be started. ○ Start Standby Pump C11-C001B ○ Verify amps <45 amps ○ When flow drops below 45 gpm on C11-R606, then slowly throttle open C11-R600 to achieve 45 gpm. ○ When C11-R600 is nulled out, Then place in AUTO.
	<i>Termination Point</i>	<i>Event is terminated when CRD Pump B has been placed in service and Control Rod Drive System parameters are returned to normal.</i>

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u>2</u> Event No.: <u>5</u>		Page ____ of ____
Event Description: Feedwater A pump trip		
Event Initiation: At lead evaluator discretion		
Cue: Annunciator: H13-P680-03A-A01 RX FW PUMP BREAKERS AUTO TRIP		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Recognize and report trip of "A" Feedwater pump
	ATC or BOP	<ul style="list-style-type: none"> Communicate with Turbine Building and Control Building operators and direct them to the pump and breaker to ascertain cause of the trip.
	SRO	<ul style="list-style-type: none"> Acknowledge trip of "A" Feedwater pump Direct ATC to enter AOP-0006. Notify work management or maintenance of trip. Notify Reactor Engineering and Chemistry of power change.
	ATC	<ul style="list-style-type: none"> Lower power to mitigate any level transient in accordance with AOP-0006 by reducing reactor recirculation flow with B33-K603A & B flow controllers. If Level 4 is reached, verify a flow control valve runback occurs. When level is restored above Level 4, reset the flow control valve runback as follows: <ul style="list-style-type: none"> Adjust B33-K603A to obtain zero% LIMITER ERROR Adjust B33-K603B to obtain zero% LIMITER ERROR Depress CAVITATION INTLK RECIRC PMP A RESET pushbutton and verify H13-P680/04A/A03 resets Depress CAVITATION INTLK RECIRC PMP B RESET pushbutton and verify H13-P680/04A/A09 resets
	ROLE PLAY	<ul style="list-style-type: none"> As Turbine Building operator accept direction to investigate cause of pump trip. As Control Building operator accept direction to investigate feedpump breaker to determine cause of trip. As Auxiliary Control Room operator, accept report of power change.
	<i>Termination Point</i>	<i>Event is terminated when the plant is stabilized following the trip of Feedwater Pump A.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: <u>2</u> Event No.: <u>6</u>		Page ____ of ____
Event Description: Trip of NJS-LDC1F/Loss of Feed/Reactor Scram.		
Event Initiation: At lead evaluator discretion		
Cue: Numerous annunciators including H13-P808/86A/E07 NJS-LDC1E OR 1F UNDERVOLTAGE, trip of remaining Feedwater pumps due to loss of lube oil systems.		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Recognize and report loss of all high pressure feedwater from H13-P680. Place the mode switch in SHUTDOWN position. Deliver scram report Perform actions of AOP-1 and AOP-2
	SRO	<ul style="list-style-type: none"> Direct a reactor level band of -20" to 51" with RCIC and HPCS Direct a pressure band of 500 to 1090 psig with bypass valves and steam line drains until the MSIVs close. Then direct pressure control with SRVs Direct performance of AOP-0001 Reactor Scram and AOP-0002 Turbine Generator trip to the ATC Direct the performance of AOP-0003 Automatic Isolations to the BOP Enter Alternate Level Control Direct BOP to Inhibit ADS Communicate with work management or maintenance concerning bus loss, RCIC trip and HPCS failure
	BOP	<ul style="list-style-type: none"> Attempt initiation of HPCS and RCIC. Recognize and report trip of RCIC and failure of E22-MOVF004(<i>See Event 7</i>) Verify isolations per AOP-0003 Inhibit ADS
	<i>Termination Point</i>	<i>Event is terminated when Critical Tasks of Event 8 are met and critical plant parameters are stabilized.</i>

NRC

Appendix D

Scenario Outline

Form ES-D-1

Facility: <u>River Bend Station</u>	Scenario No.: <u>3</u>	Op-Test No.: _____	
Examiners: _____		Operators: _____	
_____		_____	
_____		_____	
<p>Initial Conditions: <u>Mode 1, 100% power. Startup Feed Reg Valve in Augmentation Mode per SOP-0009 to support maintenance on Feed Reg Valve "C". Feed Reg Valve "C" has been returned to service. Downpower for sequence exchange this shift.</u></p> <p>Turnover: <u>Shift Priorities: 1)Remove Startup Feed Reg Valve from Augmentation Mode. 2)Start RHR B for STP-204-6302and notify IST personnel when the pump is running at reference conditions. 3)Lower reactor power for sequence exchange per the reactivity control plan while field personnel gather data following RHR B pump start.</u></p>			
Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (CRS,ATC)	Remove Startup Feedwater Regulating Valve from Augmentation Mode and place in standby
2	NA	N (CRS,BOP)	Perform STP-204-6302 Section 7.1, RHR B Quarterly Surveillance.
3	NA	R(ATC)	Lower reactor power with Reactor Recirculation flow in accordance with the Reactivity Control Plan Step 1.
4	RHR002B	C(CRS,BOP)	(Tech Spec) RHR B trips
5	DI-CNM-HA68A-CAM	C(CRS,ATC)	Feedwater Pump "A" minimum flow valve fails open.
6	RCIC005	I(CRS,BOP)	(Tech Spec) Inadvertent RCIC initiation.
7	RCIC004 RCIC006 RPS001B	M(ALL)	RCIC steam supply line break in the RCIC Room and Main Steam Tunnel with failure of RCIC Steam Supply Valves fail to isolate. Auto scram signals fail.
8	MSS008G MSS008D MSS008I	C(CRS,BOP)	Three Safety Relief Valves fail to energize when required for emergency depressurization.
9	FWS005A	C(CRS,ATC)	Startup Feedwater Regulating Valve fails closed.
<p>* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor</p>			

Total Malfunctions (5-8) **(6)** RHR B trip, A min flow, RCIC initiation, RCIC steam leak, SRV failure, Startup Reg Valve Failure

Malfunctions after EOP entry (1-2) **(2)** SRV failure, Startup Reg Valve

Abnormal Events (2-4) **(2)** AOP-0006-Min flow failure, AOP-0003-Steam Leak

Major Transients (1-2) **(1)** Steam leak with failure to isolate affecting multiple areas

EOPs entered (1-2) **(2)** EOP-1, EOP-3

EOP contingencies (0-2) **(1)** Emergency Depressurization

Critical Tasks (2-3) **(2)** Place the mode switch in shutdown, Emergency Depressurize when more than one area exceeds Max Safe Temp or Rad Levels.

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: Scenario No.: 3 Event No.: 1

Page of

Event Description: Remove Startup Feedwater Regulating Valve from Augmentation Mode and place in standby

Event Initiation: Initiated by crew.

Cue: From turnover sheet.

[illegible]

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u>3</u> Event No.: <u>2</u>		Page ____ of ____
Event Description: Perform STP-204-6302 Section 7.1, RHR B Quarterly Surveillance Event Initiation: Initiated by crew. Cue: From turnover sheet.		
Time	Position	Applicant's Actions or Behavior
	CRS	<ul style="list-style-type: none"> Direct BOP to perform Section 7.1 of STP-204-6302
	BOP	<ul style="list-style-type: none"> Perform STP-204-6302 Section 7.1 as follows: <ul style="list-style-type: none"> Communicate with IST personnel in the field to verify pump oil level and installation of suction pressure test gauge.
	ROLE PLAY	<ul style="list-style-type: none"> When requested, communicate to the BOP that RHR "B" pump oil level is within the High and Low marks on the Upper and Lower sightglasses AND the suction pressure gauge is installed.
	BOP	<ul style="list-style-type: none"> Continue performance of STP-204-6302 as follows: <ul style="list-style-type: none"> If Suppression Pool Cooling is desired THEN: <ul style="list-style-type: none"> Verify SPC-AOV16 is CLOSED. Open E12-F068B. Start E12-C002B Verify pump amps < 91 amps on H13-P601, E12-PC002B RHR PUMP B MOTOR AMPS Open and time E12-F024B Record stroke time on Data Sheet 4. Check closed E12-F064B Close E12-F048 Throttle closed E12-F003B to establish Reference Value of 5100 gpm on E12-R603B Notify IST personnel that RHR B is running at reference conditions.
	<i>Termination Point</i>	<i>Event is terminated when RHR B is running at reference conditions in accordance with STP-204-6302.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: 3 Event No.: 3

Page ____ of ____

Event Description: Lower reactor power with Reactor Recirculation flow in accordance with the Reactivity Control Plan

Event Initiation: Initiated by crew.

Cue: From turnover sheet.

Time	Position	Applicant's Actions or Behavior
	CRS	<ul style="list-style-type: none"> Direct ATC to lower reactor power with Reactor Recirculation flow in accordance the Reactivity Control Plan.
	ATC	<ul style="list-style-type: none"> Lower reactor power in accordance with the Reactivity Control Plan as follows: <ul style="list-style-type: none"> Verify B33-K603A(B) are in Manual Determine which loop is to be adjusted by observing Loop flows on B33-R612A and B33-R612B. Both loops may have to be adjusted to obtain desired power while maintaining Loop Flow mismatch with specifications. Note current valve position, generator load, MWth, APRMs and loop flows. Lower Reactor Recirculation Flow by toggling momentarily B33-K603A(B) controllers in the closed direction. Observed for expected changes in valve position, generator load, MWth, APRMs and loop flows. Repeat the above until desired power level is achieved.
	<i>Termination Point</i>	<i>Event is terminated when Step 1 of the Reactivity Control Plan is complete with reactor power at 2967 MWth.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: <u>3</u> Event No.: <u>4</u>		Page ____ of ____
Event Description: (Tech Spec) RHR B Trips Event Initiation: Initiated at Lead Evaluator discretion Cue: Annunciator: H13-P601-17A-A4, RHR PUMP “B” MOTOR AUTO TRIP.		
Time	Position	Applicant’s Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report trip of RHR “B”
	CRS	<ul style="list-style-type: none"> Acknowledge trip of RHR “B” Notify Work Management Center or Maintenance of trip Enter LCO 3.5.1 Condition A and LCO 3.6.2.3 Condition A. Direct BOP to complete shutdown of RHR “B” per STP-204-6302 starting at step 7.1.12
	BOP	<ul style="list-style-type: none"> Complete shutdown of RHR “B” as follows: <ul style="list-style-type: none"> Close E12-F024B. Open/Verify open E12-F003B Open E12-F048B Open E12-F064B Close E12-F068B If required, vent the heat exchanger to reduce pressure to 100-150 psig as follows: <ul style="list-style-type: none"> Throttle open E12-F073B Throttle open E12-F074B When RHR HX pressure is approximately 100-150 psig close E12-F074B. Close E12-F073B.
	ROLE PLAY	<ul style="list-style-type: none"> As Control Building operator take direction to investigate RHR pump breaker following trip. As Reactor Building operator take direction to investigate RHR pump trip and take direction to perform fill and vent of RHR C if necessary.
	<i>Termination Point</i>	<i>Event is terminated when the RHR line up has been restored to standby and Technical Specifications have been applied to the pump failure condition.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: <u>3</u> Event No.: <u>5</u>		Page ____ of ____
Event Description: Feedwater Pump "A" minimum flow valve fails open Event Initiation: Initiated at Lead Evaluator discretion Cue: RED indicating light on FWS-FV2A is ON and GREEN indicating light is OFF.		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Recognize and report FWR-FV2A failed open.
	CRS	<ul style="list-style-type: none"> Accept report of failed minimum flow valve Direct entry into AOP-0006.
	ATC	<ul style="list-style-type: none"> Enter AOP-0006 Attempt to take manual control of FWR-FV2A by placing the controller in manual and depressing the CLOSE pushbutton. Refer to AOP-0007 for applicability
	ROLE PLAY	<ul style="list-style-type: none"> As Turbine Building operator take direction to investigate failure of Feedwater pump A minimum flow valve.
	<i>Termination Point</i>	<i>Event is terminated the appropriate notifications have occurred and the minimum flow valve has been manually closed.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: <u>3</u> Event No.: <u>6</u>		Page ____ of ____
Event Description: (Tech Spec) Inadvertent RCIC initiation Event Initiation: Initiated at Lead Evaluator discretion Cue: Annunciator: H13-P601-21A-E02 GLAND SEAL COMPRESSOR AUTO START, E51-F045 RED indicating light ON, GREEN indicating light OFF.		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report inadvertent initiation of RCIC.
	CRS	<ul style="list-style-type: none"> Accept report of RCIC initiation. Verify by 2 independent means adequacy of reactor water level makeup and direct BOP to trip RCIC.
	BOP	<ul style="list-style-type: none"> Verify by 2 independent means adequacy of reactor water level makeup and trip RCIC as follows: <ul style="list-style-type: none"> Depress E51A.S17, RCIC TURBINE TRIP Pushbutton. Verify E51-MOVC002 RCIC TRIP & THROTTLE VALVE indicates closed. Verify RCIC speed lowering on E51-C002-1, RCIC TURB SPEED.
	CRS	When RCIC is tripped, Enter LCO 3.5.3 Condition A.
	<i>Termination Point</i>	<i>Event is terminated when RCIC has been tripped and Technical Specifications have been applied for the RCIC failure and tripped condition.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: 3 Event No.: 7

Page ____ of ____

Event Description: RCIC steam supply line break in the RCIC Room and Main Steam Tunnel with failure of RCIC Steam Supply Valves fail to isolate

Event Initiation: Initiated at Lead Evaluator discretion

Cue: Rising radiation levels at main plant exhaust and RCIC room, rising temperatures in RCIC room and steam tunnel.

Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report elevated temperature in RCIC room and Main Steam Tunnel. Enter AOP-0003. Recognize and report failure of RCIC to isolate. Attempt manual isolation of E51-F063 and E51-F064. Obtain RCIC room and Main Steam Tunnel temperatures from back panel indications. Continue to monitor and report temperatures throughout event. Control pressure 500-1090 psig and notify CRS when <700 psig.

NRC

	CRS	<ul style="list-style-type: none">• Accept report of elevated temperature in RCIC room and Main Steam Tunnel.• Direct entry into AOP-0003• When Steam Tunnel temperature exceeds 144°F or RCIC Room temperature exceeds 144°F, enter EOP-0003.• Accept report of failure of RCIC to isolate and direct attempt at manual isolation.• Before RCIC Room or Steam Tunnel Temperatures exceed 200°F, Enter EOP-0001 and direct a manual reactor scram. (<i>EOP entry may occur as a result of the MSIV isolation</i>)• Accept Scram Report from ATC• Establish level band of -20" to 51"• Establish pressure band of 500-1090 psig with direction to ultimately be below 700 psig. When below 700 psig, adjust band to 500-700 psig.• Notify Work Management or Maintenance of RCIC leak and failure to isolate.• When >200°F is reached in more than one area, transition to Emergency Depressurization.• Direct opening 7 ADS SRVs
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NRC

	ATC	<ul style="list-style-type: none"> • <u>CRITICAL TASK</u> Place the Mode Switch in Shutdown • Check all control rods fully inserted • Deliver Scram Report • Verify Feedwater System is operating to restore reactor water level as follows: <ul style="list-style-type: none"> ○ Verify level in prescribed band ○ Transfer to the Startup Level Controller as follows: <ul style="list-style-type: none"> ▪ Place the Master controller to Manual and set output to 0 using the CLOSE pushbutton. ▪ Select SINGLE ELEM control ▪ Roll the Startup Feedwater Level Controller tape set to 18 inches. ▪ Place the Startup Feedwater Level Controller to AUTO as desired. ○ Reduce to one Feed Pump. ○ Depress Close on out of service Feed Reg Valve isolation MOVs. ○ Reduce to two Condensate Pumps ○ Secure Operating Heater Drain Pumps ○ Request installation of Feed Pump Level 8 jumpers
	<i>Termination Point</i>	<i>Event is terminated when the RPV has been depressurized and plant parameters are stable.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: 3 Event No.: 8

Page ____ of ____

Event Description: Three Safety Relief Valves fail to energize when required for emergency depressurization

Event Initiation: Event initiated when operator attempts to open failed SRVs

Cue: 3 ADS SRV RED indicating light fails to illuminate and GREEN indicating light remains illuminated.

Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> • <u>CRITICAL TASK</u> When directed, open 7 ADS SRVs as follows: <ul style="list-style-type: none"> ○ On H13-P601, place the control switches for the 7 ADS to OPEN and verify solenoid is energized (RED light ON, GREEN light OFF). ○ Recognize and report 3 ADS SRVs failed to energize. ○ Open 3 additional SRVs to accomplish Emergency Depressurization. <p><i><u>NOTE:</u> For critical task criteria, a total of 5 SRVs are required to Emergency Depressurize.</i></p>
	CRS	<ul style="list-style-type: none"> • Accept report of ADS SRV failure. • Direct opening of 3 other SRVs to satisfy Emergency Depressurization.
	<i>Termination Point</i>	<i>Event is terminated when additional SRVs have been opened to accomplish Emergency Depressurization.</i>

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: 3 Event No.: 9

Page ____ of ____

Event Description: Startup Feedwater Regulating Valve fails closed.

Event Initiation: Event initiated 5 minutes after the Mode Switch is removed from RUN position.

Cue: Output demand of Feedwater Regulating Valve indicates zero and Feedwater Flow to vessel is isolated.

[illegible]

NRC

Appendix D

Scenario Outline

Form ES-D-1

Facility: <u>River Bend Station</u>	Scenario No.: <u>4</u>	Op-Test No.: _____
Examiners: _____ Operators: _____ _____ _____		
Initial Conditions: <u>Mode 1, 75% power.</u>		
Turnover: <u>Shift Priorities: 1) Start Feedwater Pump "A" 2) Continue power ascension with recirc flow per reactivity control plan. 3) Transfer Steam Seal Evaporator to Extraction Steam.</u>		

Event No.	Malfunction No.	Event Type*	Event Description
1	NA	N (SRO, ATC)	Start a Reactor Feedwater Pump "A"
2	NA	R (ATC)	Raise reactor power with reactor recirculation flow
3	NA	N (SRO-BOP)	Transfer Steam Seal Evaporator to Extraction Steam
4	RMS016A	I(SRO)	(Technical Specification) Failure of RMS-RE16A Drywell Radiation Monitor
5	ED004Q	C (SRO, BOP)	(Technical Specification) Loss of EJS-LDC2B
6	FWS016A	I(SRO,ATC)	Feedwater flow input to Feedwater Level Control failure
7	ED001	M (ALL)	Loss of offsite power
8	RCIC003A	C(SRO,BOP)	RCIC Flow controller fails low
9	SWP-P2A BKR TRIP	C(SRO,ATC)	SWP-P2A pump breaker trip

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

Total Malfunctions (5-8) **(6)** EJS-LDC2B, RMS-RE16A, FWLC input, Loss of Offsite power, RCIC controller, SWP-P2A
 Malfunctions after EOP entry (1-2) **(2)** RCIC controller, SWP-P2A
 Abnormal Events (2-4) **(2)** AOP-0006, AOP-0001
 Major Transients (1-2) **(1)** Loss of offsite power
 EOPs entered (1-2) **(1)** EOP-0001
 EOP contingencies (0-2) **(1 potential)** Alternate Level Control
 Critical Tasks (2-3) **(2)** Take manual control of FW, Maintain reactor water level >-162" with RCIC

Appendix D

Required Operator Actions

[Form ES-D-2](#)Op-Test No.: _____ Scenario No.: 4 Event No.: 1

Page ____ of ____

Event Description: Start a Reactor Feedwater Pump "A"

Event Initiation: Initiated by crew.

Cue: From turnover sheet.

Time	Position	Applicant's Actions or Behavior
	SRO	<ul style="list-style-type: none"> Direct start of Reactor Feedwater Pump "A" per SOP-0009 Section 4.5
	ATC	<ul style="list-style-type: none"> Start Reactor Feedwater Pump "A" as follows: <ul style="list-style-type: none"> Verify lube oil system in service Communicate with Turbine Building operator to verify the following: <ul style="list-style-type: none"> CCS-V280 is OPEN CCS-V268 is OPEN CCS-V331 is OPEN CCS-V332 is OPEN CCS-V292 is OPEN CCS-V295 is OPEN CCS-V261 is OPEN CCS-V272 is OPEN Feedwater Pump "A" seals are vented. Feedwater Pump "A" has been warmed. FWS-V28 is OPEN.
	ROLE PLAY	<ul style="list-style-type: none"> When requested, as the Turbine Building operator, inform the ATC operator that: <ul style="list-style-type: none"> CCS-V280 is OPEN CCS-V268 is OPEN CCS-V331 is OPEN CCS-V332 is OPEN CCS-V292 is OPEN CCS-V295 is OPEN CCS-V261 is OPEN CCS-V272 is OPEN Feedwater Pump "A" seals have been vented. Feedwater Pump "A" has been warmed. FWS-V28 is OPEN. A general visual inspection has been performed and Feedwater Pump "A" is NOT rotating and is prepared for a START.
	ATC	<ul style="list-style-type: none"> Verify CNM-H/A68A is in AUTO and set at 68% Communicate with Auxiliary Control Room to verify sufficient Condensate Demineralizers <u>and</u> Condensate Filtration filters are in service to support pump start.

