

Facility: River Bend Station Scenario No.: 1 Op-Test No.: NRC

Examiners: _____ Operators: _____

Initial Conditions: Mode 1 100% power.

Turnover: Complete section 7.3 of STP-205-6301 for scheduled monthly performance. Complete STP-509-0101 MAIN TURBINE BYPASS SYSTEM VALVE CYCLE TEST for Bypass Valve #1 only. Post maintenance test for the ERIS point.

Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (BOP,SRO)	Run Low Pressure Core Spray pump per STP-205-6301.
2	NA	N (ATC,SRO)	Complete STP-509-0101 MAIN TURBINE BYPASS SYSTEM VALVE CYCLE TEST
3	LPCS001	C (BOP,SRO)	Low Pressure Core Spray pump trip. (Technical Specifications)
4	CCS001A, CCS003C	C (BOP,SRO)	CCS Pump A trips, CCS Pump C fails to auto start. (Requires manual start of standby pump per AOP-0012)
5	MSS005J	C (BOP,SRO) R (ATC)	SRV B21-F047C fails open. (Technical Specifications) Lower reactor <90% by lowering reactor recirculation flow.
6	MSS001	M (All)	Steam leak in the drywell on SRV closure. Manual scram or automatic scram on high drywell pressure.
7	HPCS003	C (BOP,SRO)	HPCS fails to automatically initiate. (After EOP entry)
8	MSC007	C (All)	Drywell to Containment Leakage (After EOP entry).

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

Total Malfunctions (7): LPCS trip, CCS A trip, CCS C fail, SRV open, Steak Leak, HPCS fail, DW to Cont Leakage.

Malfunctions after EOP entry (2): HPCS fail, DW to Cont Leakage

Abnormal events (3): AOP-0012, AOP-0001, AOP-0002

Major transients (1): Steam Leak

EOPs entered (2): EOP-0001, EOP-0002

EOP contingencies (1): Emergency depressurization

Critical tasks (2): Close SRV (Cont. integrity), Open 7 ADS SRVs when PSP exceeded. (Cont integrity)

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 2 </u> Page <u> 2 </u> of <u> 10 </u>		
Event Description: Complete STP-509-0101 MAIN TURBINE BYPASS SYSTEM VALVE CYCLE TEST for Bypass Valve #1 only. Post maintenance test for the ERIS point.		
Time	Position	Applicant's Actions or Behavior
	SRO	Direct the performance of STP-509-0101
	ATC	<p>Perform the actions of STP-509-0101</p> <ul style="list-style-type: none"> • In the BYPASS VALVE TEST STATUS group, depress the TESTING pushbutton momentarily. • Check the following occurs: <ul style="list-style-type: none"> ○ The OFF light goes off. ○ The TESTING light comes on. ○ The READY light comes on. • Depress and hold the TEST BPV 1 pushbutton. • Check the following occur: <ul style="list-style-type: none"> ○ The READY light goes off. ○ The TEST BPV 1 light comes on. ○ Small positive current change on C85AM4, 1 BYPASS VALVE SERVO CURRENT meter. ○ BPV 1 is traveling smoothly in the open direction as indicated on C85AM5, 1 BYPASS VALVE POSITION meter. ○ Annunciator P680-07A-A07, TURBINE BYPASS VALVE OPEN alarms. ○ The Fast Acting Solenoid operates properly as BPV 1 opens. • Verify BPV 1 is full open by one of the following: <ul style="list-style-type: none"> ○ C85AM5, 1 BYPASS VALVE POSITION ○ ERIS point C85EA012, BYPASS VALVE 1 POSITION. ○ Only the FULL OPEN indicator light is on. • Only the FULL OPEN indicator light is on • Release the TEST BPV 1 pushbutton. • Check the following occur: <ul style="list-style-type: none"> ○ Small negative current change on C85AM4, 1 BYPASS VALVE SERVO CURRENT meter. ○ BPV 1 is traveling smoothly in the close direction as indicated on C85AM5, 1 BYPASS VALVE POSITION meter. • Verify BPV 1 is full closed by one of the following indications: <ul style="list-style-type: none"> • C85AM5, 1 BYPASS VALVE POSITION. • ERIS point C85EA012, BYPASS VALVE 1 POSITION. • Only the CLOSED indicator light is on.

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 2 </u> Page <u> 3 </u> of <u> 10 </u>		
Event Description: Complete STP-509-0101 MAIN TURBINE BYPASS SYSTEM VALVE CYCLE TEST for Bypass Valve #1 only. Post maintenance test for the ERIS point.		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> • Only the CLOSED indicator light is on • Annunciator P680-07A-A07, TURBINE BYPASS VALVE OPEN clears. • The TEST BPV 1 light goes off. • The READY light comes on. • In the BYPASS VALVE TEST STATUS group, depress the OFF pushbutton. • Check the following occurs: <ul style="list-style-type: none"> • The TESTING light goes off. • The READY light goes off. • The OFF light comes on. • Notify OSM/CRS of the test completion.

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 3 </u> Page <u> 4 </u> of <u> 10 </u>		
Event Description: Low Pressure Core Spray pump trip. (Technical Specifications)		
Time	Position	Applicant's Actions or Behavior
	EVENT CUE	H13-P601/21A/C08 LPCS PUMP E21-C001 AUTO TRIP
	BOP	<ul style="list-style-type: none"> • Recognize and report trip of LPCS pump. • Recognize and report LPCS pump low discharge line pressure • Contact operator to investigate LPCS pump trip locally.
	SRO	<ul style="list-style-type: none"> • Direct the closure of E21-MOVF012 LPCS test return valve. • Direct the actions of ARP
	BOP	<ul style="list-style-type: none"> • Close E21-MOVF012 LPCS test return valve. • Review ARP for required actions • Verify that E21-MOVF011 LPCS min. flow valve is closed • Request E21-PSN654 back panel pressure reading
	SRO	Enter Tech Spec 3.5.1 condition A (7 day LCO) Make required notifications per OSP-046 Possible actions if RHR-A low discharge pressure alarm is received: Enter Tech Spec 3.5.1 condition C (72 hour LCO)Two low pressure ECCS systems inop
	ROLE PLAY	As operator sent to the LPCS pump: Report no apparent problem with the pump. As operator sent to the LPCS pump breaker: Report that there is an over current relay flag and 86 device tripped. As Back panel operator: Report the discharge pressure the same as the ERIS pressure indication.

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 5 </u> Page <u> 6 </u> of <u> 10 </u>		
Event Description: SRV B21-F047C fails open. (Technical Specifications)		
Time	Position	Applicant's Actions or Behavior
	EVENT CUE	H13-P601/19A/A09 MAIN STEAM SAFETY RELIEF VALVE OPEN
	BOP / ATC	Recognize and report that SRV B21-F047C is open
	SRO	Direct implementation of AOP-035 Stuck Open SRV
	BOP	<ul style="list-style-type: none"> ▪ Announce the following over the Gaitronics: ▪ Attention in the plant. "Safety Relief Valve Open, all personnel evacuate the Containment. Personnel evacuate to WMC ▪ At H13-P601, place SORV control switch to OPEN. ▪ <u>WHEN</u> reactor power is equal to or less than 90%, <u>THEN</u> attempt to close the open SRV as follows: <ul style="list-style-type: none"> ○ At H13-P601, take the control switch to OFF. ○ <u>IF</u> SRV remains open, <u>THEN</u> at H13-P601, take the control switch to OPEN and back to OFF. ▪ <u>IF</u> SRV remains open, <u>THEN</u> at H13-P631, perform the following: <ul style="list-style-type: none"> ○ Take the control switch to OPEN and back to OFF. • <u>IF</u> the SRV did <u>not</u> close, <u>THEN</u> take the control switch to OPEN and back to OFF.
	ATC	Reduce reactor power to equal to or less than 90% with recirc flow.
	SRO	Enter the following Tech Specs: 3.5.1 E ADS, 3.5.1 F ADS & ECCS, 3.6.2.1 S. Pool temp., 3.6.5.3. Drywell PCIV, TRM 3.4.4 A Open SRV Direct reference to AOP-007 Loss of Feedwater Heating Direct reference to AOP-024 Thermal Hydraulic Stability Controls
	ATC	Refer to AOP-024 and 007. Determine and report required entry into AOP-007
	SRO	Direct the actions of AOP-007. <ul style="list-style-type: none"> ▪ Reduce recirculation flow until thermal power lowers by 20% (620 MWth) or 60% (50.7 Mlbm/hr) core flow is reached. Direct suppression pool cooling with RHR with OSP-0053 ATTACHMENT 12 - ESTABLISHING SUPPRESSION POOL COOLING
		NOTE: The SRV will close when the fuses are removed. Actions of AOP-007 may not be performed prior to SRV closure.
	ATC	Reduce recirculation flow until thermal power lowers by 20% (620 MWth) or 60% (50.7 Mlbm/hr) core flow is reached.
	BOP	<u>IF</u> the SRV is still open, <u>THEN</u> deenergize the solenoids by pulling the applicable fuses listed in ATTACHMENT 1, SAFETY RELIEF VALVES SOLENOID CIRCUIT FUSES

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 6 </u> Page <u> 8 </u> of <u> 10 </u>		
Event Description: Steam leak in the drywell on SRV closure. Manual scram or automatic scram on high drywell pressure.		
Time	Position	Applicant's Actions or Behavior
	EVENT CUE	H13-P808 / 84A / B07 DIV II DW PAM AREA RADN ALARM
	TEAM	Recognize and report steam leak in the drywell
	SRO	Direct the ATC to place the mode switch in Shutdown.
	ATC	<ul style="list-style-type: none"> ▪ Place the mode switch in shutdown ▪ Give SCRAM report to the SRO
	SRO	<ul style="list-style-type: none"> ▪ Enter EOP-001 ▪ Enter EOP-002 ▪ Direct a pressure control band of 500# to 1090# ▪ Direct installation of Enclosure 20 to bypass drywell cooling interlocks ▪ Direct implementation of AOP-001 Reactor scram and AOP-002 Turbine / Generator trips to the ATC ▪ Direct implementation of AOP-003 Automatic Isolations to the BOP
	BOP	<p>Perform Enclosure 20 actions.</p> <ul style="list-style-type: none"> ▪ VERIFY Normal Service Water pressure on SWP-PI124, SVCE SPLY HDR PRESSURE <u>OR</u> Standby Service Water pressure on SWP-PR50A(B), STBY CLG TOWER LVL & PUMP DISCH PRESS RECORDER is greater than Containment <u>AND</u> Drywell pressure on CMS-PR2A(B), DRYWELL PRESSURE ▪ PLACE Control Switches for all tripped Drywell Unit Coolers to OFF. ▪ START DIV I <u>AND</u> II H₂ Analyzers. (H13-P808) ▪ <u>IF</u> any drywell temperature on CMS-TR41A or B, DRYWELL ATMOS TEMP (H13-P808) is or has been greater than 200 °F, <u>THEN</u>, notify the CRS/OSM that this enclosure cannot be completed. <p>CONT.</p> <ul style="list-style-type: none"> ▪ Perform the following: <ul style="list-style-type: none"> ▪ OPEN the following valves: (H13-P870) <ul style="list-style-type: none"> ▪ SWP-MOV4A DRYWELL UC SUPPLY ▪ SWP-MOV5A DRYWELL UC RETURN ▪ SWP-MOV4B DRYWELL UC SUPPLY ▪ SWP-MOV5B DRYWELL UC RETURN • VERIFY closed the following: (H13-P877) <ul style="list-style-type: none"> • EJS-ACB25 NHS-MCC102A SPLY BRKR • EJS-ACB66 NHS-MCC102B SPLY BRKR <p>START Drywell Unit Coolers as directed by the CRS.</p>

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 6 </u> Page <u> 9 </u> of <u> 10 </u>		
Event Description: Steam leak in the drywell on SRV closure. Manual scram or automatic scram on high drywell pressure.		
Time	Position	Applicant's Actions or Behavior
	SRO	Direct reactor water level band of -20" to 51". Direct enclosure 12 for expanded band
	BOP	Perform actions of Enclosure 12 for the expanded reactor water level band

Op-Test No.: <u> AUDIT </u> Scenario No.: <u> 1 </u> Event No.: <u> 7/8 </u> Page <u> 10 </u> of <u> 10 </u>		
Event Description: HPCS fails to automatically initiate. (After EOP entry)		
Drywell to Containment Leakage (After EOP entry).		
Time	Position	Applicant's Actions or Behavior
	SRO	<ul style="list-style-type: none"> • Recognize drywell leak into containment • Anticipate the need to Emergency Depressurize due to approaching the unsafe of the Pressure Suppression curve of EOP-002 • Direct opening all steam drains and turbine bypass valves. • Direct override automatic injection from all low pressure ECCS systems.
	ATC	Fully open the main turbine steam bypass vales
	BOP	<ul style="list-style-type: none"> • Open all available steam line drain valves. • Override all low pressure injection valves closed. • Recognize and report that HPCS did not auto initiate on the high drywell pressure.
	SRO	<ul style="list-style-type: none"> • Recognize entry into the unsafe region of the Pressure Suppression Curve. • Direct BOP to open 7 ADS/SRVs to Emergency Depressurize the reactor
	BOP	Open 7 ADS / SRVs and report
	SRO	Declare the reactor depressurized when reactor pressure falls below 46#

**RIVER
BEND STATION**

Number: ***RSMS-OPS-NRC10-1**
Revision: **01**
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SIMULATOR SCENARIO



TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

*** Steam Leak in Drywell with Steam Bypass to Containment**

REASON FOR REVISION:

New for 2010 NRC exam

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>02/03/2010</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2/24/2010</u>
Technical Review (SME)	KCN	Date
<u>Joey Clark</u>	<u>0260</u>	<u>2/26/2010</u>
Operations Management (Evaluated scenarios only)	KCN	Date

Facility Reviewer approval via ES-301-3, 301-4

* Indexing Information

I. DESCRIPTION OF SCENARIO

The scenario begins at 100% power.

Event 1: Complete section 7.3 of STP-205-6301 for scheduled monthly performance.

Event 2: Complete STP-509-0101 MAIN TURBINE BYPASS SYSTEM VALVE CYCLE TEST
Event 3: Low Pressure Core Spray pump trip. (Technical Specifications)

Event 4: CCS Pump A trips, CCS Pump C fails to auto start. (*Requires manual start of standby pump per AOP-0012*)

Event 5: SRV B21-F047C fails open.

Event 6: Steam leak in the drywell on SRV closure. Manual scram or automatic scram on high drywell pressure.

Event 7: Drywell to Containment Leakage

II. TERMINAL OBJECTIVES

1. Recognize and respond to trip of LPCS pump.
2. Recognize and respond to a trip of CCS-P1A
3. Recognize and respond to a drywell steam leak (with and without Containment Bypass Leakage). Control RPV level and pressure per EOP-1. Control primary containment parameters per EOP-2.
4. Emergency Depressurize when containment pressure cannot be maintained in the safe zone of the PSP curve..

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
IC # <u>237</u>	AOP-0035 EOP-1, RPV Control EOP-2, Primary Containment Control	Power: 100% Core: Xenon equilibrium Equipment OOS: <ul style="list-style-type: none"> • None STPs Due: STP-205-6301 LCOs: None Evolutions in progress: None. Problem/Lit annunciators: None	

V. GENERAL INSTRUCTIONS

Event Number	MFS-OR-REM-SCH	Expected Operator Action
Simulator Setup		
	<p style="text-align: center;"><u>Setup</u></p> <ul style="list-style-type: none"> • Verify CCS-P1A and CCS-P1B are running. <p style="text-align: center;"><u>Malfunctions</u></p> <p>T1, LPCS001, LPCS PUMP TRIP</p> <p>T2, CCS001A, CCS-P1A PUMP TRIP</p> <p>CCS003C, CCS-P1C FAILS TO AUTO START</p> <p>T3, MSS005J, SRV B21-47C FAILS OPEN</p> <p>T6, MSS001, Ramp 15:00, Final Value 1000, Delay 10, STEAM LEAK IN THE DRYWELL</p> <p>T6, MSC007, Final Value 10, Delay 5:00 DRYWELL TO CONTAINMENT LEAKAGE</p> <p>HPCS003, HPCS FAILS TO AUTO INITIATE</p> <p style="text-align: center;"><u>Remotes</u></p> <p>T4, MSS012, DIV II SRV SWITCH</p> <p>T5, MSS010, DIV I FUSES</p> <p>T6, MSS017, DIVII FUSES</p>	

Event Number	MFS-OR-REM-SCH	Expected Operator Action
Event 0	RUN	CREW: Conduct panel walkdown and assume the shift
Event 1	<p>Complete section 7.3 of STP-205-6301 for scheduled monthly performance.</p> <p>ROLE PLAY: As Reactor building operator : When requested, report that the oil level is satisfactory for the LPCS pump and that the suction press gauge is installed.</p>	<p>SRO: Direct the performance of STP-205-6301 LPCS PUMP AND VALVE OPERABILITY TEST</p> <p>RO: Perform actions of STP-205-6301</p> <ul style="list-style-type: none"> • Contact the reactor building operator to verify oil level in the upper and lower sight glasses is within the High and Low marks on the Upper and Lower sight glasses. • Contact the reactor building operator to verify that the suction pressure gauge is installed • Start E21-C001, LPCS PUMP. • Check that E21-C001, LPCS Motor AMPS indicates less than 157 amps. • Check E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL, is open. • Throttle E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL to obtain a flow rate of 5050 gpm as indicated on E21-R600, LPCS PUMP FLOW. • Check E21-F011 is closed. • WHEN the LPCS pump has been running at stable reference conditions for at least 2 minutes, THEN perform the following: • Record pump flow as indicated on E21-R600 on Data Sheet 1.

Event Number	MFS-OR-REM-SCH	Expected Operator Action
Event 2	Complete STP-509-0101 MAIN TURBINE BYPASS SYSTEM VALVE CYCLE TEST for Bypass valve #1 only for a post maintenance test on the ERIS point	<p>SRO: Direct the performance of STP-509-0101 for bypass valve #1 only.</p> <p>RO: Perform the actions of STP-509-0101</p> <p>Notify OSM/CRS of the test completion.</p>
Event 3	<p>Low Pressure Core Spray pump trip. (Technical Specifications)</p> <p>T1, LPCS PUMP TRIP.</p>	<p>BOP Recognize and report trip of LPCS pump.</p> <p>Recognize and report LPCS pump low discharge line pressure</p> <p>Contact operator to investigate LPCS pump trip locally.</p>

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
Event 4	CCS Pump A trips, CCS Pump C fails to auto start. <i>(Requires manual start of standby pump per AOP-0012)</i> T2 , Inserts trip of CCS-P1A ROLE PLAY: As operator sent to the pump breaker: Report an over current trip on CCS-P1A As operator sent to CCS-P1C: Report all parameters normal	BOP SRO BOP	<ul style="list-style-type: none"> • Recognize and report the trip of CCS-P1A TPCCW pump • Start CCS-P1C due to failure to auto start • Review ARP for required actions <ul style="list-style-type: none"> • Direct the review of AOP-012 Loss of CCS for applicable actions • Make notifications per OSP-046 <ul style="list-style-type: none"> • Dispatch operators to investigate pump trip locally • Dispatch operator to obtain local parameters for CCS-P1C • Review AOP-012 for applicable actions. Report none applicable.
EVENT 5	SRV B21-F047C fails open. (Technical Specifications) T3 , Fails open SRV 47C T4 , DIV II SRV SWITCH	BOP / ATC SRO BOP	Recognize and report that SRV B21-F047C is open Direct implementation of AOP-035 Stuck Open SRV Announce the following over the Gaitronics: <ul style="list-style-type: none"> • Attention in the plant. "Safety Relief Valve Open, all personnel evacuate the Containment. Personnel evacuate to WMC • At H13-P601, place SORV control switch to OPEN. • <u>WHEN</u> reactor power is equal to or less than 90%, <u>THEN</u> attempt to close the open SRV as follows: <ul style="list-style-type: none"> ○ At H13-P601, take the control switch to OFF. ○ <u>IF</u> SRV remains open, <u>THEN</u> at H13-P601, take the control switch to OPEN and back to OFF. • <u>IF</u> SRV remains open, <u>THEN</u> at H13-P631, perform the

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
		ATC	<p>following:</p> <ul style="list-style-type: none"> ○ Take the control switch to OPEN and back to OFF. ○ <u>IF</u> the SRV did <u>not</u> close, <u>THEN</u> take the control switch to OPEN and back to OFF. <p>Reduce reactor power to equal to or less than 90% with recirc flow.</p>
		SRO	<p>Enter the following Tech Specs: 3.5.1 E ADS, 3.5.1 F ADS & ECCS, 3.6.2.1 S. Pool temp., 3.6.5.3. Drywell PCIV, TRM 3.4.4 A Open SRV</p> <ul style="list-style-type: none"> • Direct reference to AOP-007 Loss of Feedwater Heating • Direct reference to AOP-024 Thermal Hydraulic Stability Controls
		ATC	<ul style="list-style-type: none"> • Refer to AOP-024 and 007. • Determine and report required entry into AOP-007
		SRO	<ul style="list-style-type: none"> • Direct the actions of AOP-007.
		ATC	<ul style="list-style-type: none"> • Reduce recirculation flow until thermal power lowers by 20% (620 MWth) or 60% (50.7 Mlbm/hr) core flow is reached.
NOTE: The SRV will close when the fuses are removed. Actions of AOP-007 may not be performed prior to SRV closure.			
		ATC	<p>Reduce recirculation flow until thermal power lowers by 20% (620 MWth) or 60% (50.7 Mlbm/hr) core flow is reached.</p>

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
	T5, DIV I FUSES T6, DIVII FUSES	BOP	IF the SRV is still open, THEN deenergize the solenoids by pulling the applicable fuses listed in ATTACHMENT 1, SAFETY RELIEF VALVES SOLENOID CIRCUIT FUSES
EVENT 6	Steam leak in the drywell on SRV closure. Manual scram or automatic scram on high drywell pressure. T6, Steam leak in the drywell with bypass leakage	TEAM SRO ATC SRO	Recognize and report steam leak in the drywell Direct the ATC to place the mode switch in Shutdown. <ul style="list-style-type: none"> ▪ Place the mode switch in shutdown ▪ Give SCRAM report to the SRO <ul style="list-style-type: none"> ▪ Enter EOP-001 ▪ Enter EOP-002 ▪ Direct a pressure control band of 500# to 1090# ▪ Direct installation of Enclosure 20 to bypass drywell cooling interlocks ▪ Direct implementation of AOP-001 Reactor scram and AOP-002 Turbine / Generator trips to the ATC ▪ Direct implementation of AOP-003 Automatic Isolations to the BOP ▪ Direct suppression pool cooling with RHR with OSP-0053 ATTACHMENT 12 - ESTABLISHING SUPPRESSION POOL COOLING

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
		BOP	<p>Perform actions of ATTACHMENT 12 - ESTABLISHING SUPPRESSION POOL COOLING</p> <ul style="list-style-type: none"> ▪ Throttle E12-F068A(B), RHR HX A(B) SVCE WTR RTN, <u>not</u> to exceed 5800 gpm flow. ▪ Start/Verify Running RHR PUMP A(B). ▪ Verify E12-F042A(B), RHR PUMP A(B) LPCI INJECT ISOL VALVE, Closed. ▪ Verify E12-F053A(B), RHR PUMP A(B) SDC INJECTION VALVE, Closed. ▪ Open/Verify Open E12-FO24A(B), RHR PUMP A(B) TEST RTN TO SUP PL. ▪ Verify E12-F064A(B), RHR PUMP A(B) MIN FLOW TO SUP PL, Closed. ▪ Close E12-F048A(B), RHR A(B) HX BYPASS VALVE, when auto open signal has cleared. <p>Perform Enclosure 20 actions.</p> <ul style="list-style-type: none"> ▪ VERIFY Normal Service Water pressure on SWP-PI124, SVCE SPLY HDR PRESSURE <u>OR</u> Standby Service Water pressure on SWP-PR50A(B), STBY CLG TOWER LVL & PUMP DISCH PRESS RECORDER is greater than Containment <u>AND</u> Drywell pressure on CMS-PR2A(B), DRYWELL PRESSURE ▪ PLACE Control Switches for all tripped Drywell Unit Coolers to OFF. ▪ START DIV I <u>AND</u> II H₂ Analyzers. (H13-P808) ▪ <u>IF</u> any drywell temperature on CMS-TR41A or B, DRYWELL ATMOS TEMP (H13-P808) is or has been greater than 200 °F, <u>THEN</u>, notify the CRS/OSM that this enclosure cannot be completed. <p>CONT.</p>

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
		BOP Cont.	Perform the following: <ul style="list-style-type: none"> ▪ OPEN the following valves: (H13-P870) ▪ SWP-MOV4A DRYWELL UC SUPPLY ▪ SWP-MOV5A DRYWELL UC RETURN ▪ SWP-MOV4B DRYWELL UC SUPPLY ▪ SWP-MOV5B DRYWELL UC RETURN VERIFY closed the following: (H13-P877) <ul style="list-style-type: none"> • EJS-ACB25 NHS-MCC102A SPLY BRKR • EJS-ACB66 NHS-MCC102B SPLY BRKR START Drywell Unit Coolers as directed by the CRS.
		SRO	Direct reactor water level band of -20" to 51". Direct enclosure 12 for expanded band
		BOP	Perform actions of Enclosure 12 for the expanded reactor water level band
		SRO	<ul style="list-style-type: none"> • Recognize drywell leak into containment • Anticipate the need to Emergency Depressurize due to approaching the unsafe of the Pressure Suppression curve of EOP-002 • Direct opening all steam drains and turbine bypass valves. • Direct override automatic injection from all low pressure ECCS systems.