NRC

	ROLE PLAY	<ul style="list-style-type: none"> As Auxiliary Control Room operator, when requested, inform ATC that sufficient Condensate Demineralizers are in service to support pump start.
	ATC	<ul style="list-style-type: none"> Verify FWR-FV2A is operable and unisolate. Verify the following CCS valves are fully opened: <ul style="list-style-type: none"> CCS-V5003A CCS-V5004A
	ROLE PLAY	<ul style="list-style-type: none"> As Turbine Building operator, when requested, inform ATC operator that CCS-V5003A and CCS-V5004A are fully open.
	ATC	<ul style="list-style-type: none"> Direct Turbine Building operator to close P73-PIT-R115A-V2 and verify P73-VF114A is open.
	ROLE PLAY	<ul style="list-style-type: none"> When requested, inform ATC that P73-PIT-R115A-V2 is closed and P73-VF114A is open.
	ATC	<ul style="list-style-type: none"> Depress the STOP pushbutton on FWS-P1A to reset any trips. Depress and hold the START pushbutton for FWS-P1A until FWR-FV2A has opened and the pump has started. Check motor amps on FWS-A03 are greater than 200 amps but less than or equal to 311 amps. Open FWS-MOV26A Verify closed FWS-MOV109 Direct Turbine Building operator to continue field performance starting at Step 4.5.19.
	ROLE PLAY	<ul style="list-style-type: none"> As Turbine Building operator, accept direction to continue procedure performance starting at Step 4.5.19
	<i>Termination Point</i>	<i>Event is terminated when Feedwater pump A is in service with its discharge valve open.</i>

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>2</u>		Page ____ of ____
Event Description: Raise reactor power with reactor recirculation flow		
Event Initiation: Initiated by crew.		
Cue: From turnover sheet.		
Time	Position	Applicant's Actions or Behavior
	SRO	<ul style="list-style-type: none"> Direct ATC to raise power with reactor recirculation flow in accordance with the reactivity control plan.
	ATC	<ul style="list-style-type: none"> Raise power with reactor recirculation flow in accordance with the reactivity control plan as follows: <ul style="list-style-type: none"> Verify B33-K603A(B) is in Manual Determine which B33-K603A(B) is to be adjusted by observing Loop Flows on B33-R612A and B33-R612B. Both loops may have to be adjusted to obtain the desired Reactor Power while maintaining Loop Flow mismatch within specification. Note the current valve position, generator load, MWth, APRMs and loop flows. Raise flow by toggling momentarily B33-K603A(B) in the open direction (right) using slow detent while observing a servo error deviation in the negative direction. Verify the servo error returns to its previous position. Observe valve position, generator load, MWth, APRMs and loop flows for expected changes. Repeat steps as necessary until the desired power level is reached.
	<i>Termination Point</i>	<i>Event is terminated when Reactivity Control Plan Step 80 is complete and reactor thermal power is ~ 2425 MWth.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>3</u>		Page ____ of ____
Event Description: Transfer Steam Seal Evaporator to Extraction Steam		
Event Initiation: Initiated by crew.		
Cue: From turnover sheet.		
Time	Position	Applicant's Actions or Behavior
	SRO	<ul style="list-style-type: none"> • Direct transfer of SSE to Extraction Steam per SOP-0015
	BOP	<ul style="list-style-type: none"> • Transfer SSE to Extraction Steam as follows: <ul style="list-style-type: none"> ○ Verify annunciator P870-52A-E03 is clear ○ Verify ESS-MOV112 is closed ○ Verify ESS-MOV117 is open ○ Slowly throttle open ESS-MOV112 using the control switch and the STOP pushbutton. ○ When ESS-MOV112 show dual indication, close DTM-AOV118. ○ Monitor trip unit ESS-ES112 while throttling ESS-MOV112. If setpoint approaches 5.5 psid, ESS-MOV112 may be left throttled.
	ROLE PLAY	If back panel information is requested for ESS-ES112, provide a reading of 10 psid.
	<i>Termination Point</i>	<i>Event is terminated when the Steam Seal Evaporator is being supplied by Extraction Steam.</i>

NRC

Appendix D

Required Operator Actions

[Form ES-D-2](#)

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>4</u> Page ____ of ____		
Event Description: (Technical Specification) Failure of RMS-RE16A Drywell Radiation Monitor		
Event Initiation: Initiated at Lead Evaluator discretion.		
Cue: Annunciator: H13-P863-71A-B06		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report upscale alarm on RMS-RE16A Compare to RMS-RE16B and determine RMS-RE16A has failed.
	SRO	<ul style="list-style-type: none"> Accept report of failure of RMS-RE16A Enter Technical Specification LCO 3.3.3.1 Condition A.
	<i>Termination Point</i>	<i>Event is terminated when Technical Specifications have been applied to the failed radiation monitor.</i>

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>5</u>		Page ____ of ____
Event Description: (Technical Specification) Loss of EJS-LDC2B		
Event Initiation: Initiated at Lead Evaluator discretion.		
Cue: Annunciator: H13-P877-32-D04		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report loss of EJS-LDC2B. Dispatch Reactor Building operator to EJS-LDC2B to ascertain cause of trip.
	SRO	<ul style="list-style-type: none"> Acknowledge report of EJS-LDC2B. Notify Work Management Center of bus loss. Enter Technical Specification LCO 3.8.9 Condition A. Direct start of HVR-UC1A Direct start of HVR-UC11A Acknowledge low pressure condition on RHR B & C and direct racking out of RHR B and C pump breakers Enter Technical Specification 3.5.1 Condition C and 3.6.2.3 Condition A when pump breakers are racked out.
	BOP	<ul style="list-style-type: none"> Start HVR-UC1A as follows: <ul style="list-style-type: none"> Depress the START pushbutton for HVR-UC1A and verify HVN-TV5A opens. Start HVR-UC11A as follows: <ul style="list-style-type: none"> Depress the START pushbutton for HVR-UC11A and verify proper operation. Respond to RHR B & C low pressure annunciators
	ROLE PLAY	<ul style="list-style-type: none"> As Reactor Building operator, take direction to investigate cause of trip of EJS-LDC2B. After 10 minutes, notify BOP that there is no obvious reason for bus loss. As Reactor Building operator, if requested following start of HVR-UC1A and HVR-UC11A, notify BOP that both coolers are operating normally. As Control Building operator, take direction to rack out RHR B & C pump breakers.
	<i>Termination Point</i>	<i>Event is terminated when Technical Specifications have been applied to the failed electrical bus and RHR B & C after pump breakers are racked out.</i>

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>6</u>		Page ____ of ____
Event Description: Feedwater flow input to Feedwater Level Control fails high		
Event Initiation: Initiated at Lead Evaluator discretion.		
Cue: Lowering reactor water level, feedflow indicator on p680 rising.		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Recognize and report lowering reactor water level Enter AOP-0006 <u>CRITICAL TASK:</u> Take manual control of feedwater level control by placing the Master Controller in manual and controlling valve positions with the OPEN and CLOSE pushbutton as needed to maintain level. Diagnose failure as feedflow input failure.
	SRO	<ul style="list-style-type: none"> Accept report of lowering reactor water level Direct entry into AOP-0006. Notify Work Management Center or maintenance of failure.
	<i>Termination Point</i>	<i>Event is terminated when reactor water level is stable and under manual control.</i>

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>7</u>		Page ____ of ____
Event Description: Loss of offsite power		
Event Initiation: Initiated at Lead Evaluator discretion.		
Cue: Standby diesel generator initiation, loss of voltage to non-safety busses		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> Recognize and report the loss of offsite power Place the Mode Switch in Shutdown Verify all control rods fully inserted Deliver scram report Perform AOP-0004 <ul style="list-style-type: none"> Dispatch operators to operating diesel generators Verify diesel are supplying their respective switchgears Verify initiation of Standby Service Water. <i>See event 9.</i> Dispatch personnel to rack out HPCS pump breaker Attempt manual start of Div 3 DG Perform AOP-0001 and AOP-0002.
	SRO	<ul style="list-style-type: none"> Acknowledge scram report Direct entry into AOP-0004 Direct entry into AOP-0001, AOP-0002, and AOP-0003. Enter EOP-0001 Direct level band of -20" to 51" with RCIC Direct pressure band of 500-1090 psig Communicate with System Operator to coordinate restoration of power.
	BOP	<ul style="list-style-type: none"> Initiate RCIC <i>See event 8.</i> Control reactor pressure 500-1090 psig with Safety Relief Valves Perform AOP-0003
	ROLE PLAY	<ul style="list-style-type: none"> When contacted, as System Operator notify the SRO that loss of power problem has occurred at Fancy Point Switchyard and crews are on their way to the switchyard to determine the cause and establish an estimated time for restoration.
	<i>Termination Point</i>	<i>Event is terminated when plant parameters are stable and Critical Task of subsequent event is met.</i>

NRC

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>8</u>		Page ____ of ____
Event Description: RCIC Flow controller fails low		
Event Initiation: Initiated when RCIC turbine speed is >90% rated speed		
Cue: RCIC flow lower than 600 gpm		
Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> Recognize and report failure of RCIC controller <u>CRITICAL TASK</u> Take manual control of RCIC to maintain level > Top of Active Fuel (>-162") by placing the controller in MANUAL and depressing the OPEN pushbutton.
	SRO	<ul style="list-style-type: none"> Acknowledge report of RCIC controller failure Direct BOP to take manual control of RCIC if not already performed.
	<i>Termination Point</i>	<i>Event is terminated when RCIC controller is placed in manual and RCIC is injecting to the RPV satisfying the Critical Task.</i>

**RIVER
BEND STATION**

Number: *RJPM-NRC12-A1
Revision: 0
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINE WHEN HOT SHUTDOWN BORON WEIGHT HAS BEEN INJECTED INTO THE CORE

REASON FOR REVISION:

2012 NRC Exam – RO	A1
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PREPARE / REVIEW:

Angie Orgeron	1538	7/2/2012
Preparer	KCN	Date
David Bergstrom	257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A1

TASK DESCRIPTION:	Determine when Hot Shutdown Boron weight has been injected into the core per EOP-0005 Enclosure 15					
TASK REFERENCE:	200051005001					
K/A REFERENCE & RATING:	2.1.25		3.9			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X
COMPLETION TIME:	5 min.					
MAX TIME:	N/A					
JOB LEVEL:	RO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					

SIMULATOR SETUP SHEET

Task Description: Determine when Hot Shutdown Boron weight has been injected into the core per EOP-0005 Enclosure 15

Required Power: N/A

IC No.: N/A

Notes: Administrative JPM that will be conducted in a classroom.

DATA SHEET

References for Development:	OSP-0053, Rev 16 Attachment 13
Required Materials:	OSP-0053, Rev 16 Attachment 13
Task Standard:	The amount (weight) of Boron injected into the core, necessary to achieve Hot Shutdown Conditions and the time when this amount has been injected have been determined.
Required Plant Condition:	N/A
Applicable Objectives:	R-LPOPS-HLO-513 Objective 6
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-A1

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

An Anticipated Transient without Scram (ATWS) has occurred, 32 rods have failed to fully insert into the core.

- Reactor Pressure is 1050 psig and lowering
- Suppression Pool temperature is 115°F and rising
- Both Recirculation Pumps are tripped
- Initial SLC tank level is 3150 gal
- SLC pump 'A' was started at 1515 hours

Initiating Cue:

The Control Room Supervisor has directed you to determine the tank level at which the Hot Shutdown Boron weight has been injected and approximately what time this will occur, in accordance with OSP-0053, Attachment 13.

RJPM-NRC12-A1

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____1.	Using the Standby Liquid Control Injection Requirements table on page 2 of 2 of the Attachment 13 of OSP-0053, determine the tank level which must be reached to have injected Hot Shutdown Boron weight into the core.	The candidate used 3100 gallons as a conservative value for tank level, The tank level for Hot Shutdown Boron weight is 2474 gals.	_____ <i>Since the initial tank level is between the values on the chart the Note at the top directs the operator to use the smaller value of 3100 gal as initial level.</i>
* _____2.	Using the Standby Liquid Control Injection Requirements table on page 2 of 2 of Attachment 13 of OSP-0053, determine the time when Hot Shutdown Boron weight will be injected.	The candidate identified that Hot Shutdown Boron should be injected in 16 minutes, therefore the time will be 1531 hours when Hot Shutdown Boron Weight is injected.	_____

Terminating Cue: Hot Shutdown Boron weight tank level and injection time have been determined per OSP-0053 Attachment 13 and record on the Answer Sheet.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

ANSWER KEY:

Tank Level for Hot Shutdown Boron Weight: 2474 gallons

Approximate time at which Hot Shutdown Boron Weight is
injected: 1531

RJPM-NRC12-A1
JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: An Anticipated Transient without Scram (ATWS) has occurred, 32 rods have failed to fully insert into the core.

- Reactor Pressure is 1050 psig and lowering
- Suppression Pool temperature is 115°F and rising
- Both Recirculation Pumps are tripped
- Initial SLC tank level is 3150 gal
- SLC pump 'A' was started at 1515 hours

Initiating Cues: The Control Room Supervisor has directed you to determine the tank level at which the Hot Shutdown Boron weight has been injected and approximately what time this will occur, in accordance with OSP-0053, Attachment 13.

Tank Level for Hot Shutdown Boron Weight:

Approximate time at which Hot Shutdown Boron Weight is injected: _____

**RIVER
BEND STATION**

Number: *RJPM-NRC12-A2
Revision: 0
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JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINE MAINTENANCE REQUIREMENTS TO MAINTAIN AN ACTIVE LICENSE

REASON FOR REVISION:

2012 NRC Exam – RO	A2
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PREPARE / REVIEW:

Angie Orgeron	1538	7/2/2012
Preparer	KCN	Date
David Bergstrom	0257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A2

TASK DESCRIPTION:	Determining maintenance requirements to maintain an active license.
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TASK REFERENCE:	Admin
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K/A REFERENCE & RATING:	2.1.4	3.3
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	5 min.
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MAX TIME:	N/A
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JOB LEVEL:	RO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	No
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ALTERNATE PATH (FAULTED):	No
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SIMULATOR SETUP SHEET

Task Description: This task requires reviewing watch stand events and determining which operators have met the requirements to maintain an active license.

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	Operations Standards & Expectations
Required Materials:	Operations Standards & Expectations, Pg 49-50
Task Standard:	Determination has been made that Operator 2 can fill the July 5, 2012 ATC position.
Required Plant Condition:	N/A
Applicable Objectives:	Admin
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-A2

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

A review of the Operations schedule has determined that an insufficient number of people have been scheduled to cover all shift positions on July 5, 2012. Due to numerous vacations, Operations licensed personnel assigned to the office staff must be used to cover the At the Controls (ATC) watch station on July 5th. The shift history of office staff individuals is shown below. All other days not shown were worked in office staff positions working 8 hour days.

Initiating Cue:

Review the work history of the staff personnel below and determine which individual(s) are proficient and can cover the ATC watch on July 5, 2012. Record your answer in the space provided.

Operator 1	Operator 2	Operator 3
Operator 1 was proficient in the 1 st quarter of 2012	Operator 2 was <u>NOT</u> proficient in the 1 st quarter of 2012	Operator 3 was proficient in the 1 st quarter of 2012
Work History	Work History	Work History
4/10/12 – ATC 0600-1800	4/9/2012 – ATC under instruction 0600-1800	5/8/12 – ATC 0600-1800
4/20/12 – Unit 1800-0600	4/10/12 – Unit under instruction 0600-1800	5/16/12 – Unit 0600-1800
5/6/12 – Unit 0600-1800	4/11/12 – ATC under instruction 0600-1800	5/31/12 – Control Building 0600-1800
6/17/12 ATC 0600-1800	4/12/12 – Conducted a 4 hour plant tour under the instruction of a licensed operator 0600-1000	6/7/12 – ATC 1800-0600
6/28/12 – Tagging Official 0600-1800		6/30/12 Unit 0600-1800

RJPM-NRC12-A2

* Denotes Critical Step

^ Denotes Sequence Critical

(must be performed after previous step marked ^)

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RJPM-NRC12-A2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____1.	Determine eligibility of Operator 1 to work July 5, 2012 to fill At the Controls watch.	Candidate recognized that Operator 1 will <u>not</u> be proficient on July 5, 2012 because he will not have had 5 12 hour proficiency watches in the second quarter due to the Tagging Official position not being an acceptable position to maintain license proficiency.	_____	
_____2.	Determine eligibility of Operator 2 to work July 5, 2012 to fill At the Controls watch.	Candidate recognized that Operator 2 will be proficient and can stand the ATC watch on July 5, 2012.	_____	
_____3.	Determine eligibility of Operator 3 to work July 5, 2012 to fill At the Controls watch.	Candidate recognized that Operator1 3 will <u>not</u> be proficient on July 5, 2012 because he will not have had 5 12 hour proficiency watches in the second quarter due to the Control Building position not being an acceptable position to maintain license proficiency.	_____	
*_____4.	Record Operator 2 on the Operator Cue Sheet.	Candidate recorded “Operator #2” as the available candidate to cover the July 5, 2012 ATC watch.	_____	

Terminating Cue: Answer recorded on Answer Sheet.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

ANSWER KEY:

The July 5th ATC watch may be covered by
Operator(s) # 2

RJPM-NRC12-A2
JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: A review of the Operations schedule has determined that an insufficient number of people have been scheduled to cover all shift positions on July 5, 2012. Due to numerous vacations, Operations licensed personnel assigned to the office staff must be used to cover the At the Controls (ATC) watch station on July 5th. The shift history of office staff individuals is shown below. All other days not shown were worked in office staff positions working 8 hour days

Initiating Cues: Review the work history of the staff personnel below and determine which individual(s) are proficient and can cover the ATC watch on July 5, 2012. Record your answer in the space provided.

Operator 1	Operator 2	Operator 3
Operator 1 was proficient in the 1 st quarter of 2012	Operator 2 was <u>NOT</u> proficient in the 1 st quarter of 2012	Operator 2 was proficient in the 1 st quarter of 2012
Work History	Work History	Work History
4/10/12 – ATC 0600-1800	4/9/2012 – ATC under instruction 0600-1800	5/8/12 – ATC 0600-1800
4/20/12 – Unit 1800-0600	4/10/12 – Unit under instruction 0600-1800	5/16/12 – Unit 0600-1800
5/6/12 – Unit 0600-1800	4/11/12 – ATC under instruction 0600-1800	5/31/12 – Control Building 0600-1800
6/17/12 ATC 0600-1800	4/12/12 – Conducted a 4 hour plant tour under the instruction of a licensed operator 0600-1000	6/7/12 – ATC 1800-0600
6/28/12 – Tagging Official 0600-1800		6/30/12 Unit 0600-1800

The July 5th ATC watch may be covered by
Operator(s) # _____

**RIVER
BEND STATION**

Number: *RJPM-NRC12-A3
Revision: 0
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JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINE EFFECTS OF REMOVING CONTROL POWER FUSE FOR FUEL BUILDING VENTILATION DAMPER HVF-AOD20A

REASON FOR REVISION:

2012 NRC Exam JPM – RO

A3

PREPARE / REVIEW:

Angie Orgeron	1538	7/3/2012
Preparer	KCN	Date
David Bergstrom	0257	8/8/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/8/2012
Approved	KCN	Date

* Indexing Information

RJPM-NRC12-A3

TASK DESCRIPTION:	Determine Effects of Removing Control Power Fuse for Fuel Building Ventilation Damper HVF-AOD20A
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TASK REFERENCE:	299003001001
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K/A REFERENCE & RATING:	2.2.15	3.9
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	15 min.
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MAX TIME:	N/A
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JOB LEVEL:	RO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	No
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ALTERNATE PATH (FAULTED):	No
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SIMULATOR SETUP SHEET

Task Description: Determine Effects of Removing Control Power Fuse for Fuel Building Ventilation Damper HVF-AOD20A

Required Power: N/A

IC No.: N/A

Notes: Administrative JPM that will be conducted in a classroom.

DATA SHEET

References for Development:	ESK-7HVF01 ESK-7HVF02 ESK-7SCC21 ESK-10ANN23 ARP-P863-75A-B01
Required Materials:	ESK-7HVF01 ESK-7HVF02 ESK-7SCC21
Required Plant Condition:	N/A
Task Standard:	Determined the effects of removal of F1-1HVFA06 in panel H13-P851 in agreement with the answer key.
Applicable Objectives:	HLO-542-1, Obj. 5, 6, 7
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

Electrical Maintenance is conducting Work Order to replace the solenoid for HVF-AOD20A. A tag out has been prepared to support this work and personnel are standing by to implement the tag out. The next step of the tagging order requires removal of F1-HVFA06 to de-energize the solenoid to be replaced.