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
		ATC	Fully open the main turbine steam bypass valves
		BOP	<ul style="list-style-type: none"> • Open all available steam line drain valves. • Override all low pressure injection valves closed. • Recognize and report that HPCS did not auto initiate on the high drywell pressure.
		SRO	<ul style="list-style-type: none"> • Recognize entry into the unsafe region of the Pressure Suppression Curve. • Direct BOP to open 7 ADS/SRVs to Emergency Depressurize the reactor
		BOP	Open 7 ADS / SRVs and report
		SRO	Declare the reactor depressurized when reactor pressure falls below 46#
When the Termination Criteria are met, and/or at the direction of the floor instructor	FREEZE		

VI. TERMINATION CRITERIA:

The reactor vessel has been depressurized (<46 psig)

Containment parameters addressed with an improving trend

VII. CRITICAL TASKS

1. Close failed SRV (containment integrity)
2. Open 7 ADS / SRVs when PSP curve is exceeded.

Offgoing OSM:	Oncoming OSM:	Off-Going Shift
_____	_____	N D
(Print)	KCN	(Print)
_____	_____	Date
	KCN	

PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT

UNIT STATUS MODE 1 RX POWER 100%

EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION

Complete section 7.3 of STP-205-6301 monthly performance

Complete STP-509-0101 MAIN TURBINE BYPASS SYSTEM VALVE CYCLE TEST for Bypass Valve #1 only. Post maintenance test for the ERIS point.

SIGNIFICANT LCO STATUS

NONE

EQUIPMENT STATUS

EOOS = 10 GREEN

DIV I Work Week

Night Orders Standing Orders Board Walkdown Temp Alts

(Signature: Oncoming OSM Review Completed)

KCN

Facility: River Bend Station Scenario No.: 2 Op-Test No.: NRC

Examiners: _____ Operators: _____

Initial Conditions: Mode 1, 87% power. Plant startup is in progress. GOP-0001 complete through step G.41

Turnover: Swap level control input to FWLC to support I&C surveillance. Continue with power ascension with reactor recirculation flow per RE instructions.

Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (ATC,SRO)	Swap Feedwater Level Control level input to alternate channel to support I&C surveillance scheduled later today.
2	NA	R (ATC)	Raise power with reactor recirculation flow.
3	RCIC	I (BOP,SRO)	Inadvertent initiation of RCIC. (Technical Specifications)
4	CRD002B	C (BOP,SRO)	Control Rod Drive Flow Control Valve B fails closed. Alternate flow control valve is placed in service per SOP-0002.
5		C (ATC,SRO)	Control Rod Drifts in. (AOP-0061). (Technical Specification) At the examiners direction a second control rod drifts in. Manual Scram.
6	CRD0014 RPS001A	M (All)	ATWS Hydraulic lock.
7	MGEN001	C (All)	Main Turbine/Generator Trip (After EOP entry)
8	SLC002A SLC001B	C (BOP,SRO)	SLC A sheared coupling. (After EOP entry) SLC B suction valve fails to open. (After EOP entry)

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

Total Malfunctions (6):LPRM, CRD FCV, Rod Drift, ATWS, Turbine trip, SLC failures
 Malfunctions after EOP entry (2): Turbine Trip, SLC failure
 Abnormal events (2): AOP-0061, AOP-0001
 Major transients (1): ATWS
 EOPs entered (2): EOP-0001, EOP-0002
 EOP contingencies (1): EOP-0001A
 Critical tasks (2): Terminate injection to RPV, Insert all control rods

Op-Test No.: _____ Scenario No.: <u> 2 </u> Event No.: <u> 1 </u> Page <u> 1 </u> of <u> 9 </u>		
Event Description: Swap Feedwater Level Control level input to alternate channel to support I&C surveillance scheduled later today.		
Time	Position	Applicant's Actions or Behavior
	SRO	Direct the swap of Feedwater Level Control level input signals per SOP-0009 REACTOR FEEDWATER SYSTEM
	ATC	<p>Swap to A feedwater level control signal per SOP-009</p> <ul style="list-style-type: none"> • Ensure no deviation on C33-R600, FW REG VALVES MASTER FLOWCONTROLLER and place to MANUAL. • Swap the level control input by depressing either A or B on the RX LVL A/B SELECT Pushbutton. • Check for proper operation, then return C33-R600, FW REG VALVES MASTER FLOW CONTROLLER to AUTO as follows: <ul style="list-style-type: none"> • Adjust tape set 2 inches above actual vessel level and observe the deviation signal is positive. • Lower tape set 2 inches below actual vessel level and observe the deviation signal is negative. • Match tape set to actual vessel level in order to null the deviation signal. • WHEN the level signal is nulled, THEN depress the AUTO Pushbutton and check green light above the pushbutton is on. ▪ Adjust C33-R600, FW REG VALVES MASTER FLOW CONTROLLER Tape Set to maintain the reactor level requested by the OSM/CRS. <p>Report the completion of level signal swap</p>

Op-Test No.: _____ Scenario No.: <u> 2 </u> Event No.: <u> 4 </u> Page <u> 4 </u> of <u> 9 </u>		
Event Description: Control Rod Drive Flow Control Valve A fails closed. Alternate flow control valve is placed in service per SOP-0002.		
Time	Position	Applicant's Actions or Behavior
	EVENT CUE	CRD COOLING WATER FLOW DROPS TO ZERO H13-P680/07A/D01 CONT RD DRIVE HYDRAULIC SYS HIGH TEMP
	BOP	Recognize and report the failed closed CRD flow control valve
	ATC	Report High CRDM temperature alarm (~ 3 minutes after FCV failure inserted) Direct SNEO to investigate high temperature locally <u>Direct SNEO to investigate CRD flow control valve failure locally</u>
	Role Play	As operators sent to local indications, report: <ul style="list-style-type: none"> • The CRDM recorder has 6 control rods above the alarm setpoint but below 350° F. • CRD flow control valve has a broken air supply line. The line is isolated at this time.
	SRO	Direct CRD FCV valve be swapped to B per SOP-0002
	BOP	Direct SNEO to perform local actions to swap to CRD FCV 'B' NOTE: Actions to swap FCV are performed locally Verify that the pressure and flow of the CRD system are normal. <u>IF</u> they are <u>not</u> , <u>THEN</u> perform the following: <ol style="list-style-type: none"> 1 Adjust C11-R600, CRD HYDRAULICS FLOW FLOW CONTROLLER C11-F002A/B to obtain a system flow rate of 41 to 49 gpm. 2 Adjust C11-F003, CRD DRIVE WATER PRESS CONTROL VALVE to obtain an indicated value for Drive Water Differential Pressure of 250 psid.

Op-Test No.: _____	Scenario No.: <u> 2 </u>	Event No.: <u> 5 </u>	Page <u> 5 </u> of <u> 9 </u>
Event Description: Control Rod Drifts in. (AOP-0061). (Technical Specification)			
At the examiners direction a second control rod drifts in. Manual Scram.			
Time	Position	Applicant's Actions or Behavior	
	EVENT CUE	H13-P680/07A/B02 CONTROL ROD DRIFT	
	ATC	<ul style="list-style-type: none"> • Recognize and report that control rod 08-13 is drifting in • Refer to ARP 680-07A Take actions per ARP: <ul style="list-style-type: none"> • On H13-P680, determine which rod(s) drifted by depressing the ROD DRIFT pushbutton and observing red lights on ROD POSITION DISPLAY. • Select the drifting rod(s) and apply a continuous insert signal. • <u>WHEN</u> the control rod is inserted to the full in position, <u>THEN</u> remove the continuous insert signal. • <u>IF</u> the CRD remains inserted, <u>THEN</u> perform actions for a Directional Control Valve (122) failure. • <u>IF</u> the rod drift was determined to be a failure of Directional Control Valve (122), <u>THEN</u> valve out the HCU per SOP-0002, Control Rod Drive Hydraulics for valve repair and Refer to Technical Specification 3.1.3. 	
	SRO	<ul style="list-style-type: none"> • Accept report of drifting control rod • Direct entry into AOP-0061 CONTROL ROD(S) MISPOSITIONED / MALFUNCTION • Enter LCO 3.1.3 C for the drifting control rod 	
	ATC	<ul style="list-style-type: none"> • Review immediate operator actions of AOP-0061 • Recognize and report control rod 16-37 drifting in 	
	SRO	Direct ATC to manually scram the reactor	

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 6 </u> Page <u> 6 </u> of <u> 9 </u>		
Event Description: ATWS Hydraulic lock.		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> • Place the reactor mode switch in the shut down position • Arm and depress all four manual scram push buttons • Arm and depress both ARI push buttons • Communicate ATWS report to the SRO
	SRO	<ul style="list-style-type: none"> • Accept the ATWS report • Enter EOP-01A <ul style="list-style-type: none"> ○ Direct terminate and prevent injection from HPCS ○ Direct transfer of Recirc. Pumps to slow speed ○ Direct inhibiting the ADS system ○ Direct trip of the Recirc. Pumps ○ Direct installation of enclosures 16 and 24 ○ Direct maximizing CRD cooling water flow ○ Direct termination of injection from condensate and feedwater ○ Direct a reactor vessel level band of -60" to -140" ○ Direct RCIC to be tripped ○ Enter EOP-02 on suppression pool parameters
	BOP	<ul style="list-style-type: none"> • Terminate and prevent injection from HPCS and report completion <ul style="list-style-type: none"> ○ Override Injection / Initiate HPCS ○ Verify E22-F004 amber override light is lit. ○ STOP THE HPCS PUMP. • Inhibit the ADS system by placing the Div I and II inhibit switches to INHIBIT and report completion • Report the enclosure 16 and 24 have been installed • Maximize CRD cooling water flow and report completion <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. • Depress the RCIC trip pushbutton and report RCIC tripped

Op-Test No.: _____ Scenario No.: <u> 1 </u> Event No.: <u> 8 </u> Page <u> 9 </u> of <u> 9 </u>		
Event Description: SLC A sheared coupling. (After EOP entry)		
SLC B suction valve fails to open. (After EOP entry)		
Time	Position	Applicant's Actions or Behavior
	SRO	Direct SLC injection
	BOP	Place SLC PUMP A(B) (<u>NOT</u> BOTH), control switch to RUN. <ul style="list-style-type: none"> • Verify the following: <ol style="list-style-type: none"> 1. SQUIB CONTINUITY A(B), light goes Off. 2. C41-F001A(B), SLC PUMP A(B) SUCT VLV, Opens. 3. C41-C001A(B), SLC PUMP A(B), Starts. • <u>IF</u> any required actions do not occur, <u>THEN</u> perform the following: <ol style="list-style-type: none"> 1. Place SLC PUMP A(B), control switch to STOP. 2. Repeat steps 1 and 2 for the Alternate pump. Notify SRO of SLC injection status
	SRO	Direct work control center to have the actions of Enclosure 15 for alternate SLC injection performed
		NOTE: After the scram has been reset with enclosure 12, remove the hydraulic ATWS
	ATC	When the scram discharge volume high level alarm is reset insert a Manual Scram Recognize and report all control rods are inserted
	SRO	Exit EOP-01A and enter EOP-01

**RIVER
BEND STATION**

Number: ***RSMS-OPS-NRC10-2**
Revision: **01**
Page 1 of 15

SIMULATOR SCENARIO



TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

***RCIC Inadvertent Initiation – Rod Drift - Main Turbine Trip - ATWS - SLC
Failure -**

REASON FOR REVISION:

2010 NRC Exam

PREPARE / REVIEW:

John Hedgepeth	0069	02/09/2010
Preparer	KCN	Date
Angela Orgeron	1538	2/16/2010
Technical Review (SME)	KCN	Date
Joey Clark	0260	2/26/2010
Operations Management (Evaluated scenarios only)	KCN	Date

Facility Reviewer approval via ES-301-3, 301-4

* Indexing Information

I. DESCRIPTION OF SCENARIO

The crew assumes the shift at 87% power, with plant start up in progress. The crew will swap Feedwater level control signal input to support an I&C surveillance. An inadvertent initiation of RCIC. After the team has addressed RCIC, CRD FCV B will fail closed. The crew will be required to swap FCV. When the FCV is swapped a control rod will drift in. At the examiners direction a second control rod will drift in and a manual scram will be required. All rods will not insert and EOP-0001, RPV Control and EOP-0001A, RPV Control - ATWS are entered to control power, level and pressure. SLC will fail to initiate using the control switch. As level is lowered a trip of the Main Turbine will occur.

II. TERMINAL OBJECTIVES

1. Recognize and respond to an inadvertent initiation of RCIC..
2. Recognize and respond to failed CRD FCV in accordance with plant procedures.
3. Recognize and respond to drifting control rod in accordance with plant procedures and Technical Specifications.
4. Recognize and respond to a Main Turbine trip and failure to scram in accordance with plant procedures.

III. PERFORMANCE OBJECTIVES

A. Shift/Team

1. Recognize and respond to an inadvertent initiation of RCIC in accordance with plant procedures.
2. Recognize and respond to failed CRD FCV in accordance with plant procedures.
3. Recognize and respond to drifting control rod in accordance with plant procedures and Technical Specifications.
4. Recognize and respond to a Main Turbine trip and failure to scram in accordance with plant procedures.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
	<p>AOP-0002, Main Turbine and Generator Trips</p> <p>EOP-0001, RPV Control</p> <p>EOP-0001A, RPV Control - ATWS</p> <p>EOP-0002, Primary Containment Control</p>	<p>Power: 87%</p> <p>Core: MOL, xenon equilibrium</p> <p>Equipment OOS: NONE</p> <p>STPs Due: NONE</p> <p>LCOs: None</p> <p>Evolutions in progress: Plant start up</p> <p>Problem/Lit annunciators: N/A</p>	<p>RCP to raise power with recirc. flow</p>

V. GENERAL INSTRUCTIONS

Event Number	MFS/OR #/CAE	Expected Operator Action
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Event Number	MFS/OR #/CAE	Expected Operator Action
Simulator Setup	<p>Snapped to IC# <u>238</u></p> <p>Set up the following event trigger:</p> <p>EVENT# 10</p> <p>EVENT ACTION MGEN001, MAIN TURBINE TRIP</p> <p>COMMAND rrlnr = - 9.7”</p> <p style="text-align: center;"><u>MALFUNCTIONS</u></p> <p>CRD014 90, CONTROL ROD HYDRAULIC LOCK-ATWS</p> <p>T-1 RCIC005, INADVERTENT INITIATION OF RCIC.</p> <p>T-2 CRD002B, CONTROL ROD DRIVE FLOW CONTROL VLV FAILS CLOSED</p> <p>T-3 CRD0813 DRIFT IN d 5:00, CONTROL ROD 0813 FAILURES</p> <p>T-4 CRD1637 DRIFT IN, CONTROL ROD 1637 FAILURES</p> <p>SLC002A, SLC A SHEARED COUPLING</p> <p>SLC001B, SLC B SUCTION VALVE FALS TO OPEN</p> <p style="text-align: center;"><u>REMOTE FUNCTIONS</u></p> <p>T-3 CRD001, CRD FCV SWAP</p>	

Event Number	MFS/OR #/CAE	Expected Operator Action	
Event 1 Swap feedwater level control input signals	NONE	SRO	Direct the swap of Feedwater Level Control level input signals per SOP-0009 REACTOR FEEDWATER SYSTEM
		ATC	Swap to A feedwater level control signal per SOP-009 Report the completion of level signal swap
Event 2 Raise reactor power with Recirc. flow	NONE	SRO	Direct raising reactor power per the reactivity control plan.
		ATC	Raise reactor power with recirculation flow per the reactivity control plan. Report completion of power change
Event 3 RCIC failure	T1 Inserts Inadvertent initiation of RCIC.	BOP	<ul style="list-style-type: none"> • Recognize and report initiation of RCIC.
		SRO	<ul style="list-style-type: none"> • Direct BOP to determine if RCIC is needed for RPV level control by two independent means. • Direct BOP to trip RCIC
		BOP	<ul style="list-style-type: none"> • Report normal RPV level indications • Depress the RCIC trip push button • Report to the SRO that RCIC is tripped • Refer to the ARP
		SRO	<ul style="list-style-type: none"> • Enter Tech Spec 3.5.3 A (14 day LCO) • Contact Work Management Center <ul style="list-style-type: none"> ○ Notify WMC of RCIC initiation ○ Request maintenance support for RCIC ○ Request not work activities be performed on the HPCS system ○ Verify by administrative means High Pressure Core Spray System is OPERABLE. • Make notifications per OSP-46

Event Number	MFS/OR #/CAE	Expected Operator Action	
Event 4 CRD FCV failure	T-2 Fail CRD FCV A closed	BOP	Recognize and report the failed closed CRD flow control valve
		ATC	Report High CRDM temperature alarm Direct SNEO to investigate high temperature locally Direct SNEO to investigate CRD flow control valve failure locally
		Role Play	As operators sent to local indications, report: <ul style="list-style-type: none"> • The CRDM recorder has 6 control rods above the alarm setpoint but below 350° F. • CRD flow control valve has a broken air supply line. The line is isolated at this time.
		SRO	Direct CRD FCV valve be swapped to B per SOP-0002
		BOP	Direct SNEO to perform local actions to swap to CRD FCV 'B' NOTE: Actions to swap FCV are performed locally Verify that the pressure and flow of the CRD system are normal. <u>IF</u> they are <u>not</u> , <u>THEN</u> perform the following: Adjust C11-R600, CRD HYDRAULICS FLOW FLOW CONTROLLER C11-F002A/B to obtain a system flow rate of 41 to 49 gpm. Adjust C11-F003, CRD DRIVE WATER PRESS CONTROL VALVE to obtain an indicated value for Drive Water Differential Pressure of 250 psid.

Event Number	MFS/OR #/CAE	Expected Operator Action	
Event 5, 6, 7 and 8 Rods drift, ATWS, turbine trip and SLC failure	T3 Swap CRD FCV This will also drift in two control rods at five minute intervals.	ATC	<ul style="list-style-type: none"> • Recognize and report that control rod 08-13 is drifting in • On H13-P680, determine which rod(s) drifted by depressing the ROD DRIFT pushbutton and observing red lights on ROD POSITION DISPLAY. • Select the drifting rod(s) and apply a continuous insert signal. • <u>WHEN</u> the control rod is inserted to the full in position, <u>THEN</u> remove the continuous insert signal.
		SRO	<ul style="list-style-type: none"> • Direct entry into AOP-0061 CONTROL ROD(S) MISPOSITIONED / MALFUNCTION • Enter LCO 3.1.3 C for the drifting control rod
		ATC	<ul style="list-style-type: none"> • Recognize and report control rod 16-37 drifting in
		SRO	Direct ATC to manually scram the reactor
		ATC	<ul style="list-style-type: none"> • Place the reactor mode switch in the shut down position • Arm and depress all four manual scram push buttons • Arm and depress both ARI push buttons • Communicate ATWS report to the SRO

Event Number	MFS/OR #/CAE	Expected Operator Action	
		SRO	<ul style="list-style-type: none"> • Accept the ATWS report • Enter and take actions of EOP-01A <ul style="list-style-type: none"> ○ Direct terminate and prevent injection from HPCS ○ Direct transfer of Recirc. Pumps to slow speed ○ Direct inhibiting the ADS system ○ Direct trip of the Recirc. Pumps ○ Direct installation of enclosures 16 and 24 ○ Direct maximizing CRD cooling water flow ○ Direct termination of injection from condensate and feedwater ○ Direct a reactor vessel level band of -60” to -140” ○ Direct RCIC to be tripped ○ Enter EOP-02 on suppression pool parameters
		BOP	<ul style="list-style-type: none"> • Terminate and prevent injection from HPCS and report completion • Inhibit the ADS system by placing the Div I and II inhibit switches to INHIBIT and report completion • Report the enclosure 16 and 24 have been installed • Maximize CRD cooling water flow and report completion • Depress the RCIC trip pushbutton and report RCIC tripped
		ATC	<ul style="list-style-type: none"> • Transfer Recirc. Pumps to slow speed and report completion • Trip both Recirc. Pumps and report completion • Terminate injection from condensate and feedwater and report completion • Maintain a RPV water level band of -60” to -140” • Perform actions of Enclosure 12
		ATC	Recognize and report main turbine / generator trip

Event Number	MFS/OR #/CAE	Expected Operator Action	
		SRO	Direct a reactor pressure band of 950 and 1090 psig
		BOP	Open all available steam line drains Adjust the manually open SRVS to maintain the turbine bypass valves open
		SRO	Direct SLC injection
		BOP	Notify SRO of SLC injection status
		SRO	Direct work control center to have the actions of Enclosure 15 for alternate SLC injection performed
		NOTE: After the scram has been reset with enclosure 12, remove the hydraulic ATWS	
		ATC	Recognize and report all control rods are inserted
		SRO	Exit EOP-01A and enter EOP-01
When the Termination Criteria are met, and at the direction of the floor instructor	FREEZE		

VI. TERMINATION CRITERIA:

The exercise should be terminated when the performance objectives have been achieved or the operators are unable to diagnose and respond effectively to the scenario.

The following conditions provide an indication of performance objective achievement for this scenario; Critical Tasks are indicated by an *:

- EOP-0001A, RPV Control - ATWS implemented
- * Lower RPV water level
- Terminate and Prevent HPCS
- Inhibit ADS
- Pressure control established on SRVs and MSL Drains
- Take action to reduce power to prevent exceeding Containment design limits
- EOP-0002, Primary Containment Pressure Control implemented
- * All rods in

VII. REFERENCES

A. Plant Procedures

1. AOP-0001, Reactor Scram
2. AOP-0002, Main Turbine and Generator Trips
3. AOP-0003, Automatic Isolations
4. EOP-0001, RPV Control
5. EOP-0001A, RPV Control - ATWS
6. EOP-0002 Primary Containment Control

Offgoing OSM:	Oncoming OSM:	Off-Going Shift
_____ (Print)	_____ KCN	N D
_____ (Print)	_____ KCN	Date

PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT

UNIT STATUS MODE 1 RX POWER 87%

EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION

Plant start up in progress per GOP-001. Complete through step G.41

Swap Feedwater level control input signal from B to A. Support for I&C

Continue power ascension with Recirc. Flow at 2% per hour per RCP guidance

SIGNIFICANT LCO STATUS

None

EQUIPMENT STATUS

EOOS 10 / GREEN

Night Orders Standing Orders Board Walkdown Temp Alts

(Signature: Oncoming OSM Review Completed)

KCN

PLANNED					PERFORMED				CHANGE APPROVAL		COMMENTS
STEP	RCIS	ROD	FROM	TO	M	PERF	VER	C	RE	SRO	

	Instruction	RE / SRO	RE	SRO	COMMENTS
049	Run MON and review thermal limits and preconditioning margin. Record date / time				Thermal limits & preconditioning margin verified Currently below the preconditioning state

050	28-21	08	10	I			NA			
051	28-37	08	10	I			NA			
052	20-29	08	10	I			NA			
053	36-29	08	10	I			NA			

Raising reactor power within guidance of EN-RE-205.

Ramp rate is ~4 % CTP / hr below the preconditioned state.

Ramp rate is ~1 % CTP / hr above the preconditioned state.