Initiating Cue:

Given the appropriate drawings, the CRS has directed you to determine the following:

1. The fail position of HVF-AOD20A, when the fuse is removed.
2. Any other component(s) positions that are affected by the fuse removal and the associated affect.
3. Identify any control room alarms, status lights and / or component indication affected. (Alarm # is sufficient)

RJPM-NRC12-A3

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
*_____1.	Using ESK-7HVF01 & ESK-7HVF02 determine damper fail position.	1. The candidate determined that HVF-AOD20A fails OPEN when de-energized	_____	
*_____2.	Using ESK-7HVF01 & ESK-7HVF02 determine other component(s) positions affected by the fuse removal.	2. The candidate determined that HVF-AOD31A also fails OPEN when the fuse is removed.	_____	
*_____3.	Using ESK-7 ESK-7HVF01 & ESK-7HVF02, determine impact of fuse removal on Control Room indication and alarm status.	3. The candidate identified that fuse removal will also cause the following on P863: Must have the four of the six items correct to meet pass criteria for this critical step. <ul style="list-style-type: none">• De-energizes (green and red) position indication light for HVF-AOD20A.• De-energizes (green and red) position indication light for HVF-AOD31A.• De-energizes (green and red) position indication light for HVF-AOD3A.• De-energizes (green and red) position indication light for HVF-AOD33A.• Energizes (or turns on) the Amber INOP status light (postage stamp) “FB Vent Dmprs.”• Initiates alarm window No. 0463	_____	

Terminating Cue: Fuse removal fail position of HVF-AOD20A, its impact on HVF-AOD31A and Control Room H13-P863 indications and alarms have been listed on Answer Sheet.

ANSWER KEY:

(80% required to pass JPM)

1. HVF-AOD20A fails **OPEN**. (1 point)
2. **HVF-AOD31A also fails OPEN** (1 point)
3. The following control room indications are also affected by the fuse removal:
 - a. The following dampers lose red and green position indications:
 - i. **HVF-AOD20A (0.25 point)**
 - ii. **HVF-AOD31A (0.25 point)**
 - iii. **HVF-AOD3A (0.25 point)**
 - iv. **HVF-AOD33A (0.25 point)**
 - b. **Amber Status light (Postage Stamp) “FB Vent Dmprs” (1 point)**
 - c. **Alarm 0463 in alarm (1 point)**

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: Electrical Maintenance is conducting Work Order to replace the solenoid for HVF-AOD20A. A tag out has been prepared to support this work and personnel are standing by to implement the tag out. The next step of the tagging order requires removal of F1-HVFA06 to de-energize the solenoid to be replaced.

Initiating Cues: Given the appropriate drawings, the CRS has directed you to determine the following:

1. The fail position of HVF-AOD20A, when the fuse is removed.
2. Any other component(s) positions that change when the fuse is removed.
3. Identify any control room alarms, status lights and / or component indication affected. (Alarm # is sufficient)

Write answers below:

1.

2.

3.

**RIVER
BEND STATION**

Number: ***RJPM-NRC12-A4**
Revision: **0**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

OBTAIN RADIOLOGICAL INFORMATION FROM A SURVEY MAP
--

REASON FOR REVISION:

2012 NRC Exam – RO	A4
--------------------	-----------

PREPARE / REVIEW:

Angie Orgeron	1538	7/2/2012
Preparer	KCN	Date
David Bergstrom	0257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A4

TASK DESCRIPTION:	Radiological information correctly obtained from data on survey map in accordance with EN-RP-106.					
TASK REFERENCE:	Admin					
K/A REFERENCE & RATING:	2.3.7	3.3				
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X
COMPLETION TIME:	5 min.					
MAX TIME:	N/A					
JOB LEVEL:	RO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					

SIMULATOR SETUP SHEET

Task Description: This task requires review of survey information in order to answer questions regarding the radiological conditions in the Steam Jet Air Ejector rooms.

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	Survey Maps for SJAE rooms EN-RP-106
Required Materials:	Survey Maps for SJAE rooms EN-RP-106
Task Standard:	All radiological protection questions correctly answered regarding radiological conditions in the Steam Jet Air Ejector rooms to allow entry for required inspections.
Required Plant Condition:	N/A
Applicable Objectives:	Admin
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

A plant startup is in progress at 30% power. Steam Jet Air Ejector "A" is in service. Scheduled surveillances require a general inspection walk down of both SJAE rooms. Hydrogen Water Chemistry system is out of service.

Initiating Cue:

The CRS has directed you to make entry into both SJAE rooms to perform a general inspection. The Radiological Protection Technician has provided you with survey information and requires you to answer the following questions prior to entry:

(Provide answer in spaces below)

1. What is the highest contamination level in either of the rooms? _____
2. Based on these contamination levels, is protective clothing required? _____
3. What is the highest general area dose rate that will be encountered _____
4. Where will the highest general area dose rate be encounter? (Provide room and compass location relative to SJAE). _____
5. What is the value of the highest contact dose? _____
6. Where is the highest contact dose located? (Provide room and compass location relative to SJAE). _____

RJPM-NRC12-A4

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____1.	Review maps and determine where the highest contamination level is located.	Candidate reviewed both maps and determined that the highest contamination level is <1000 dpm / 100 cm ²	_____	
_____2.	Based on contamination levels determine whether or not protective clothing is required.	Candidate recognized that the area is not contaminated therefore protective clothing is not required.	_____	
_____3.	Review maps and determine the value of the highest general area dose rates.	Candidate reviewed both maps and determined that the highest general area dose rate is 110mR/hr.	_____	
_____4.	Review maps and determine location of highest general area dose rates.	Candidate reviewed both maps and determined that the highest general area dose rate is in the "A" SJAE Room on the north side of the SJAE.	_____	
_____5.	Review maps and determine the value of the highest contact dose rates.	Candidate reviewed both maps and determined that the highest general area dose rate is 150 mR/hr.	_____	
_____6.	Review maps and determine location of highest contact dose rates.	Candidate reviewed both maps and determined that the highest contact dose rate is in the "A" SJAE Room on the north side of the SJAE.	_____	
*_____7.	Complete answer sheet.	Candidate correctly annotated the above information on the answer sheet.	_____	

Terminating Cue: Answer recorded on Answer Sheet.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

ANSWER KEY:

1. What is the highest contamination level in either of the rooms? <1000 dpm / 100 cm²
2. Based on these contamination levels, is protective clothing required? No
3. What is the highest general area dose rate that will be encountered? 110mR / hr
4. Where will the highest general area dose rate be encounter? (Provide room and compass location relative to SJAE)? SJAE Room "A" on the north side of the SJAE
5. What is the value of the highest contact dose? 150 mR / hr
6. Where is the highest contact dose located? (Provide room and compass location relative to SJAE). SJAE Room "A" on the north side of the SJAE

RJPM-NRC12-A4
JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: A plant startup is in progress at 30% power. Steam Jet Air Ejector “A” is in service. Scheduled surveillances require a general inspection walk down of both SJAE rooms. Hydrogen Water Chemistry system is out of service.

Initiating Cues: The CRS has directed you to make entry into both SJAE rooms to perform a general inspection. The Radiological Protection Technician has provided you with survey information and requires you to answer the following questions prior to entry:

(Provide answer in spaces below)

1. What is the highest contamination level in either of the rooms? _____
2. Based on these contamination levels, is protective clothing required? _____
3. What is the highest general area dose rate that will be encountered? _____
4. Where will the highest general area dose rate be encounter? (Provide room and compass location relative to SJAE). _____
5. What is the value of the highest contact dose? _____
6. Where is the highest contact dose located? (Provide room and compass location relative to SJAE). _____

**RIVER
BEND STATION**

Number: **RJPM-NRC12-A5**
Revision: **0**
Page 1 of 10

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

GENERATE A MANUAL LCO TRACKING SHEET

REASON FOR REVISION:

2012 NRC EXAM JPM - SRO

A5

PREPARE / REVIEW:

Angie Orgeron	1538	7/3/2012
Preparer	KCN	Date
David Bergstrom	0257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A5

TASK DESCRIPTION:	GENERATE A MANUAL LCO TRACKING SHEET					
TASK REFERENCE:	300061003002					
K/A REFERENCE & RATING:	Generic 2.1.18		3.8			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X
COMPLETION TIME:	20 min.					
MAX TIME:	N/A					
JOB LEVEL:	SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					

SIMULATOR SETUP SHEET

Task Description: Generate a manual LCO Tracking Sheet

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	Technical Specifications OSP-0040, LCO TRACKING AND SAFETY FUNCTION DETERMINATION
Required Materials:	Technical Specifications OSP-0040, LCO TRACKING AND SAFETY FUNCTION DETERMINATION
Required Plant Condition:	N/A
Task Standard:	LCO Tracking Sheet complete in accordance with OSP-0040 and JPM Answer Key.
Applicable Objectives:	
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator is NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is operating in Mode 1 at 100% power when the Main Turbine Bypass Valve surveillance performance was determined to be unsatisfactory. The Main Turbine Bypass Valves were declared inoperable at 0930 on 11/15/2012. It is estimated that it will take 12 hours to repair the valves.

Initiating Cue:

The LCO module of eSoms is unavailable due to a system upgrade. Complete a manual LCO tracking sheet in accordance with OSP-0040 for the current Condition and Required Actions as well as any subsequent Conditions expected during the next 12 hours. The next available LCO number is TS-12-C85-001.

RJPM-NRC12-A5

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* _____ 1.	Complete OSP-0040 Attachment 2 for inoperable Main Turbine Bypass Valves.	LCO Status Sheet completed as indicated on JPM key. Only the highlighted data is required as critical.	_____	

Terminating Cue: LCO Status Sheet completed for inoperable Main Turbine Bypass Valves.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

RJPM-NRC12-A5

ANSWER KEY

LCO No.: 1-TS- 12 - 0047

1 Date: 11/15/2012	2 Time: 0930	3 % PWR 100%	4 Mode: 1	Page 1 of 1
5 TS/TRM No.: 3.7.5			6 Mode Change Allowed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7 Mark No. C85- Sys. No.: 509 Description: Main Turbine Bypass Valve System			8 Applicable Modes: 1 2 3 4 5 Other: Thermal Power \geq 23.8%	
9 CONDITION INITIATING LCO: Scheduled Outage _____ Equipment Failure <input checked="" type="checkbox"/>				
Main Turbine Bypass Valves failed surveillance testing. _____ _____ _____				
10 Condition		11 Required Action		12 Completion Time
A. Main Turbine Bypass System inoperable.		A.2 Apply the APLHGR, LHGR and MCPR limits for inoperable Main Turbine Bypass System as specified in the COLR.		Required by: Date: 11/15/2012 Time: 1130 Completed: Date: ____/____/____ Time: _____ Initials: _____
B. Required Action and associated Completion Time not met. (This line optional) _____ _____		B.1. Reduce THERMAL POWER to \leq 23.8% RTP. _____ _____		Required by: Date: 11/15/2012 Time: 1330 Completed: Date: ____/____/____ Time: _____ Initials: _____
_____ _____ _____ _____		_____ _____ _____ _____		Required by: Date: ____/____/____ Time: _____ Completed: Date: ____/____/____ Time: _____ Initials: _____
13 LCO 3.0.6 ENTERED NA		14 LOSS OF SAFETY FUNCTION EVALUATION COMPLETED Initials/KCN: ____/____		
15 PREPARED BY:		16 REVIEWED BY:		
LCO CLOSEOUT				
17 COMMENTS/CORRECTIVE ACTIONS _____ _____ _____ _____		18 LCO RESTORED DATE/TIME _____ _____ _____		
19 RESTORED BY:		20 REVIEWED BY:		

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions:

The plant is operating in Mode 1 at 100% power when the Main Turbine Bypass Valve surveillance performance was determined to be unsatisfactory. The Main Turbine Bypass Valves were declared inoperable at 0930 on 11/15/2012. It is estimated that it will take 12 hours to repair the valves

Initiating Cues:

The LCO module of eSoms is unavailable due to a system upgrade. Complete a manual LCO tracking sheet in accordance with OSP-0040 for the current Condition and Required Actions as well as any subsequent Conditions expected during the next 12 hours. The next available LCO number is TS-12-C85-001.

LCO No.: 1-TS-____ - _____

1 Date:	2 Time:	3 % PWR	4 Mode:	Page 1 of ____
5 TS/TRM No.:			6 Mode Change Allowed: ____ Yes ____ No	
7 Mark No. _____ Sys. No.: _____ Description _____			8 Applicable Modes: ____ 1 ____ 2 ____ 3 ____ 4 ____ 5 Other _____	
9 CONDITION INITIATING LCO: Scheduled Outage _____ Equipment Failure _____ _____ _____ _____				
10 Condition		11 Required Action		12 Completion Time
_____ _____ _____ _____		_____ _____ _____ _____		Required by: Date: ____/____/____ Time: _____ Completed: Date: ____/____/____ Time: _____ Initials: _____
_____ _____ _____ _____		_____ _____ _____ _____		Required by: Date: ____/____/____ Time: _____ Completed: Date: ____/____/____ Time: _____ Initials: _____
_____ _____ _____ _____		_____ _____ _____ _____		Required by: Date: ____/____/____ Time: _____ Completed: Date: ____/____/____ Time: _____ Initials: _____
_____ _____ _____ _____		_____ _____ _____ _____		Required by: Date: ____/____/____ Time: _____ Completed: Date: ____/____/____ Time: _____ Initials: _____
13 LCO 3.0.6 ENTERED			14 LOSS OF SAFETY FUNCTION EVALUATION COMPLETED Initials/KCN: ____/____	
15 PREPARED BY:			16 REVIEWED BY:	

LCO CLOSEOUT

17 COMMENTS/CORRECTIVE ACTIONS	18 LCO RESTORED DATE/TIME
_____ _____ _____ _____ _____	
19 RESTORED BY:	
20 REVIEWED BY:	

**RIVER
BEND STATION**

Number: ***RJPM-NRC12-A6**
Revision: **0**
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JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINE PLANT SAFETY LEVEL DURING SHUTDOWN CONDITIONS
--

REASON FOR REVISION:

2012 NRC Exam JPM – SRO

A6

PREPARE / REVIEW:

Angie Orgeron	1538	7/3/2012
Preparer	KCN	Date
David Bergstrom	0257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A6

TASK DESCRIPTION:	Determine Plant Safety Level during shutdown conditions per OSP-0037					
TASK REFERENCE:	300029001005					
K/A REFERENCE & RATING:	2.1.23, 4.3/4.4					
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X
COMPLETION TIME:	20 min.					
MAX TIME:	N/A					
JOB LEVEL:	SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					

SIMULATOR SETUP SHEET

Task Description: Determine Plant Safety Level during shutdown conditions per OSP-0037

Required Power: N/A

IC No.: N/A

Notes: Administrative JPM that will be conducted in a classroom.

DATA SHEET

References for Development:	OSP-0037, Rev 27 Shutdown Operations Protection Plan (SOPP)
Required Materials:	OSP-0037, Rev 27, Shutdown Operations Protection Plan (SOPP)
Required Plant Condition:	N/A
Task Standard:	The SRO has filled out the SOPP Status sheet and identified that the most conservative safety level is YELLOW for Shutdown Cooling.
Applicable Objectives:	RBS-1-LEC-LOR-00910.00 Obj. 4
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

RBS is at day 25 of Refueling Outage 15 (RF-15). The last time the SOPP Status Sheet was completed it indicated that all Safety Levels were GREEN. Since that time the following changes have occurred:

- The Upper Storage Pool is +23' 1" and the cavity gate has been closed to prepare for draining the upper cavity.
- Reactor coolant temperature is 105°F.
- Decay heat is Medium
- RHR 'A' was started in Shutdown Cooling; RHR 'B' was secured and is available for shutdown cooling
- All fuel handling activities in Containment and Fuel Building have been completed
- ADHR is not available due to signature testing of the suction valves
- LPCS is now Operable following STP run.
- All other equipment status is unchanged from last shift

Initiating Cue:

The oncoming Admin. CRS has been called for a Fitness for Duty random test prior to completing the Plant Safety Index. The OSM has directed you to finish the Plant Safety Level for the on-coming Shift Brief. Complete the SOPP Status Sheet to show the Plant Safety Level per OSP-0037, Shutdown Operations Protection Plan.

RJPM-NRC12-A6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
*_____1.	Using Attachment 1 determine the Safety level for Shutdown Cooling Function Color State	The candidate using Attachment 1 determined that Med Decay Heat/ Not Flooded Up With only RHR A&B available, ADHR is not available places the plant in YELLOW (TS)	_____	
*_____2.	Using Attachment 2 determine the Safety level for Inventory Control Function Color State	The candidate using Attachment 2 determined that RHR A&B and LPCS available therefore 3 ECCS trains are available and >23' above the flange status is still GREEN	_____	
*_____3.	Using Attachment 6 determine the Safety level for Fuel Building Ventilation Function Color State	Candidate recognized that previous shift the color was Green indicating that 2 HVF Trains were available, with no fuel movement in progress the color remains GREEN	_____	
*_____4.	Using the Color State from the Key Shutdown Function Areas Determine the Overall Risk	The candidate selected the most conservative Overall Status color of YELLOW in accordance with step 3.12 of OSP-0037.	_____	

Terminating Cue: OSP-0037, Shutdown Operations Protection Plan (SOPP) status sheet completed.

ANSWER KEY
SHUTDOWN OPERATIONS PROTECTION PLAN (SOPP)
Status Sheet

Shutdown EOOS Safety Index	<u>9.4 - GREEN</u>
1. Shutdown Cooling	<u>YELLOW</u>
2. Inventory Control	<u>GREEN</u>
3. AC Power	<u>GREEN</u>
4. Fuel Pool Cooling	<u>GREEN</u>
5. Containment Control	<u>GREEN</u>
6. Fuel Building	<u>GREEN</u>
7. Reactivity Control	<u>GREEN</u>
8. Fire	<u>GREEN</u>
OVERALL RISK	<u>YELLOW</u>

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions:

RBS is at day 25 of a Refueling Outage. The last time the SOPP Status Sheet was completed it indicated that all Safety Levels were GREEN. Since that time the following changes have occurred:

- The Upper Storage Pool is +23' 1" and the cavity gate has been closed to prepare for draining the upper cavity.
- Reactor coolant temperature is 105°F.
- Decay heat is Medium
- RHR 'A' was started in Shutdown Cooling; RHR 'B' was secured and is available for shutdown cooling
- All fuel handling activities in Containment and Fuel Building have been completed
- ADHR is not available due to signature testing of the suction valves
- LPCS is now Operable following STP run.
- All other equipment status is unchanged from last shift

Initiating Cues:

The individual who was completing the Plant Safety Index determination has been called for a Fitness for Duty random test prior to completing the Plant Safety Index. The OSM has directed you to finish the Plant Safety Level for the on-coming Shift Brief. Complete the SOPP Status Sheet to show the Plant Safety Level per OSP-0037, Shutdown Operations Protection Plan.

JPM Task Conditions/Cues
(Operator Copy)

SHUTDOWN OPERATIONS PROTECTION PLAN (SOPP)
Status Sheet

Shutdown EOOS Safety Index	<u>9.4 - GREEN</u>
1. Shutdown Cooling	_____
2. Inventory Control	_____
3. AC Power	<u>GREEN</u>
4. Fuel Pool Cooling	<u>GREEN</u>
5. Containment Control	<u>GREEN</u>
6. Fuel Building	_____
7. Reactivity Control	<u>GREEN</u>
8. Fire	<u>GREEN</u>
OVERALL RISK	_____

**RIVER
BEND STATION**

Number: *RJPM-NRC12-A7
Revision: 0
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JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

**REVIEW AND APPROVE A COMPLETED SURVEILLANCE TEST
PROCEDURE**

REASON FOR REVISION:

2012 NRC Exam JPM – SRO

A7

PREPARE / REVIEW:

Angie Orgeron	1538	7/9/2012
Preparer	KCN	Date
David Bergstrom	0257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A7

TASK DESCRIPTION:	Review a completed performance of a monthly operating surveillance and either approve or document reasons for not approving.					
TASK REFERENCE:	300132003002					
K/A REFERENCE & RATING:	2.2.12		4.1			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X
COMPLETION TIME:	20 min.					
MAX TIME:	N/A					
JOB LEVEL:	SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	Yes					

SIMULATOR SETUP SHEET

Task Description: Review a completed performance of a monthly operating surveillance and document reasons for not approving.

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	STP-000-0201, Rev 308 ADM-0015, Rev 36
Required Materials:	STP-000-0201, Rev 308 Marked up as completed performance.
Required Plant Condition:	N/A
Task Standard:	The candidate has reviewed the complete STP and has NOT signed for approval. Candidate has documented 5 issues leading to disapproval.
Applicable Objectives:	RLP-HLO-0221 Objective 2
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-A7

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is operating in Mode 1 at 100%. The plant has been online for 256 days. The Monthly Operating Logs, STP-000-0201 was scheduled and has been completed on your shift.

Initiating Cue:

As the CRS, review the completed performance of STP-000-0201 and either approve the performance or document the reason(s) for disapproval. Document your answer on the Operator Cue sheet.

RJPM-NRC12-A7

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>*_____1.</p>	<p>The candidate reviewed the procedure and did <u>NOT</u> approve the performance.</p> <p>Candidate documented the following reasons for disapproval.</p> <ul style="list-style-type: none"> • Pg 12 of 35 – (1-3 Step 9) CMS-TI40D channel check is Unsatisfactory. This temperature is not consistent with other points monitoring the same parameter. In addition, this temperature is above Tech Spec and EOP entry conditions. • Pg 15 of 35 – (Section 1-4 Step 17) Concurrent Verification has not been performed. • Pg 18 of 35 – (Section 1-5 Step 1) RMS-RE125 not circled indicating surveillance was not performed. • Pg 19 of 35 – (Section 1-6 Step 2) SVV-ES3B recorded reading does not meet the acceptance criteria. • Pg 21 of 35 – (Section 1-7 Step 25) CCP-PNL102 PANEL DOOR was not initialed as being LOCKED CLOSED. 	<p>_____</p> <p>_____</p>	

Terminating Cue: Procedure has been reviewed, disapproved and reasons documented on Cue Sheet.