PLANNED		PERFORMED		CHANGE APPROVAL		COMMENTS
				RE	SRO	
054	Instruction	Left @	ATC	RE	SRO	
	Raise reactor power to 90% (2782 MWth), with recirc. Flow at 2% per hour					
055	Instruction	Left @	ATC	RE	SRO	
056	Instruction	Left @	ATC	RE	SRO	
057	Instruction	Left @	ATC	RE	SRO	
058	Instruction	Left @	ATC	RE	SRO	
059	Instruction	Left @	ATC	RE	SRO	

Facility: <u>River Bend Station</u>	Scenario No.: <u>3</u>	Op-Test No.: <u>NRC</u>	
Examiners: _____	Operators: _____	_____	
_____	_____	_____	
_____	_____	_____	
<p>Initial Conditions: <u>Mode 1, 70% power. Tech Spec required shutdown in progress due to expiration of TS 3.8.1 Condition B. Condition F entered 3 hours ago. Must be in Mode 3 in 9 hours. Div 2 Diesel Generator tagged out.</u></p> <p>Turnover: <u>GOP-0002 complete to Step 11. Remove FWS-P1A from service. Continue shutdown by driving control rods per RE instruction.</u></p>			
Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (BOP,SRO)	Secure Feedwater Pump A per SOP-0009.
2	NA	R (ATC)	Reduce reactor power by control rod insertion.
3	B21001A	I (CRS)	RPV Level Instrument 004A fails downscale (Tech Requirement Manual) <i>Fail instrument which is NOT selected.</i>
4	RPS003A	C (ALL)	Loss of RPS Bus A
5	SASMO V102P	C (BOP,SRO)	SAS-MOV102 failed to automatically isolate. (Technical Specifications)
6	ED001	M (All)	Loss of offsite power.
7	RCIC002	C (BOP,SRO)	RCIC fails to automatically initiate. (After EOP entry)
8	HPCS002	C (BOP,SRO)	E22-F004 fails to open. (After EOP entry)
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Total Malfunctions (6): Level Instrument, RPS A, SAS-MOV102, LOP, RCIC, E22-F004

Malfunctions after EOP entry (2): RCIC, E22-F004

Abnormal events (2): AOP-0010, AOP-0004

Major transients (1): Loss of offsite power

EOPs entered (1): EOP-0001, EOP-0002

EOP contingencies (1): Alternate Level Control

Critical tasks (2): Reopen IAS-MOV106, Recover reactor water level.

Op-Test No.: _____ Scenario No.: <u> 3 </u> Event No.: <u> 1 </u> Page <u> 1 </u> of <u> 8 </u>		
Event Description: Secure Feedwater Pump A per SOP-0009.		
Time	Position	Applicant's Actions or Behavior
	SRO	Direct the securing of Feedwater Pump A per SOP-0009.
	BOP	<p>Perform actions to secure Feedwater Pump A per SOP-0009.</p> <ul style="list-style-type: none"> • At H13-P680, place CNM-H/A68A, RX FWP 1A MIN FLOW FLOW CONTROLLER to MANUAL for the Reactor Feed Pump to be secured. • Open slowly FWR-FV2A, RX FWP 1A MIN FLOW VALVE using CNM-H/A68A, RX FWP 1A MIN FLOW FLOW CONTROLLER while monitoring Reactor Water Level. • IF desired to raise Reactor Water Level, THEN adjust C33-R600, MASTER FLOW CONTROLLER tape set to desired Reactor Water Level • IF the capability of meeting feed flow requirements with the remaining Feedwater Pumps is uncertain, THEN make a determination as follows: <ul style="list-style-type: none"> ○ Close FWS-MOV26A, RX FWP 1A DISCH VLV for the pump being shutdown. ○ Verify the minimum flow valve for the pump being secured is open. ○ Monitor Feed Flow/Steam Flow mismatch and RPV Level to insure remaining pump(s) can maintain level. • Stop FWS-P1A, RX FWP P1A • Verify CNM-H/A68A, RX FWP 1A MIN FLOW FLOW CONTROLLER is in AUTO for the Reactor Feed Pump that was secured. • IF Reactor Water Level was intentionally raised in Step 6.1.2, THEN adjust Reactor Water Level to desired level within normal level control band using C33-R600, MASTER FLOW CONTROLLER tape set. • Verify min flow valve closes 1 - 3 minutes after pump shutdown. • Verify FWS-MOV26A(B)(C), RX FWP P1A (B)(C) DISCH VLV is closed.
	Role Play	As Turbine building operator accept actions for feedwater pump shutdown as directed.

Op-Test No.: _____ Scenario No.: <u> 3 </u> Event No.: <u> 3 </u> Page <u> 3 </u> of <u> 8 </u>		
Event Description: RPV Level Instrument 004A fails downscale (Tech Requirement Manual)		
Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report the failed level instrument
	SRO	Direct reference to the ARP
	ATC	Request I&C support per the ARP
	SRO	Contact the work management center for I&C support. Make notifications per OSP-46 Enter TRM 3.3.7.3 A(7 day LCO) for the failed instrument
	ATC	Direct the reactor building operator take 'A' level instrument to "OUT OF SERVICE" locally.
	Role Play	As reactor building operator accept the direction to take the A level instrument to "OOS"

Op-Test No.: _____ Scenario No.: <u>3</u> Event No.: <u>4/5</u>		Page <u>4</u> of <u>8</u>
Event Description: Loss of RPS Bus A		
SAS-MOV102 failed to automatically isolate. (Technical Specifications)		
Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report the loss of RPS-A
	SRO	Direct actions of AOP-10 loss of an RPS Bus
	ATC	Report no single rod scram
	BOP	<p>Perform AOP-10 actions.</p> <ul style="list-style-type: none"> • On H13-P610, place RPS A(B) POWER TRANSFER SWITCH to the <u>AVAILABLE</u> power source for RPS Bus A(B). • On H13-P601, depress the following to reset the isolation: <ul style="list-style-type: none"> ▪ B21H-S33, INBD ISOLATION SEAL-IN RESET Pushbutton ▪ B21H-S32, OUTBD ISOLATION SEAL-IN RESET Pushbutton • At H13-P870, reopen the following isolation valves: <ul style="list-style-type: none"> ▪ IAS-MOV106, INST AIR OUTBD ISOL ▪ CCP-MOV138, CONTMT SPLY OUTBD ISOL ▪ CCP-MOV142, RR PUMP CLG SUPPLY ▪ CCP-MOV143, RR PUMP CLG DN STREAM RTN ▪ CCP-MOV159, CONTMT RTN OUTBD ISOL • At H13-P669 and P671, Neutron Monitoring Cabinets, depress S1, RESET Pushbutton
	ATC	<ul style="list-style-type: none"> • Place C71A-S5A, SCRAM RESET LOGIC A and C71A-S5C, SCRAM RESET LOGIC C in RESET
	BOP	<ul style="list-style-type: none"> • Place control switches for all tripped Drywell Unit Coolers to OFF. • At H13-P877, close the following breakers: <ul style="list-style-type: none"> ○ EJS-ACB09, NORM CHGR 1A SPLY BRKR ○ EJS-ACB25, NHS MCC102A SPLY BRKR • At H13-P870, reopen the following isolation valves: <ul style="list-style-type: none"> ○ SWP-MOV4A, DRYWELL UC SUPPLY ○ SWP-MOV5B, DRYWELL UC RETURN ○ DFR-AOV102, RB FLOOR DR OUTBD ISOL ○ CNS-MOV125, CNDS MKUP OUTBD ISOL ○ FPW-MOV121, F-P WTR OUTBD ISOL ○ SAS-MOV102, SVCE AIR OUTBD ISOL ○ DER-AOV127, RB EQPT DR OUTBD ISOL ○ WCS-MOV172 BW TK DR OUTBD ISOL • Report to SRO that SAS-MOV102 failed to isolate • Attempt to manually close SAS-MOV102 • Start additional Drywell Unit Coolers as needed per SOP-0060, Drywell Cooling.

Event Description:

Loss of RPS Bus A

SAS-MOV102 failed to automatically isolate. (Technical Specifications)

Time	Position	Applicant's Actions or Behavior
	BOP	<ul style="list-style-type: none"> • At H13-P863, reopen the following isolation valves: <ul style="list-style-type: none"> ○ HVN-MOV127, CHW SPLY OUTBD ISOL ○ HVN-MOV128, CHW RTN OUTBD ISOL • At H13-P863, perform the following to reset HVK-MOV10A, CHW SURGE TK A NORM MKUP: <ul style="list-style-type: none"> ○ Place HVK-MOV10A, CHW SURGE TK A NORM MKUP Control Switch in CLOSE. ○ Place HVK-MOV10A, CHW SURGE TK A NORM MKUP Control Switch in AUTO. • At H13-P808, reopen the following isolation valves: <ul style="list-style-type: none"> ○ RCS-MOV61A, FCV A ACTUATOR LEAKOFF ○ RCS-MOV60A, FCV A RETURN ISOL VLV ○ RCS-MOV59A, FCV A CLOSING SPLY VLV ○ RCS-MOV58A, FCV A OPENING SPLY VLV • At H13-P601, reopen the following isolation valves: <ul style="list-style-type: none"> ○ B33-F019, REACTOR WATER UP STREAM SAMPLE VLV ○ B33-F020, REACTOR WATER DN STREAM SAMPLE VLV ○ B21-F019, MSL WARMUP HDR OUTBD CONTMT ISOL VLV ○ B21-F067A, MSL A DRAIN VALVE ○ B21-F067B, MSL B DRAIN VALVE ○ B21-F067C, MSL C DRAIN VALVE ○ B21-F067D, MSL D DRAIN VALVE • Request SRO guidance for further system restoration / restart.
	SRO	<ul style="list-style-type: none"> • Enter EOP-03 for Annulus pressure high • Enter T.S. 3.6.1.3 for SAS-MOV102 failure to isolate • Direct Work Management Center to initiate actions to close and deactivate SAS-MOV102
	Role Play	As control building operator: When requested to investigate RPS-M/G A failure, report no problem can be found visually.

Op-Test No.: _____ Scenario No.: <u> 3 </u> Event No.: <u> 6/7/8 </u> Page <u> 6 </u> of <u> 8 </u>		
Event Description: Loss of offsite power.		
RCIC fails to automatically initiate. (After EOP entry)		
E22-F004 fails to open. (After EOP entry)		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> • Recognize and report reactor scram due to loss of offsite power • Place the reactor mode switch in shut down • Give scram report to the SRO
	SRO	<ul style="list-style-type: none"> • Enter EOP-01 direct level control with RCIC and HPCS • Direct a level band of 51" to -20" • Direct pressure control with RCIC and SRVs • Direct a pressure band of 950# to 1090#
	BOP Event 7/8	Recognize and report the failure of HPCS to inject Recognize and report the failure of RCIC to initiate Direct the Reactor building operator to manually open the HPCS injection valve
	SRO Event 7	Direct manual start and injection with RCIC
	BOP Event 7	Manually start and inject with RCIC <ul style="list-style-type: none"> • Start E51-C002C, GLAND SEAL COMPRESSOR. • Open E51-F045, RCIC STEAM SUPPLY TURBINE STOP VALVE. • Verify the following valves are closed: <ul style="list-style-type: none"> ○ E51-F025, RCIC STM SPLY DR POT UP STREAM ISOL VALVE ○ E51-F026, RCIC STM SUPPLY DR POT DN STREAM ISOL VALVE ○ E51-F004, RCIC TURB EXH DR POT UP STREAM ISOL VALVE ○ E51-F005, RCIC TURB EXH DR POT DN STREAM ISOL VALVE • Verify E51-F019, RCIC MIN FLOW VLV TO SUPPRESSION POOL is open. • To inject into the vessel perform the following: <ul style="list-style-type: none"> ○ Open E51-F013, RCIC INJECT ISOL VALVE.
	SRO Event 8	Direct WMC to assist with the HPCS injection valve failure
	SRO	Direct actions of AOP-004 LOSS OF OFFSITE POWER and AOP-016 LOSS OF STANDBY SERVICE WATER

Event Description:
Loss of offsite power.

RCIC fails to automatically initiate. (After EOP entry)

E22-F004 fails to open. (After EOP entry)

Time	Position	Applicant's Actions or Behavior		
	ATC	<p>Perform actions of AOP-004 and AOP-016</p> <ul style="list-style-type: none"> • Dispatch operator to locally monitor diesel generator operation per PEP-0026, Diesel Generator Operating Logs. • Verify initiation of the Standby Service Water System. • Verify SWP-MOV96B, NORM SVCE WTR RETURN is closed • Operate the following valves to isolate SSW Division II and place redundant SSW Division I in service: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><u>CLOSE</u></p> <ul style="list-style-type: none"> • SWP-MOV73B, HVR-UC5 SUPPLY • SWP-MOV74B, HVR-UC5 RETURN • SWP-MOV77B, HPCS D/G SUPPLY • SWP-MOV506B, HPCS D/G RETURN • SWP-MOV4B, DRYWELL UC SUPPLY • SWP-MOV5B, DRYWELL UC RETURN • SWP-MOV501B, RPCCW HX B SUPPLY • SWP-MOV511B, RPCCW HX B RETURN </td> <td style="width: 50%; vertical-align: top;"> <p><u>OPEN</u></p> <ul style="list-style-type: none"> • SWP-MOV73A, HVR-UC5 SUPPLY • SWP-MOV74A, HVR-UC5 RETURN • SWP-MOV77A, HPCS D/G SUPPLY • SWP-MOV506A, HPCS D/G RETURN • SWP-MOV4A, DRYWELL UC SUPPLY • SWP-MOV5A, DRYWELL UC RETURN • SWP-MOV501A, RPCCW HX A SUPPLY • SWP-MOV511A, RPCCW HX A RETURN </td> </tr> </table>	<p><u>CLOSE</u></p> <ul style="list-style-type: none"> • SWP-MOV73B, HVR-UC5 SUPPLY • SWP-MOV74B, HVR-UC5 RETURN • SWP-MOV77B, HPCS D/G SUPPLY • SWP-MOV506B, HPCS D/G RETURN • SWP-MOV4B, DRYWELL UC SUPPLY • SWP-MOV5B, DRYWELL UC RETURN • SWP-MOV501B, RPCCW HX B SUPPLY • SWP-MOV511B, RPCCW HX B RETURN 	<p><u>OPEN</u></p> <ul style="list-style-type: none"> • SWP-MOV73A, HVR-UC5 SUPPLY • SWP-MOV74A, HVR-UC5 RETURN • SWP-MOV77A, HPCS D/G SUPPLY • SWP-MOV506A, HPCS D/G RETURN • SWP-MOV4A, DRYWELL UC SUPPLY • SWP-MOV5A, DRYWELL UC RETURN • SWP-MOV501A, RPCCW HX A SUPPLY • SWP-MOV511A, RPCCW HX A RETURN
<p><u>CLOSE</u></p> <ul style="list-style-type: none"> • SWP-MOV73B, HVR-UC5 SUPPLY • SWP-MOV74B, HVR-UC5 RETURN • SWP-MOV77B, HPCS D/G SUPPLY • SWP-MOV506B, HPCS D/G RETURN • SWP-MOV4B, DRYWELL UC SUPPLY • SWP-MOV5B, DRYWELL UC RETURN • SWP-MOV501B, RPCCW HX B SUPPLY • SWP-MOV511B, RPCCW HX B RETURN 	<p><u>OPEN</u></p> <ul style="list-style-type: none"> • SWP-MOV73A, HVR-UC5 SUPPLY • SWP-MOV74A, HVR-UC5 RETURN • SWP-MOV77A, HPCS D/G SUPPLY • SWP-MOV506A, HPCS D/G RETURN • SWP-MOV4A, DRYWELL UC SUPPLY • SWP-MOV5A, DRYWELL UC RETURN • SWP-MOV501A, RPCCW HX A SUPPLY • SWP-MOV511A, RPCCW HX A RETURN 			
	SRO	<ul style="list-style-type: none"> • Direct installation of Enclosures 3 DEFEATING RCIC HIGH SUPPRESSION POOL WATER LEVEL SUCTION TRANSFER INTERLOCK and 33 DEFEATING RCIC HIGH AREA TEMPERATURE ISOLATION INTERLOCKS • Direct installation of Enclosure 20 DEFEATING DRYWELL COOLING ISOLATION INTERLOCKS • Enter EOP-002 on high Drywell temperature 		
	BOP	<p>Perform the actions of Enclosure 3</p> <ul style="list-style-type: none"> • REMOVE relay E51A-K79 (back panel) • CLOSE E51-F031, RCIC PUMP SUP PL SUCTION VALVE • OPEN E51-F010, RCIC PUMP CST SUCTION VALVE <p>Perform the actions of Enclosure 33 (request to the back panel operator)</p>		

Event Description:
Loss of offsite power.

RCIC fails to automatically initiate. (After EOP entry)

E22-F004 fails to open. (After EOP entry)

Time	Position	Applicant's Actions or Behavior
	BOP	Perform the actions of Enclosure 20 <ul style="list-style-type: none"> • PLACE Control Switches for all tripped Drywell Unit Coolers to OFF. • PLACE the key lock switches in the EMERGENCY position (back panel) • START DIV I <u>AND</u> II H₂ Analyzers. • OPEN the following valves: <ul style="list-style-type: none"> ○ SWP-MOV4A DRYWELL UC SUPPLY ○ SWP-MOV5B DRYWELL UC RETURN • VERIFY closed the following: <ul style="list-style-type: none"> ○ EJS-ACB25 NHS-MCC102A SPLY BRKR • START Drywell Unit Coolers as directed by the CRS.
	SRO	Direct operator to start all drywell unit coolers
	Role Play	As Load Dispatcher when contacted report: Unknown cause for the loss of power and at least 2 hours before power can be restored

**RIVER
BEND STATION**

Number: ***RSMS-OPS-NRC10-3**
Revision: **00**
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SIMULATOR SCENARIO



TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

*** Loss of RPS, Loss of Offsite Power**

REASON FOR REVISION:

NRC 2010 exam

PREPARE / REVIEW:

John Hedgepeth	0069	02/15/2010
Preparer	KCN	Date
Angela Orgeron	1538	2/16/2010
Technical Review (SME)	KCN	Date
Joey Clark	0260	2/26/2010
Operations Management (Evaluated scenarios only)	KCN	Date

Facility Reviewer approval via ES-301-3, 301-4

* Indexing Information

I. DESCRIPTION OF SCENARIO

The scenario begins at 70% power with Shutdown in progress due to expiration of T.S. 3.8.1 for Div II diesel generator. The crew will continue the plant shutdown per GOP-002. The crew will secure feed water pump A and lower power with control rods. RPV level instrument 004A will fail down scale and the SRO will enter TRM 3.3.7.3. A loss of RPS bus A will occur and SAS-MOV102 will fail to automatically or manually isolate. A loss of offsite power will occur causing a loss of Condensate pumps and Feedwater pumps. HPCS injection valve will not open and will not open during the scenario. RCIC will fail to automatically start however it can be manually started.

II. TERMINAL OBJECTIVES

1. Recognize and respond to a Loss of RPS “A” in accordance with AOP-0010.
2. Recognize and respond to a complete loss of offsite power in accordance with plant procedures
3. Recognize and respond to the failure of the RPV level instrument.
4. Recognize and respond to the failure of HPCS and RCIC.
5. Establish safe and stable plant conditions following a loss of offsite power in accordance with Abnormal Operating Procedures, Emergency Operating Procedures, and other applicable plant procedures.

III. PERFORMANCE OBJECTIVES

A. Shift/Team

1. Recognize and respond to a Loss of RPS “A” in accordance with AOP-0010.
2. Recognize and respond to a complete loss of offsite power in accordance with plant procedures
3. Recognize and respond to the failure of the RPV level instrument.
4. Recognize and respond to the failure of HPCS and RCIC.
5. Establish safe and stable plant conditions following a loss of offsite power in accordance with Abnormal Operating Procedures, Emergency Operating Procedures, and other applicable plant procedures.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
IC # 240		<p>Power: 70%</p> <p>Core: MOL, xenon equilibrium</p> <p>Equipment OOS: Div II D/G</p> <p>STP's Due: none</p> <p>LCO's: 3.8.1</p> <p>Evolutions in progress: Plant shut down</p> <p>Problem/Lit annunciators:</p>	<p>REP-0051</p> <p>STP:</p> <p>GOP 002</p>

V. GENERAL INSTRUCTIONS

Event Number	MFS-OR-REM-SCH	Expected Operator Action
Simulator Setup	<p style="text-align: center;"><u>Setup</u></p> <p>Lower reactor power to 70% using Recirc Flow.</p> <p>Place Div II D/G in Maint.</p> <p style="text-align: center;"><u>MALFUNCTIONS</u></p> <p>T1 B21001, RPV LEVEL INSTRUMENT 004A FAIL DOWN SCALE</p> <p>T2 RPS003A, LOSS OF RPS A</p> <p>T3 ED001, LOSS OF OFFSITE POWER</p> <p style="text-align: center;"><u>REMOTES</u></p> <p>T10, NIS001 -RESET APRM POWER SUPPLY S1 PUSHBUTTON</p> <p style="text-align: center;"><u>OVERRIDES</u></p> <p>SASMOV102P 0, SAS-MOV102 POSITION</p>	
Event 0	RUN	Board walkdown and turnover

Event Number	MFS-OR-REM-SCH	Expected Operator Action
Event 1 At the direction of the floor instructor.	ROLE PLAY: As Turbine building operator accept actions for feedwater pump shutdown as directed.	SRO: Direct the securing of Feedwater Pump A per SOP-0009. RO: Perform actions to secure Feedwater Pump A per SOP-0009.
Event 2 At the direction of the floor instructor.	Continue power reduction	SRO Direct power reduction with control rods per the reactivity control plan. ATC Insert control rods per the reactivity control plan. Report the completion of rod movement
Event 3 At the direction of the floor instructor.	RPV level instrument failure	ATC Recognize and report the failed level instrument SRO Direct reference to the ARP ATC Request I&C support per the ARP SRO Contact the work management center for I&C support. Make notifications per OSP-46 Enter TRM 3.3.7.3 A(7 day LCO) for the failed instrument
	ROLE PLAY: As reactor building operator accept the direction to take the A level instrument to “OOS”	ATC Direct the reactor building operator take ‘A’ level instrument to “OUT OF SERVICE” locally.

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
Event 4/5 At the direction of the floor instructor.	Loss of RPS A ROLE PLAY: As back panel operator take direction to reset the APRM power supplies. Insert trigger 10. As control building operator: When requested to investigate RPS-M/G A failure, report no problem can be found visually.	ATC SRO ATC BOP ATC BOP SRO	Recognize and report the loss of RPS-A Direct actions of AOP-10 loss of an RPS Bus Report no single rod scram Perform AOP-10 actions. At H13-P669 and P671, Neutron Monitoring Cabinets, depress S1, RESET Pushbutton Place C71A-S5A, SCRAM RESET LOGIC A and C71A-S5C, SCRAM RESET LOGIC C in RESET Report to SRO that SAS-MOV102 failed to isolate Start additional Drywell Unit Coolers as needed per SOP-0060, Drywell Cooling. Enter EOP-03 for Annulus pressure high Enter T.S. 3.6.1.3 for SAS-MOV102 failure to isolate Direct Work Management Center to initiate actions to close and deactivate SAS-MOV102
Event 6/7/8 At the direction of the floor instructor.	T3 , Inserts a Loss of Offsite Power RCIC fails to automatically initiate. (After EOP entry) E22-F004 fails to open. (After EOP entry)	ATC SRO	Recognize and report reactor scram due to loss of offsite power Place the reactor mode switch in shut down Give scram report to the SRO Enter EOP-01 direct level control with RCIC and HPCS Direct a level band of 51" to -20" Direct pressure control with RCIC and SRVs Direct a pressure band of 950# to 1090#

Event Number	MFS-OR-REM-SCH	Expected Operator Action	
		BOP	Recognize and report the failure of HPCS to inject Recognize and report the failure of RCIC to initiate Direct the Reactor building operator to manually open the HPCS injection valve
		SRO	Direct manual start and injection with RCIC
		BOP	Manually start and inject with RCIC
		SRO	Direct WMC to assist with the HPCS injection valve failure
		SRO	Direct actions of AOP-004 LOSS OF OFFSITE POWER and AOP-016 LOSS OF STANDBY SERVICE WATER
		ATC	Perform actions of AOP-004 and AOP-016
		SRO	Direct installation of Enclosures 3 DEFEATING RCIC HIGH SUPPRESSION POOL WATER LEVEL SUCTION TRANSFER INTERLOCK and 33 DEFEATING RCIC HIGH AREA TEMPERATURE ISOLATION INTERLOCKS
	<p>ROLE PLAY:As Load Dispatcher when contacted report: Unknown cause for the loss of power and at least 2 hours before power can be restored</p>		Direct installation of Enclosure 20 DEFEATING DRYWELL COOLING ISOLATION INTERLOCKS Enter EOP-002 on high Drywell temperature
		BOP	Perform the actions of Enclosure 3 Perform the actions of Enclosure 33 Perform the actions of Enclosure 20 START Drywell Unit Coolers as directed by the CRS.
		SRO	Direct operator to start all drywell unit coolers

Event Number	MFS-OR-REM-SCH	Expected Operator Action
When the Termination Criteria are met, and at the direction of the floor instructor	FREEZE	

VI. TERMINATION CRITERIA:

The exercise should be terminated when the performance objectives have been achieved or the operators are unable to diagnose and respond effectively to the scenario.

The following conditions provide an indication of performance objective achievement for this scenario; Critical Tasks are indicated by an asterisk:

- * RCIC initiated manually and level being controlled between 10 and 51 inches.
- * IAS-MOV106 reopened to avoid an unintended RPS actuation.
- RPV pressure control.
- EOP-1 implemented
- EOP-2 implemented
- AOP-0001 implemented
- AOP-0002 implemented
- AOP-0003 implemented
- AOP-0004 implemented
- AOP-0010 implemented

VII. REFERENCES

A. Plant Procedures

1. EIP-2-001, Classification of Emergencies
2. EOP-1, RPV Control
3. EOP-2, Containment Control
4. GOP-0002, Shut Down
5. AOP-0001, Reactor Scram
6. AOP-0002, Main Turbine and Generator Trips
7. AOP-0003, Automatic Isolations
8. AOP-0004, Loss of Offsite Power
9. AOP-0008, Loss of Instrument Air
10. AOP-0010, Loss of One RPS Bus

PLANNED					PERFORMED				CHANGE APPROVAL		COMMENT
STEP	RCIS	ROD	FROM	TO	M	PERF	VER	C	RE	SRO	
067	2,1	20-29	10	06	I			N/A			
		28-37						N/A			
		36-29						N/A			
		28-21						N/A			
068	2,3	12-21	10	06	I			N/A			
		20-45						N/A			
		44-37						N/A			
		36-13						N/A			
069	2,4	36-45	10	06	I			N/A			
		44-21						N/A			
		20-13						N/A			
		12-37						N/A			
070	2,2	04-29	10	06	I			N/A			
		28-53						N/A			
		52-29						N/A			
		28-05						N/A			

Facility: <u>River Bend Station</u>	Scenario No.: <u>4</u>	Op-Test No.: <u>NRC</u>	
Examiners: _____	Operators: _____	_____	
_____	_____	_____	
_____	_____	_____	
Initial Conditions: <u>69% power</u>			
Turnover: <u>Rotate CCP pumps to support scheduled maintenance. Place CCP-P1A in service, secure CCP-P1C. Power ascension in progress. GOP-001 complete through G 41. Continue power ascension per the RCP at step 83.</u>			
Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (BOP,SRO)	Rotate Reactor Plant Component Cooling Water Pumps.
2	NA	R (ATC)	Raise reactor power with control rods.
3	FWS006B	C (ATC,SRO)	Feedwater pump B minimum flow valve fails open.
4	RHR008A	C (BOP,SRO)	Division I ECCS Line Fill pump trip (Technical Specifications)
5	RCS016	C (All)	Reactor Recirculation FCV B LVDT failure (Technical Specification)
6	NA	C (BOP,SRO)	Gland steam evaporator outlet pressure control valve failure
7	RCS001A	M (All)	Reactor Recirculation Loop A Rupture
8	ED004A	C (All)	Loss of NJS-LDC1A (After EOP entry)
9	RHR001B	C (BOP,SRO)	RHR B Injection valve fails to open (After EOP entry).
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Total Malfunctions (6): Gland steam failure, FWS min flow valve, Line fill trip, LVDT failure, Loop Rupture, Inj valve failure.

Malfunctions after EOP entry (2): NJS-LDC1A, RHR B Inj Valve

Abnormal events (2): AOP-0006, AOP-0061

Major transients (1): Loop Rupture

EOPs entered (2): EOP-0001, EOP-0002

EOP contingencies (1): Alternate Level Control

Critical tasks (2): Isolate leak, Restore level above TAF

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>4</u>		Page <u>4</u> of <u>8</u>
Event Description: Division I ECCS Line Fill pump trip (Technical Specifications)		
Time	Position	Applicant's Actions or Behavior
	EVENT CUE	H13-P601/21A/H08 LPCS SYSTEM INOPERATIVE H13-P601/20A/H06 DIV I RHR SYSTEM INOPERATIVE
	SRO	May direct starting RHR-A in suppression pool cooling mode.
	BOP	Perform actions of ARP: <ul style="list-style-type: none"> • RHR PUMP A DISCH PRESSURE HI/LOW <ul style="list-style-type: none"> ○ AT H13-P629, CHECK THE TRIP UNITS TO DETERMINE IF PRESSURE IS HIGH OR LOW. ○ <u>IF</u> not able to maintain the system filled with the LPCS/RHR Div I Water Leg Pump, <u>THEN</u> rack out ENS-SWG1A ACB03, RHR PUMP A MOTOR BREAKER. • LPCS INJECTION LINE PRESSURE HI/LOW <ul style="list-style-type: none"> ○ Determine if pressure is high or low by observing trip units on H13-P629. ○ <u>IF</u> unable to fill the system, <u>THEN</u> rack out the pump breaker ENS-SWG1A ACB08 <u>AND</u> Refer To Technical Specifications Section 3.5.1 or 3.5.2.
	ROLE PLAY	As back panel operator, when requested: Report the RHR and or LPCS discharge pressure the same as indicated on ERIS display. (LPCS pressure minus 14.7 psi)
	SRO	<ul style="list-style-type: none"> • Enter Tech Spec 3.5.1 A (7 day LCO) & C for ECCS (72 hour LCO) • Enter Tech Spec 3.6.2.3 A for suppression pool cooling (7 day LCO) • Direct that the pump breakers for LPCS and RHR-A be racked out • Make notifications per OSP-46
	ROLE PLAY	As control building operator: when directed accept the direction to rack out the LPCS and RHR-A pump breakers

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>5</u>		Page <u>5</u> of <u>8</u>
Event Description: Reactor Recirculation FCV B LVDT failure (Technical Specification)		
Time	Position	Applicant's Actions or Behavior
	EVENT CUE	Lowering reactor power Lowering turbine load Lowering loop flow for B Recirc. Pump Lowering jet pump diff. pressure on loop B jet pumps
	ATC	<ul style="list-style-type: none"> Recognize and report lowering power due to B Recirc. Flow lowering Recognize and report Recirc. Loop mismatch > 5%
	SRO	<ul style="list-style-type: none"> Enter AOP-024 Thermal Hydraulic Stability Controls Enter Tech Spec 3.4.1 A for loop flow mismatch (2 hour LCO)
	BOP/ATC	<p>Perform actions of actions of AOP-024</p> <ul style="list-style-type: none"> Determine power/flow region using RBS DUAL LOOP OPERATION POWER/FLOW MAPS <u>IF</u> a malfunction of B33-HYV-F060A(B), FLOW CONTROL VALVE is suspected, <u>THEN</u> evaluate inhibiting motion of the affected valve through use of the HPU Shutdown Buttons. <u>IF</u> entry into the Restricted Region is unexpected, <u>THEN</u> perform the following: <ul style="list-style-type: none"> Immediately exit this region by performing the following actions: <ul style="list-style-type: none"> Insert Control Rods using the Shutdown Control Rod Sequence Package or as specified by Reactor Engineering, <u>OR</u> Raise recirculation flow by opening Recirc FCVs Verify FCBB \leq 1.0 within 15 minutes and once per 24 hours thereafter while in the Restricted Region. (SR 3.2.4.1) Contact Reactor Engineering. <u>IF</u> thermal power was changed by more than 15% of rated thermal power, <u>THEN</u> notify Chemistry to obtain samples required by Technical Requirements Manual TLCO 3.11.2.1, Gaseous Effluent-Dose Rate.
	ATC	May inhibit FCV motion by arming and depressing the B HPU shutdown push buttons.
	SRO	<ul style="list-style-type: none"> Contact Chemistry for Tech Spec required sampling, TLCO 3.11.2.1 Contact RE to determine FCBB \leq 1.0 (SR 3.2.4.1) Contact WMC for I&C support for the FCV failure
	ROLE PLAY	As RE when contacted: Report FCBB \leq 1.0

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>6</u> Page <u>6</u> of <u>8</u>		
Event Description: Gland steam evaporator outlet pressure control valve failure		
Time	Position	Applicant's Actions or Behavior
	EVENT CUE	H13-P870/54A/E05 STEAM SEAL EVAP STEAM HEADER LOW PRESSURE
	BOP	<ul style="list-style-type: none"> • Recognize and report low gland steam supply pressure • Refer to the alarm response procedure
	SRO	<ul style="list-style-type: none"> • Accept the report • Direct actions of the ARP • Direct opening of TME-MOVS2 Gland Steam Supply PCV Bypass Valve • Direct the ATC to monitor and report main condenser vacuum • Contact WMC for maintenance support for the PCV failure
	BOP	<ul style="list-style-type: none"> • Throttle open TME-MOVS2 Gland Steam Supply PCV Bypass Valve • Restore gland steam header pressure in the green band (~ 5 psig)
	ATC	Report value and trend of main condenser vacuum

Op-Test No.: _____ Scenario No.: <u>4</u> Event No.: <u>7/8/9</u> Page <u>7</u> of <u>8</u>		
Event Description: Reactor Recirculation Loop A Rupture		
Loss of NJS-LDC1A (After EOP entry)		
RHR B Injection valve fails to open (After EOP entry).		
Time	Position	Applicant's Actions or Behavior
	ATC	<ul style="list-style-type: none"> • Recognize and report Reactor scram • Place the reactor mode switch to shutdown • Give the scram report to the SRO
	SRO	<ul style="list-style-type: none"> • Enter EOP-01 • Direct a level band of 10" to 51" • Direct ADS to be inhibited
	ATC	<ul style="list-style-type: none"> • Recognize and report that Recirc. Loop A source of drywell leak • Attempt to isolate the Recirc. Loop by closing the pump suction and discharge valves • Recognize and report that power has been lost to Recirc A suction and discharge valves
	BOP / ATC	Report power loss to NJS-LDC1A
	ATC	Inject into the RPV with condensate and feedwater
	BOP	<ul style="list-style-type: none"> • Place the ADS inhibit switches to the INHIBIT position • Report ADS is overridden • Recognize and report that RHR-B injection valve did not auto open on initiation signal • Recognize and report RPV water level < -162"
	SRO	<ul style="list-style-type: none"> • Direct 7 ADS/SRVs to be opened • Direct installation of Enclosure 32 DEFEATING SDC INJECTION VALVES ISOLATION INTERLOCKS • Direct the cross tie of NJS-LDC1A/1B
	BOP	<ul style="list-style-type: none"> • Report 7 ADS/SRVs are open • Perform actions for enclosure 32 <ul style="list-style-type: none"> ○ Perform back panel actions ○ OPEN E12-F053B, RHR PUMP B SDC INJECTION VALVE as directed by the CRS. ○ OPEN E12-F053A, RHR PUMP A SDC INJECTION VALVE as directed by the CRS.
	SRO	Enter EOP-2 on Suppression pool level and temperature high Direct placing RHR-A into suppression pool cooling mode

Event Description:

Reactor Recirculation Loop A Rupture

Loss of NJS-LDC1A (After EOP entry)

RHR B Injection valve fails to open (After EOP entry).

Time	Position	Applicant's Actions or Behavior
	BOP	Take actions to place RHR-A into suppression pool cooling mode <ul style="list-style-type: none"> • Verify the selected system is not required for adequate core cooling. • Throttle E12-F068A, RHR HX A SVCE WTR RTN, not to exceed 5800 gpm flow. • Start/Verify Running RHR PUMP A. • Verify E12-F042A, RHR PUMP A LPCI INJECT ISOL VALVE, closed. • Verify E12-F053A, RHR PUMP A SDC INJECTION VALVE, closed. • Open/Verify Open E12-FO24A, RHR PUMP A TEST RTN TO SUP PL. • Verify E12-F064A, RHR PUMP A MIN FLOW TO SUP PL, Closed. • Close E12-F048A, RHR A HX BYPASS VALVE, when auto open signal has cleared.
	ROLE PLAY	As WMC: repot that NJS-LDC1A/1B is now cross tied
	SRO	Direct the isolation of Recirc pump A suction and discharge valves
	ATC	Take actions to isolate recirc. pump A <ul style="list-style-type: none"> • Verify Recirc Pump to be isolated is secured. • Isolate the appropriate loop as follows <ul style="list-style-type: none"> ○ Close B33-F067A, RECIRC PUMP A DISCH VLV. ○ Close B33-F023A, RECIRC PUMP A SUCTION VLV. ○ Close G33-F100, RWCU RECIRC A SUCT. ○ Monitor affected recirc pump seal pressures for indications of over pressurization.

**RIVER
BEND STATION**

Number: ***RSMS-OPS-NRC10-4**
Revision: **01**
Page 1 of 15

SIMULATOR SCENARIO



TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

***Plant S/U / Div I line fill trip / Recirculation Line Break / LOCA**

REASON FOR REVISION:

2010 NRC exam

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>02/15/2010</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2/16/2010</u>
Technical Review (SME)	KCN	Date
<u>Joey Clark</u>	<u>0260</u>	<u>2/26/2010</u>
Operations Management (Evaluated scenarios only)	KCN	Date

Facility Reviewer approval via ES-301-3, 301-4

* Indexing Information

I. DESCRIPTION OF SCENARIO

The scenario begins with the power ascension in progress, at 69% reactor power. The crew will rotate CCP pumps to support scheduled maintenance. Continue power ascension with control rod movement per the RCP. The Gland steam supply PCV will fail closed and the bypass valve will be used to restore supply pressure. Feedwater pump B minimum flow valve will fail open and cannot be closed from the control room. The min. flow valve will need to be isolated in the field. Division I ECCS line fill pump will trip, causing a low pressure condition in the discharge piping. The LPCS and RHR-A pump breakers will be required to be racked out. B Reactor Recirculation FCV LVDT will fail and cause the B FCV to close to minimum position. After the crew has addressed the FVC issue the A Recirc. Loop will rupture. The crew will respond using EOP-1 and EOP-2 to stabilize plant conditions, RPV Flooding may be required. The crew may attempt to isolate the leak, at which time they will discover that the rupture cannot be isolated. RPV water level will be restored using HPCS, CNM and RHR B.

II. TERMINAL OBJECTIVES

1. Recognize and respond to a FWS min. flow valve failure per AOP-006 Condensate and Feedwater Failures.
2. Recognize and respond to a line fill pump trip.
3. Recognize and respond to a Reactor Recirc. FCV LVDT failure.
4. Recognize and respond to a DBA LOCA by implementing EOP-1, EOP-2, and related plant procedures.
5. Stabilize and control Primary Containment Parameters following a DBA LOCA in accordance with EOP-2 and related plant procedures.

III. PERFORMANCE OBJECTIVES

A. Shift/Team

1. Recognize and respond to a FWS min. flow valve failure per AOP-006 Condensate and Feedwater Failures.
2. Recognize and respond to a line fill pump trip.
3. Recognize and respond to a Reactor Recirc. FCV LVDT failure.
4. Recognize and respond to a DBA LOCA by implementing EOP-1, EOP-2, and related plant procedures.
5. Stabilize and control Primary Containment Parameters following a DBA LOCA in accordance with EOP-2 and related plant procedures.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
IC #_244_	DBA LOCA EOP-1, RPV Control	<p>Power:. 69%</p> <p>Core: MOL, xenon equilibrium</p> <p>Equipment NONE</p> <p>STPs Due: None</p> <p>LCOs: None</p> <p>Evolutions in progress: power ascension.</p>	

V. GENERAL INSTRUCTIONS

Event Number	MFS-OR-REM-SCH	Expected Operator Actions
Simulator Setup		
	<p style="text-align: center;"><u>EVENT TRIGGER</u></p> <p>T6 = RECIRC PUMP A MOV67A CONTROL SWITCH TO CLOSE</p> <p style="text-align: center;"><u>Malfunctions</u></p> <p>T1, FWS006B, FEEDWATER PMP B MIN FLOW VLV FAILURE</p> <p>T2, RHR008A, DIV I LINE FILL PMP TRIP</p> <p>T3, RCS016, B RECIR LVDT FAILURE</p> <p>T4, TMEMOVS1P, 0%, GLAND STEAM SUPPLY HEADER ISOLATION VALVE</p> <p>T5, RCS001A, 100s, REACTOR RECIRC “A” LOOP RUPTURE</p> <p>T6, ED004A, 45d, delete time 1:00, NJS-LDC1A FAULT</p> <p>RHR001B, RHR B INJECTION VALVE FAILS TO OPEN</p> <p style="text-align: center;"><u>Overrides</u></p> <p>T1, LO_FWR-FV2B-G, OFF, 45d, FWS-FV2B GREEN LIGHT</p> <p>T1, LO_FWR-FV2B-R, ON, 45d, FWS-FV2B RED LIGHT</p> <p>LO_TME-MOVS1-G, OFF, TME-MOVS1 GREEN</p>	

Event Number	MFS-OR-REM-SCH	Expected Operator Actions
	<p>LIGHT LO_TME-MOVS1-R, ON, TME-MOVS1 RED LIGHT</p> <p style="text-align: center;"><u>REMOTES</u></p> <p>T10, ECCS003, RACK OUT, LPCS PUMP BREAKER</p> <p>T11, ECCS004, RACK OUT, RHR-A PUMP BREAKER</p>	
Event 0	RUN	CREW: Board walkdown/Turnover
<p>Event 1</p> <p>At the direction of the floor instructor.</p>	<p>Rotate CCP pumps, start A and secure C.</p> <p>ROLE PLAY: As reactor building operator, when requested: Report CCP-P1A suction and discharge valves are open Report that the pump seals have been vented via CCP-PI58A</p>	<p>SRO Direct actions to rotate Reactor Plant Component Cooling Water Pumps</p> <p>BOP Perform actions to rotate Reactor Plant Component Cooling Water Pumps</p> <p>BOP Report the completion of rotating Reactor Plant Component Cooling Water Pumps</p>

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
Event 2	Withdraw control rods for rodline adjustment	SRO ATC	Direct rodline adjustment with control rods per the RCP Withdraw control rods per the RCP Verify plant response Report control rod movement is complete
	ROLE PLAY: If requested, as RE: Inform the SRO you will bring him the next step after the preconditioning delay.		
Event 3	Feedwater pump B minimum flow valve fails open.	ATC	Recognize and report the FWS-P1A feed water pump B min. flow valve is open. Direct actions per the ARP Direct entry into AOP-006 CONDENSATE/FEEDWATER FAILURES Refer to AOP-007 LOSS OF FEEDWATER HEATING Perform actions to close FWR-FV2B from P680 <ul style="list-style-type: none"> • <u>IF</u> any of the following flow control valves have failed, <u>THEN</u> attempt to take manual control • or isolate the flow control valve to control reactor vessel level: <ul style="list-style-type: none"> • FWR-FV2B, RX FWP B MIN FLOW VALVE isolated by closing FWR-V2, RFP “B” MIN FLOW MAN ISOL
	ROLE PLAY; As turbine building operator: <ul style="list-style-type: none"> • Accept the direction to isolate FWR-V2 • After ten minute delay, report that FWR-V2 is closed 	ATC SRO SRO	

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
Event 4	Division I ECCS Line Fill pump trip	BOP SRO	Recognize and report Div I line fill pump has tripped May direct starting RHR-A in suppression pool cooling mode.
	ROLE PLAY: As back panel operator, when requested: Report the RHR and or LPCS discharge pressure the same as indicated on ERIS display. (LPCS pressure minus 14.7 psi) As control building operator: when directed accept the direction to rack out the LPCS and RHR-A pump breakers <ul style="list-style-type: none"> • After 5 minutes insert T10 to rack out LPCS • After 10 minutes insert T11 to rack out RHR-A 	BOP SRO	Perform actions of ARP: Enter Tech Spec 3.5.1 A (7 day LCO) & C for ECCS (72 hour LCO) Enter Tech Spec 3.6.2.3 A for suppression pool cooling (7 day LCO) Direct that the pump breakers for LPCS and RHR-A be racked out Make notifications per OSP-46
Event 5	Reactor Recirculation FCV B LVDT failure	ATC SRO	Recognize and report lowering power due to B Recirc. Flow lowering Recognize and report Recirc. Loop mismatch > 5% Enter AOP-024 Thermal Hydraulic Stability Controls Enter Tech Spec 3.4.1 A for loop flow mismatch (2 hour LCO)
	ROLE PLAY: As RE when contacted: Report FCBB \leq 1.0.	BOP/ATC ATC SRO	Perform actions of actions of AOP-024 May inhibit FCV motion by arming and depressing the B HPU shutdown push buttons. Contact Chemistry for Tech Spec required sampling, TLCO 3.11.2.1 Contact RE to determine FCBB \leq 1.0 (SR 3.2.4.1) Contact WMC for I&C support for the FCV failure

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
Event 6	Gland steam supply valve failure	BOP	<ul style="list-style-type: none"> • Recognize and report low Gland Steam supply pressure. • Refer to the Alarm Response procedure
		SRO	<ul style="list-style-type: none"> • Accept report • Direct actions of the ARP • Direct opening of TME-MOVS2 Gland Steam Supply PCV Bypass valve • Direct the ATC to monitor and report main condenser vacuum values
		BOP	<ul style="list-style-type: none"> • Throttle open TME-MOVS2 Gland Steam Supply PCV Bypass valve • Restore Gland steam supply header into the green band(~ 5 psig)
		ATC	Report value and trend of main condenser vacuum
Event 7/8/9	Reactor Recirculation Loop A Rupture Loss of NJS-LDC1A RHR B Injection valve fails to open	ATC	<ul style="list-style-type: none"> • Recognize and report Reactor scram • Place the reactor mode switch to shutdown • Give the scram report to the SRO
		SRO	<ul style="list-style-type: none"> • Enter EOP-01 • Direct a level band of 10” to 51” • Direct ADS to be inhibited
		ATC	<ul style="list-style-type: none"> • Recognize and report that Recirc. Loop A source of drywell leak • Attempt to isolate the Recirc. Loop by closing the pump suction and discharge valves • Recognize and report that power has been lost to Recirc A suction and discharge valves

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
		BOP	<ul style="list-style-type: none"> • Place the ADS inhibit switches to the INHIBIT position • Report ADS is overridden • Recognize and report that RHR-B injection valve did not auto open on initiation signal • Recognize and report RPV water level < -162”
		SRO	<ul style="list-style-type: none"> • Direct 7 ADS/SRVs to be opened • Direct installation of Enclosure 32 • Direct the cross tie of NJS-LDC1A/1B
	ROLE PLAY: As WMC: report that NJS-LDC1A/1B is now cross tied	BOP	Report 7 ADS/SRVs are open
		SRO	Enter EOP-2 on Suppression pool level and temperature high Direct placing RHR-A into suppression pool cooling mode Direct the isolation of Recirc pump A suction and discharge valves
		ATC	Take actions to isolate recirc. pump A
When the Termination Criteria are met, and at the direction of the floor instructor	FREEZE		

VI. TERMINATION CRITERIA:

The exercise should be terminated when the performance objectives have been achieved or the operators are unable to diagnose and respond effectively to the scenario.

The following conditions provide an indication of performance objective achievement for this scenario; Critical Tasks are indicated by an (*):

- EOP-1 and EOP-2 properly entered when entry conditions are exceeded.
- Emergency Depressurization properly entered due to low RPV level or suppression pool level high.
- *Isolate the Recirc. Loop leak
- * Restore and maintain RPV water level above TAF

VII. REFERENCES

A. Plant Procedures

1. EOP-1; RPV Control
2. EOP-2; Primary Containment Control
3. AOP-0001, Reactor Scram
4. AOP-0002, Turbine/Generator Trips
5. AOP-0003, Automatic Isolations

PLANNED				PERFORMED				CHANGE APPROVAL		COMMENTS
STEP	ROD	FROM	TO	M	PER F	VER	CK	RE	SRO	

	Instruction	RE / SRO	RE	SRO	COMMENTS
082	Run MON and review thermal limits and preconditioning margin. Record date / time				Thermal limits & preconditioning margin verified Currently below the preconditioning state

083	28-45	12	18	I			NA			
084	44-29	12	18	I			NA			
085	28-13	12	18	I			NA			
086	12-29	12	18	I			NA			

Raising reactor power within guidance of EN-RE-205.