ANSWER KEY

(Check appropriate box)

APPROVED ☐

DISAPPROVED ☒

Document reason(s) for disapproval below if necessary.

- Pg 12 of 35 – (1-3 Step 9) CMS-TI40D channel check is Unsatisfactory. This temperature is not consistent with other points monitoring the same parameter. In addition, this temperature is above Tech Spec and EOP entry conditions.
- Pg 15 of 35 – (Section 1-4 Step 17) Concurrent Verification has not been performed.
- Pg 18 of 35 – (Section 1-5 Step 1) RMS-RE125 not circled indicating surveillance was not performed.
- Pg 19 of 35 – (Section 1-6 Step 2) SVV-ES3B recorded reading does not meet the acceptance criteria.
- Pg 21 of 35 – (Section 1-7 Step 25) CCP-PNL102 PANEL DOOR was not initialed as being LOCKED CLOSED.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant is operating in Mode 1 at 100%. The plant has been online for 256 days. The Monthly Operating Logs, STP-000-0201 was scheduled and has been completed on your shift.

Initiating Cues: As the CRS, review the completed performance of STP-000-0201 and either approve the performance or document the reason(s) for disapproval. Document your answer on the Operator Cue sheet..

(Circle One)

APPROVED ☐

DISAPPROVED ☐

Document reason(s) for disapproval below if necessary.

**RIVER
BEND STATION**

Number: ***RJPM-NRC12-A8**
Revision: **0**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

CALCULATE MAXIMUM PERMISSIBLE STAY TIME

REASON FOR REVISION:

2012 NRC Exam JPM – SRO

A8

PREPARE / REVIEW:

Angie Orgeron	1538	7/9/2012
Preparer	KCN	Date
David Bergstrom	0257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A8

TASK DESCRIPTION:	Review radiological condition data, cumulative dose and time to perform several tasks and calculate the maximum permissible stay time to complete a specific task.					
TASK REFERENCE:	300241004002 301023005003					
K/A REFERENCE & RATING:	2.3.7 3.6					
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X
COMPLETION TIME:	20 min.					
MAX TIME:	N/A					
JOB LEVEL:	SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					

SIMULATOR SETUP SHEET

Task Description: Review radiological condition data, cumulative dose and time to perform several tasks and calculate the maximum permissible stay time to complete a specific task.

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	EN-RP-201, Rev 3
Required Materials:	EN-RP-201, Rev 3
Required Plant Condition:	N/A
Task Standard:	The candidate has reviewed the radiological data, cumulative dose and associated tasks and determined that the maximum permissible stay time for task #3 is 13-15 minutes.
Applicable Objectives:	Admin
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-A8

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The reactor has scrammed due to a leak in the RWCU pump room which failed to completely isolate. Although automatic isolation occurred, leakage pass isolation valve seats continue to cause elevated temperatures and radiation levels. Efforts are underway to enter affected areas and attempt to manually seat various valves. Only one qualified operator is available to perform ALL the affected tasks. This operator's year to date dose is 780 mRem.

Initiating Cue:

As the CRS, review the radiological information for the specific tasks and the operator's year to date dose. Assuming the same operator completes all 3 tasks, determine the maximum permissible stay time to complete Task #3 without exceeding the routine annual administration dose limit.

RJPM-NRC12-A8

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____1.	Review the radiological information for the specific tasks and the operator's year to date dose.	Candidate determined that the operator may receive 1220 mR to complete all tasks and not exceed site administrative limits. (2000mR-780mR=1220mR)	_____	
_____2.	Determine dose received from Task #1	Candidate determined that the dose received from Task #1 is 500 mRem	_____	
_____3.	Determine dose received from Task #2	Candidate determined that the dose received from Task #2 is 500 mRem	_____	
*_____4.	Determine maximum permissible stay time during performance of Task #3.	Candidate determined that the maximum permissible stay time for Task #3 is 14.67 minutes (Acceptable range is 13-15 minutes).	_____	

Terminating Cue: Maximum permissible stay time has been determined and recorded on the cue sheet. .

RJPM-NRC12-A8

ANSWER KEY

Maximum Permissible Stay Time in the RWCU Pump Room

13-15 minutes

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

RJPM-NRC12-A8

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The reactor has scrammed due to a leak in the RWCU pump room which failed to completely isolate. Although automatic isolation occurred, leakage pass isolation valve seats continue to cause elevated temperatures and radiation levels. Efforts are underway to enter affected areas and attempt to manually seat various valves. Only one qualified operator is available to perform ALL the affected tasks. This operator's year to date dose is 780 mRem.

Initiating Cues: As the CRS, review the radiological information for the specific tasks and the operator's year to date dose. Assuming the same operator completes all 3 tasks, determine the maximum permissible stay time to complete Task #3 without exceeding the routine annual administration dose limit.

Task Number	Task Description	Time to complete task	Dose Rate
1	Drywell entry to close G33-MOVF001	10 mins	3 Rem
2	Steam tunnel entry to close G33-MOVF004	15 mins	2 Rem
3	RWCU Pump Room entry to verify status of leak and close manual valves if necessary	?	900 mRem

Maximum Permissible Stay Time in the RWCU Pump Room _____

**RIVER
BEND STATION**

Number: **RJPM-NRC12-A9**
Revision: **0**
Page 1 of 11

TIME CRITICAL

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

CLASSIFY AN EMERGENCY

REASON FOR REVISION:

2012 NRC EXAM JPM - SRO

A9

PREPARE / REVIEW:

Angie Orgeron	1538	7-9-2012
Preparer	KCN	Date
David Bergstrom	0257	8/6/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7/24/2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-A9

TASK DESCRIPTION:	CLASSIFY AN EMERGENCY					
TASK REFERENCE:	301001005003					
K/A REFERENCE & RATING:	2.4.41	4.6				
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X
COMPLETION TIME:	15 min.					
MAX TIME:	15 min					
JOB LEVEL:	SRO					
TIME CRITICAL:	Yes					
EIP CLASSIFICATION REQUIRED:	Yes					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					

SIMULATOR SETUP SHEET

Task Description: Classify an emergency

Required Power: N/A

IC No.: N/A

Notes: This Administrative JPM will be conducted in the classroom.

DATA SHEET

References for Development: EIP-2-001, Rev 23, CLASSIFICATION OF EMERGENCIES

Required Materials: EIP-2-001, Rev 23, CLASSIFICATION OF EMERGENCIES

Required Plant Condition: N/A

Applicable Objectives: RCBT-EP-SRORMED Obj. 16

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-A9

If In-Plant or In the Control Room:

Caution the Operator is NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

While operating in Mode 1 a failure of the feedwater level control system resulted in reactor water level lowering to below the scram setpoint. The reactor did NOT automatically scram. The At the Controls operator placed the Reactor Mode Switch in the SHUTDOWN position and all control rods fully inserted.

The reactor is shutdown. Reactor water level and pressure are stable. Reactor water level was recovered prior to reaching any other actuation setpoint.

Meteorological data indicates wind speed at 6 mph from 145 degrees. No release is in progress.

Initiating Cue:

You are the Operations Shift Manager, classify the event, AND fill out the applicable notification short form.

This is a time critical JPM.

RJPM-NRC12-A9

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* ____ 1.	Consult EIP-2-001 Classification of Emergencies for this event	Candidate classified the event as an ALERT (SA--3).	____	
____ 2.	Complete the notification short form	Candidate completed the Short Notification Message Form for an ALERT.	____	

Terminating Cue: Emergency Plan is applied to classify the event as an ALERT and Alert Short Form completed in accordance with the answer key.

ANSWER KEY

The ALERT form is the 3rd of the 4 forms provided.

Notification of Alert		
Time/Date:	Current	Message: 1
<p>This is River Bend Station</p> <p>An Alert was declared at</p> <div style="display: flex; justify-content: center; align-items: center; gap: 10px;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Current time</div> on <div style="border: 1px solid black; padding: 5px; text-align: center;">Current date</div> for </div>		
<div style="border: 1px solid black; padding: 5px;"> <p>SA-3 Reactor Protection System failed to complete and automatic scram once an RPS setpoint was exceeded and manual scram was successful.</p> </div>		
<p>Wind from <u>145</u> Deg. At <u>6</u> MPH</p>		
<p><input checked="" type="checkbox"/> No Release No Protective Actions Required.</p>		
<p><input type="checkbox"/> Release BELOW federally approved operating limits</p>		
<p><input type="checkbox"/> Release ABOVE federally approved operating limits</p>		
Authorized by:	<div style="border: 1px solid black; padding: 5px; min-height: 30px;">Candidate name</div>	<p>Title:</p> <div style="border: 1px solid black; padding: 5px; min-height: 30px;">Emergency Director / Recovery Manager</div>

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: While operating in Mode 1 a failure of the feedwater level control system resulted in reactor water level lowering to below the scram setpoint. The reactor did NOT automatically scram. The At the Controls operator placed the Reactor Mode Switch in the SHUTDOWN position and all control rods fully inserted.

The reactor is shutdown. Reactor water level and pressure are stable. Reactor water level was recovered prior to reaching any other actuation setpoint.

Meterological data indicates wind speed at 6 mph from 145 degrees. No release is in progress.

Initiating Cues: You are the Operations Shift Manager, classify the event, AND fill out the applicable notification short form.

This is a time critical JPM.

Notification of General Emergency

Time/Date:

Message:

This is River Bend Station

A General Emergency was declared at

on

for

Wind from _____ Deg.

At _____ MPH

☐ No Release

PAR Reference Scenario No.:

☐ Release BELOW federally approved operating limits

☐ Release ABOVE federally approved operating limits

Authorized by:

Title:

Notification of Site Area Emergency

Time/Date:

Message:

This is River Bend Station

A Site Area Emergency was declared at

on

for

Wind from _____ Deg.

At _____ MPH

☐ No Release

No Protective Actions Required.

☐ Release BELOW federally approved operating limits

☐ Release ABOVE federally approved operating limits

Authorized by:

Title:

Notification of Alert

Time/Date:

Message:

This is River Bend Station

An Alert was declared at

on

for

Wind from _____ Deg.

At _____ MPH

☐ No Release

No Protective Actions Required.

☐ Release BELOW federally approved operating limits☐ Release ABOVE federally approved operating limits

Authorized by:

Title:

Notification of Unusual Event

Time/Date:

Message:

This is River Bend Station

A Notification of Unusual Event was declared at

on

for

Wind from _____ Deg.

At _____ MPH

☐ No Release

No Protective Actions Required.

☐ Release BELOW federally approved operating limits☐ Release ABOVE federally approved operating limits

Authorized by:

Title:

**RIVER
BEND STATION**

Number: ***RJPM-NRC12-C1**
Revision: **00**
Page 1 of 10

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

RESPOND TO A LOSS OF CONTROL ROOM ANNUNCIATORS

REASON FOR REVISION:

2012 NRC Exam JPM

C1

PREPARE / REVIEW:

Angie Orgeron	1538	8-22-2012
Preparer	KCN	Date
David Bergstrom	0257	8/23/2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	8/22/2012
Operations Representative	KCN	Date
John Fralick	0788	8/23/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-C1

TASK DESCRIPTION:	RESPOND TO A LOSS OF ALL CONTROL ROOM ANNUNCIATORS					
TASK REFERENCE:	400083004001					
K/A REFERENCE & RATING:	263000 K2.01 3.1/3.4 263000 K3.03 3.4/3.8 263000 A4.01 3.3/3.5					
TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room	X	Simulator		In-Plant	
COMPLETION TIME:	15 MINUTES.					
MAX TIME:	30 MINUTES					
JOB LEVEL:	RO/SRO					
TIME CRITICAL:	NO					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					
SAFETY FUNCTION	6					

SIMULATOR SETUP SHEET

Task Description: NA

Required Power: NA

IC No.: NA

Notes: NONE: This JPM is performed in the Control Room and Plant.

DATA SHEET

References for Development:	AOP-0055 Rev 017
Required Materials:	AOP-0055 Rev 017 Section 5.3
Required Plant Condition:	ANY
Task Standard	Cause of annunciator loss has been identified and corrected.
Applicable Objectives:	RLP-HLO-547 Objective 4
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-C1

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

While operating at 100 percent power a total loss of control room annunciators occurred. AOP-0055, LOSS OF CONTROL ROOM ANNUNCIATORS has been entered. The Operations Shift Manager is reviewing EIP Emergency Action Levels for applicability. All available operations personnel are stationed to monitor indications for changing plant parameters. Maintenance personnel have been notified of the loss of annunciators.

Initiating Cue:

The CRS has directed you to perform Section 5.3 of AOP-0055 to determine the cause for and correct the loss of annunciator condition.

RJPM-NRC12-C1

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>_____1. 5.3</p>	<p>Candidate located H13-P630 and observed the status of the 24 VDC and 125 VDC power available lights.</p> <p>Candidate located H13-P850 and observed the status of the 24 VDC and 125 VDC power available lights.</p>	<p>_____</p> <p>_____</p>	<p><u>EVALUATOR CUE:</u> When the candidate has located the power available lights in H13-P630, notify the candidate that all lights are extinguished.</p> <p><i>Note: There are a total of 4 sets of power supply lights in H13-P630. Three power supplies are behind the right side door, and one behind the middle door.</i></p> <p><u>EVALUATOR CUE:</u> When the candidate has located the power available lights in H13-P850, notify the candidate that all lights are extinguished.</p> <p><i>Note: There are a total of 5 sets of power supply lights in H13-P850. Two power supplies are behind the left side door and one behind each of the other 3 doors.</i></p>

RJPM-NRC12-C1

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>_____2.</p> <p>5.3.1</p>	<p><u>IF</u> all power supplies in either H13-P630 <u>OR</u> H13-P850 are observed to be deenergized, <u>THEN</u> dispatch an operator to Main Control Room north end to check the following breakers:</p> <ul style="list-style-type: none"> • For H13-P630, BYS-PNL02B2 BKR 2 • For H13-P850, BYS-PNL02B2 BKR 17 	<p>Candidate located, identified and verified BYS-PNL02B2 BKR 2 is in the ON position.</p> <p>Candidate located, identified and verified BYS-PNL02B2 BKR 17 is in the ON position.</p>	<p>_____</p> <p>_____</p>	<p><u>EVALUATOR CUE:</u> When the candidate has located BYS-PNL02B2 BKR 2 notify the candidate that the breaker is in the ON position.</p> <p><u>EVALUATOR CUE:</u> When the candidate has located BYS-PNL02B2 BKR 17 notify the candidate that the breaker is in the ON position.</p>
<p>_____3.</p> <p>5.3.2</p>	<p><u>IF</u> all power supplies in both H13-P630 <u>AND</u> H13-P850 are observed to be deenergized, <u>THEN</u> dispatch an operator to Normal Switchgear Building 98 ft el. to check BYS-SWG01B BKR 528.</p>	<p>Candidate located, identified and verified the status of BYS-SWG01B BKR 528</p>	<p>_____</p>	<p><u>EVALUATOR CUE:</u> When the candidate has located BYS-SWG01B BKR 528 notify the candidate the breaker is OPEN.</p>
<p>* _____4.</p> <p>5.3.3</p>	<p><u>IF</u> any of the following breakers are found to be open, <u>THEN</u> close the applicable breakers:</p> <p>BYS-PNL02B2 BKR 2</p> <p>BYS-PNL02B2 BKR 17</p> <p>BYS-SWG01B BKR 528</p>	<p>Candidate located, identified and simulated closing BYS-SWG01B BKR 528 by simulating movement of the breaker handle downward and then back up to close the breaker.</p>	<p>_____</p>	<p><u>EVALUATOR CUE:</u> After candidate has simulated closing the BWS-SWG01B BKR 528, notify the candidate that the breaker indication indicates the breaker is CLOSED.</p>

RJPM-NRC12-C1

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____5. 5.3.4	<u>IF</u> a breaker was closed in Step 5.3.3 AND the breaker trips open, THEN contact Electrical Maintenance for assistance before attempting another closure.	Candidate took no further action.	<u>NA</u>	<i>No action required by this step due to the breaker remaining closed in the previous step.</i>

Terminating Cue: BYS-SWG01B has been closed (simulated) restoring power to control room annunciators.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: While operating at 100 percent power a total loss of control room annunciators occurred. AOP-0055, LOSS OF CONTROL ROOM ANNUNCIATORS has been entered. The Operations Shift Manager is reviewing EIP Emergency Action Levels for applicability. All available operations personnel are stationed to monitor indications for changing plant parameters. Maintenance personnel have been notified of the loss of annunciators.

Initiating Cues: The CRS has directed you to perform Section 5.3 of AOP-0055 to determine the cause for and correct the loss of annunciator condition.

**RIVER
BEND STATION**

Number: *RJPM-NRC12-C2
Revision: 00
Page 1 of 15

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

PERFORM AVERAGE POWER RANGE MONITOR SETDOWN CHANNEL FUNCTIONAL TEST FOR APRM "B"

REASON FOR REVISION:

2012 NRC Exam JPM – SRO/RO

C2

PREPARE / REVIEW:

Angie Orgeron	1538	6-25-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-C2

TASK DESCRIPTION:	Perform the APRM Weekly Setdown Channel Functional Test FOR APRM “B”					
TASK REFERENCE:	215001002001					
K/A REFERENCE & RATING:	215005 A4.03		3.2/3.2			
	215005 A 4.05		3.4/3.4			
	215005 A 4.06		3.6/3.8			
TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room	X	Simulator		In-Plant	
COMPLETION TIME:	20 minutes					
MAX TIME:	40 minutes					
JOB LEVEL:	SRO/RO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					
SAFETY FUNCTION	7					

SIMULATOR SETUP SHEET

Task Description: N/A

Required Power: N/A

IC No.: N/A

Notes: None. This JPM is simulated in the Control Room.

DATA SHEET

References for Development:	STP-505-4517 Rev 10
Required Materials:	STP-505-4517 Rev 10
Required Plant Condition:	Any
Task Standard	Candidate has simulated performance of STP-505-4517 for APRM B in accordance with Section 7.13
Applicable Objectives:	RLP-STM-0503 Objectives 23, 24, 26, 27
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-C2

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues, I may provide cues during the performance of this JPM, I may ask follow-up questions as part of this JPM. When you complete the task successfully, the objective for this JPM will be satisfied, you should inform me when you have completed the task.

Initial Conditions:

The plant is in Mode 1, operating at 100% power. STP-505-4517, *RPS/CONTROL ROD BLOCK-APRM SETDOWN CHANNEL FUNCTION TEST (C51-K505A THROUGH C51-K605H)* was completed last shift for all APRM except APRM B due to other maintenance on that APRM. APRM B maintenance has now been completed.

Initiating Cue:

The CRS has directed you to perform **Section 7.13-7.14 for APRM B ONLY** of the weekly surveillance STP-505-4517 *RPS/CONTROL ROD BLOCK-APRM SETDOWN CHANNEL FUNCTION TEST (C51-K505A THROUGH C51-K605H)*.

RJPM-NRC12-C2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>NOTE</u>	<u>NOTE:</u> All switches, status lights, test connections, and adjustments are to be made at H13-P670, APRM B unless otherwise noted		<u>NA</u>	<i>No action required. This is a procedure note.</i>
7.13	Channel Functional Test for APRM B		<u>NA</u>	<i>No action performed in this step.</i>
____1. 7.13.1	Notify NCO, commencing surveillance testing of APRM B	Candidate notified the NCO of commencement of APRM B testing.	____	<u>EVALUATOR CUE:</u> As NCO, acknowledge report of commencement of APRM B testing.
*____2. 7.13.2	At H13-P680, place APRM B in BYPASS	Candidate located/identified the joystick on H13-P680 and simulated placing it in the APRM B position.	____	<u>EVALUATOR CUE:</u> If requested, notify candidate that the BYPASS light below the full core display for APRM B is illuminated.
<u>NOTE</u>	During Mode 1 operation, experience shows that usually, only APRM C and G will bring in an annunciator, SRM Upscale Alarm or Inop		<u>NA</u>	<i>No action required. This is a procedure note.</i>

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<p>____3. 7.13.3</p>	<p>Inform the NCO that performance of Step 7.13.6 enables IRM Annunciator circuitry, therefore if conditions do exist, the following Annunciators will alarm:</p> <ul style="list-style-type: none"> Annunciator, P680-06A-A10, IRM UPSCALE TRIP OR INOP RPS CHAN B Annunciator, P680-06A-C10, IRM UPSCALE 	<p>Candidate notified the NCO that the annunciators listed in the Performance Step may alarm.</p>	<p>_____</p>	<p><u>EVALUATOR CUE:</u> As NCO acknowledge report of potential annunciators.</p>
<p>*____4. 7.13.4</p>	<p>Place MODE Switch to PWR FLOW TEST</p>	<p>Candidate located/identified the MODE Switch and simulated placing it in the PWR FLOW TEST position.</p>	<p>_____</p>	<p><u>EVALUATOR CUE:</u> After candidate located/identified and simulated placing the Mode Switch in the PWR FLOW TEST position, notify him that the switch is in the PWR FLOW TEST position.</p>
<p>____5. 7.13.5</p>	<p>Verify METER FUNCTION Switch is in AVERAGE</p>	<p>Candidate located/identified the METER FUNCTION Switch and verified it in the AVERAGE position.</p>	<p>_____</p>	<p><u>EVALUATOR CUE:</u> After candidate located/identified the METER FUNCTION switch, notify the candidate that the METER FUNCTION switch is in the AVERAGE position.</p>

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<u>CAUTION</u>	IF the Bypass Pushbutton is depressed, the APRM will come out of bypass, and may cause a Half Scram Robust Barriers shall be utilized to prevent depressing the Bypass Pushbutton		<u>NA</u>	<i>No action required. This is a procedure caution.</i>
* <u>6.</u> 7.13.6	Depress and <u>hold</u> the SETDOWN TEST Pushbutton	Candidate located/identified the SETDOWN TEST pushbutton, simulated depressing and simulated maintaining the pushbutton depressed.	—	
* <u>7.</u> 7.13.7	Adjust POWER Control for an indication of 8% power on the APRM Front Panel Meter	Candidate has located/identified the POWER Control and simulated adjusting to obtain a reading of 8% power on the APRM Front Panel Meter	—	<u>EVALUATOR CUE:</u> After the candidate has simulated adjustment of the POWER Control, notify him that the APRM B Front Panel Meter indicates 8%.
<u>8.</u> 7.13.8	Momentarily press the Trip Reset Pushbutton	Candidate has located/identified the Trip Reset pushbutton and simulated momentarily depressing the button.	—	
<u>9.</u> 7.13.9	Verify Status Light UPSCALE ALARM is OFF	Candidate has located/identified the UPSCALE ALARM and verified it is OFF.	—	<u>EVALUATOR CUE:</u> After candidate has located the UPSCALE ALARM light, notify him that the light is OFF.
<u>NOTE</u>	<u>NOTE:</u> Expected Trip Value = 12%		<u>NA</u>	<i>No action required. This is a procedure note.</i>
* <u>10.</u> 7.13.10	Adjust Power Control until Status Light UPSCALE ALARM, just comes on	Candidate has located/identified the POWER Control and simulated adjusting until the UPSCALE ALARM light comes on and then stops the simulated adjustment.	—	<u>EVALUATOR CUE:</u> After the candidates begins the simulated adjustment, notify the candidate that the UPSCALE ALARM light is ON.

RJPM-NRC12-C2

<u>NOTE</u>	NOTE: Check that the alarm came in due to Setdown limits being in effect		<u>NA</u>	<i>No action required. This is a procedure note.</i>
*___11. 7.13.11	Check UPSCALE ALARM came on before 15% on the Front Panel Meter	Candidate has located/identified the APRM Front Panel Meter and verified that the UPSCALE ALARM light illuminated before 15%.	—	<u>EVALUATOR CUE:</u> After the candidate locates the APRM Front Panel Meter, notify him that the meter indicates 12%
___12. 7.13.12	Verify Status Light UPSCALE NEUTRON is OFF	Candidate has located/identified the UPSCALE NEUTRON light and verified it is OFF.	—	<u>EVALUATOR CUE:</u> After the candidate locates the UPSCALE NEUTRON LIGHT notify him that the light is OFF.
<u>NOTE</u>	NOTE: Expected Trip Value = 15%.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
*___13. 7.13.13	Raise Power Control until Status Light UPSCALE NEUTRON, just comes on	Candidate has located/identified the POWER Control and simulated adjusting until the UPSCALE NEUTRON light comes on and then stops the simulated adjustment.	—	<u>EVALUATOR CUE:</u> After the candidate begins the simulated adjustment, notify the candidate that the UPSCALE NEUTRON light is ON.
*___14. 7.13.14	Check UPSCALE NEUTRON came on before 20% on the Front Panel Meter	Candidate has located/identified the APRM Front Panel Meter and verified that the UPSCALE NEUTRON light illuminated before 20%.	—	<u>EVALUATOR CUE:</u> After the candidate locates the APRM Front Panel Meter, notify him that the meter indicates 15%
___15. 7.13.15	Adjust Power Control for an indication of 8% on the Front Panel Meter	Candidate has located/identified the POWER Control and simulated adjusting until the Front Panel Meter indicates 8%.	—	<u>EVALUATOR CUE:</u> After the candidate begins simulated adjustment of the Power Control, notify the candidate that the APRM Front Panel Meter indicates 8%.
___16. 7.13.16	Release the SETDOWN TEST Pushbutton	Candidate has simulated release of the SETDOWN TEST pushbutton.	—	

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* 17. 7.13.17	Momentarily press the Trip Reset Pushbutton	Candidate simulated momentary depressing of the Trip Reset pushbutton.	—	
18. 7.13.18	Check Status Light UPSCALE ALARM is OFF	Candidate has verified the UPSCALE ALARM light is OFF.	—	<u>EVALUATOR CUE:</u> After candidate locates/identifies the UPSCALE ALARM light, notify him that the light is OFF.
19. 7.13.19	Check Status Light UPSCALE NEUTRON is OFF	Candidate has verified the UPSCALE NEUTRON light is OFF.	—	<u>EVALUATOR CUE:</u> After candidate locates/identifies the UPSCALE NEUTRON light, notify him that the light is OFF.
<u>NOTE</u>	<u>NOTE:</u> All switches, status lights, test connections, and adjustments are to be made at H13-P670, APRM B unless otherwise noted		<u>NA</u>	<i>No action required. This is a procedure note.</i>
7.14	Restoration of APRM B		<u>NA</u>	<i>No action performed in this step. Actions follow below.</i>
* 20. 7.14.1	Place MODE Switch to OPERATE	Candidate located/identified and simulated placing the switch to the OPERATE position.	—	<u>EVALUATOR CUE:</u> After candidate locates/identifies the MODE switch, notify him that it is in the OPERATE position.
21. 7.14.2	Momentarily press the Trip Reset Pushbutton	Candidate located/identified and simulated momentarily depressing the Trip Reset Pushbutton.	—	
7.14.3	Verify the following:		<u>NA</u>	<i>No action performed in this step. Actions follow below.</i>
22. 7.14.3.1	Status Light UPSCALE ALARM, is off	Candidate located/identified and verified the UPSCALE ALARM light is off.	—	<u>EVALUATOR CUE:</u> After the candidate located/identified the UPSCALE ALARM light, notify him that the light is OFF.

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____23. 7.14.3.2	Status Light UPSCALE NEUTRON, is off	Candidate located/identified and verified the UPSCALE NEUTRON light is off.	____	<u>EVALUATOR CUE:</u> After the candidate located/identified the UPSCALE NEUTRON light, notify him that the light is OFF.
____24. 7.14.3.3	Status Light UPSCL THERM TRIP, is off	Candidate located/identified and verified the UPSCALE THERMAL TRIP light is off.	____	<u>EVALUATOR CUE:</u> After the candidate located/identified the UPSCALE THERMAL TRIP light, notify him that the light is OFF.
____25. 7.14.3.4	Status Light INOP, is off	Candidate located/identified and verified the INOP light is off.	____	<u>EVALUATOR CUE:</u> After the candidate located/identified the INOP light, notify him that the light is OFF.
____26. 7.14.4	Verify APRM B MODE Switch to OPERATE	Candidate located/identified and verified the APRM B MODE Switch is in OPERATE.	____	<u>EVALUATOR CUE:</u> If requested by the candidate, perform the Independent Verification steps at 7.14.4
*____27. 7.14.5	At H13-P680, place C51B-S6, NEUTRON MONITOR BYPASS Switch to the proper position for current plant conditions	Candidate located/identified the joystick on H13-P680 and simulated removing it from the APRM B position and returning it to the center position.	____	<u>EVALUATOR CUE:</u>If requested as CRS, notify the candidate the proper position for APRM B for current plant conditions is “Not Bypassed” If requested, after simulation of removing APRM B from bypass, notify candidate that Bypass light for APRM B below the full core display is OFF.
____28. 7.14.6	Check that no RPS Half-Scrams have occurred	Candidate verified no RPS Half Scram occurred by verifying the RPS status lights on H13-P680 are illuminated OR by verifying the RPS status lights on H13-P691, P692, P693 and P694 are illuminated.	____	<u>EVALUATOR CUE:</u> Notify candidate that no RPS Half Scrams occurred.

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____29. 7.14.7	Check that no single rod scrams have occurred	Candidate verified no single rod scrams occurred.	____	<u>EVALUATOR CUE:</u> Notify candidate that no single rod scrams occurred.
7.14.8	Check the following		<u>NA</u>	<i>No action performed in this step. Actions follow below.</i>
____30. 7.14.8.1	Status Light on H13-P680, BYPASS, is off.	Candidate located/identified and verified that the Bypass lights for APRM B below the full core display is OFF.	____	<u>EVALUATOR CUE:</u> After candidate locates/identifies the Bypass light for APRM B below the full core display, notify him that the light is OFF.
____31. 7.14.8.2	Status Light on H13-P670, BYPASS for APRM B, is off	Candidate located/identified and verified that the Bypass lights for APRM B at H13-P670 is OFF.	____	<u>EVALUATOR CUE:</u> After candidate locates/identifies the Bypass light for APRM B at H13-P670, notify him that the light is OFF.
<u>NOTE</u>	Check the APRM is functioning before going to another.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
7.14.9	Perform the following		<u>NA</u>	<i>No action performed in this step. Actions follow below.</i>
____32. 7.14.9.1	Verify METER FUNCTION Switch in AVERAGE	Candidate located/identified the METER FUNCTION switch and verified it was in the AVERAGE position.	____	<u>EVALUATOR CUE:</u> After candidate locates/identifies the METER FUNCTION switch notify him that the switch is in the AVERAGE position.
____33. 7.14.9.2	Record instrument readings	Candidate recorded the readings for APRM B & F.	____	<u>EVALUATOR CUE:</u> When the candidate locates the Front Panel Meters for APRM B & F, notify him that the readings are: APRM B 100% APRM F 100%

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____34. 7.14.9.3	Check that instrument readings are within 12%. <u>IF</u> greater than 12%, <u>THEN</u> notify OSM/CRS	Candidate recognized that the readings were within 12% and took no further action.	____	
____35. 7.14.10	Notify NCO that surveillance testing of APRM B is complete	<p>Candidate notified the NCO that surveillance testing of APRM B was completed.</p> <p><i>Note: Candidate may state that they will return the Meter Function switch in accordance with OP AID 2001-P-005. This is <u>not</u> required for satisfactory performance of this JPM.</i></p>	____	<u>EVALUATOR CUE:</u> As NCO, acknowledge report of the completion of APRM B testing.

Terminating Cue: Simulated performance of STP-505-4517 Section 7.13 for APRM B has been completed and APRM B has been restored to operational per section 7.14.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is in Mode 1, operating at 100% power. STP-505-4517, *RPS/CONTROL ROD BLOCK-APRM SETDOWN CHANNEL FUNCTION TEST (C51-K505A THROUGH C51-K605H)* was completed last shift for all APRM except APRM B due to other maintenance on that APRM. APRM B maintenance has now been completed.

Initiating Cues: The CRS has directed you to perform **Section 7.13-7.14 for APRM B ONLY** of the weekly surveillance STP-505-4517 *RPS/CONTROL ROD BLOCK-APRM SETDOWN CHANNEL FUNCTION TEST (C51-K505A THROUGH C51-K605H)* .

**RIVER
BEND STATION**

Number: *RJPM-NRC12-P1
Revision: 00
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TIME CRITICAL

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

TRANSFER RCIC STEAM SUPPLY ISOLATION VALVE TO ALTERNATE POWER

REASON FOR REVISION:

2012 NRC Exam JPM

P1

PREPARE / REVIEW:

Angie Orgeron	1538	6-21-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-P1

TASK DESCRIPTION:	TRANSFER RCIC STEAM SUPPLY ISOLATION VALVE TO ALTERNATE POWER PER AOP-0031					
TASK REFERENCE:	294001002004					
K/A REFERENCE & RATING:	295016 A1.04 3.1/3.2 295016 A1.07 4.2/4.3 295016 A1.09 4.0/4.0					
TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room		Simulator		In-Plant	x
COMPLETION TIME:	10 MINUTES.					
MAX TIME:	10 MINUTES					
JOB LEVEL:	RO/SRO					
TIME CRITICAL:	YES					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					
SAFETY FUNCTION	2					

SIMULATOR SETUP SHEET

Task Description: NA

Required Power: NA

IC No.: NA

Notes: NONE: This JPM is performed in the plant.

DATA SHEET

References for Development: AOP-0031 Rev 315

Required Materials: AOP-0031 Rev 315 Attachment 14

Required Plant Condition: ANY

Task Standard E51-MOVF063 is powered by a Division 1 power source in accordance with AOP-0031 Section 5.8.

Applicable Objectives: RLP-OPS-AOP031 Objective 5

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

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If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

While operating at 100 percent power a fire was discovered in the Main Control Room. Initial actions to extinguish the fire have been unsuccessful. AOP-0031, SHUTDOWN FROM OUTSIDE THE CONTROL ROOM has been entered and Control Room abandonment is in progress.

Initiating Cue:

The CRS has directed you to perform Section 5.8 of AOP-0031, SHUTDOWN FROM OUTSIDE THE CONTROL ROOM, to transfer E51-MOVF063 to Division 1 alternate power.

This is a time critical JPM.

START TIME: _____

RJPM-NRC12-P1

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>WARNING</u>	<p align="center"><u>WARNING</u></p> <p>Due to extreme differential pressure, 123 ft el access doors into the Aux Bldg may be a personnel hazard. When operating conditions permit, Aux Bldg access should be from the 95 ft el or 67 ft el.</p>		<u>N/A</u>	<i>This is a procedure warning. No action required. These conditions would be present during an actual event, but not expect during the examination period. It is acceptable to use the 123 ft el access during this examination.</i>
5.8	<u>WHEN</u> directed by the CRS, <u>THEN</u> perform Steps 5.8.1 through 5.8.6		<u>NA</u>	
<u>NOTE</u>	Steps 5.8.1 through 5.8.6, in addition to the RCIC lineup steps performed by the ATC operator at the Div I RSS panel, are required to be completed within 10 minutes of scramming the reactor due to a Main Control Room fire. These actions are performed at EHS-MCC2L, west side and EHS-MCC2D, east side of Aux Bldg, 141' el.		<u>NA</u>	<i>This is a procedure note. No action is required.</i>
* 5.8.1.	Close EHS-MCC2L BKR 6AT, E51-SW63 BRKR 1 ALT DIV I PWR E51-MOVF063	Candidate has located/identified EHS-MCC2L BKR 6AT and simulated placing the breaker handle in the ON position.	—	

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PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____2. 5.8.2	Close EHS-MCC2L BKR 6AB, E51-SW63 BRKR 2 ALT DIV I PWR E51-MOVF063	Candidate has located/identified EHS-MCC2L BKR 6AB and simulated placing the breaker handle in the ON position. _____	
* _____3. 5.8.3	Open EHS-MCC2D BKR 3C, RCIC & RHR STEAM SUPPLY VALVE.	Candidate has located/identified EHS-MCC2D BKR 3C and simulated placing the breaker handle in the OFF position. _____	
* _____4. 5.8.4	On wall to right side of EHS-MCC2D, close E51-SW63, DIV I ALT PWR SUPPLY E51-MOVF063.	Candidate has located/identified E51-SW63 and simulated placing the switch in the CLOSED position. _____	
* _____5. 5.8.5	On right side of EHS-MCC2D, place 43-1ICSA02, CONTROL XFER E51-MOVF063 in ALTERNATE and check the following:	Candidate has located/identified 43-1ICSA02 and simulated placing the switch in the ALTERNATE position. _____	
_____ 5.8.5 • _____6.	W2-1ICSA02, DIV I ALT CONTROL POWER E51-MOVF063 is illuminated.	Candidate has located/identified W2-1ICSA02 and verified light is illuminated. _____	<u>EXAMINER CUE:</u> Once the candidate has located W2-1ICSA02, notify him that the light is ON.
_____ 5.8.5 • _____7.	W1-1ICSA02 NORMAL CONTROL POWER E51-MOVF063 is extinguished	Candidate has located/identified W1-1ICSA02 and verified light is extinguished. _____	<u>EXAMINER CUE:</u> Once the candidate has located W1-1ICSA02, notify him that the light is OFF.

RJPM-NRC12-P1

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____ 8. 5.8.6	Inform ATC Operator that E51-MOVF063 has been transferred to the Div I Alternate Power. The Div I Remote Shutdown Room number is 2903	Candidate notifies the ATC operator that E51-MOVF063 has been transferred to the Div I Alternate Power.	____	<u>EXAMINER CUE:</u> Role Play: As ATC operator, accept information regarding transfer of E51-MOVF063 to alternate power.

Terminating Cue: E51-MOVF063 has been transferred to alternate power per AOP-0031 Section 5.8

COMPLETION TIME: _____

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: While operating at 100 percent power a fire was discovered in the Main Control Room. Initial actions to extinguish the fire have been unsuccessful. AOP-0031, SHUTDOWN FROM OUTSIDE THE CONTROL ROOM has been entered and Control Room abandonment is in progress.

Initiating Cues: The CRS has directed you to perform Section 5.8 of AOP-0031, SHUTDOWN FROM OUTSIDE THE CONTROL ROOM, to transfer E51-MOVF063 to Division 1 alternate power.

This is a time critical JPM.

**RIVER
BEND STATION**

Number: *RJPM-NRC12-P2
Revision: 0
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ALTERNATE PATH

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

START OF FIRE PROTECTION WATER PUMP

REASON FOR REVISION:

2012 NRC Exam JPM – SRO/RO

P2

PREPARE / REVIEW:

Angie Orgeron	1538	6-20-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-P2

TASK DESCRIPTION:	Start of Fire Protection Water Pump					
TASK REFERENCE:	286018001004					
K/A REFERENCE & RATING:	286000	K4.05	3.7/3.8			
		K5.05	3.0/3.1			
		A2.08	3.2/3.3			
		A3.01	3.4/3.4			
		A4.06	3.4/3.4			

TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room		Simulator		In-Plant	X

COMPLETION TIME:	10 min.
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MAX TIME:	N/A
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JOB LEVEL:	All
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	Yes
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ALTERNATE PATH (FAULTED):	Yes
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SAFETY FUNCTION:	8
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RJPM-NRC12-P2

SIMULATOR SETUP SHEET

Task Description: Start of Fire Protection Water Pump

Required Power: N/A

IC No.: N/A

Notes: This JPM task is simulated in the plant.

RJPM-NRC12-P2

DATA SHEET

References for Development:	SOP-0037 Rev 32, Fire Protection Water System Operating Procedure
Required Materials:	SOP-0037, Rev 32 Fire Protection Water System Operating Procedure, Section 4.2.2 through 4.2.3
Required Plant Condition:	N/A
Task Standard:	The 'A' Diesel Driven Fire Pump is running with proper cooling water pressure.
Applicable Objectives:	STM-250, Obj# N04, N07
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-P2

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is operating in Mode 1, at 100% steady state power. FPW-P1B Diesel Fire Pump is tagged out for pump replacement. A fire has occurred in the Auxiliary Boiler/Water Treatment Building. Attempts to start FPW-P1A, Diesel Fire Pump from the Auxiliary Control Room have failed. The power supply to FPW-P2, MOTOR DRIVEN FIRE PUMP, has been damaged by the fire rendering the pump unavailable.

Initiating Cue:

The CRS has directed you to perform a local manual start of FPW-P1A, Diesel Driven Fire Pump, in accordance with SOP-0037 Fire Protection Water System Operating Procedure, beginning at Section 4.2.2.