Ramp rate is ~4 % CTP / hr below the preconditioned state.

Ramp rate is ~1 % CTP / hr above the preconditioned state.

PLANNED		PERFORMED		CHANGE APPROVAL		COMMENTS
087	Instruction	Left @	ATC	RE	SRO	
	Raise reactor power to 85% (2627 MWth), with recirc. Flow at 2% per hour					

**RIVER
BEND STATION**

Number: *RJPM-NRC10-A1
Revision: 00
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JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** DETERMINE CONTAINMENT WATER LEVEL DURING
CONTAINMENT FLOODING**

REASON FOR REVISION:

NRC Exam JPM

A1

PREPARE / REVIEW:

John Hedgepeth	0069	10/28/2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	1/12/2010
Operations Validation Facility Reviewer approval via ES-301-3	KCN	Date

* Indexing Information

RJPM-NRC10-A1

TASK DESCRIPTION:	Determine Containment Water Level During Containment Flooding.
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TASK REFERENCE:	200063005001
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K/A REFERENCE & RATING:	2.1.25, 3.9/4.2
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	8 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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RJPM-NRC10-A1

SIMULATOR SETUP SHEET

Task Description: Determine Containment Water Level During Containment Flooding.

Required Power: N/A

IC No.: N/A

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

RJPM-NRC10-A1

DATA SHEET

References for Development:	EOP-0005, Enclosure 23, Containment Water Level Determination.
Required Materials:	EOP-0005, Enclosure 23, Containment Water Level Determination.
Required Plant Condition:	None
Applicable Objectives:	HLO-516
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-NRC10-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:

Containment Flooding is in progress in accordance with SAP-1. Suppression Pool level indication on panel H13-P808 is pegged upscale. The CRS has directed you to determine Containment water level AND a correlated RPV water level using EOP-0005 Enclosure 23, Containment Water Level Determination. The following plant data has been obtained by completing Sections 3.1 and 3.2 of Enclosure 23:

Div II CMS-PI17B indicates 7.5 psig

E51-R604 RCIC PUMP SUCTION PRESSURE indicates 30 psig

E51-F031 RCIC PUMP SUP PL SUCTION VALVE is open

Initiating Cue:

Complete EOP-0005, Enclosure 23, given the plant data from Division II CMS and E51-R604 for RCIC suction pressure to provide the CRS a Primary Containment water level AND a correlated RPV water level.

Report Containment water level from Enclosure 23 Figure 8 to the CRS as soon as it is obtained.

RJPM-NRC10-A1

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	<p>EOP Enclosure 23, Figure 8, Primary Containment Water Level Determination, to determine Containment Water Level.</p> <p>Figure 8 used to determine containment water level at ~56 ft (±1 foot).</p> <p>Primary Containment water level reported to CRS.</p>	_____	<p>CUE: When candidate reports level from Figure 8, request calculated value to confirm Figure 8 value and use calculated value to determine RPV water level.</p>
* 2.	<p>Confirms Primary Containment Water Level from Figure 8 with calculation per Step 3.3.</p> <p>PCWL = [(ECCS Suction Press - CTMT Press) 2.3] + 4. Determined containment water level to be 55.75 ft.</p>	_____	<p>NOTE: [30-7.5)2.3]+4 = Level in ft</p> <p>[(22.5)2.3]+4 = Level in ft</p> <p>[51.75]+4 = 55.75 ft</p>
* 3.	<p>Uses Table 1 and calculated value of containment water level to determine RPV water level.</p> <p>Used interpolation of Table 1 with the calculated containment level (55.75 ft) to determine RPV water level at -237 inches.</p>	_____	

Terminating Cue: Primary Containment water level AND correlated RPV water level are provide to the CRS using EOP-0005, Enclosure 23.

RJPM-NRC10-A1

CONTAINMENT WATER LEVEL from FIG 8	<u>56 ft (±1 foot)</u>
CONTAINMENT WATER LEVEL CALCULATED	<u>55.75 ft</u>
RPV WATER LEVEL (Based on calculated Containment water level)	<u>-237 inches</u>

RJPM-NRC10-A1

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-NRC10-A1

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: Containment Flooding is in progress in accordance with SAP-1.

Suppression Pool level indication on panel H13-P808 is pegged upscale.

The CRS has directed you to determine Containment water level AND a correlated RPV water level using EOP-0005 Enclosure 23, Containment Water Level Determination.

The following plant data has been obtained by completing Sections 3.1 and 3.2 of Enclosure 23:

- Div II CMS-PI17B indicates 7.5 psig
- E51-R604 RCIC PUMP SUCTION PRESSURE indicates 30 psig
- E51-F031 RCIC PUMP SUP PL SUCTION VALVE is open

Initiating Cues: Complete EOP-0005, Enclosure 23, given the plant data from Division II CMS and E51-R604 for RCIC suction pressure to provide the CRS a Primary Containment water level AND a correlated RPV water level.

Report a value for Containment water level from Enclosure 23 Figure 8 to CRS as soon as it is obtained.

CONTAINMENT WATER LEVEL from FIG 8 _____

CONTAINMENT WATER LEVEL CALCULATED _____

RPV WATER LEVEL (Based on calculated Containment water level) _____

**RIVER
BEND STATION**

Number: *RJPM-NRC10-A2
Revision: 0
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JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** IDENTIFY REQUIRED TAGS AND HANGING SEQUENCE FOR SLC
PUMP RELIEF VALVE REMOVAL AND REPLACEMENT**

REASON FOR REVISION:

NRC Exam JPM **A2**

PREPARE / REVIEW:

John Hedgepeth	0069	10/28/2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	01/18/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-A2

TASK DESCRIPTION:	Identify Required Tags and Hanging Sequence For SLC Pump Relief Valve Removal and Replacement
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TASK REFERENCE:

K/A REFERENCE & RATING:	2.2.13, 4.1 / 4.3
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TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X

COMPLETION TIME:	17 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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RJPM-NRC10-A2

SIMULATOR SETUP SHEET

Task Description: Identify Required Tags and Hanging Sequence For SLC Pump A Relief Valve Removal and Replacement

Required Power: N/A

IC No.: N/A

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

RJPM-NRC10-A2

DATA SHEET

References for Development:	PID 27-16A, System P&ID SOP-0028, Standby Liquid Control OSP-0038 Protective Tagging Guidelines Tech Spec. 3.2.1, SLC LCO
Required Materials:	PID 27-16A, System P&ID SOP-0028, Standby Liquid Control OSP-0038
Required Plant Condition:	Mode 1, During the last performance of STP-0201-6310, SLC Quarterly Pump and Valve Operability Test, the SLC Pump Relief Valve C41-RVF0029A lifted and would not reseal.
Applicable Objectives:	ELP-OPS-CLR Obj. C
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-NRC10-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:

The plant is operating in Mode 1. Maintenance has requested a tagout to replace the Pump Relief Valve C41-RVF029A Standby Liquid Control Pump 1A Header Press Relief Valve, which is expected to take 10 hours to complete.

Initiating Cue:

The CRS has directed you to assist in preparing a tagout to replace the valve. The CRS requests that you provide the components and hang sequence for the tag out. Because of the 8 hour LCO for both SLC Pumps out of service, the tagout must not INOP the 'B' SLC pump. A tagging Official will enter the information you provide into the tagging computer.

RJPM-NRC10-A2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____ 1.	Obtains documents to develop tagging.	Obtained PID for SLC and SOP-0028	_____	CUE: Provide PID and SOP when requested.
* _____ 2.	Identify components to be tagged and the proper sequence.	Student identified the proper components and sequence as per the answer key below.	_____	NOTE: Test switch is not required.

Terminating Cue: Manual Tagout Form completed.

RJPM-NRC10-A2

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-NRC10-A2

Sequence		Component ID	Component Name	Hang Position
1		C41-S1A	SLC PUMP A control switch	NEUTRAL KEY REMOVED
2		EHS-MCC2A BKR 2C	STANDBY LIQUID CONTROL PUMP A	OFF
NOTE: Test switch is not required				
3	3	C41-VF003A	SLC PUMP A MANUAL DISCHARGE VLV	UNLOCKED CLOSED
4	3	C41-VF002A	SLC PUMP A SUCTION VALVE	UNLOCKED CLOSED
5	4	SLS-V3000	SLC PUMP A SUCTION STRAINER DRAIN VALVE	UNCAPPED OPEN
6	5	SLS-V27 OR SLS-V38	SLC PUMP A SUCTION TEST CONNECTION	UNCAPPED OPEN

NOTE: SLS-V38 may be used in lieu of SLS-V27.

RJPM-NRC10-A2

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is operating in Mode 1. Maintenance has requested a tagout to replace the Pump Relief Valve C41-RVF029A Standby Liquid Control Pump 1A Header Press Relief Valve, which is expected to take 10 hours to complete.

Initiating Cues: The CRS has directed you to assist in preparing a tagout to replace the valve. Because of the 8 hour LCO for both SLC Pumps out of service, the tagout must not INOP the 'B' SLC pump. A tagging Official will enter the information you provide into the tagging computer.

Sequence	Component ID	Component Name	Hang Position

**RIVER
BEND STATION**

Number: ***RJPM-NRC10-A3**
Revision: **0**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***ADMINISTRATIVE ACTIONS TAKEN WHEN A PROCEDURE
DEFICIENCY IS IDENTIFIED DURING AN EVOLUTION**

REASON FOR REVISION:

NRC Exam JPM **A3**

PREPARE / REVIEW:

John Hedgepeth	0069	10/28/2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	01/18/21
Operations Validation Facility Reviewer approval via ES-301-3	KCN	Date

* Indexing Information

RJPM-NRC10-A3

TASK DESCRIPTION:	ADMINISTRATIVE ACTIONS TAKEN WHEN A PROCEDURE DEFICIENCY IS IDENTIFIED DURING AN EVOLUTION
--------------------------	--

TASK REFERENCE:

K/A REFERENCE & RATING:	2.2.13, 3.6/3.8
------------------------------------	-----------------

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	17 min.
-------------------------	---------

MAX TIME:	N/A
------------------	-----

JOB LEVEL:	RO
-------------------	----

TIME CRITICAL:	No
-----------------------	----

EIP CLASSIFICATION REQUIRED:	No
-------------------------------------	----

PSA RISK DOMINATE:	No
---------------------------	----

ALTERNATE PATH (FAULTED):	No
----------------------------------	----

RJPM-NRC10-A3

SIMULATOR SETUP SHEET

Task Description: ADMINISTRATIVE ACTIONS TAKEN WHEN A
PROCEDURE DEFICIENCY IS IDENTIFIED DURING AN
EVOLUTION

Required Power: N/A

IC No.: N/A

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

RJPM-NRC10-A3

DATA SHEET

References for Development: EN-AD-101, Procedure Process
RBNP-001 *DEVELOPMENT AND CONTROL OF RBS PROCEDURES*

Required Materials: EN-AD-101, Procedure Process
RBNP-001 *DEVELOPMENT AND CONTROL OF RBS PROCEDURES*

Required Plant Condition: ANY

Task Standard PAR form and procedure mark up completed.

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.

RJPM-NRC10-A3

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. While performing a pre evolution review of SOP-0017 to alternate CCS pumps you discovered a typographical error IN STEP 5.1.3.

Initiating Cue:

The CRS has directed you to initiate a PAR to correct the error to allow the evolution to continue.

RJPM-NRC10-A3

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	Preparer initiate PAR and make pen and ink changes.	_____	
* 2.	Preparer obtain supervisor approval. IF not approved, THEN evaluate other change processes.	_____	CUE: Notify the candidate that the change is approved.
3.	Preparer send approved PAR with attached affected page(s) to ASG for tracking number assignment as soon as possible.	_____	CUE: Accept the PAR form as the ASG

Terminating Cue: PAR form and procedure mark up completed.



PAR

TRACKING NO. _____

PAGE 1 OF 1

PROCEDURE ACTION REQUEST

<u>PROCEDURE NO</u> SOP-0017	<u>CURRENT REV</u> 303	<u>PROCEDURE TITLE</u> TPCCW SYSTEM
-------------------------------------	-------------------------------	--

TYPE OF ACTION:

- | | |
|--|---|
| <input type="checkbox"/> PROCEDURE REVISION (PR) | <input checked="" type="checkbox"/> EDITORIAL CHANGE (EC) |
| <input type="checkbox"/> NEW PROCEDURE (NP) | <input type="checkbox"/> COMMENT (CM) |
| <input type="checkbox"/> CHANGE NOTICE (CN) <input type="checkbox"/> ONE-TIME CN | <input type="checkbox"/> CANCEL PROCEDURE (CX) |
| <i>Change Notice (CN) is <u>not</u> allowed if there is a Change of Intent</i> | <input type="checkbox"/> COMPUTER PROGRAM CHANGE |
- OR if it is not considered Stop Work.*

PROCEDURE ACTION BASIS (Provide detailed description of the procedure change and the basis for that change. Include reference to applicable documents causing change; attach continuation sheets if necessary):

Typographical error in step 5.1.3. Change CCS-MOV15A(B)(B) to CCS-MOV15A(B)(C).

(Refer to RBNP-001 for details; not applicable to ECs and CMs.)

VERIFY NO CONFLICT EXISTS WITH:

- LICENSE COMMITMENTS AND SECTION NUMBERING
- TECH SPEC / STP/ LSFT CROSS REFERENCE MATRIX
(Attach change request from ADM-0015 if applicable)
- COMPENSATORY MEASURES (Open Operability Determinations, ODMI)

DETERMINE IF REQUIRED:

- CROSS DISCIPLINE REVIEW
(Attach cross discipline review form)
- Yes
- No
- REACTIVITY MANAGEMENT REVIEW
(Attach cross discipline review form)
- Yes
- No
- TRAINING
- Yes *TEAR # _____*
- No

CONSIDER THE FOLLOWING FOR CHANGES:

- HUMAN PERFORMANCE TOOLS
- INDUSTRIAL/RADIATION/NUCLEAR SAFETY
- CORPORATE/OTHER SITE PROCEDURES

REVIEW AND APPROVAL:

<i>SIGNATURE / KCN / DATE</i>	<i>SIGNATURE / KCN / DATE</i>
PREPARER _____ SIGNATURE HERE _____	VALIDATION _____
SUPV/TECH VERIF* _____	OSRC REVIEW _____
L-SRO (CN Only**) _____	OSRC MEETING NO _____
APPROVAL _____	PROOFER (CN/EC Incorp) _____
COMPUTER PROGRAM UPDATE _____	EFFECTIVE DATE: _____

*(Must be an individual other than the preparer)
 **(Must be duty OSM/CRS/WMS)

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-NRC10-A3

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions:

The plant is operating in Mode 1. While performing a pre evolution review of SOP-0017 to alternate CCS pumps you discovered a typographical error IN STEP 5.1.3.

Initiating Cues:

The CRS has directed you to initiate a PAR to correct the error to allow the evolution to continue.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINATION IF A PEER CHECK IS REQUIRED

REASON FOR REVISION:

2010 NRC EXAM JPM - SRO

A5

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10/28/2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Terry Wymore</u>	<u>0523</u>	<u>01/18/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-A5

TASK DESCRIPTION: Determination if a Peer check is required

TASK REFERENCE:

K/A REFERENCE & RATING: Generic 2.1.1 3.8 / 4.2

TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X

COMPLETION TIME: 5 min.

MAX TIME: N/A

JOB LEVEL: SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

RJPM-NRC10-A5

SIMULATOR SETUP SHEET

Task Description: Determination if a peer check is required

Required Power: N/A

IC No.: N/A

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

RJPM-NRC10-A5

DATA SHEET

References for Development:	EN-OP-115 CONDUCT OF OPERATIONS
Required Materials:	EN-OP-115 CONDUCT OF OPERATIONS
Required Plant Condition:	N/A
Task Standard:	Determine that a Peer Check is required per EN-OP-115.
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.

RJPM-NRC10-A5

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:

STP-251-3205 DIESEL FIRE PUMP OPERATIONAL TEST for FPW-P1B only, as a post maintenance test, is scheduled for your shift. The outside operator has been qualified for 3 months. The outside operator has performed this STP previously. The outside operator states that he/she is comfortable performing this task.

Initiating Cue:

Determine if a Peer Check is required.

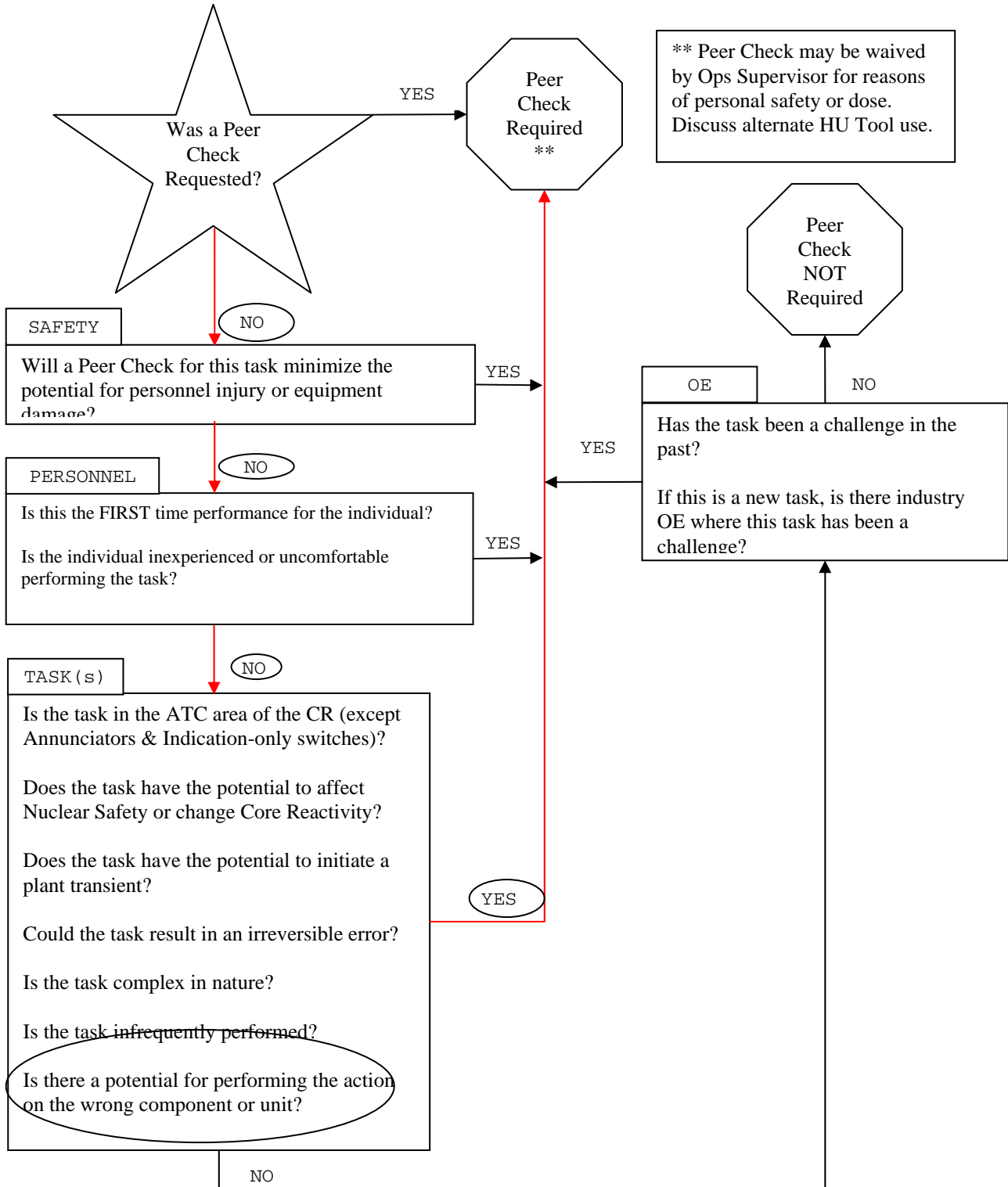
If a Peer Check is required, may the Peer Check be waived for this evolution?

RJPM-NRC10-A5

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* 1.</p> <p>Determine if a peer check is required for STP-251-3205 DIESEL FIRE PUMP OPERATIONAL TEST.</p> <p>If a Peer Check is required, may the Peer Check be waived for this evolution?</p>	<p>Determined that a Peer Check IS required per EN-OP-115 Conduct of Operations.</p> <p>Determine that the Peer Check CANNOT be waived</p>	<p>_____</p> <p>_____</p>	<p>There is a potential for performing the action on the wrong component.</p> <p>Personal safety or dose are not an issue for this evolution..</p>

Terminating Cue: Peer Check determination completed. Peer Check is required. Peer Check waiver is not allowed.;

RJPM-NRC10-A5



RJPM-NRC10-A5

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-NRC10-A5

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions:

STP-251-3205 DIESEL FIRE PUMP OPERATIONAL TEST for FWS-P1B only, as a post maintenance test, is scheduled for your shift. The outside operator has been qualified for 3 months. The outside operator has performed this STP previously. The outside operator states that he/she is comfortable performing this task.

Initiating Cues:

Determine if a Peer Check is required.

If a Peer Check is required, may the Peer Check be waived for this evolution?

Peer Check required?

YES _____

NO _____

If a Peer Check is required, may the Peer Check be waived for this evolution?

YES _____

NO _____

**RIVER
BEND STATION**

Number: *RJPM-NRC10-A6
Revision: 00
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** DETERMINE PERSONNEL CALL-OUT AVAILABILITY**

REASON FOR REVISION:

NRC Exam JPM

A6

PREPARE / REVIEW:

John Hedgepeth	0069	10/28/2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Terry Wymore	0523	1/18/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-A6

TASK DESCRIPTION: DETERMINE PERSONNEL CALL-OUT AVAILABILITY

TASK REFERENCE:

K/A REFERENCE & RATING: Generic 2.1.5 2.9 / 3.9

TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X

COMPLETION TIME: 15 min.

MAX TIME: N/A

JOB LEVEL: SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

RJPM-NRC10-A6

SIMULATOR SETUP SHEET

Task Description: DETERMINE PERSONNEL CALL-OUT AVAILABILITY.
Required Power: N/A
IC No.: N/A
Notes: **Administrative JPM that will be conducted in a classroom.**

RJPM-NRC10-A6

DATA SHEET

References for Development:	Nuclear Management Manual EN-OM-123 Fatigue Management Program
Required Materials:	Nuclear Management Manual EN-OM-123 Fatigue Management Program
Required Plant Condition:	None
Task Standard:	Determined proper call out per EN-OM-123 SECTION 5.2
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.

RJPM-NRC10-A6

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 100% power.
- A non-licensed operator has called in sick for night shift on 12-25-2009.
- Your shift is below minimum staffing.

Initiating Cue:

- You are the Control Room Supervisor.
- Using the attached schedule report for Team B. Determine which operators are not available to work the night shift, without violating the work hour limits. Include the reason the operator would not be allowed to work.
- All operators worked only the hours they were scheduled and no vacation is scheduled.

RJPM-NRC10-A6

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* _____ 1.	Determine which operators are not available to work the night shift	Per EN-OM-123 SECTION 5.2: Student identified (2) two operators that are not available to work the night shift. <ul style="list-style-type: none"> • Shannon Deason, violate the 72 hours in 7 days • Orville McClure, violate 16 hours in 24 hours 	_____	Student may also identify Clayton Keown, due to scheduled to work the night shift.

Terminating Cue: Operators are identified.