RJPM-NRC12-P2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
4.2.2.1	At FPW-MST2, MOTOR DRIVEN FIRE PUMP 2 CONTROLLER, depress START pushbutton to start FPW-P2, MOTOR DRIVEN FIRE PUMP		<u>NA</u>	<i>No action is required for this step. The Initial Conditions indicated that FPW-P2 was unavailable due to power supply damage.</i>
<u>NOTE</u>	The following pump start method is only to be used in an emergency situation.		<u>NA</u>	<i>No action is required. This is a Procedure Note. In addition, the associated step is not required. The Initial Conditions indicated that FPW-P2 was unavailable due to power supply damage.</i>
4.2.2.2	<u>IF</u> Step 4.2.2.1 does not start FPW-P2, <u>THEN</u> lift the yellow MANUAL EMERGENCY START ONLY handle on FPW-P2, MOTOR DRIVEN FIRE PUMP 2 CONTROLLER, and latch in the raised position		<u>NA</u>	<i>No action is required for this step. The Initial Conditions indicated that FPW-P2 was unavailable due to power supply damage.</i>
<u>NOTE</u>	<u>NOTE</u> MANUAL 1 and MANUAL 2 correspond to manual starting with Bank 1 or Bank 2 respectively.		<u>NA</u>	<i>No action is required. This is a Procedure Note.</i>

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PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____ 1. 4.2.2.3	Place the selector switch on controller FPW-MST1A, DIESEL FIRE PUMP 1A CONTROLLER in MANUAL 1 or MANUAL 2.	Candidate has located/identified the proper controls, and simulated manipulation of the selector switch to either MANUAL 1 or MANUAL 2.	____	<u>EVALUATOR CUE:</u> After the manipulation has been simulated, notify performer that the “Auto On” light has extinguished.
4.2.2.4	Place the selector switch on controller FPW-MST1B, DIESEL FIRE PUMP 1B CONTROLLER in MANUAL 1 or MANUAL 2		<u>NA</u>	<i>No action required. FPW-P1B was identified as being tagged out in the initiating cue.</i>
<u>NOTE</u>	<p style="text-align: center;"><u>NOTE</u></p> <p>Limit the maximum number of start attempts to six.</p> <p>Do <u>not</u> hold the START pushbutton for greater than 30 seconds.</p>		<u>NA</u>	<i>No action is required. This is a Procedure Note.</i>
____ 2. 4.2.2.5	<p>Depress and hold local START pushbutton for 15 seconds or until engine starts for the following:</p> <ul style="list-style-type: none"> • FPW-P1A, DIESEL DRIVEN FIRE PUMP A 	Candidate has located/identified the proper controls, and simulated depressing and holding the START pushbutton for 15 seconds	____	<u>EVALUATOR CUE:</u> After the performer has simulated depressing the START pushbutton, notify the performer that diesel fire pump fails to crank.
____ 3. 4.2.2.6	<u>IF</u> FPW-P1A or FPW-P1B failed to attempt to start due to battery problems, <u>THEN</u> re-perform steps 4.2.2.3 through 4.2.2.5 with the battery bank that was <u>not</u> used .	<p><u>ALTERNATE PATH</u></p> <p>Candidate has transitioned back to Step 4.2.2.3</p>	____	

RJPM-NRC12-P2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____ 4. 4.2.2.3	Place the selector switch on controller FPW-MST1A, DIESEL FIRE PUMP 1A CONTROLLER in MANUAL 1 or MANUAL 2.	Candidate has located/identified the proper controls, and simulated manipulation of the selector switch to the alternate position. .	____	
4.2.2.4	Place the selector switch on controller FPW-MST1B, DIESEL FIRE PUMP 1B CONTROLLER in MANUAL 1 or MANUAL 2.		<u>NA</u>	<i>This step is not required. Fire Pump B is tagged out as stated in the initial conditions.</i>
<u>NOTE</u>	<p style="text-align: center;"><u>NOTE</u></p> <p>Limit the maximum number of start attempts to six.</p> <p>Do <u>not</u> hold the START pushbutton for greater than 30 seconds.</p>		<u>NA</u>	<i>No action is required. This is a Procedure Note.</i>
____ 5. 4.2.2.5	<p>Depress and hold local START pushbutton for 15 seconds or until engine starts for the following:</p> <ul style="list-style-type: none"> FPW-P1A, DIESEL DRIVEN FIRE PUMP A 	<p>Candidate has located/identified the proper controls, and simulated depressing and holding the START pushbutton for 15 seconds</p> <p>Candidate proceeded to 4.2.2.7</p>	____	<u>EVALUATOR CUE:</u> After the performer has simulated depressing the START pushbutton, notify the performer that diesel fire pump fails to crank.
____ 6. 4.2.2.7	<u>IF</u> an engine fails to start, <u>THEN</u> Go To Step 4.2.3.	<p><u>ALTERNATE PATH</u></p> <p>Candidate transitions to Step 4.2.3.</p>	____	

RJPM-NRC12-P2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>NOTE</u>	<p style="text-align: center;"><u>NOTE</u></p> <p>In the following mode, all other means of stopping the Fire Protection Diesel Engine are disabled, including overspeed protection. The engine continues to run until the Fuel Solenoid Manual Knob is returned to the OUT position.</p>		<u>NA</u>	<i>No action is required. This is a Procedure Note.</i>
*_____7. 4.2.3.1	Open FPW-SOV19A,FUEL SUPPLY SOLENOID by turning the knurled manual knob clockwise or IN to open the solenoid.	Candidate has located/identified the Fuel Supply Solenoid and simulated turning the knob in the clockwise direction.	_____	<u>EVALUATOR CUE:</u>Notify the performer that the knob has been rotated fully clockwise and stopped.
<u>CAUTION</u>	Greater than 50 psig cooling water pressure can damage the Diesel Engine Cooling System. Do <u>not</u> exceed 50 psig cooling water pressure.		<u>NA</u>	<i>No action is required. This is a Procedure Caution.</i>
*_____8. 4.2.3.2	Open FPW-V3009, FPW-P1A ENGINE COOLING SYSTEM BYPASS VALVE	Candidate has located/identified FPW-V3009 and simulated opening the valve by turning the handwheel in the counter-clockwise direction until handwheel motion stops.	_____	<u>EVALUATOR CUE:</u> Notify the performer that handwheel motion has stopped and the valve stem now appears similar to FPW-V176 (Located just below FPW-V3009)
*_____9. 4.2.3.3	Throttle open 2 turns FPW-V179, FPW-P1A ENGINE COOLING SYSTEM BYPASS VALVE	Candidate has located/identified FPW-V179 and simulated throttling the valve by turning the handwheel in the counter-clockwise direction for 2 turns.	_____	<u>EVALUATOR CUE:</u> If requested, notify the candidate that FPW-PI27A indicates similar to FPW-PI3A.

RJPM-NRC12-P2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
4.2.3.4	Engage the starter per the following:		<u>NA</u>	<i>No action required. Actions follow below.</i>
*____10. 4.2.3.4.1	Raise the Lever on either of the two starter contactors. FPW-SRT1AA or FPW-SRT1AB, MANUAL START SWITCH "A" FOR PUMP FPW-P1A	Candidate has located/identified the starter manual lever and has simulated raising the lever.	____	<u>EVALUATOR CUE:</u> After one of the levers has been raised, notify the performer that the engine has started.
____11. 4.2.3.4.2	Release the Lever for FPW-SRT1AA(BA) or FPW-SRT1AB(BB), MANUAL START SWITCH "A"(B) FOR PUMP FPW-P1A(B) as soon as the engine starts.	Candidate has simulated release of the starter manual lever.	____	
4.2.3.4.3	IF engine fails to start, THEN repeat steps 4.2.3.4.1 and 4.2.3.4.2 above using the other starter contactor.		<u>NA</u>	<i>No action is required since the engine started in the previous step.</i>
<u>CAUTION</u>	Greater than 50 psig cooling water pressure can damage the Diesel Engine Cooling System. Do <u>not</u> exceed 50 psig cooling water pressure.		<u>NA</u>	<i>No action is required. This is a Procedure Caution.</i>

RJPM-NRC12-P2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
*_____12. 4.2.3.4.4	Throttle open FPW-V179, FPW-P1A ENGINE COOLING SYSTEM BYPASS VALVE as needed to maintain cooling water pressure greater than 40 psig but less than 50 psig	Candidate located FPW-PI27A & FPW-V179 and turned the handwheel for FPW-V179 until FPW-PI27A indicated >40 psig and < 50 psig.	_____	<u>EVALUATOR CUE:</u> Prior to manipulation of FPW-V179, FPW-PI27A indicates 32 psig. After the candidate has simulated manipulation of one additional turn of the handwheel in the counter clockwise direction, notify the candidate that FPW-PI27A indicates 45 psig.

Terminating Cue: FPW-P1A, Diesel Fire Pump is running.

RJPM-NRC12-P2

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

RJPM-NRC12-P2

JPM Task Conditions/Cues

(Operator Copy)

- Initial Conditions:** The plant is operating in Mode 1, at 100% steady state power. FPW-P1B Diesel Fire Pump is tagged out for pump replacement. A fire has occurred in the Auxiliary Boiler/Water Treatment Building. Attempts to start FPW-P1A, Diesel Fire Pump from the Auxiliary Control Room have failed. The power supply to FPW-P2, MOTOR DRIVEN FIRE PUMP, has been damaged by the fire rendering the pump unavailable
- Initiating Cues:** The CRS has directed you to perform a local manual start of FPW-P1A, Diesel Driven Fire Pump, in accordance with SOP-0037 Fire Protection Water System Operating Procedure, beginning at Section 4.2.2.

**RIVER
BEND STATION**

Number: *RJPM-NRC12-P3
Revision: 00
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TIME CRITICAL

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

**INITIATE FULL SCRAM AND NSSSS ISOLATION FROM THE
ELECTRICAL PROTECTION ASSEMBLY (EPA) BREAKERS**

REASON FOR REVISION:

2012 NRC Exam JPM – SRO/RO

P3

PREPARE / REVIEW:

Angie Orgeron	1538	6-21-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Validation	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-P3

TASK DESCRIPTION:	As ATC Perform Attachment 12, Section 5.7 of AOP-0031, Shutdown From Outside the Main Control Room Following a Fire in the Main Control Room				
TASK REFERENCE:	400047004001 400048004001				
K/A REFERENCE & RATING:	295016	AK2.02, 4.0/4.1			
	295016	AK3.01, 4.1/4.2			
	295016	AA1.01, 3.8/3.9			
	295016	AA1.04, 3.1/3.2			
TESTING METHOD:	Simulate Performance	X			Actual Performance
	Control Room		Simulator		In-Plant X
COMPLETION TIME:	5 minutes				
MAX TIME:	5 minutes				
JOB LEVEL:	SRO/RO				
TIME CRITICAL:	YES				
EIP CLASSIFICATION REQUIRED:	No				
PSA RISK DOMINATE:	No				
ALTERNATE PATH (FAULTED):	No				

SIMULATOR SETUP SHEET

Task Description: N/A

Required Power: N/A

IC No.: N/A

Notes: None. This JPM is simulated in the plant.

DATA SHEET

References for Development:	AOP-0031, Shutdown From Outside the Main Control Room
Required Materials:	AOP-0031, Attachment 12, Section 5.7
Required Plant Condition:	Any
Task Standard	A reactor scram and full NSSSS isolation have been initiated from the Electrical Protection Assemblies (EPA) Area in accordance with AOP-0031 Section 5.7 of Attachment 12
Applicable Objectives:	RLP-OPS-AOP031 Objective 5
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-P3

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues, I may provide cues during the performance of this JPM, I may ask follow-up questions as part of this JPM. When you complete the task successfully, the objective for this JPM will be satisfied, you should inform me when you have completed the task.

Initial Conditions:

The Reactor has just been shutdown from 100% power due to a fire in the Control Room that necessitates evacuation.

Initiating Cue:

The CRS has directed you to complete Section 5.7.1 of AOP-0031, Shutdown From Outside the Main Control Room, Attachment 12, to initiate a Reactor Scram and full NSSSS Isolation.

This is a time critical JPM.

STATE TIME _____

RJPM-NRC12-P3

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>NOTE</u>	<p><u>NOTE</u></p> <p>If CONTROL POWER MONITOR LIGHTS or LOCAL EMERGENCY CONTROL ALIGNED LIGHTS are off, then continue the procedure until the RSS transfer is complete. The CRS determines when corrective actions can be performed.</p> <p>The Div 1 Remote Shutdown Room number is 2903.</p>		<u>NA</u>	<i>This is a procedure note. No action is required.</i>
5.7	<p><u>IF</u> a Control Room fire is in progress, <u>THEN</u> initiate a Reactor Scram and a full NSSSS Isolation by directing the ATC Operator to perform the following</p>		<u>NA</u>	<i>No action required in this step.</i>
<u>NOTE</u>	<p>If a Main Control Room fire is in progress, then Steps 5.7.1.1 and 5.7.1.2 shall be completed within 5 minutes of scrambling the reactor.</p>		<u>NA</u>	<i>This is a procedure note. No action is required.</i>
____1. 5.7.1	<p>Proceed briskly to Control Bldg 116 ft el Div 1 Electrical Protection Assemblies area and perform the following:</p>	<p>Candidate has arrived at the Div 1 Electrical Protection Assemblies on the Control Building 116 ft el.</p>	—	
5.7.1.1	<p>At Control Bldg 116 ft el, place the following Div I Electrical Protection Assemblies in OFF:</p>		<u>NA</u>	<i>Action is performed in bulleted steps below.</i>

RJPM-NRC12-P3

*__2. 5.7.1.1 •	1. C71-S003C	Candidate has located/identified C71-S003C and simulated turning the switch counter clockwise to the OFF position.	_____	
*__3. 5.7.1.1 •	2. C71-S003F	Candidate has located/identified C71-S003F and simulated turning the switch counter clockwise to the OFF position	_____	
*__4. 5.7.1.1 •	3. C71-S003A	Candidate has located/identified C71-S003A and simulated turning the switch counter clockwise to the OFF position	_____	
*__5. 5.7.1.1 •	4. C71-S003E	Candidate has located/identified C71-S003E and simulated turning the switch counter clockwise to the OFF position	_____	
5.7.1.2	At Control Bldg 116 ft el, place the following Div II Electrical Protection Assemblies in OFF:		<u>NA</u>	<i>Action is performed in bulleted steps below.</i>
*__6. •	1. C71-S003H	Candidate has located/identified C71-S003H and simulated turning the switch counter clockwise to the OFF position	_____	
*__7. •	2. C71-S003D	Candidate has located/identified C71-S003D and simulated turning the switch counter clockwise to the OFF position	_____	

RJPM-NRC12-P3

* 8. •	3. C71-S003G	Candidate has located/identified C71-S003G and simulated turning the switch counter clockwise to the OFF position	_____	
* 9. •	4. C71-S003B	Candidate has located/identified C71-S003B and simulated turning the switch counter clockwise to the OFF position	_____	

Terminating Cue: A reactor scram and full NSSSS isolation have been initiated from the Electrical Protection Assemblies (EPA) Area in accordance with AOP-0031 Section 5.7.1 of Attachment 12, within 5 minutes.

COMPLETION TIME _____

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

RJPM-NRC12-P3

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The Reactor has just been shutdown from 100% power due to a fire in the Control Room that necessitates evacuation.

Initiating Cues: The CRS has directed you to complete Section 5.7.1 of AOP-0031, Shutdown From Outside the Main Control Room, Attachment 12, to initiate a Reactor Scram and full NSSSS Isolation.

This is a time critical JPM.

**RIVER
BEND STATION**

Number: ***RJPM-NRC12-S1**
Revision: **00**
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JOB PERFORMANCE MEASURE

ALTERNATE PATH



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

RESPOND TO HIGH RADIATION LEVELS IN THE AUXILIARY BUILDING

REASON FOR REVISION:

2012 NRC Exam JPM

S1

PREPARE / REVIEW:

Angie Orgeron	1538	6-25-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8/6/2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-S1

TASK DESCRIPTION:	Respond to High Radiation Levels in the Auxiliary Building by isolating secondary containment dampers and verifying initiation of Standby Gas Treatment					
TASK REFERENCE:	234002003020 300159003001					
K/A REFERENCE & RATING:	290001	A2.03	3.4/3.6			
	290001	A2.06	3.7/4.0			
	290001	A3.01	3.9/4.0			
	290001	A4.09	3.2/3.2			
	290001	A4.10	3.4/3.3			
	261000	A3.02	3.2/3.1			
	261000	A3.03	3.0/2.9			
	261000	A4.03	3.0/3.0			
	261000	A4.09	2.7/2.7			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	
COMPLETION TIME:	15 MINUTES.					
MAX TIME:	30 MINUTES					
JOB LEVEL:	RO/SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	YES					
SAFETY FUNCTION	5					

SIMULATOR SETUP SHEET

Task Description: Respond to High Radiation Levels in the Auxiliary Building by isolating secondary containment dampers and verifying initiation of Standby Gas Treatment.

Required Power: NA, determined by paired JPM.

IC No.: 202

Notes: Insert switch override for 1-GT-HVRA19.
RMS-RE110 in high alarm status

DATA SHEET

References for Development:	OSP-0053, Rev 16
Required Materials:	OSP-0053, Rev 16 Attachment 21 Hard Card (Simulator copy)
Required Plant Condition:	ANY
Task Standard	OSP-0053 Attachment 21 has been completed, failures recognized and compensatory actions taken such that all dampers listed in step 1.2 are closed and both trains of Standby Gas Treatment are in service.
Applicable Objectives:	RLP-STM-0409 Objectives 4c, 5c, 8c
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-S1

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

Radiation monitor RMS-RE110 has just gone into the High Alarm condition.

Initiating Cue:

The CRS has directed you to respond to this condition by performing Attachment 21 of OSP-0053, EMERGENCY AND TRANSIENT RESPONSE SUPPORT PROCEDURE. The CRS desires both Standby Gas Trains remain in service so **perform Section 1 ONLY**.

RJPM-NRC12-S1

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
1.1	Perform the following:		<u>NA</u>	<i>No action performed in this steps. Actions follow below.</i>
* _____1. •	Place HVR-AOD22A, ANNULUS MIX SPLY TO SGT in Man Init	Candidate located/identified and positioned the HVR-AOD22A, ANNULUS MIX SPLY TO SGT to the Man Init position.	_____	
* _____2. •	Place HVR-AOD22B, ANNULUS MIX SPLY TO SGT in Man Init	Candidate located/identified and positioned the HVR-AOD22B, ANNULUS MIX SPLY TO SGT to the Man Init position.	_____	
* _____3. •	Depress AUX BLDG TO SGT FLTR A MANUAL INITIATION	Candidate located/identified and depressed AUX BLDG TO SGT FLTR A MANUAL INITIATION Pushbutton.	_____	
* _____4. •	Depress AUX BLDG TO SGT FLTR B MANUAL INITIATION	Candidate located/identified and depressed AUX BLDG TO SGT FLTR B MANUAL INITIATION Pushbutton.	_____	
1.2	Verify the following dampers are closed:		<u>NA</u>	<i>No action performed in this step. Actions follow below.</i>
_____ 5. •	HVR-AOD143, DN STREAM ISOL SUPPLY	Candidate verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	_____	

RJPM-NRC12-S1

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*____7. •	HVR-AOD164, UP STREAM ISOL SUPPLY <u>ALTERNATE PATH</u> Candidate recognized that HVR-AOD164 UP STEAM ISOL SUPPLY failed to isolate and turned the control handswitch to the CLOSE position and verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	
____8. •	HVR-AOD263, SGT UPSTREAM SPLY ISOL Candidate verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	
____9. •	HVR-AOD264, SGT DNSTREAM SPLY ISOL Candidate verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	
____10. •	HVR-AOD262, AUX/CNTMT BLDG EXH ISOL Candidate verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	
*____11. •	HVR-AOD214, AUX/CNTMT BLDG EXH ISOL <u>ALTERNATE PATH</u> Candidate recognized that HVR-AOD214, AUX/CNTMT BLDG EXH ISOL failed to isolate and turned the control handswitch to the CLOSE position and verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	
____12. •	HVR-AOD161, ANNULUS PRESS CONT SUCT Candidate verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	
____13. •	HVR-AOD142, APC UP STREAM DISCH Candidate verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	

RJPM-NRC12-S1

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____ 14. •	HVR-AOD261, APC DN STREAM DISCH	Candidate verified the damper closed by verifying the GREEN light is ON and the RED light is OFF.	—	
____ 15. 1.3	Verify both divisions of GTS start.	Candidate verified the GTS-FN1A and GTS-FN1B are both running by verifying RED indicating lights are ON.	—	

Terminating Cue: All dampers listed in Step 1.2 of OSP-0053 Attachment 21 are closed and both trains of Standby Gas Treatment are in service.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: Radiation monitor RMS-RE110 has just gone into the High Alarm condition.

Initiating Cues: The CRS has directed you to respond to this condition by performing Attachment 21 of OSP-0053, EMERGENCY AND TRANSIENT RESPONSE SUPPORT PROCEDURE. The CRS desires both Standby Gas Trains remain in service so **perform Section 1 ONLY**.

**RIVER
BEND STATION**

Number: **RJPM-NRC12-S2**
Revision: **00**
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ALTERNATE PATH

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

TRANSFER RECIRC PUMPS FROM FAST TO SLOW SPEED
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REASON FOR REVISION:

2012 NRC Exam JPM	S2
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PREPARE / REVIEW:

Angie Orgeron	1538	6-25-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-S2

TASK DESCRIPTION:	Transfer Recirc Pumps from Fast to Slow Speed					
TASK REFERENCE:	202010001001; 400041004001					
K/A REFERENCE & RATING:	202001 A4.01: 3.7/3.7; 202001 A2.03: 3.6/3.7; 202001 A3.07: 3.3/3.3 202002 A1.01: 3.2/3.2; 202002 A2.01: 3.4/3.4; 202002 A4.07: 3.3/3.2 295001 AA1.01: 3.5/3.6; 295001 AA1.05: 3.3/3.3; 295001 AA2.01: 3.5/3.8					
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	
COMPLETION TIME:	15 min.					
MAX TIME:	N/A					
JOB LEVEL:	RO/SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	Yes					
SAFETY FUNCTION	1					

SIMULATOR SETUP SHEET

Task Description: Transfer Recirc Pumps to SLOW speed.
Required Power: Reactor Power ~40%
IC No.: 210
Notes: **Insert malfunction RCS008B to result in a transfer failure for Reactor Recirculating Pump B.**

DATA SHEET

References for Development:	SOP-0003 Rev 308, REACTOR RECIRCULATION SYSTEM (SYS #053) AOP-0024, Rev 24, THERMAL HYDRAULICS STABILITY CONTROLS
Required Materials:	SOP-0003 Rev 308, REACTOR RECIRCULATION SYSTEM (SYS #053) Simulator copy AOP-0024 Rev 24, THERMAL HYDRAULICS STABILITY CONTROLS Simulator copy
Required Plant Condition:	Reactor Power ~40%
Task Standard:	Reactor Recirculation pump "A" is in slow speed and Reactor Recirculation pump "B" is OFF with the associated discharge valve closed.
Applicable Objectives:	RLP-STM-0053 Obj 6
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-S2

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is operating at about 40% power and lowering power to support a drywell entry.