RJPM-NRC10-A6

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-NRC10-A6

Schedule Report for Operations / Team B 12/2009 - 01/2010

December 2009	Thu 12/10	Fri 12/11	Sat 12/12	Sun 12/13	Mon 12/14	Tue 12/15	Wed 12/16	Thu 12/17	Fri 12/18	Sat 12/19	Sun 12/20	Mon 12/21	Tue 12/22	Wed 12/23	Thu 12/24	Fri 12/25	Sat 12/26	Sun 12/27	Mon 12/28	Tue 12/29	Wed 12/30	Thu 12/31
Team B																						
Adams, John B.	0530 1800	0530 1800	0530 1800	0530 1800		0630 1600	0630 1600	0630 1600	0630 1600			1730 0600	1730 0600	1730 0600					0530 1800	0530 1800	0530 1800	
Deason, Shannon R.	0530 1800		0530 1800		0530 1800	0530 1800	0530 1800	0530 1800		1730 0600	1730 0600	1730 0600	1730 0600	1730 0600	1730 0600							
Edwards, Tommy S.	0530 1800	0530 1800	0530 1800	0530 1800		0630 1600	0630 1600					1730 0600	1730 0600	1730 0600					0530 1800	0530 1800	0530 1800	
Fortenberry, Jason	0530 1800	0530 1800	0530 1800	0530 1800		0630 1600	0630 1600	0630 1600	0630 1600			1730 0600	1730 0600	1730 0600					0530 1800			
Gates, Timothy W.	0515 1815	0525 1745	0515 1745	0515 1715		0515 1745	0515 1745	0515 1745	0515 1745			1715 0545	1715 0545	1715 0545					0515 1745	0515 1745	0515 1745	
Kelley, Joshua T.	0530 1800	0530 1800	0530 1800	0530 1800		0630 1600	0630 1600	0630 1600	0630 1600		1730 0600	1730 0600	1730 0600	1730 0600					0530 1800	0530 1800	0530 1800	
Keown, Clayton W.			0530 1800	0530 1800		0600 1630		1730 0600	1730 0600	1730 0600		1730 0600	1730 0600	1730 0600	1730 0600	1730 0600			0530 1800	0530 1800	0530 1800	
McClure Jr, Orville G.										1730 0600	1730 0600						0530 1800	0530 1800		0630 1630	0630 1630	0630 1630
McDaniel, Michael J.	0515 1745	0515 1745										1715 0545	1715 0545	1715 0545								
Motes, Scott R.	0530 1800	0530 1800	0530 1800	0530 1800		0630 1600	0630 1600	0630 1600	0630 1600			1730 0600	1730 0600	1730 0600								
Parker, Jerry L.	0515 1745	0515 1745	0515 1745	0515 1745								1715 0545	1715 0545	1715 0545								
Patterson, Guy D.	0530 1800	0530 1800	0530 1800	0530 1800		0630 1600	0630 1600	0630 1600	0630 1600			1730 0600	1730 0600	1730 0600								

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINATION OF PLANT SAFETY INDEX (EOOS)

REASON FOR REVISION:

2010 NRC EXAM JPM - SRO **A7**

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10/28/2010</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Terry Wymore</u>	<u>0523</u>	<u>01/18/2010</u>
Operations Validation Facility Reviewer approval via ES-301-3	KCN	Date

* Indexing Information

RJPM-NRC10-A7

TASK DESCRIPTION: Determination of Plant Safety Index (EOOS)

TASK REFERENCE:

K/A REFERENCE & RATING: 2.2.17 2.6 / 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

RJPM-NRC10-A7

SIMULATOR SETUP SHEET

Task Description: Determination of Plant Safety Index (EOOS)

Required Power: N/A

IC No.: N/A

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

RJPM-NRC10-A7

DATA SHEET

References for Development:	ADM-0096, Risk Management Program Implementation and On-Line Maintenance Risk Assessment, Rev. 302
Required Materials:	ADM-0096, Risk Management Program Implementation and On-Line Maintenance Risk Assessment, Rev. 302
Required Plant Condition:	N/A
Task Standard:	Plant risk index determined properly.
Applicable Objectives:	RLP-LOR-EOOSPSA, ADM-0096 Obj. 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-NRC10-A7

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 EOOS Computer is down and it is not expected to be restored before the end of next shift. Current Conditions are:

1. 100% power, Mode 1, no AOP or EOP entry conditions
2. SWP-V173 and SWP-MOV-F055B are out of service for actuator rebuild
3. During Fuel Receipt 36 days ago, the Fuel Trailer damaged the seal on the Fuel Building 95' Truck Bay Door. Engineering has performed an Operability Assessment which has determined that this is an inoperable external flood barrier.
4. Division 1 Hydrogen Igniters are out of service due to supply breaker failure
5. SFC-P1A is out of service for pump replacement
6. RHR 'B' is out of service for bearing replacement

Initiating Cue:

Determine the Plant Safety Index, both number and color for the current conditions, and state possible contingency actions.

RJPM-NRC10-A7

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* 1.</p>	<p>Using ADM-0096 Attachment 5 determine the Level 1 Out of Service PSI value for EOOS unavailable.</p>	<p>SSW B, EDG B and RHR B are out of service.</p> <p>Plant Safety Index is 7.8</p>	<p>Note: SWP-V173 and SWP-MOV F055B are out of service which per Note 2 causes SSW B out of service. When SSW B is taken out of service EOOS, considers EDG B unavailable.</p> <p>Additional contingencies may be driven by the “System to avoid placing out of service concurrently” column of the Level 1 table, these are not critical</p> <p>SFC-P1A does not affect PSI per Attachment 5</p>
<p>* 2.</p>	<p>Using ADM-00096 Attachment 4 determine the External Events and Level 2 SSC Risk Level (Color)</p>	<p>External Flood Barrier OOS for more than 30 days (Attachment 4 - Table 4)</p> <p>Color: ORANGE</p>	<p>The Division 1 Hydrogen Igniters OOS results in Yellow color (Attachment 4 – Table 5)</p> <p>Because the Level 2 determination for External Flood Barrier is more conservative (dominating) the Risk color is driven by the Orange color</p>

RJPM-NRC10-A7

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
3	Using ADM-00096 Attachment 4 determine the contingency actions.	Contingency Actions: <ul style="list-style-type: none"> • Assume equipment protected by barriers is OOS and comply with Technical Specification requirements • Install temporary barriers • Restore barrier to service • Return any OOS redundant train equipment to service 		The contingency actions for Hydrogen Igniters: Comply with Technical Specifications and Minimize duration of configuration are not critical

Terminating Cue: Plant Safety Index number and color determines, contingency actions listed.

RJPM-NRC10-A7

ANSWER KEY

Plant Safety Index 7.8
Risk Level Orange

Contingency Actions:

- Assume equipment protected by barriers is OOS and comply with Technical Specification requirements
- Install temporary barriers
- Restore barrier to service
- Return any OOS redundant train equipment to service

RJPM-NRC10-A7

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-NRC10-A7

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions:

The EOOS Computer is down and it is not expected to be restored before the end of next shift. Current Conditions are:

1. 100% power, Mode 1, no AOP or EOP entry conditions
2. SWP-V173 and SWP-MOV-F055B are out of service for actuator rebuild
3. During Fuel Receipt 36 days ago, the Fuel Trailer damaged the seal on the Fuel Building 95' Truck Bay Door. Engineering has performed an Operability Assessment which has determined that this is an inoperable external flood barrier.
4. Division 1 Hydrogen Igniters are out of service due to supply breaker failure
5. SFC-P1A is out of service for pump replacement
6. RHR 'B' is out of service for bearing replacement

Initiating Cues:

Determine the Plant Safety Index, both number and color for the current conditions, and state possible contingency actions.

PLANT SAFETY INDEX (EOOS) NUMBER: _____

PLANT SAFETY INDEX COLOR: _____

POSSIBLE CONTINGENCY ACTIONS: _____

**RIVER
BEND STATION**

Number: ***RJPM-NRC10-A8**
Revision: **00**
Page 1 of 10

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** DETERMINE IF RWP IS ACCEPTABLE**

REASON FOR REVISION:

NRC Exam JPM **A8**

PREPARE / REVIEW:

John Hedgepeth	0069	10/28/2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Terry Wymore	0523	01/18/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-A8

TASK DESCRIPTION: DETERMINE IF RWP IS ACCEPTABLE

TASK REFERENCE:

K/A REFERENCE & RATING: Generic 2.3.7 3.5 / 3.6

TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X

COMPLETION TIME: 15 min.

MAX TIME: N/A

JOB LEVEL: SRO/RO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

RJPM-NRC10-A8

SIMULATOR SETUP SHEET

Task Description: DETERMINE IF RWP IS ACCEPTABLE.

Required Power: N/A

IC No.: N/A

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

RJPM-NRC10-A8

DATA SHEET

References for Development:	Nuclear Management Manual EN-RP-105 RADIOLOGICAL WORK PERMIT
Required Materials:	Nuclear Management Manual EN-RP-105 RADIOLOGICAL WORK PERMIT
Required Plant Condition:	None
Task Standard:	RWP adequacy determined.
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.

RJPM-NRC10-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 Plant is operating at 100% power.
- RWCU pump 1A seal has failed. The pump has been secured and a tag out prepared.

Initiating Cue:

- You are the Control Room Supervisor.
- Your shift will isolate and drain the pump for the next shift to hang the tag out.
- RWP 2010-1032 has been written for this job.
- General area dose levels are: 75 mrem/hr. The job is estimated to take 1/2 hour.
- Determine if the RWP is adequate for the work to be performed.

RJPM-NRC10-A8

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____ 1.	Determined that system draining is not allowed under this RWP	_____	This RWP is not adequate due to the restrictions under contamination control

Terminating Cue: RWP determination made.

RJPM-NRC10-A8

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-NRC10-A8

RADIOLOGICAL WORK PERMIT

<u>RWP Title:</u> Replace pump seal on RWCU pump 1A			<u>RWP No.</u> 20101032
<u>Comments:</u>			
<u>RWP type:</u> Specific	<u>RWP Status:</u> Active	<u>Begin Date:</u> 10-16-2009	<u>Close On Date:</u>
<u>Prepared By:</u>	Keith Rockwood	<u>Job Supervisor:</u>	
<u>Estimated Dose:</u> 200 mrem	<u>Estimated Hours:</u> 8.00	<u>Actual Dose:</u>	<u>Actual Hours:</u>

<u>Buildings</u>	<u>Elevations</u>	<u>Rooms</u>
AB	95	RWCU PUMP ROOM A

Radiological Conditions

<u>Description</u>	<u>Value</u>	<u>Unit</u>
Contact RP or review current survey maps	See maps	

TASKS

<u>Task</u>	<u>Description</u>	<u>Status</u>
1	Isolate and Tag out RWCU pump 1A	active
2	Remove and replace RWCU pump 1A seal	active
3	System return to service	active

<u>Requirement Groups</u>	<u>Requirement Descriptions</u>
N/A	

<u>Instructions 1:</u>	Pre-job briefing required.
<u>Instructions 2:</u>	
<u>Instructions 3:</u>	

<u>Approver Title</u>	<u>Name</u>	<u>Date</u>
ALARA	K ROCKWOOD	1/5/2010
JOB SUPERVISOR	E COVINGTON	1/6/2010
RP SUPERVISOR	W HOLLAND	1/7/2010

RJPM-NRC10-A8

RADIOLOGICAL WORK PERMIT

<u>Task Number:</u> 1		<u>RWP No.:</u> 20101032	
		<u>Rev:</u> 00	
<u>Task Description:</u> Tag out RWCU pump 1A		<u>Task Status:</u> Active	
<u>Estimated Dose:</u> 200		<u>Estimated Hours:</u> 3	
<u>Hi-Rad:</u> NO	<u>Hot Particle:</u> NO	<u>Locked Hi-Rad:</u> YES	<u>Hi-Contamination:</u> YES
<u>Dose Alarm (mrem)</u>	50.00	<u>Dose Rate (mrem/hr)</u>	300.00

<u>Requirement Groups</u>	<u>Requirement Descriptions</u>
ACCESS	**CRITICAL STEP** LHRA brief and RP approval required prior to entry
CONTAMINATION CONTROL	NO burning, welding, grinding, flapping, insulation removal, system breach, system draining or use of air tools allowed
COVERAGE	**CRITICAL STEP** Continuous coverage per EN-RP-141
DOSIMETRY	**CRITICAL STEP** Periodically check your EAD. If an EAD alarm is received, place work in a safe condition and leave the area.
	Whole body DLR and EAD required.
EXPOSURE CONTROL	Low dose waiting areas will be discussed during the pre-job brief
PROTECTIVE CLOTHING	Single Anti-C's are required if no kneeling or climbing is required.
RP INSTRUCTIONS	**CRITICAL STEP** STOP WORK CRITERIA: Dose rate >300 mrem/hr, contamination levels >5 mrad/hr beta/gamma or > or = 1000 dpm/100cm² (alpha)

RJPM-NRC10-A8

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions:

- The Plant is operating at 100% power.
- RWCU pump 1A seal has failed. The pump has been secured and a tag out prepared.

Initiating Cue:

- You are the Control Room Supervisor.
- Your shift will isolate and drain the pump for the next shift to hang the tag out.
- RWP 2010-1032 has been written for this job.
- General area dose rate is 75 mRem / hour. The job is estimated to take 1/2 hour.
- Determine if the RWP is adequate for the work to be performed.

RWP is adequate

RWP is **NOT** adequate

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

CLASSIFY AN EMERGENCY

REASON FOR REVISION:

2010 NRC EXAM JPM - SRO

A9

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>2/22/2010</u>
Preparer	KCN	Date
<u>Angie Orgeron</u>	<u>1538</u>	<u>2/25/2010</u>
Technical Review (SME)	KCN	Date
<u>Terry Wymore</u>	<u>0523</u>	<u>2/25/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-A9

TASK DESCRIPTION: CLASSIFY AN EMERGENCY

TASK REFERENCE:

K/A REFERENCE & RATING: 2.4.41 2.9 / 4.6

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	Classroom	

COMPLETION TIME: 20 min.

MAX TIME: N/A

JOB LEVEL: SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: Yes

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

RJPM-NRC10-A9

SIMULATOR SETUP SHEET

Task Description: Classify an emergency

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in the simulator in conjunction with Scenario 2.**

RJPM-NRC10-A9

DATA SHEET

References for Development: EIP-2-001 CLASSIFICATION OF EMERGENCIES

Required Materials: EIP-2-001 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-NRC10-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:

The plant has experienced a hydraulic lock ATWS. Current reactor power is 25%. Both SLC pumps have failed. Pressure is presently controlled with the bypass valves, steam drains and SRVs. Reactor water level is currently controlled with condensate and feedwater. There is no indication of fuel clad failure at this time. Suppression Pool temperature is 108°F and steady. Reactor water level is being maintained -60" to -140". Wind speed is 2 mph from 197 degrees.

Initiating Cue:

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

RJPM-NRC10-A9

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____ 1.	Consult EIP-2-001 Classification of Emergencies for this event	Classified this event as a <u>SITE AREA EMERGENCY.</u>	_____ EAL SS3 Failure of Reactor Protection System
_____ 2.	Complete the notification short form	Short form for Site Area Emergency completed with proper and accurate information	_____

Terminating Cue: Emergency Plan is applied to classify the event as a Site Area Emergency and Site Area Emergency Short Form completed per attachment.

RJPM-NRC10-A9

ANSWER KEY

Notification of <u>Site Area Emergency</u>	
Time/Date:	Message: 1
This is River Bend Station	
A Site Area Emergency was declared at	
<input type="text" value="Current time"/>	on <input type="text" value="Current date"/> for
<div style="border: 1px solid black; padding: 5px;">SS3 Failure of Reactor Protection System Failure of reactor protection system to complete or initiate an automatic reactor scram once a reactor protection system setpoint has been exceeded and manual scram was not successful</div>	
Wind from ___197___ Deg.	At ___2___ MPH
<input checked="" type="checkbox"/> No Release	No Protective Actions Required.
<input type="checkbox"/> Release BELOW federally approved operating limits	
<input type="checkbox"/> Release ABOVE federally approved operating limits	
Authorized by: <input type="text" value="Candidate name"/>	Title: <input type="text" value="Emergency Director / Recovery Manager"/>

RJPM-NRC10-A9

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-NRC10-A9

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions:

The plant has experienced a hydraulic lock ATWS. Current reactor power is 25%. Both SLC pumps have failed. Pressure is presently controlled with the bypass valves, steam drains and SRVs. Reactor water level is currently controlled with condensate and feedwater. There is no indication of fuel clad failure at this time. Suppression Pool temperature is 108°F and steady. Reactor water level is being maintained -60" to -140".

Wind speed is 2 mph from 197 degrees.

Initiating Cues:

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

Notification of General Emergency	
Time/Date:	Message:
This is River Bend Station	
A General Emergency was declared at	
<input type="text"/>	on <input type="text"/> for
<input type="text"/>	
Wind from _____ Deg.	At _____ MPH
<input type="radio"/> No Release	PAR Reference Scenario No.: <input type="text"/>
<input type="radio"/> Release BELOW federally approved operating limits	
<input type="radio"/> Release ABOVE federally approved operating limits	
Authorized by: <input type="text"/>	Title: <input type="text"/>

RJPM-NRC10-A9

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

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 Unusual Event

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:

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

BYPASS MSR STEAM SUPPLY VALVES INTERLOCK

REASON FOR REVISION:

New revision for 2010 NRC exam

C1

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10-28-2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Terry Wymore</u>	<u>0523</u>	<u>01/18/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-C1

TASK DESCRIPTION: Bypass MSR Steam Supply Valves Interlock per EOP-005 Enclosure 5.

K/A REFERENCE & RATING: 239001 EK1.01, 3.4/3.4
239001 EK5.09, 3.4/3.5
239001 EA2.01, 3.8/3.9
239001 G013, 3.7/3.7

TASK REFERENCE: 200037005001

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

COMPLETION TIME: 6 min.

MAX. TIME: N/A

JOB LEVEL: RO / SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION 4

RJPM-NRC10-C1

SIMULATOR SETUP SHEET

Task Description: Bypass MSR Steam Supply Valves Interlock per EOP Enclosure 5

Required Power: N/A

IC No.: N/A

Notes: This JPM is to be simulated in the plant

RJPM-NRC10-C1

DATA SHEET

References for Development:	EOP-0005, Enclosure 5
Required Materials:	EOP-0005, Enclosure 5
Required Plant Condition:	Any
Task Standard	Relay 63B-MSSN17 removed and both jumpers installed per EOP-0005 Enclosure 5, Bypassing MSR Steam Supply Valves Interlock.
Applicable Objectives:	HLO-516-00, Obj 5
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	None

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-NRC10-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, 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:

A reactor scram has occurred after extended high power operations. A malfunction of the turbine bypass valves and low Suppression Pool level require use of alternate pressure control methods. Crew is operating using EOP-0001

Initiating Cue:

CRS directs installation of EOP-0005, Enclosure 5, Bypassing MSR Steam Supply Valves Interlock.

RJPM-NRC10-C1

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1. Obtain Jumper Kit No. 5 from the Control Room Emergency Locker.	Jumper Kit No. 5 obtained from Control Room Emergency Locker	_____	DO NOT remove the kit from the Emergency Locker.
2. Inspect kit for two jumpers.	Two jumpers located in Jumper Kit No 5.	_____	
3. Verify MSS-MOV111, MSR 1 STM SPLY SHUTOFF, Control Switch is in CLOSE Position	MSS-MOV111 control switch verified in the CLOSE Position	_____	CUE: Control switch is in the CLOSE position, green light is on and red light is off
4. Verify MSS-MOV112, MSR 2 STM SPLY SHUTOFF, Control Switches is in CLOSE Position	MSS-MOV112 control switch verified in the CLOSE Position	_____	CUE: Control switch is in the CLOSE position, green light is on and red light is off
* 5. Locate H13-P869 Bay D	Panel H13-P869 located.	_____	
* 6. Remove Relay 63B-1MSSN17	Relay 63B-1MSSN17 in H13-P869 Bay D removed	_____	Relay 63B-1MSSN17 in H13-P869 Bay D, (Left row of agastat relays, 8th relay from top)
* 7. Jumper Terminal M3 on Relay Block 63B-1MSSN17 to Terminal R3 on Relay Block 63B-1MSSN17	Jumper correctly installed	_____	
* 8. Jumper Terminal M4 on Relay Block 63B-1MSSN17 to Terminal R4 on Relay Block 63B-1MSSN17	Jumper correctly installed	_____	
9. OPEN MSS-MOV111, MSR1 STM SPLY SHUTOFF AND MSS-MOV112, MSR2 STM SPLY SHUTOFF as directed by the CRS.	CRS informed that relay is removed and jumpers installed.	_____	CUE: As CRS inform operator that another Operator will perform pressure control action with MSS-MOV111 and 112.

Terminating Cue: Relay 63B-MSSN17 removed and both jumpers installed per EOP-0005 Enclosure 5, Bypassing MSR Steam Supply Valves Interlock.

RJPM-NRC10-C1

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-NRC10-C1

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: A reactor scram has occurred after extended high power operations. A malfunction of the turbine bypass valves and low Suppression Pool level require use of alternate pressure control methods. Crew is operating using EOP-0001

Initiating Cues: CRS directs installation of EOP-0005, Enclosure 5, Bypassing MSR Steam Supply Valves Interlock.

**RIVER
BEND STATION**

Number: * **RJPM-NRC10-C2**
Revision: **00**
Page 1 of 10

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

BYPASS A LOCAL POWER RANGE MONITOR (LPRM) DETECTOR

REASON FOR REVISION:

New revision for 2010 NRC exam

C2

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10-28-2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Scott Shultz</u>	<u>0176</u>	<u>01/18/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-C2

TASK DESCRIPTION: Bypass a Local Power Range Monitor (LPRM) Detector

TASK REFERENCE: 2153050101

K/A REFERENCE & RATING: 215005-K1.04, 3.6/3.6; K3.01, 4.0/4.0; K4.01, 3.7/3.7; A4.06, 3.6/3.8; G04,3.8/3.8; G07, 3.5/3.6

TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room	X	Simulator		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: 7

RJPM-NRC10-C2

SIMULATOR SETUP SHEET

Task Description: N/A

Required Power: N/A

IC No.: N/A

Notes: This JPM is to be simulated in the plant

RJPM-NRC10-C2

DATA SHEET

References for Development:	REP-0037, LPRM Operability
Required Materials:	REP-0037, LPRM Operability
Required Plant Condition:	Any
Task Standard	LPRM 2A-38-47 has been bypassed in accordance with REP-0037.
Applicable Objectives:	RBS-STM-0503.00, Obj 18, 19, 20, 22, 23
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-NRC10-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, 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:

Reactor is in Mode 1

Initiating Cue:

LPRM 2A-38-47 has failed. The CRS has directed you to bypass it. (IAW REP-0037 section 4.1).

RJPM-NRC10-C2

PERFORMANCE STEP	STANDARD	S/U	COMMENTS	
1.	Record the performance of the applicable steps of section 4.1 on the LPRM BYPASS SHEET (Attachment 2)	Operator has identified Attachment 2 of REP-0037 (LPRM BYPASS SHEET)	—	
2.	Ensure that personnel bypassing an LPRM satisfy ADM-0007 requirements for performing this procedure by being any of the following: Licensed Operator, Qualified STA, or Qualified I&C Technician.	Candidate qualifies as a Licensed Operator.	—	
3.	Contact Reactor Engineering to notify them of the intent to bypass an LPRM, so Reactor Engineering can evaluate potential to affect core monitoring functions.	Operator notified Reactor Engineering of the intent to bypass LPRM 2A-38-47 and Attachment 2 initialed.	—	CUE: Acknowledge report to bypass LPRM 2A-38-47 as Reactor Engineer.
* 4.	Record the LPRM location and level on the LPRM BYPASS sheet.	LPRM 2A-38-47 recorded on Attachment 2 and step initialed.	—	
5.	Using Attachment 1 as a guide, determine the APRM channel associated with the LPRM.	Operator has identified APRM H, records on Attachment 2, and initialed step.	—	
* 6.	Obtain permission from the Operations Shift Manager (OSM) or the Control Room Supervisor (CRS) prior to bypassing an LPRM. Request the OSM/CRS to have the At-the-Controls (ATC) operator bypass the affected APRM on 1H13-P680 prior to manipulating any switches.	Operator performs the following: <ul style="list-style-type: none"> • Requested permission from the OSM/CRS to bypass LPRM 2A-38-47 • Requested the ATC operator bypass APRM H. 	—	CUE: Provide the following information to the operator when requested. <ul style="list-style-type: none"> • As OSM/CRS inform operator he has permission to bypass LPRM 2A-38-47. Candidate may request an initial. • As ATC inform the operator that APRM H is bypassed.