Initiating Cue:

The Control Room Supervisor has directed you Transfer Recirculation Pumps to Slow Speed, per SOP-0003, Section 5.2

RJPM-NRC12-S2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
5.2	Transferring from Fast Speed to Slow Speed		<u>NA</u>	<i>No actions performed by this step. Actions follow below.</i>
* _____ 1. 5.2.1.	Simultaneously depress B33-C001A and B RECIRC PUMP A and B MOTOR BREAKER 5A and 5B XFER TO LFMG pushbuttons.	Candidate simultaneously depressed B33-C001A and B RECIRC PUMP A and B MOTOR BREAKER 5A and 5B XFER TO LFMG pushbuttons.	_____	
5.2.2	Observe the following:		<u>NA</u>	<i>Actions performed below.</i>
_____ 2. 5.2.2.1.	Both B33-S001A LFMG MOT BRKR 1A and B33-S001B LFMG MOT BRKR 1B close.	Candidate verified B33-S001A LFMG MOT BRKR 1A closed. <u>ALTERNATE PATH</u> Candidate recognized that B33-S001B LFMG MOT BRKR 1B failed to close.	_____	
_____ 3. 5.2.2.2	Both B33-C001A RECIRC PUMP A MOTOR BREAKER 5A and B33-C001B RECIRC PUMP B MOTOR BREAKER 5B open.	Candidate verified both B33-C001A RECIRC PUMP A MOTOR BREAKER 5A and B33-C001B RECIRC PUMP B MOTOR BREAKER 5B open.	_____	

RJPM-NRC12-S2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
4. 5.2.2.3	WHEN B33-C001A and B, RECIRC PUMP A and B coast down to approximately 360 - 470 RPM, THEN B33-S001A and B LFMG A and B GEN BRKR 2A and 2B close and pump speeds stabilize near 450 RPM.	<p>Candidate verified that B33-S001A LFMG A GEN BRKR 2A closed and pump speed stabilized near 450 RPM.</p> <p><u>ALTERNATE PATH</u></p> <p>Recognized and reported that B33-S001B LFMG B GEN BRKR 2B did not close and pump coasting to 0 RPM.</p>	<p>_____</p> <p>_____</p>	<p><u>EVALUATOR CUE:</u> As the CRS, acknowledge the report that Reactor Recirculation Pump B transfer has failed, THEN direct the candidate to perform the actions of AOP-0024 THERMAL HYDRAULIC STABILITY CONTROL Section 5.9.</p> <p>Also, notify the candidate that another operator will perform GOP-0004, SINGLE LOOP OPERATIONS requirements.</p>
<i>TRANSITIONING TO AOP-0024 Section 5.9</i>				
5.9	<u>IF</u> a single Recirculation Pump Trip occurs, <u>THEN</u> perform the following actions:		<u>NA</u>	<i>Actions performed below.</i>
<u>NOTE</u>	<p>NOTE:</p> <p>Process computer point B33NA01V is used to determine core flow when one Reactor Recirculation Pump is OFF and the other is in fast speed. B33-R613, TOTAL CORE FLOW (Red Pen) is <u>not</u> accurate in this configuration and is <u>not</u> to be used. Refer to ERIS point ONWTDPM (enter GD ONWT* in ERIS) if remaining Recirc pump configuration is 1 Slow/0</p>		<u>NA</u>	<i>This is a procedure note. No action is required.</i>

RJPM-NRC12-S2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
5.9.1	Enter GOP-0004, Single Loop Operation		<u>NA</u>	<i>No action required. This task is being performed by another operator.</i>
_____5. 5.9.2	Place B33-HYV-F060A (B), FLOW CONT VLV for both loops in MANUAL	Candidate verified both loops are in MANUAL as indicated by MANUAL pushbuttons being backlit at B33-K603A & B	_____	
5.9.3	Perform the following actions for the shutdown loop:		<u>NA</u>	<i>Actions performed below.</i>
<u>CAUTION</u>	Closure of both suction and discharge valves with seal purge valved in causes high pressures in the isolated loop which can result in damage to the seals. Do <u>not</u> close B33-F023A(B), RECIRC PUMP A(B) SUCTION VALVE and B33-F067A(B), RECIRC PUMP A(B) DISCH VALVE if seal purge is valved in.		<u>NA</u>	<i>No action required. This is a procedure caution.</i>
* _____6. 5.9.3.1.	Close B33-F067A(B), RECIRC PUMP A(B) DISCH VALVE.	Candidate closed B33-F067B, RECIRC PUMP B DISCH VALVE by depressing the CLOSE push button and verified valve is closed by checking the RED light OFF and the GREEN light ON.	_____	
<u>NOTE:</u>	<u>NOTE:</u> Reopening of the Discharge Valve and the FCV following pump coastdown is expected to maintain the shutdown loop temperature within 50°F of the operating loop.		<u>NA</u>	

RJPM-NRC12-S2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____7. 5.9.3.2	IF Recirc pump restart is anticipated, THEN perform the following actions:	Candidate requested guidance from the CRS regarding pump restart.	_____	<u>EVALUATOR CUE:</u> Inform the candidate that pump restart is not anticipated at this time and that the task is complete.

Terminating Cue: Reactor Recirculation pump “A” is in slow speed and Reactor Recirculation pump “B” is OFF with the associated discharge valve closed.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

RJPM-NRC12-S2

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is operating at about 40% power and lowering power to support a drywell entry.

Initiating Cues: The Control Room Supervisor has directed you to Transfer Recirculation Pumps to Slow Speed, per SOP-0003, Section 5.2

**RIVER
BEND STATION**

Number: **RJPM-NRC12-S3**
Revision: **00**
Page 1 of 10

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

**MANUAL ISOLATION OF A MAIN STEAM LINE DURING POWER
OPERATION**

REASON FOR REVISION:

2012 NRC Exam JPM

S3

PREPARE / REVIEW:

Angie Orgeron	1538	6/26/2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-S3

TASK DESCRIPTION:	Manual Isolation of a Main Steam Line During Power Operation					
TASK REFERENCE:	239008001001					
K/A REFERENCE & RATING:	239001	A2.10	3.8/3.9			
	239001	A4.01	4.2/4.0			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	
COMPLETION TIME:	10 min.					
MAX TIME:	N/A					
JOB LEVEL:	RO/SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					
SAFETY FUNCTION	3					

SIMULATOR SETUP SHEET

Task Description: Manual Isolation of a Main Steam Line During Power Operation.

Required Power: $\leq 75\%$

IC No.: 212

Notes:

DATA SHEET

References for Development:	SOP-0011, Rev 027, MAIN STEAM SYSTEM (SYS #109)
Required Materials:	SOP-0011, Rev 027, MAIN STEAM SYSTEM (SYS #109) (Simulator copy)
Required Plant Condition:	≤75% power
Task Standard:	Both MSIV on “A” have been slow close and reactor power, pressure, and level are stable.
Applicable Objectives:	RLP-STM-0109 Objectives 3h, 7, 8, 10
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

RJPM-NRC12-S3

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is operating in Mode 1 at 70% power. A packing leak in the steam tunnel has resulted in the need to isolate the “A” steam line to isolate this leak.

Initiating Cue:

The CRS has directed you to isolate the “A” main steam line in accordance with SOP-0011, MAIN STEAM SYSTEM, Section 5.1

RJPM-NRC12-S3

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>NOTE:</u>	Section 5.1 denotes isolation of Main Steam Line A with MSL B, C, and D parentheses.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
	Reactor power is limited to less than or equal to 75% RTP with one Main Steam Line out of service.			
	Isolation of a main steam line inputs a reactor trip signal to one of the divisional logic circuits of RPS. AOP-0003, Automatic Isolations contains actions to be taken upon an automatic isolation of the main steam lines.			
	A high steam line flow isolation in any steam line causes all MSIVs to close.			
<u> </u> 1. 5.1.1	Lower Reactor power to less than or equal to 75%.	Candidate verified reactor power less than or equal to 75%.	<u> </u>	
<u> </u> 2. 5.1.2	Perform a slow closure of B21-AOVF028A(B)(C)(D), MSL A(B)(C)(D) OUTBD MSIV as follows:		<u>NA</u>	<i>No action required. Actions follow below.</i>
* <u> </u> 3. 5.1.2.1	Place B21-AOVF028A(B)(C)(D), MSL A(B)(C)(D) OUTBD MSIV, Control Switch in OPEN/SLOW TEST	Candidate located/identified and positioned B21-AOVF028A to the OPEN/SLOW TEST position.	<u> </u>	

RJPM-NRC12-S3

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____4. 5.1.2.2.	Depress and hold MSL A(B)(C)(D) OUTBD MSIV TEST Pushbutton.	Candidate located/identified and depressed the MSL A OUTBD MSIV TEST pushbutton and maintained the button in the depressed condition.	<i>The following alarms will annunciate and are expected for this evolution:</i> <ul style="list-style-type: none"> • H13-P808-52A-H01 • H13-P680-06A-B06
* _____5. 5.1.2.3.	<u>WHEN</u> B21-AOVF028A(B)(C)(D), MSL A(B)(C)(D) OUTBD MSIV, is fully closed, <u>THEN</u> place the OPEN-SLOW TEST Control Switch in CLOSE	When B21-AOVF028A reached the fully closed position indicated by GREEN light ON and RED light OFF, the candidate placed the B21-AOVF028A control switch to the CLOSE position.	
_____6. 5.1.2.4.	Release MSL A(B)(C)(D) OUTBD MSIV TEST Pushbutton.	Candidate released the MSL A OUTBD MSIV TEST pushbutton.	
_____7. 5.1.3.	Perform a slow closure of B21-AOVF022A(B)(C)(D), MSL A(B)(C)(D) INBD MSIV, as follows:		<i>No action required. Actions follow below.</i>
* _____8. 5.1.3.1	Place B21-AOVF022A(B)(C)(D), MSL A(B)(C)(D) INBD MSIV Control Switch in OPEN/SLOW TEST	Candidate located/identified and positioned B21-AOVF022A to the OPEN/SLOW TEST position.	
* _____9. 5.1.3.2	Depress and hold MSL A(B)(C)(D) INBD MSIV TEST Pushbutton.	Candidate located/identified and depressed the MSL A INBD MSIV TEST pushbutton and maintained the button in the depressed condition.	<i>The following alarms will annunciate and are expected for this evolution:</i> <ul style="list-style-type: none"> • H13-P808-52A-H02 • H13-P680-06A-B06

RJPM-NRC12-S3

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 10. 5.1.3.3.	<u>WHEN</u> B21-AOVF022A(B)(C)(D), MSL A(B)(C)(D) INBD MSIV, is fully closed, <u>THEN</u> place the OPEN-SLOW TEST Control Switch in CLOSE.	When B21-AOVF022 reached the fully closed position indicated by GREEN light ON and RED light OFF, the candidate placed the B21-AOVF022A control switch to the CLOSE position.	_____	
11. 5.1.3.4.	Release MSL A(B)(C)(D) INBD MSIV TEST Pushbutton.	Candidate released the MSL A INBD MSIV TEST pushbutton.	_____	

Terminating Cue: The “A” Main Steam Line is isolated in accordance with SOP-0011 Section 5.1.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

RJPM-NRC12-S3

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant is operating in Mode 1 at 70% power. A packing leak in the steam tunnel has resulted in the need to isolate the “A” steam line to isolate this leak.

Initiating Cues: The CRS has directed you to isolate the “A” main steam line in accordance with SOP-0011, MAIN STEAM SYSTEM, Section 5.1

**RIVER
BEND STATION**

Number: **RJPM-NRC12-S4**
Revision: **00**
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ALTERNATE PATH

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

SHIFT DIVISIONS OF CONTROL BUILDING CHILLERS

REASON FOR REVISION:

2012 NRC Exam JPM

S4

PREPARE / REVIEW:

Angie Orgeron	1538	6-25-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-S4

TASK DESCRIPTION:	Shift Control Building Chillers between divisions					
TASK REFERENCE:	291012001004					
K/A REFERENCE & RATING:	290003	A2.01	3.1/3.2			
		A3.01	3.3/3.5			
		A4.01	3.2/3.2			
		K4.01	3.1/3.2			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	
COMPLETION TIME:	10 min.					
MAX TIME:	N/A					
JOB LEVEL:	RO/SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	YES					
SAFETY FUNCTION	9					

SIMULATOR SETUP SHEET

Task Description: Shift Control Building Chillers between divisions.

Required Power: Any

IC No.: 210

Notes: Insert the following:

Malfunctions:

P863_74a:c_6

Overrides:

DI_HVK-P1B STOP

LO_HVC-D2A1-A OFF

T1 LO_HVK-CHL1A-A ON

T1 LO_HVK-CHL1A-G ON

T1 LO_HVK-CHL1A-R OFF

T2 LO_HVK-CHL1A-G ON delete in 2 seconds

T2 LO_HVK-CHL1A-R OFF delete in 2 seconds

T2 LO_HVK-CHL1A-A OFF

DATA SHEET

References for Development:	SOP-0066, Rev 309 Control Building HVAC Chilled Water System (Sys #410)
Required Materials:	SOP-0066, Rev 309 Control Building HVAC Chilled Water System (Sys #410) (Simulator copy)
Required Plant Condition:	Any
Task Standard:	Following identification of failure, original division is returned back to service.
Applicable Objectives:	RLP-STM-0402, Objectives 7, 8
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

HVK-P1A is to be tagged out for scheduled maintenance. The 'A' chiller has been running for 3 days.

Initiating Cue:

The CRS directs you to rotate divisions of HVK from Div 1 to Div 2 with HVK-CHL1B in service with HVK-P1B in accordance with SOP-0066, Control Building HVAC Chilled Water System, Section 5.4.

RJPM-NRC12-S4

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u> </u> 1. 5.4.1	Check that the operating chiller has been running for at least 20 minutes.	Candidate verified that the chiller had been running for 3 days per the Initial Conditions	<u> </u>	
<u>NOTE:</u>	NOTE: The controls and indications in this section are located at H13-P863, unless otherwise specified.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
<u> *</u> 5.4.2	Stop the running Control Building Chilled Water Pump.	Candidate turned the HVK-P1A pump control switch to the STOP position.	<u> </u>	<i>Note: Several annunciators will be received on H13-P863 when this step is performed.</i>
<u> </u> 3. 5.4.3	Verify the running chiller automatically trips.	Candidate verified that HVK-CHL1A tripped by observing the red light extinguish and green light on.	<u> </u>	
<u>NOTE:</u>	NOTE: Chiller 1B/1D or 1A/1C pre-trip comes in and clears Division I Chilled Water Pumps have a 30 second start time delay		<u>NA</u>	
<u> *</u> 5.4.4	Check that the standby chilled water pump starts and its discharge valve opens.	<u>ALTERNATE PATH</u> Candidate identified that the HVK-P1B did not start.	<u> </u>	

RJPM-NRC12-S4

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 5.4.5	IF the standby chilled water pump does not start, THEN go to Step 5.4.7.	Candidate transitioned to Section 5.4.7 of SOP-0066.	_____	EVALUATOR CUE: If a report is provided to the CRS concerning the trip, acknowledge the report.
TRANSITION TO SECTION 5.4.7				
<u>NOTE:</u>	NOTE: Steps 5.4.7 thru 5.4.11 resets the chiller logic and places the chiller in standby. A chiller can <u>not</u> be started until 2 ½ minutes have elapsed since it was stopped. This time delay allows sufficient time for the guide vanes to close and ensure no-load starting of the chiller		<u>NA</u>	<i>No action required. This is a procedure note.</i>
6. 5.4.7	Check the previously running AHUs and fans have stopped	Candidate checked that previously running AHUs have stopped as follows: HVC-ACU1A and 2A Green light ON, Red light OFF and Amber light ON. HVC-FN3A Green light ON and Red light OFF.	_____	
* 5.4.8	Verify at least 3 minutes has elapsed since chiller was stopped, THEN Reset trips on the previously running AHUs as follows:	Candidate waited 3 minutes prior to proceeding.	_____	
* • 8.	Depress STOP on HVC-ACU1A(B), CR AHU A(B).	Candidate depressed STOP on HVC-ACU1A	_____	

RJPM-NRC12-S4

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* ●	9. Depress STOP on HVC-ACU2A(B), CONTROL BLDG AHU A(B).	Candidate depressed STOP on HVC-ACU2A	_____	
* ●	10 Place HVC-ACU3A(B), EQPT RM AHU A(B) Switch to STOP then back to AUTO.	Candidate placed switch for HVC-ACU3A to STOP and then back to AUTO	_____	
_____ 11. 5.4.9	<u>IF</u> when resetting the AHUs in Step 5.4.8, a running AHU trips, <u>THEN</u> depress the LOCKOUT and then the RESET Pushbutton on the tripped AHU to automatically restart the AHU.		<u>NA</u>	<i>No action required by this conditional step.</i>
<u>NOTE:</u>	<u>Note:</u> Step 5.4.10 & 5.4.11 Resets the Chilled Water Pump start logic.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
_____ 12 . 5.4.10.	Verify HVK-P1A(B)(C)(D), CHILLED WATER PUMP A(B)(C)(D) Switch for the previously running pump is in STOP.	Candidate checked that HVK-P1A switch is in STOP.	_____	
* _____ 13. 5.4.11.	Place HVK-P1A(B)(C)(D), CHILLED WATER PUMP A(B)(C)(D) Switch for the previously running pump to AUTO.	Candidate placed HVK-P1A switch to AUTO	_____	

RJPM-NRC12-S4

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
5.4.12.	Perform the following for the previously running chiller:		<u>NA</u>	<i>No action required. Actions performed below.</i>
* ____ 14. 5.4.12.1	Depress STOP on HVK-CHL1A(B)(C)(D), CONT BLDG CHILLER A(B)(C)(D) Start/Stop/Reset Pushbutton.	Candidate depressed STOP pushbutton on HVK-CHL1A	_____	
* ____ 15. 5.4.12.2	Depress RESET on HVK-CHL1A(B)(C)(D) Start/Stop/Reset Pushbutton	Candidate depressed RESET pushbutton on HVK-CHL1A	_____	
5.4.13	Verify the following:		<u>NA</u>	<i>No action required. Actions performed below.</i>
____ 16. 5.4.13.1	Standby Chiller starts.	Candidate verified that HVK-CHL1A restarted.	_____	
____ 17. 5.4.13.2	Standby Chiller Recirc Service Water Pump suction valve opens.	Candidate verified that SWP-MOV27A opened.	_____	
____ 18. 5.4.13.3	Standby Chiller Recirc Service Water Pump starts.	Candidate verified that SWP-P3A starts	_____	<u>EVALUATOR CUE:</u> When the candidate makes contact with the Control Building operator to perform Section 5.4.14, notify the candidate as the Control Building operator that you will complete the remainder of Section 5.4 of SOP-0066.

Terminating Cue: HVK-CHL1A, is restored to service following the failure of Division 2.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

- Initial Conditions:** HVK-P1A is to be tagged out for scheduled maintenance. The 'A' chiller has been running for 3 days.
- Initiating Cues:** The CRS directs you to rotate divisions of HVK from Div 1 to Div 2 with HVK-CHL1B in service with HVK-P1B in accordance with SOP-0066, Control Building HVAC Chilled Water System, Section 5.4.

**RIVER
BEND STATION**

Number: **RJPM-NRC12-S5**
Revision: **00**
Page 1 of 11

ALTERNATE PATH

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

**SHUTDOWN THE HIGH PRESSURE CORE SPRAY PUMP AFTER AN
INADVERTENT AUTOMATIC INITIATION**

REASON FOR REVISION:

2012 NRC Exam JPM

S5

PREPARE / REVIEW:

Angie Orgeron	1538	6-26-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-S5

TASK DESCRIPTION:	Shutdown the High Pressure Core Spray Pump after an Inadvertent Automatic Initiation.					
TASK REFERENCE:	206016001001					
K/A REFERENCE & RATING:	209002	A1.01	3.6/3.7	209002	A1.02	3.4/3.6
	209002	A1.08	3.1/3.3	209002	A2.08	3.1/3.2
	209002	A3.01	3.3/3.3	209002	A3.03	3.6/3.6
	209002	A3.04	3.7/3.7	209002	A4.01	3.7/3.7
	209002	A4.03	3.8/3.8	209002	A4.04	3.1/3.1
	209002	A4.15	3.6/3.6			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	
COMPLETION TIME:	10 min.					
MAX TIME:	N/A					
JOB LEVEL:	RO/SRO					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	YES					
SAFETY FUNCTION	2					

SIMULATOR SETUP SHEET

Task Description: Shutdown the High Pressure Core Spray Pump after an Inadvertent Automatic Initiation with a failure of the HPCS minimum flow valve to automatically open.

Required Power: Reactor Power 70%

IC No.: 212

Notes: The following malfunctions are snapped into this IC to support this JPM:

DG002C
HPCS006

DATA SHEET

References for Development:	SOP-0030, Rev 027 High Pressure Core Spray
Required Materials:	SOP-0030, Rev 027 High Pressure Core Spray (Simulator copy)
Required Plant Condition:	ANY
Task Standard:	High Pressure Core Spray Pump is shutdown with the minimum flow valve open.
Applicable Objectives:	RLP-STM-0203 Objectives 3, 4, 7, and 11
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is operating at about 70% power after an inadvertent HPCS initiation. The HPCS Diesel Generator has been shutdown.

Initiating Cue:

The CRS has directed you to shutdown the High Pressure Core Spray Pump using SOP-0030, High Pressure Core Spray, Section 6.

RJPM-NRC12-S5

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>NOTE:</u>	NOTE: Precautions 2.9 and 2.10 should be referred to prior to HPCS System shutdown		<u>NA</u>	<i>No action required. This is a procedure note.</i>
_____ 1. 6.1	Verify E22A-S2, HPCS MANUAL INITIATION collar is in the DISARM position.	Candidate attempted to rotate Manual Initiation pushbutton collar to the DISARM position or noted that the red indicator mark on the collar is aligned with the DISARM position.	_____	
<u>NOTE:</u>	If the HPCS initiation signal is unable to be reset using E22A-S7, HPCS INITIATION RESET Pushbutton, the HPCS Pump can be overridden and stopped. This will prevent an automatic start of the HPCS Pump until the initiation signals clear and E22A-S7 is depressed. Resetting the High Level 8 signal prior to resetting the injection signal will result in opening E22-F004, HPCS INJECT ISOL VALVE.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
* _____ 2. 6.2	Depress E22A-S7, HPCS INITIATION RESET pushbutton and check the white light goes off.	Candidate depressed HPCS INITIATION RESET pushbutton and verified WHITE light is OFF.	_____	

RJPM-NRC12-S5

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
6.3	Verify closed the following valves:		<u>NA</u>	<i>No action required. Actions follow below.</i>
_____3. 6.3.1	E22-F023, HPCS TEST RETURN VLV TO SUPPRESSION POOL	Candidate located/identified and verified E22-F023 is CLOSED by GREEN light indication ON and RED light indication OFF.	_____	
_____4. 6.3.2	E22-F010, HPCS TEST BYPASS VLV TO CST	Candidate located/identified and verified E22-F010 is CLOSED by GREEN light indication ON and RED light indication OFF.	_____	
_____5. 6.3.3	E22-F011, HPCS TEST RETURN VALVE TO CST	Candidate located/identified and verified E22-F011 is CLOSED by GREEN light indication ON and RED light indication OFF.	_____	
* _____6. 6.3.4	E22-F004, HPCS INJECT ISOL VALVE	Candidate located/identified and closed E22-F004 by placing the handswitch to the CLOSED position and verifying the GREEN light indication ON and RED light indication OFF following completion of the valve stroke.	_____	

RJPM-NRC12-S5

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 7. 6.4	When flow lowers below 625 gpm on E22-R603, HPCS FLOW, verify E22-F012, HPCS MIN FLOW VALVE TO SUPPRESSION POOL opens.	<p><u>ALTERNATE PATH</u></p> <p>Candidate recognized the failure of E22-F012 to open automatically.</p> <p>Candidate manually opened E22-F012 by placing the handswitch in OPEN and verifying RED light ON and GREEN light OFF <u>OR</u> immediately tripped the HPCS pump.</p> <p>ACTION SHOULD OCCUR WITHIN 60 SECONDS</p>	_____	<p>Candidate may wait for up to 21 seconds for transmitter saturation to dissipate prior to recognizing failure of E22-F012 (Precaution & Limitation 2.2)</p> <p>NOTE: As a conservative action, an immediate pump trip may be initiated. Remaining steps should be performed following the trip.</p> <p><u>EVALUATOR CUE:</u> As CRS acknowledge report of the failure of E22-F012 to open.</p>
5. 6.5	If E22-PC003, HPCS LINE FILL PUMP is not running, then start E22-PC003.	Candidate verified that E22-PC003 running with RED light ON, GREEN light OFF.	_____	
* 6. 6.6	Trip E22-ACB02, HPCS PUMP SUPPLY BRKR.	Candidate manually opened breaker E22-ACB02 by placing the handswitch to the TRIP position and verified by GREEN light ON, RED light OFF.	_____	
7. 6.7	When HPCS Pump discharge pressure lowers below 300 psig on E22-R601, HPCS PUMP DISCH PRESSURE, then verify E22-F012, HPCS MIN FLOW VALVE TO SUPPRESSION POOL closes.	Candidate checked that E22-F012 auto close when pressure drops below 300 psig by observing GREEN light ON, RED light OFF.	_____	

RJPM-NRC12-S5

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____8. 6.8	<u>IF</u> the HPCS DG is operating, <u>THEN</u> shut down the DG per SOP-0052, HPCS Diesel Generator		<u>NA</u>	<i>No action required. Initial conditions stated that the diesel generator was secured.</i>

Terminating Cue: High Pressure Core Spray Pump is shutdown and faulty minimum flow valve was identified.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant is operating at about 70% power after an inadvertent HPCS initiation. The HPCS Diesel Generator has been shutdown.

Initiating Cues: The CRS has directed you to shutdown the High Pressure Core Spray Pump using SOP-0030, High Pressure Core Spray, Section 6.

**RIVER
BEND STATION**

Number: ***RJPM-NRC12-S6**
Revision: **00**
Page 1 of 16

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

START RESIDUAL HEAT REMOVAL IN THE SHUTDOWN COOLING MODE

REASON FOR REVISION:

2012 NRC Exam JPM

S6

PREPARE / REVIEW:

Angie Orgeron	1538	6-26-2012
Preparer	KCN	Date
Dave Bergstrom	0257	7-17-2012
Technical Review (SME)	KCN	Date
Tim Schenk	0717	7-24-2012
Operations Representative	KCN	Date
John Fralick	0788	8-6-2012
Facility Reviewer	KCN	Date

* Indexing Information

RJPM-NRC12-S6

TASK DESCRIPTION:	Start RHR A in the Shutdown Cooling Mode
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TASK REFERENCE:	205011001001
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K/A REFERENCE & RATING:	205000	A4.01	3.7/3.7	A4.02	3.6/3.5
	205000	A4.03	3.6/3.5	A4.04	3.4/3.3
	205000	A4.06	3.8/3.7	A4.07	3.7/3.7
	205000	A4.09	3.1/3.1	A4.10	2.9/3.0
	205000	A4.11	3.2/3.2	A4.12	3.4/3.4
	205000	K1.14	3.6/3.6		

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	20 MINUTES.
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MAX TIME:	40 MINUTES
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JOB LEVEL:	RO/SRO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	No
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ALTERNATE PATH (FAULTED):	No
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SAFETY FUNCTION	4
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SIMULATOR SETUP SHEET

Task Description: Start RHR “A” in the Shutdown Cooling Mode.

Required Power: Shutdown, RPV pressure < 135 psig.

IC No.: 202

Notes: **Insert malfunction: E12MOV064A Breaker Trip**

Place Caution Tag on E12-MOV064A

DATA SHEET

References for Development:	SOP-0031 Rev 315, RESIDUAL HEAT REMOVAL (SYS #204)
Required Materials:	SOP-0031 Rev 315, RESIDUAL HEAT REMOVAL (Simulator copy)
Required Plant Condition:	RPV Pressure < 135 psig, Reactor Level > 9.7 inches
Task Standard	RHR "A" placed in Shutdown Cooling Mode in accordance with SOP-0031 Section 4.4.9.
Applicable Objectives:	RLP-STM-0204 Objective 8f
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

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If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The unit has been shutdown and is being depressurized for a refueling outage. The plant is currently in Mode 4. RHR "A" has been flushed and warmed for Shutdown Cooling operation. The system has been filled and vented.

E12-MOV64A is de-energized and Administrative controls are in place for EHS-MCC2E BKR 5C.
This valve has been field verified to be closed.

HVR-UC6 is in service.

Initiating Cue:

The CRS has directed you to place RHR "A" in the Shutdown Cooling Mode in accordance with SOP-0031 Section 4.4.9 and continuing through 4.4.9.17.

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>CAUTION</u>	<u>CAUTION:</u> If adequate core circulation is <u>not</u> maintained, Reactor coolant temperature indication is <u>not</u> accurate. Natural circulation through the core must be established by raising the Reactor water level to greater than or equal to 75 inches to establish natural circulation to allow flow through the core and the feed water annulus		<u>NA</u>	<i>No action required. This is a procedure caution.</i>

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PERFORMANCE STEP		STANDARD	S/U	COMMENTS
NOTE: NOTE: •	<p><u>NOTE:</u></p> <p>In Mode 5, during startup or line up changes of shutdown cooling, stop fuel movement in the upper cavity and ensure that all bundles are placed in their proper storage locations. This prevents the possibility of a suspended fuel bundle during a concurrent loss of cavity level.</p>		<u>NA</u>	<i>No action required. This is a procedure note.</i>
	<p>During SDC Operation, it is preferred to use B21-R605, RX WATER LEVEL SHUTDOWN RANGE for level indication.</p> <p>Level instrument inputs to RHR isolations may fail to provide Level 3 isolations if the reference leg backfill system is out of service due to the potential of degassing of the reference legs.</p>			
4.4.9.1	<p><u>IF</u> any of the following RHR Shutdown Cooling interlocks are to be bypassed, <u>THEN</u> obtain senior plant management review and approval and verify contingency methods are in place to supply sufficient makeup water if a draining event occurs while the SDC interlocks are bypassed:</p>		<u>NA</u>	<p><u>EVALUATOR CUE:</u> If asked at the CRS, notify the candidate that the listed Shutdown Cooling interlocks will <u>not</u> be bypassed.</p>

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PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>NOTE:</u>	Only one Shutdown Cooling Isolation Valve is required to be operable. Opening the power supply breaker or lifting leads on one valve per approved procedures to prevent system isolation and loss of SDC during maintenance or testing is permissible.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
•	Low reactor water level isolation of E12-F008, RHR SHUTDOWN COOLING OUTBD ISOL VALVE and E12-F009, RHR SHUTDOWN COOLING INBD ISOL VALVE.		<u>NA</u>	<i>No action performed by this step. Interlocks will not be bypassed.</i>
•	Interlocks between E12-F004, RHR PUMP SUP PL SUCTION VALVE and E12-F006, RHR PUMP SDC SUCTION.		<u>NA</u>	<i>No action performed by this step. Interlocks will not be bypassed.</i>
____ 1. 4.4.9.2	On H13-P601, verify less than 135 psig Reactor Pressure as indicated on B21-R623A(B), RX LEVEL/PRESSURE RECORDER A(B).	Candidate located/identified B21-R623A(B), RX LEVEL/PRESSURE RECORDER A(B) and verified reactor pressure is less than 135 psig	____	
4.4.9.3	Verify closed the following		<u>NA</u>	<i>No action performed in this step. Actions follow below.</i>
____ 2. 4.4.9.3.1	E12-F004A(B), RHR PUMP A(B) SUP PL SUCTION VALVE	Candidate located/identified E12-F004A and verified it closed by the GREEN light indicating ON and the RED light indicating OFF.	____	

RJPM-NRC12-S6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____3. 4.4.9.3.2	E12-F064A(B), RHR PUMP A(B) MIN FLOW TO SUP PL	Candidate verified E12-F064A closed by information provided in Initial Conditions.	____	
____4. 4.4.9.3.3	E12-F024A(B), RHR PUMP A(B) TEST RTN TO SUP PL	Candidate located/identified E12-F024A and verified it closed by the GREEN light indicating ON and the RED light indicating OFF.	____	
____5. 4.4.9.3.4	E12-F037A(B), RHR A(B) TO UPPER POOL FPC ASSIST	Candidate located/identified E12-F037A and verified it closed by the GREEN light indicating ON and the RED light indicating OFF.	____	
____6. 4.4.9.3.5	E12-F048A(B), RHR A(B) HX BYPASS VALVE.	Candidate located/identified E12-F048A and verified it closed by the GREEN light indicating ON and the RED light indicating OFF.	____	
____7. 4.4.9.3.6	E12-F011A(B), RHR A(B) HX CNDS FLUSH TO SUP PL.	Candidate located/identified E12-F011A and verified it closed by the GREEN light indicating ON and the RED light indicating OFF.	____	
____8. 4.4.9.4	Place in OFF and initiate administrative controls for EHS-MCC2E(2F) BKR 5C(7B), C002A(B) DISCH MIN FLOW VALVE	Candidate verified administrative controls on EHS-MCC2E BKR5C for C002A DISCH MIN FLOW VALVE by information provided in Initial Conditions.	____	
4.4.9.5	<u>IF</u> Standby Service Water is supplying service water loads, <u>THEN</u> on H13-P870, verify closed SPC- AOV16, SPC HX SW DISCH VLV.		<u>NA</u>	<i>No action required for this conditional step. Normal Service Water is in service.</i>

RJPM-NRC12-S6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>NOTE:</u>	<p><u>NOTE:</u></p> <p>Two Standby Service Water Pumps are required in each loop when operating the Standby Service Water System for heat removal through the RHR Heat Exchangers.</p>		<u>NA</u>	<i>No action required. This is a procedure note.</i>
* _____ 9. 4.4.9.6	On H13-P870, throttle open E12-F068A(B), RHR HX A(B) SVCE WTR RTN to establish less than or equal to 5800 gpm flow as indicated on H13-P601, E12-R602A(B), RHR HX A(B) SVCE WTR FLOW.	Candidate located/identified E12-F068A and throttled open the valve to establish less than or equal to 5800 gpm as indicated on H13-P601, E12-R602A.	_____	<i>Note that valve control switch and flow indicator are on different panels and may require the candidate to make several trips across the room to accomplish this step.</i>
_____ 10. 4.4.9.7	Verify Step 4.4.2 has been performed.	Candidate verified step 4.4.2 complete by requesting the status of Electrical Maintenance PM Task to re-land the thermal overload/loss of power annunciator leads for E12-F009, RHR SHUTDOWN COOLING INBD ISOL VALVE.	_____	<u>EVALUATOR CUE:</u> When requested, as Electrical Maintenance, notify the candidate that the thermal overload/loss of power annunciator lead for E12-F009 has been re-landed.
_____ 11. 4.4.9.8	At H13-P601, depress B21H-S32(33), OUTBD(INBD) ISOLATION SEAL-IN RESET Pushbutton.	Candidate located/identified AND depressed B21H-S32(33) OUTBD(INBD) ISOLATION SEAL-IN RESET PUSHBUTTON on H13-P601.	_____	
_____ 12. 4.4.9.9	At H13-P601, check RHR ISOLATION Status Lights are ON for E12-F008 and E12-F009.	Candidate located/ identified and verified the RHR ISOLATION Status Lights are ON for E12-F008 and E12-F009 on H13-P601.	_____	

RJPM-NRC12-S6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____ 13. 4.4.9.10	In the Div 1 RSS Room at C61-PNL001, verify E12-MOVF008 ENABLE/DISABLE Switch is in ENABLE.	Candidate verified E12-MOVF008 ENABLE/DISABLE Switch is in ENABLE by contacting the Control Building operation to request status.	_____	<u>EVALUATOR CUE:</u> When requested, as Control Building operator, notify the candidate that E12-MOVF008 ENABLE/DISABLE switch in ENABLE.
<u>CAUTION</u>	<u>CAUTION:</u> Opening the Shutdown Cooling Isolation Valves with portions of the RHR piping empty, a significant lowering in reactor level can occur. Do <u>not</u> open the Shutdown Cooling Isolation Valves unless the RHR piping including suction lines is completely filled.		<u>NA</u>	<i>No action required. This is a procedure caution.</i>
4.4.9.11	Verify open the following:		<u>NA</u>	<i>No action required. Actions follow below.</i>
____ 14. 4.4.9.11.1	E12-F010, RHR SDC MAN ISOL VLV	Candidate located/identified and verified E12-F010 open by checking RED indicating light ON and GREEN indicating light OFF.	_____	
____ 15. 4.4.9.11.2	E12-F009, RHR SHUTDOWN COOLING INBD ISOL VALVE	Candidate located/identified and verified E12-F009 open by checking RED indicating light ON and GREEN indicating light OFF.	_____	
____ 16. 4.4.9.11.3	E12-F008, RHR SHUTDOWN COOLING OUTBD ISOL VALVE	Candidate located/identified and verified E12-F008 open by checking RED indicating light ON and GREEN indicating light OFF.	_____	

RJPM-NRC12-S6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____17. 4.4.9.11.4	E12-F006A(B), RHR PUMP A(B) SDC SUCTION VALVE	Candidate located/identified and verified E12-F006A open by checking RED indicating light ON and GREEN indicating light OFF.	____	
____18. 4.4.9.11.5	E12-F047A(B), RHR A(B) HX INLET VALVE	Candidate located/identified and verified E12-F0047A open by checking RED indicating light ON and GREEN indicating light OFF.	____	
*____19. 4.4.9.12 & NOTE	Verify open one of the following: <ul style="list-style-type: none"> E12-F053A(B), RHR PUMP A(B) SDC INJECTION VALVE NOTE: Flow can be diverted to the refueling cavity sparger only if the Drywell and RPV heads are removed and in shutdown cooling <ul style="list-style-type: none"> E12-F037A(B), RHR A(B) TO UPPER POOL FPC ASSIST 	Candidate recognized that in Mode 4, the only viable path is through E12-MOV-F053A. Candidate located/identified and opened E12-MOV-F053A by holding the control switch in the OPEN position and by verifying the GREEN indicating light OFF and the RED indication light ON.	____	
*____20. 4.4.9.13	Close E12-F003A(B), RHR A(B) HX OUTLET VALVE	Candidate located/identified and closed E12-F003A by placing the control switch in the CLOSE position and verifying the GREEN indicating light ON and the RED indicating light OFF.	____	
____21. 4.4.9.14	Verify the respective cubicle unit cooler is in service	Candidate verified HVR-UC6 in service from initial conditions <u>OR</u> from indicating lights on H13-P870. HVR-UC6 is indicated running by RED indicating light ON and GREEN indicating light OFF.	____	

RJPM-NRC12-S6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
<u>CAUTION</u>	<u>CAUTION:</u> Failure to establish greater than 1100 gpm within 25 seconds of pump start may cause pump damage from operation with less than minimum flow requirement. Do <u>not</u> allow more than 25 seconds to elapse before establishing greater than 1100 gpm		<u>NA</u>	<i>No action required. This is a procedure caution.</i>
<u>NOTE</u>	<u>NOTE:</u> The initiation of Shutdown Cooling with the reference leg backfill system out of service can result in more pronounced notching of indicated reactor level requiring reactor level trends to be monitored more closely.		<u>NA</u>	<i>No action required. This is a procedure note.</i>
*_____22. 4.4.9.15	Start E12-C002A(B), RHR PUMP A(B) and <u>IMMEDIATELY</u> throttle open E12-F048A(B), RHR A(B) HX BYPASS VALVE to obtain greater than or equal to 2000 gpm and less than or equal to 3000 gpm.	Candidate located/identified and started E12-C002A by placing the control switch to the CLOSE position and verified RED indicating light ON and GREEN indicating light OFF. <p align="center"><u>AND</u></p> Candidate located/identified and opened E12-F048A to obtain 2000-3000 gpm on E12-R603A RHR A LOOP FLOW meter.	_____ _____	<i>The following alarm will annunciate and is expected for this evolution:</i> <ul style="list-style-type: none"> • H13-P680-19A-F07

RJPM-NRC12-S6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
*____23. 4.4.9.16	Establish a stable flow of greater than or equal to 4000 gpm and less than or equal to 5000 gpm by throttling E12-F048A(B), RHR A(B) HX BYPASS VALVE	Candidate located/identified and continued to open E12-F048A to obtain 4000-5000 gpm on E12-R603A RHR A LOOP FLOW meter.	____	
*____24. 4.4.9.17	Throttle open E12-F003A(B), RHR A(B) HX OUTLET VALVE to approximately 10 PERCENT as indicated on E12-R611A(B), HX A(B) OUTLET VLV POS	Candidate located/identified and throttle open E12-F003A to approximately 10 percent as indicated on E12-R611A, HX A OUTLET VLV POS	____	

Terminating Cue: RHR 'A' is operating in the Shutdown Cooling lineup in accordance with SOP-0031 Section 4.4.9 through 4.4.9.17.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Note: An "Unsatisfactory" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The unit has been shutdown and is being depressurized for a refueling outage. The plant is currently in Mode 4. RHR “A” has been flushed and warmed for Shutdown Cooling operation. The system has been filled and vented.

E12-MOV64A is de-energized and Administrative controls are in place for EHS-MCC2E BKR 5C.

This valve has been field verified to be closed.

HVR-UC6 is in service.

Initiating Cues: The CRS has directed you to place RHR “A” in the Shutdown Cooling Mode in accordance with SOP-0031 Section 4.4.9 and continuing through 4.4.9.17.