RJPM-NRC10-C2

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
7.	Have a qualified member of plant staff provide concurrence with the performance of steps 4.1.8 – 4.1.17	Operator requested a qualified member of plant staff provide concurrence with the performance of steps 4.1.8 – 4.1.17	_____ CUE: Inform the operator that you are qualified and will provide concurrence with the required steps.
* 8.	Verify that no more than 33 LPRM signals are bypassed. Record the number of bypassed LPRMs on the LPRM BYPASS SHEET.	Operator verified the number of bypassed/failed LPRM signals and records information on Attachment 2.	_____ CUE: Inform the operator that there are no other bypassed/failed LPRM signals.
* 9.	Record the number of LPRMs that are in OPERATE by placing the affected APRM METER FUNCTION SWITCH in the COUNT position. <ul style="list-style-type: none"> • There is one LPRM for every 5% division. • Divide the meter value by 5. • Record the number on the LPRM BYPASS SHEET. 	Operator placed the APRM METER FUNCTION SWITCH in the COUNT position and determined that the 16 LPRMs assigned to APRM H are in OPERATE, when the meter reading of 80 has been dividing by 5. Operator has recorded 16 on the LPRM BYPASS SHEET.	_____ CUE: Inform the operator that the meter reads 80% when the APRM METER FUNCTION SWITCH is placed in the COUNT position.
* 10.	Determine if bypassing the LPRM will render its APRM inoperable per step 3.2.	Operator referenced step 3.2 of REP-0037 and determined that APRM H will not be rendered inoperable by bypassing LPRM 2A-38-47.	_____
* 11.	Determine if bypassing the LPRM will render PBDS channel A or B inoperable per step 3.3.	Operator referenced step 3.3 of REP-0037 and determined that PBDS will not be rendered inoperable by bypassing LPRM 2A-38-47.	_____

RJPM-NRC10-C2

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
12.	Using Attachment 1 as a guide, select the desired LPRM to be bypassed with the LPRM SELECTOR SWITCH and the METER FUNCTION SWITCH. Observe that the bypass light on the APRM panel meter is not lit.		NOTE: the candidate may inform the ATC operator of incoming alarm CUE: LPRM SELECTOR SWITCH is in position “2” and the METER FUNCTION SWITCH is in position “A”. CUE: The bypass light is NOT lit.
* 13.	Bypass the selected LPRM by placing the S1 switch of the LPRM in the BYPASS position		CUE: S1 is in the bypass position.
14.	Observe that the bypass light on the APRM panel meter is lit. Record on LPRM BYPASS SHEET.		CUE: LPRM 2A-38-47 Bypass light is lit.
* 15.	Determine the number of LPRMs that are in OPERATE by placing the METER FUNCTION SWITCH for the selected APRM on the panel meter in the COUNT position. <ul style="list-style-type: none"> • There is one LPRM for every 5% division. • Divide the meter value by 5. • Check that the number of LPRMs in OPERATE is one less than recorded on the LPRM BYPASS SHEET, step 4.1.9. • Record the number on the LPRM BYPASS SHEET. 		CUE: When asked, inform the operator that the meter reads 75% when the APRM METER FUNCTION SWITCH is placed in the COUNT position.

RJPM-NRC10-C2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 16.	Using either an OD-3 edit or a 3D Monicore Core Power and Flow edit, verify that the APRM reading is within $\pm 2\%$ of rated thermal power (RTP) or adjust.	Operator verified that APRM "H" is reading within $\pm 2\%$ of RTP.	—	CUE: Inform the operator that APRM "H" is within $\pm 2\%$ of Rated Thermal Power.
* 17.	Request the OSM/CRS to have the ATC return the affected APRM to service.	Operator requested the OSM/CRS to have the ATC operator place APRM "H" back in service.	—	CUE: Inform the operator after being requested that the ATC operator has placed APRM "H" in service.
18.	Record the date and WR/WO# (if applicable) on the LPRM BYPASS SHEET.	Operator has recorded the date on the LPRM BYPASS SHEET	—	CUE; The WR# is 123456 The CRS will forward documentation to the RE.

Terminating Cue: LPRM 2A-38-47 has been bypassed in accordance with REP-0037.

RJPM-NRC10-C2

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-NRC10-C2

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: Reactor is in Mode 1

Initiating Cues: LPRM 2A-38-47 has failed, the CRS has directed you to bypass it. (IAW REP-0037, Section 4.1).

**RIVER
BEND STATION**

Number: * **RJPM-NRC10-IP1**
Revision: **00**
Page 1 of 8

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

VENT THE SCRAM AIR HEADER PER EOP-0005

REASON FOR REVISION:

New revision for 2010 NRC exam

IP 1

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10-28-2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Scott Shultz</u>	<u>0176</u>	<u>01/08/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-IP 1

TASK DESCRIPTION:	Vent the Scram Air Header per EOP-0005, Enclosure 11, Venting Scram Air Header				
TASK REFERENCE:	201001005004				
K/A REFERENCE & RATING:	295037 EK3.07, 4.2/4.3				
	295037EA1.05, 3.9/4.0				
	295037G06, 4.2/4.1				
	295037G12, 3.9/4.6				
TESTING METHOD:	Simulate Performance	X			Actual Performance
	Control Room		Simulator		In-Plant
COMPLETION TIME:	20 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:	1				

RJPM-NRC10-IP 1

SIMULATOR SETUP SHEET

Task Description: N/A

Required Power: N/A

IC No.: N/A

Notes: **This JPM task is to be simulated in the plant.**

RJPM-NRC10-IP 1

DATA SHEET

References for Development:	EOP-0005, Enclosure 11, Venting Scram Air Header
Required Materials:	EOP-0005, Enclosure 11, Venting Scram Air Header
Required Plant Condition:	This JPM task is to be simulated in the plant.
Task Standard:	Scram air header vented in accordance with EOP-0005
Applicable Objectives:	RBS-1-OJT-NLO-QC005.04, Task 201001005004 HLO-516
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-NRC10-IP 1

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:

A scram condition has occurred but all control rods failed to insert and power is above 6%

Initiating Cue:

The CRS has instructed you to implement EOP-0005, Enclosure 11, VENTING SCRAM AIR HEADER, to insert control rods per Emergency Procedure EOP-0001A, RPV CONTROL - ATWS.

RJPM-NRC10-IP 1

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
___ 1.	OBTAIN EOP-0005 ENCL 11 tool kit from Control Room Emergency Locker INSPECT kit for the following: 1. One (1) Flashlight with batteries 2. Two (2) 10" Crescent wrenches	Key to emergency locker obtained and the tools for EOP-0005, Enclosure 11 are identified.	___	CUE: Return tool kit to Emergency Locker
* 2.	CLOSE C11-VF095 INSTR AIR SUPPLY TO SCRAM PILOT VALVES ISOL (Containment EL 114 ft AZ 195, to right of backup scram valves)	C11-VF095 identified and closed	___	CUE: Valve is closed
* 3.	Remove test connection cap downstream of C11-PT-N052-V2 PILOT AIR HEADER PRESSURE TRANSMITTER TEST VALVE (above and left of backup scram valve)	Test connection cap downstream of C11-PT-N052-V2 removed.	___	CUE: Cap is removed
* 4.	OPEN C11-PT-N052-V2 PILOT AIR HEADER PRESSURE TRANSMITTER TEST VALVE	C11-PT-N052-V2 opened.	___	CUE: Valve is open and air flow is present at test connection

Terminating Cue: Scram air header vented in accordance with EOP-0005, Enclosure 11 VENTING SCRAM AIR HEADER

RJPM-NRC10-IP 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-NRC10-IP 1

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: A scram condition has occurred but all control rods failed to insert and power is above 6%

Initiating Cues: The CRS has instructed you to implement EOP-0005, Enclosure 11, VENTING SCRAM AIR HEADER, to insert control rods per Emergency Procedure EOP-0001A, RPV CONTROL - ATWS



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

**PLACE DIV. 1 STANDBY SERVICE WATER SYSTEM IN SERVICE
FROM THE REMOTE SHUTDOWN PANEL**

REASON FOR REVISION:

New revision for 2010 NRC exam

PREPARE / REVIEW:

John Hedgepeth	0069	10-28-2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Terry Wymore	0523	1/8/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-IP2

JPM NUMBER: 200-08, Rev. 0

TASK DESCRIPTION: Place Div. 1 Standby Service Water System in service from the Remote Shutdown Panel (with SWP-P2A Pump Trip)

K/A REFERENCE & RATING: 264000 K6.07 (3.8/3.9)

295016 AK2.01 (4.4/4.5) AK2.02 (4.0/4.1)

TASK REFERENCE: 400076004001

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

COMPLETION TIME: 10 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): Yes

SAFETY FUNCTION GROUP 8

RJPM-NRC10-IP2

SIMULATOR SETUP SHEET

Task Description: Place Div. 1 Standby Service Water System in service from the Remote Shutdown Panel (with SWP-P2A Pump Trip)

Required Power: N/A

IC No.: N/A

Notes: This JPM is to be performed in the Plant.

RJPM-NRC10-IP2

DATA SHEET

References for Development: AOP-0031, Shutdown From Outside Main Control Room

Required Materials: AOP-0031, Shutdown From Outside Main Control Room

Required Plant Condition: Any

Task Standard: Division 1 Standby Service Water is in service.

Applicable Objectives: STM-200, Objectives H2, H3, H11, H12
HLO-537, Objective 7

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

Control Manipulations: NA

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-NRC10-IP2

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 Control Room has been evacuated. The Reactor is in Hot Shutdown and control has been established at the Remote Shutdown Panel. There has been no fire. Normal Service Water is NOT available. Div III D/G is running.

Initiating Cue: The CRS has directed you to place the Division 1 Standby Service Water System in service from the appropriate Remote Shutdown Panel, per AOP-0031, step 5.14.5.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
1. On C61-P001, verify the following lights are on: <ul style="list-style-type: none"> • LOCAL SWP 1 EMERGENCY CONTROL ALIGNED • LOCAL SWP 2 EMERGENCY CONTROL ALIGNED 	Verified both lights are on.	_____	CUE: Inform operator that both lights are on.
* 2. On RSS-PNL101, BOP REMOTE SHUTDOWN PNL, SWP-P2A, STBY SVCE WTR PUMP 2A	Placed SWP-P2A pump control switch to START.	_____	CUE: SWP-P2A Pump Status RED light on, GREEN light off; and immediately, RED and GREEN light off. NOTE: <i>ALTERNATE PATH</i>

RJPM-NRC10-IP2

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 3. On EGS-PNL4C, SWP-P2C, STANDBY SERVICE WATER PUMP (Located in Div 3 Swgr Room, Control Building 116' el.)	Placed SWP-P2C pump control switch to START.	_____	CUE: SWP-P2C Pump Status RED light on, GREEN light off
4. Verify SWP-MOV40C STBY SVCE WTR PUMP DISCHARGE Valve opens.	Verified SWP-MOV40C STBY SVCE WTR PUMP DISCHARGE Valve. Verifies valve has opened.	_____	CUE: SWP-MOV40C STBY SVCE WTR PUMP DISCHARGE Valve status RED light on, GREEN light off
* 5. On RSS-PNL101(102),open the appropriate SWP-MOV55A(B), STBY CLG TOWER 1(2) INLET.	On RSS-PNL101 placed SWP-MOV55A STBY CLG TOWER 1 INLET valve control switch momentarily to OPEN (then released). Verifies valve has opened.	_____	CUE: SWP-MOV55A STBY CLG TOWER 1 INLET Valve status RED light on, GREEN light off.
* 6. Close both of the following valves: <ul style="list-style-type: none"> • On RSS-PNL101, SWP-MOV96A, NORMAL SVCE WTR RETURN • On RSS-PNL102, SWP-MOV96B, NORM SVCE WTR RETURN 	Placed SWP-MOV96A NORM SVCE WTR RETURN Valve control switch momentarily to CLOSE. Verified valve have closed. Placed SWP-MOV96B NORM SVCE WTR RETURN Valve control switch momentarily to CLOSE. Verified valve have closed.	_____	CUE: SWP-MOV96A NORM SVCE WTR RETURN Valve status RED light off, GREEN light on. SWP-MOV96B NORM SVCE WTR RETURN Valve status RED light off, GREEN light on.

RJPM-NRC10-IP2

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>7. <u>IF</u> check valve leakage is excessive, <u>THEN</u> locally, close the following valves: SWP-MOV57A and SWP-MOV57B NORMAL SERVICE WATER SUPPLY VALVES.</p>	<p>Reported Div 1 SSW operating with P2C running and requested CRS have Standby Cooling Tower Basin Level monitored for excessive leakage from Standby Service Water to Normal Service Water System.</p>	<p align="center">_____</p>	<p>CUE: As CRS acknowledges Div 1 SSW in service with P2C running and request for Basin Level monitoring for leakage from SSW.</p> <p>No leakage is indicated.</p>

Terminating Cue: Division 1 Standby Service Water is in service.

RJPM-NRC10-IP2

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

Evaluator's Signature: _____

Date: _____

RJPM-NRC10-IP2
JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The Control Room has been evacuated. The Reactor is in Hot Shutdown and control has been established at the Remote Shutdown Panel. There has been no fire. Normal Service Water is NOT available. Div III D/G is running.

Initiating Cues: The CRS has directed you to place the Division 1 Standby Service Water System in service from the appropriate Remote Shutdown Panel, per AOP-0031, step 5.14.5.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

**SHIFT CONTROL BUILDING CHILLED WATER IN THE
STANDBY LOOP**

REASON FOR REVISION:

New revision for 2010 NRC exam

IP 3

PREPARE / REVIEW:

John Hedgepeth	0069	10-28-2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Terry Wymore	0523	01/18/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-IP3

SIMULATOR SETUP SHEET

Task Description: As Control Building Operator Alternate Control Building Chilled Water Pump and Chiller within the Standby Division.

Required Power: N/A

IC No.: N/A

Notes: This JPM is to be simulated in the plant

RJPM-NRC10-IP3

DATA SHEET

References for Development:	SOP-0066, Plant and Control Building HVAC Chilled Water System, Section 5.3
Required Materials:	SOP-0066, Plant and Control Building HVAC Chilled Water System, Section 5.3
Required Plant Condition:	Any
Task Standard	Chilled Water lined up for 1HVK*CHL1C
Applicable Objectives:	STM-402, Objectives N4, N6
Safety Related Task: (If K/A less than 3.0)	NA0
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-NRC10-IP3

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 operating HVK chiller has been in service for 12 hours. 1HVK-CHL1A (CONTROL BLDG CHILLER A) and 1HVK-P1A (CHILLED WATER PUMP) are lined up for standby operation. The UO (Unit Operator) has placed 1HVK-CHL1A (CONTROL BLDG CHILLER A) in LOCKOUT and 1HVK-P1A (CHILLED WATER PUMP A) in STOP.

Initiating Cue: The CRS has directed you, as the Control Building Operator, to do the local lineup for placing Control Building HVK Chiller C, in standby with HVK-P1C Chilled Water Pump. SOP-0066 has been completed through Step 5.3.3.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1. Locally at the chiller, unlock and close the standby chiller inlet valve. <ul style="list-style-type: none"> • HVK-V35 1HVK-CHL1A INLET ISOL 	1HVK-V35 has been unlocked and closed.	—	CUE: HVK-V35 is closed.
* 2. Locally at the currently out of service chiller, open and lock the inlet valve. <ul style="list-style-type: none"> • HVK-V39 1HVK-CHL1C INLET ISOL 	1HVK-V39 placed in the open and locked position	—	CUE: HVK-V39 is open and locked.

RJPM-NRC10-IP3

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>3. Locally at the chiller being placed in standby, verify the following:</p> <p>a. Lube oil level is visible in the lower or upper sightglass.</p> <p>b. Lube oil temperature is greater than or equal to 120°F and less than or equal to 155°F.</p> <p>c. READY light is on.</p> <p>d. SAFETY CIRCUIT light is on.</p> <p>e. LOAD RECYCLE light is on</p> <p>f. Refrigerant visible in evaporator sight glass</p>	<p style="text-align: center;">NOTE</p> <p>Oil level may be lower than normal if service water temperature is low (approx. 65-75 °F). Lube oil level verified.</p> <p>Lube oil temperature verified within limits</p> <p>Ready verified lit</p> <p>Safety Circuit verified lit</p> <p>Load Recycle lights verified lit.</p> <p>Refrigerant level verified</p>	<p style="text-align: center;">—</p>	<p>Cue: Lube oil level in upper sight glass</p> <p>Cue: Lube oil temp. 140 °F</p> <p>Cue: Ready light is on.</p> <p>Cue: Safety Circuit light is on.</p> <p>Cue: Load Recycle light is on.</p> <p>Cue: Refrigerant is visible in the evaporator</p>

RJPM-NRC10-IP3

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>4. Contact the control room to perform steps 5.3.7 thru 5.3.12.</p>	<p>Main Control Room contacted to perform steps 5.3.7 thru 5.3.12.</p>	<p>—</p>	<p>CUE: The control room reports that steps 5.3.7 thru 5.3.12 are complete.</p>
<p>* 5. When alternating DIV I Chiller only, then on the back of 1EHS-MCC8A, perform the following.</p> <p>a. Place HVK-CHL1APL(CPL) , CHLD CPRSR LUBO for the standby chiller to ON</p> <p>b. Place HVK-CHL1CPL(APL) for the out of service chiller to OFF.</p>	<p>Switch 1HVK-CHL1CPL placed in the ON position</p> <p>Switch 1HVK-CHL1APL placed in the OFF position</p>	<p>—</p>	<p>Note: Located on the back of 1EHS-MCC8A.</p> <p>CUE: Switch 1HVK-CHL1CPL placed in the ON position</p> <p>CUE: Switch 1HVK-CHL1APL placed in the OFF position</p>

Terminating Cue: Chilled Water lined up for 1HVK-CHL1C.

RJPM-NRC10-IP3

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): NLO / 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-NRC10-IP3

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: The operating HVK chiller has been in service for 12 hours.

1HVK-CHL1A (CONTROL BLDG CHILLER A) and 1HVK-P1A (CHILLED WATER PUMP) are lined up for standby operation.

The UO (Unit Operator) has placed 1HVK-CHL1A (CONTROL BLDG CHILLER A) in LOCKOUT and 1HVK-P1A (CHILLED WATER PUMP A) in STOP.

Initiating Cues: The CRS has directed you, as the Control Building Operator, perform the local lineup for placing Control Building HVK Chiller C, in standby with HVK-P1C Chilled Water Pump. SOP-0066 has been completed through Step 5.3.3.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

**PERFORM CONTROL ROD OPERABILITY CHECK WITH ROD
OVER-TRAVEL**

REASON FOR REVISION:

New revision for 2010 NRC exam

S1

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10-28-2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Terry Wymore</u>	<u>0523</u>	<u>01/12/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-S1

TASK DESCRIPTION:	Perform Control Rod Operability Check With Rod Over-Travel
K/A REFERENCE & RATING:	201003 K4.02 3.8/3.9 A3.01 3.7/3.6 K5.07 3.3/3.6 G04 3.5/3.6 A1.01 3.7/3.8 G07 3.6/3.6 A2.02 3.7/3.8
TASK REFERENCE:	201024001001 201001002001
TESTING METHOD:	Simulate Performance: _____ Actual Performance: <u> X </u> Control Room: _____ Simulator: <u> X </u> In-Plant: _____
COMPLETION TIME:	10 minutes
MAX TIME:	N/A
JOB LEVEL:	ALL
TIME CRITICAL:	NO
EIP CLASSIFICATION REQUIRED:	NO
PRA RISK DOMINATE:	NO
ALTERNATE PATH (FAULTED):	YES
SAFETY FUNCTION:	1

RJPM-NRC10-S1

SIMULATOR SETUP SHEET

Task Description: Perform control rod operability check with rod over-travel.

Required Power: Any

IC No.: 231

Notes: Before start of JPM enter the following at the instructor console:

Rod	16-29
Failure	(Rod Uncoupled)

RJPM-NRC10-S1

DATA SHEET

References for Development:	STP-052-0101 REP-0051
Required Materials:	STP-052-0101
Required Plant Condition:	Reactor at power, steady state >27%
Task Standard	Control rod operability check for 16-29 completed in accordance with STP-052-0101
Applicable Objectives:	HLO-004 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-NRC10-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, 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:

Reactor at power, steady state.

Initiating Cue:

The CRS has directed you to perform control rod operability check on control rod 16-29 per STP-052-0101

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___ 1. Print out an OD-7 of present control rod positions.	OD-7 printed out.	___	CUE: Provide OD-7 to student
* 2. Select control rod 16-29.	Control rod 16-29 selected, position 48 displayed on full core display.	___	
* 3. Insert Control Rod to position 46 and verify position indication changes.	Control rod inserted one notch; to position 46 and position indication change verified.	___	None
* 4. Withdraw Control Rod to position 48 and verify position indication changes	Control rod withdrawn to position 48 and position indication change verified.	___	None

RJPM-NRC10-S1

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 5. Perform coupling check for control rod.	Withdraw signal applied to control rod. Control rod over travel annunciator acknowledged.	___	
___ 6. Notify CRS of uncoupled rod.	CRS notified.	___	Cue: As CRS direct the operator to take the actions of ARP-P680-7-C02
___ 7. Determine uncoupled rod by depressing the ROD UNCOUPLED and observe red lights.	ROD UNCOUPLED pushbutton depressed and red light noted for rod 16-29	___	
___ 8. Attempt to recouple rod by driving in to Position 46 and withdrawing to Position 48.	Control rod inserted one notch; to position 46 and position indication change verified. Control rod withdrawn to position 48 and position indication change verified.	___	
___ 9. Check the success of recoupling by attempting to withdraw beyond position 48. a. IF rod was successfully coupled, THEN note in Control Room Logbook. b. IF rod was not successfully coupled, THEN Refer To REP-0051, Reactivity Control and Control Rod Movement and Technical Specification 3.1.3.	Withdraw signal applied to control rod. Control rod over travel annunciator acknowledged.	___	Cue: As CRS acknowldge the report for uncoupled rod, reference to REP-0051 and T.S. 3.1.3.
___ 10. Notify Reactor Engineer of any failure of control rods to recouple.	Notified the CRS to contact Reactor Engineer for the control rod failure to recouple.	___	Cue: As CRS acknowldge the report to contact R.E.
11. Printout another OD-7 of final control rod position.	OD-7 printed out.	___	None

Terminating Cue: Control rod operability check for 16-29 completed in accordance with STP-052-0101.

RJPM-NRC10-S1

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-NRC10-S1

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: Reactor at power, steady state

Initiating Cues: The CRS has directed you to perform control rod operability check on control rod 16-29 per STP-052-0101

**RIVER
BEND STATION**

Number: * **RJPM-NRC10-S2**
Revision: **00**
Page 1 of 12

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

START ARC PUMP WITH SEPARATOR LEVEL ALARM

REASON FOR REVISION:

New revision for 2010 NRC exam

S2

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10-28-2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Scott Dallas</u>	<u>1385</u>	<u>01/12/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-S2

TASK DESCRIPTION:	Start ARC pump					
TASK REFERENCE:	255006001001					
K/A REFERENCE & RATING:	256000		A2.02, A4.04			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	
COMPLETION TIME:	10 minutes					
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					

RJPM-NRC10-S2

SIMULATOR SETUP SHEET

Task Description: Start an ARC pump with separator level alarm

Required Power: Any

IC No.: 233

Notes: **Insert level alarm for ARC-P1A 10 seconds after pump has been started. ARC-P1A start push button = ZDI 1 (464) != 0.**

RJPM-NRC10-S2

DATA SHEET

References for Development:	SOP-0025, P870-52 ALARM RESPONSE
Required Materials:	SOP-0025, P870-52 ALARM RESPONSE
Required Plant Condition:	Any
Task Standard	ARC-P1B started and running normally..
Applicable Objectives:	RBS-STM-125, 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-NRC10-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 starting up after a refuel outage. Condenser vacuum must be established to continue the plant start up per GOP-001 PLANT STARTUP.

Initiating Cue:

The CRS has directed you to start ARC-P1A AIR REMOVAL PUMP, per SOP-0025 CONDENSER AIR REMOVAL SYSTEM step 4.1. The pre-job brief has been completed and the Turbine building operator is in the field ready to start ARC-P1A.

RJPM-NRC10-S2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
1.	Notify Radiation Protection to post the area around the Condenser Air Removal Pumps.	Radiation Protection notified to post the area around the air removal pumps.	_____	CUE: As RP acknowledge the request to post the area around the air removal pumps and inform the student that the area is already posted
2.	IF time permits, THEN fill the discharge silencer line loop seal via ARC-V51, DISCHARGE SILENCER DRAIN LINE LOOP SEAL FILL VALVE.	Turbine building operator was directed to fill the loop seal via ARC-V51.	_____	CUE: As the Turbine Building operator, report that the loop seal has been filled.
3.	Verify RMS-RE125 or RMS-RE126, MAIN PLANT STACK is operating per SOP-0086, Digital Radiation Monitoring (SYS #511).	Verified that RMS-125 or 126 is operating via DRMS Display. Status of GREEN on the DRMS display.	_____	
4.	At TB, 123 ft el, HVT-PNL162, start HVT-FLT1, IODINE FILTRATION UNIT per SOP-0064, Turbine Building HVAC System	Turbine building operator was directed to start HVT-FLT1 per SOP-0064.	_____	CUE: As the Turbine Building operator, report that HVT-FLT1 is running per SOP-0064.
5.	At TB, 95 ft el, open MWS-V155, MAKEUP WATER SUPPLY TO ARC-LCV9A for the Condenser Air Removal Pump to be started.	Turbine building operator was directed to open MWS-V155 MAKEUP WATER SUPPLY TO ARC-LCV9A	_____	CUE: As the Turbine Building operator, report that MWS-V155 is open.

RJPM-NRC10-S2

PERFORMANCE STEP	STANDARD	S/U	COMMENTS	
6.	At TB, 95 ft el, verify the separator water level is visible in ARC-LG6A, SEPARATOR A LEVEL SIGHT GLASS for the Condenser Air Removal Pump to be started.	Turbine building operator was directed to verify the separator water level is visible in ARC-LG6A	—	CUE: As the Turbine Building operator, report that the water level is visible in ARC-LG6A
7.	IF performing a controlled plant shutdown, THEN verify the discharge silencer line loop seal is filled via ARC-V51, DISCHARGE SILENCER DRAIN LINE LOOP SEAL FILL VALVE.	NONE	N/A	This step will be N/A. initial conditions are a plant start-up.
* 8.	At H13-P870, start ARC-P1A COND AIR REMOVAL PUMP and verify the following: 1. ARC-P2A, RECIRC SEAL WTR PUMP starts. 2. ARC-AOV3A, COND AIR REM PUMP A SUCT VALVE opens.	ARC-P1A START push button was depressed, ARC-P1A verified started, ARC-P2A verified started and ARC-AOV3A verified open.	—	
9.	Acknowledge alarm AIR DISCH SEP/SIL SP1A LEVEL HIGH/LOW. Notify CRS or alarm and refer to ARP-P870-52A-F03	Alarm acknowledged and CRS notified.	—	CUE: As the CRS, direct the operator to take actions per the ARP.
10	Check level locally to determine whether level is high or low as indicated on ARC-LG6A.	Turbine building operator directed to determine whether level is high or low as indicated on ARC-LG6A.	—	CUE: As turbine building operator, report that the sight glass is completely full.

RJPM-NRC10-S2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____ 11	<p>IF level is high, THEN perform the following:</p> <p>a. Return level to normal by cracking open ARC-V13, SEPARATOR DRAIN VALVE.</p> <p>b. IF it is necessary to maintain pump running, THEN manually control level by throttling closed MWS-V155, MAKEUP WATER INLET VALVE.</p>	Turbine building operator directed to crack open ARC-V13, SEPARATOR DRAIN VALVE and return level to normal.	_____	CUE: As turbine building operator report that ARC-V13, SEPARATOR DRAIN VALVE has been cracked 50% open for 20 minutes and level has not returned to normal.
_____ 12	<p>IF the condition can not be corrected and level restored to normal, THEN shut down the ARC-P1A, COND AIR REMOVAL PMP A, and initiate corrective actions.</p>	CRS notified that ARC-P1A sight glass level is high and cannot be returned to normal.	_____	CUE: As CRS direct student to secure the ARC-P1A per SOP-0025 and start ARC-P1B
* _____ 13	<p>At H13-P870, stop ARC-P1A, COND AIR REMOVAL PUMP and verify the following:</p> <p>1. ARC-P2A, RECIRC SEAL WTR PUMP A stops.</p> <p>2. ARC-AOV3A, AIR REM PUMP A SUCT VALVE closes.</p>	Stop push button depressed for ARC-P1A. Verified that ARC-P2A has stopped and ARC-AOV3A has closed	_____	

RJPM-NRC10-S2

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____ 14	IF both Condenser Air Removal Pumps are to be shut down, THEN at TB, 123 ft el, HVT-PNL162 stop HVT-FLT1, IODINE FILTRATION UNIT per SOP-0064, Turbine Building HVAC System.	This step will be N/A	N/A	
_____ 15	At TB, 95 ft el, close MWS-V155, MAKEUP WATER SUPPLY TO ARC-LCV9A for the idle Condenser Air Removal Pump(s).	Turbine building operator was directed to close MWS-V155 MAKEUP WATER SUPPLY TO ARC-LCV9A	_____	CUE: As the Turbine Building operator, report that MWS-V155 is closed.
_____ 16	Notify Radiation Protection to post the area around the Condenser Air Removal Pumps.	This step may be N/A due previous notification. Radiation Protection notified to post the area around the air removal pumps.	_____	CUE: As RP acknowledge the request to post the area around the air removal pumps and inform the student that the area is already posted
_____ 17	IF time permits, THEN fill the discharge silencer line loop seal via ARC-V51, DISCHARGE SILENCER DRAIN LINE LOOP SEAL FILL VALVE.	This step may be N/A due previous actions. Turbine building operator was directed to fill the loop seal via ARC-V51.	_____	CUE: As the Turbine Building operator, report that the loop seal has been filled.
_____ 18	Verify RMS-RE125 or RMS-RE126, MAIN PLANT STACK is operating per SOP-0086, Digital Radiation Monitoring (SYS #511).	This step may be N/A due previous actions. Verified that RMS-125 or 126 is operating via DRMS Display. Status of GREEN on the DRMS display.	_____	

RJPM-NRC10-S2

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
19	At TB, 123 ft el, HVT-PNL162, start HVT-FLT1, IODINE FILTRATION UNIT per SOP-0064, Turbine Building HVAC System	This step may be N/A due previous actions. Turbine building operator was directed to start HVT-FLT1 per SOP-0064.	_____ CUE: As the Turbine Building operator, report that HVT-FLT1 is running per SOP-0064.
20	At TB, 95 ft el, open MWS-V156, MAKEUP WATER SUPPLY TO ARC-LCV9B for the Condenser Air Removal Pump to be started.	Turbine building operator was directed to open MWS-V156 MAKEUP WATER SUPPLY TO ARC-LCV9B	_____ CUE: As the Turbine Building operator, report that MWS-V156 is open.
21	At TB, 95 ft el, verify the separator water level is visible in ARC-LG6B, SEPARATOR A LEVEL SIGHT GLASS for the Condenser Air Removal Pump to be started.	Turbine building operator was directed to verify the separator water level is visible in ARC-LG6B	_____ CUE: As the Turbine Building operator, report that the water level is visible in ARC-LG6B
* 22	At H13-P870, start ARC-P1B COND AIR REMOVAL PUMP and verify the following: 1. ARC-P2B, RECIRC SEAL WTR PUMP starts. 2. ARC-AOV3B, COND AIR REM PUMP B SUCT VALVE opens.	ARC-P1B START push button was depressed, ARC-P1B verified started, ARC-P2B verified started and ARC-AOV3B verified open.	_____
23	Contact Mechanical Maintenance to check and adjust the packing on the ARC-P1B COND AIR REMOVAL PUMP.	Contacted Mechanical Maintenance to check and adjust the packing on the ARC-P1B	_____ CUE: As MM accept the direction to check and adjust the ARC-P1B packing.

Terminating Cue: ARC-P1B started after ARC-P1A has been started and secured.

RJPM-NRC10-S2

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-NRC10-S2

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions:

The plant is starting up after a refuel outage. Condenser vacuum must be established to continue the plant start up per GOP-001 PLANT STARTUP.

Initiating Cues:

The CRS has directed you to start ARC-P1A AIR REMOVAL PUMP, per SOP-0025 CONDENSER AIR REMOVAL SYSTEM step 4.1. The pre-job brief has been completed and the Turbine building operator is in the field ready to start ARC-P1A.

**RIVER
BEND STATION**

Number: * **RJPM-NRC10-S3**
Revision: **00**
Page 1 of 8

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

SHIFT MAIN EHC PUMPS WITH LOW PRESSURE

REASON FOR REVISION:

New revision for 2010 NRC exam

S3

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>10-28-2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Scott Dallas</u>	<u>1385</u>	<u>01/12/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-S3

TASK DESCRIPTION: Shift main EHC pumps

TASK REFERENCE: SOP-0014

K/A REFERENCE & RATING: 241000 A2.06, A3.04, A4.10

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: 3

RJPM-NRC10-S3

SIMULATOR SETUP SHEET

Task Description: Shift main EHC pumps

Required Power: Any

IC No.: 232

Notes: none

RJPM-NRC10-S3

DATA SHEET

References for Development:	SOP-0014
Required Materials:	SOP-0014
Required Plant Condition:	Any
Task Standard	TMB-HFPM-B, EHC PUMP B started and then secure.
Applicable Objectives:	STM-509 Obj. 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.

RJPM-NRC10-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:

Reactor is in Mode 1

Initiating Cue:

The CRS has directed you to swap to 'B' main EHC pumps per SOP-0014 for normal equipment rotation.

RJPM-NRC10-S3

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 1.	Start TMB-HFPM-B, EHC PUMP B.	Start push button depressed	_____	
* 2.	Check the EHC PUMP B DISCH PRESS white light is on.	Verified that the 'B' discharge pressure light stays lit.	_____	White light ON
NOTE <i>Allow at least 30 seconds for the standby pump to pick up, prime and expel possible air</i>				
_____ 3.	Notify CRS that EHC FLUID PUMP TROUBLE alarm is received. (H13-P870/54A/H01)	Informed CRS of indication for EHC system	_____	CUE: As CRS direct the operator to perform ARP actions
_____ 4.	Dispatch an operator to determine the cause of the pump trouble alarm.	Turbine building operator dispatched to the EHC pump	_____	CUE: As turbine building operator report that EHC pump B discharge pressure is about 100# higher than EHC pump A.
_____ 5.	Check the differential pressure on Process Computer Point(TMBPC03)	Plant Process computer point TMBPC03 status is verified.	_____	CUE: Inform student that the PPC point indication reads HI
_____ 6.	Notify CRS of EHC system status	CRS notified of HI discharge filter differential pressure	_____	CUE: As CRS direct the operator to secure EHC-P1B
* _____ 7.	Secure TMB-HFPM-B, EHC PUMP B.	Stop push button depressed for EHC-P1B, Red light off and Green light on.	_____	

Terminating Cue: TMB-HFPM-B, EHC PUMP B started and then secure.

RJPM-NRC10-S3

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-NRC10-S3

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: Reactor is in Mode 1

Initiating Cues: The CRS has directed you to swap to 'B' main EHC pumps per SOP-0014 for normal equipment rotation.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

START OF SPC / ADHR

REASON FOR REVISION:

New revision for 2010 NRC exam

S4

PREPARE / REVIEW:

John Hedgepeth	0069	10-28-2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	01/12/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-S4

TASK DESCRIPTION:	Start of SPC / ADHR
K/A REFERENCE & RATING:	223001 A3.03, A3.4, A3.3
TASK REFERENCE:	220004001001
TESTING METHOD:	Simulate Performance: _____ Actual Performance: <u> X </u> Control Room: _____ Simulator: <u> X </u> In-Plant: _____
COMPLETION TIME:	15 minutes
MAX TIME:	N/A
JOB LEVEL:	ALL
TIME CRITICAL:	NO
EIP CLASSIFICATION REQUIRED:	NO
PRA RISK DOMINATE:	NO
ALTERNATE PATH (FAULTED):	NO
SAFETY FUNCTION::	5

RJPM-NRC10-S4

SIMULATOR SETUP SHEET

Task Description: Start of SPC / ADHR

Required Power: Any

IC No.: 233

Notes: NONE

RJPM-NRC10-S4

DATA SHEET

References for Development:	SOP-0140
Required Materials:	SOP-0140
Required Plant Condition:	Any
Task Standard	ADHR back in service per SOP-0140
Applicable Objectives:	STM-656 Obj. 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-NRC10-S4

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:

Start-up, Mode 2 <5 % power. SPC/ADHR was secured to support a swap of the RPS system power supply. RPS swap is complete.

Initiating Cue:

The CRS has directed you to restart SPC-PIB per SOP-140 starting at step 5.6.7. SPC cooling is not required. SPC demin will be placed in service at a later time.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____ 1.	WHEN it is desired to restart the system, THEN perform the following:		
* ____ 2.	IF SPC/ADHR was secured for swap of RPS power supplies, THEN open the following as directed by the OSM/CRS: <ul style="list-style-type: none"> • RHS-AOV62, SPC SUCTION VALVE • RHS-AOV63, SPC SUCTION VALVE • RHS-AOV64, SPC DISCH VALVE 		

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PERFORMANCE STEP		STANDARD	S/U	COMMENTS
3.	At AB 70 ft el, Racquetball Room, open SPC-V3B, SPC PUMP B DISCHARGE VALVE.	Reactor building operator directed to open SPC-V3B		CUE: Reactor building operator reports that SPC-V3B is open.
4.	IF Annunciator P601-20A-F02, SPC SYSTEM NOT FULL, alarms, THEN vent per Step 5.2.12.	Operator verified the alarm is not lit.		
* 5.	Start SPC-P1B, SPC PUMP 1B.	Control switch for SPC-P1B placed to START		
6.	Check open SPC-AOV25, SPC PUMP MINIMUM FLOW VALVE, as indicated by flow indication on SPC-FI32, SPC TOTAL FLOW.	Flow verified greater than or equal to 200 gpm on SPC-FI32		
7.	Throttle open SPC-AOV20, SPC FILTER DEMIN BYPASS VALVE to greater than 1500 gpm and less than or equal to 2250 gpm as indicated on SPC-FI32, SPC TOTAL FLOW.	SPC-AOV20 throttled open to 1500 to 2250 gpm as read on SFC-FI32		
8.	WHEN SPC-AOV25 closes, as indicated by a drop in flow on SPC-FI32, SPC TOTAL FLOW, THEN adjust SPC-AOV20 to obtain system flow greater than 1500 gpm and less than 2250 gpm as indicated on SPC-FI32, SPC TOTAL FLOW.	SPC-AOV20 adjusted back to 1500 to 2250 gpm as read on SFC-FI32		
9.	IF required for cooling, THEN adjust SPC-AOV16, SPC HX DISCH VLV, to obtain the desired cooling rate.	NONE		CUE: ADHR is not required for cooling at this time.
10.	IF placing SPC filter-demineralizer in service, THEN Go To Section 6.4.	NONE		CUE: The filter demin will remain out of service at this time.

Terminating Cue: ADHR back in service per SOP-0140

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-NRC10-S4

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: Start-up, Mode 2 <5 % power. SPC/ADHR was secured to support a swap of the RPS system power supply. RPS swap is complete.

Initiating Cues: The CRS has directed you to restart SPC-P1B per SOP-140 starting at step 5.6.7. SPC cooling is not required. SPC demin will be placed in service at a later time.

**RIVER
BEND STATION**

Number: ***RJPM-NRC10-S5**
Revision: **00**
Page 1 of 12

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***CCP VALVE QUARTERLY STROKE TEST**

REASON FOR REVISION:

2010 NRC Exam JPM

S5

PREPARE / REVIEW:

<u>John Hedgepeth</u>	<u>0069</u>	<u>11/18/2009</u>
Preparer	KCN	Date
<u>Angela Orgeron</u>	<u>1538</u>	<u>2-15-2010</u>
Technical Review (SME)	KCN	Date
<u>Terry Wymore</u>	<u>0523</u>	<u>01/12/2010</u>
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-S5

TASK DESCRIPTION:	CCP Valve Quarterly Stroke Test Surveillance					
TASK REFERENCE:	208007001001 277007001001					
K/A REFERENCE & RATING:	400000 K1.01, 3.2/3.3 400000 A4.01, 3.1/3.2 295018 AK3.07, 3.1/3.2 295018 AA1.01, 3.3/3.4					
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:	8					

RJPM-NRC10-S5

SIMULATOR SETUP SHEET

Task Description: CCP Valve Quarterly Stroke Test Surveillance (STP-115-6301).

Required Power: Any

IC No.: 231

Notes: Malfunctions to trip of all Normal Service Water Pumps are setup to be inserted by Trigger 1. Initiate Trigger 1 when stroke test time has been recorded for CCP-MOV16A, JPM Step 11.

RJPM-NRC10-S5

DATA SHEET

References for Development: STP-115-6301, Div 1 Reactor Plant Component Cooling Water Quarterly Valve Operability Test

Required Materials: STP-115-6301, Div 1 Reactor Plant Component Cooling Water Quarterly Valve Operability Test
Stopwatch

Required Plant Condition: N/A

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.

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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 Plant is operating at rated conditions with no equipment out of service.

Initiating Cue:

The CRS directs you to complete STP-115-6301, Div 1 Reactor Plant Component Cooling Water Quarterly Valve Operability Test, starting at Step 7.4.

Steps 7.1 through 7.3 have been completed by the Reactor Building Operator.

The CRS has designated you as the dedicated operator to maintain Div I Standby Service Water System availability during the surveillance testing, per Step 7.4.1

RJPM-NRC10-S5

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>1. Establish a dedicated operator(s) per ADM-0096 in order to maintain Div I Standby Service Water System availability during testing throughout this section. The dedicated operator(s) will establish communications with the Main Control Room to perform the following functions: In the Main Control Room:</p> <p>Place the SWP-P2A, STBY SVCE WTR PUMP 2A (LOCKOUT) Switch in RESET upon the Loss of Normal Service Water, Loss of CCP and/or directed by the OSM/CRS.</p> <p>Place the SWP-P2C, STBY SVCE WTR (LOCKOUT) Switch in RESET upon the Loss of Normal Service Water, Loss of CCP and/or directed by the OSM/CRS</p>	<p>Reviews step and initials step completion</p>		<p>CUE: As CRS acknowledge LCO entry for Standby Service water and Emergency Diesel Generator.</p>

RJPM-NRC10-S5

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p><u> </u>1. (cont'd)</p>	<p>Place the STBY SVCE WTR TEST (DIV 1) to OFF upon the Loss of Normal Service Water, Loss of CCP and/or directed by the OSM/CRS.</p> <p>Place the RPCCW DIV 1 TEST to OFF upon the Loss of Normal Service Water, Loss of CCP and/or directed by the OSM/CRS.</p>	<p>Reviews step and initials step completion.</p>	<p>_____</p>
<p>* <u> </u>2.</p>	<p>Prohibit the initiation of Standby Service Water, isolation of RPCCW, and trip of the CRD Pumps, by performing the following:</p> <p>Place RPCCW DIV 1 TEST Switch in TEST.</p>	<p>RPCCW DIV 1 TEST Switch placed in TEST position</p>	<p>NOTE: Will receive alarm P870-55A-G04, DIVISION 1 RPCCW SYSTEM INOPERATIVE</p> <p>_____</p>
<p>* <u> </u>3.</p>	<p>Place the STBY SVCE WTR TEST (Div 1) Switch in TEST.</p>	<p>STBY SVCE WTR TEST (Div 1) Switch placed in TEST position.</p>	<p>NOTE: Will receive alarm P870-55A-H07, DIVISION 1 STBY SERVICE WTR INOPERATIVE</p> <p>_____</p>
<p>* <u> </u>4.</p>	<p>Place SWP-P2A, STBY SVCE WTR PUMP 2A in LOCKOUT.</p>	<p>SWP-P2A, STBY SVCE WTR PUMP 2A LOCKOUT pushbutton depressed. (P870)</p>	<p>_____</p>

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PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 5.	Place SWP-P2C, STBY SVCE WTR in LOCKOUT	SWP-P2C, STBY SVCE WTR PUMP 2C LOCKOUT pushbutton depressed. (P601)	—	NOTE: Will receive alarm P601-18A-B01, DIV 3 STBY SVCE WATER SYSTEM INOPERATIVE
* 6.	Close and time CCP-MOV130, LOOP A DN STREAM RETURN	Stop watch started when control switch has been moved to close and stopped when CCP-MOV130 Closed. Green light ON Red light OFF	—	
7.	Record closing stroke time, full stroke exercise result, and valve acceptance determination for CCP-MOV130 on Data Sheet 1.	Closing time for CCP-MOV130 recorded on data sheet at 28.9 seconds (\pm 4.3 seconds)	—	
* 8.	Close and time CCP-MOV335, LOOP A UP STREAM RETURN.	Stop watch started when control switch has been moved to close and stopped when CCP-MOV335 Closed. Green light ON Red light OFF	—	
9.	Record closing stroke time, full stroke exercise result, and valve acceptance determination for CCP-MOV335 on Data Sheet 1.	Closing time for CCP-MOV335 recorded on data sheet at 29.6 seconds (\pm 4.4 seconds)	—	

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PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 10.	Close and time CCP-MOV16A, RPCCW LOOP A SUPPLY. Green light ON Red light OFF	Stop watch started when control switch has been moved to close and stopped when CCP-MOV16A Closed. _____	
11.	Record closing stroke time, full stroke exercise result, and valve acceptance determination for CCP-MOV16A on Data Sheet 1.	Closing time for CCP-MOV16A recorded on data sheet at 29.2 seconds (± 4.3 seconds) _____	<p>NOTE: ALTERNATE PATH</p> <p>NOTE: The following will alarm ~15 seconds apart:</p> <p>P870-55A-H04, RPCCW TO DIV 1 EXTREME LOW PRESSURE</p> <p>P870-55A-G07, DIVISION 1 STBY SERVICE WATER LOW PRESSURE</p> <p>P870-55A-D07, DIV 1 STBY SERVICE WTR VALVE MISALIGNMENT</p>
* 12.	Place the SWP-P2A, STBY SVCE WTR PUMP 2A (LOCKOUT) Switch in RESET upon the Loss of Normal Service Water, Loss of CCP. Green light OFF Red light ON	SWP-P2A, STBY SVCE WTR PUMP 2A (LOCKOUT) Switch placed in RESET SWP-P2A Starts (P870) _____	<p>CUE: As CRS, if candidate reports loss of NSW, direct taking action of the dedicated operator per STP.</p>

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PERFORMANCE STEP [STP Step]	STANDARD	S/U	COMMENTS	
* 13.	Place the SWP-P2C, STBY SVCE WTR (LOCKOUT) Switch in RESET upon the Loss of Normal Service Water, Loss of CCP.	SWP-P2C, STBY SVCE WTR PUMP 2C (LOCKOUT) Switch placed in RESET SWP-P2C Starts (P601) Green light OFF Red light ON	—	
* 14.	Place the STBY SVCE WTR TEST (DIV 1) to OFF upon the Loss of Normal Service Water, Loss of CCP.	STBY SVCE WTR TEST (DIV 1) placed to OFF Normal Service Water Isolation Valves SWP-MOV57A and SWP-MOV96A Close (P870) Green light ON Red light OFF Standby Cooling Tower Inlet SWP-MOV55A opens Green light OFF Red light ON	—	
15.	Place the RPCCW DIV 1 TEST to OFF upon the Loss of Normal Service Water, Loss of CCP.	RPCCW DIV 1 TEST placed to OFF	—	NOTE: No valves should reposition when this switch is removed from TEST because the vital loop isolation valves were closed as part of the STP.

Terminating Cue: Div I Standby Service Pumps SWP-P2A and SWP-P2C operating with NSW supply and return valves closed.

RJPM-NRC10-S5

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-NRC10-S5

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The Plant is operating at rated conditions with no equipment out of service.

Initiating Cues: The CRS directs you to complete STP-115-6301, Div 1 Reactor Plant Component Cooling Water Quarterly Valve Operability Test, starting at Step 7.4.

Steps 7.1 through 7.3 have been completed by the Reactor Building Operator.

The CRS has designated you as the dedicated operator to maintain Div I Standby Service Water System availability during the surveillance testing, per Step 7.4.1

JOB PERFORMANCE MEASURE



TRAINING PROGRAM: HLO

JOB PERFORMANCE MEASURE

LESSON PLAN:

**SHUTDOWN DIVISION I EMERGENCY DIESEL GENERATOR
(EG1A)**

REASON FOR REVISION:

New revision for 2010 NRC exam

S6

PREPARE / REVIEW:

John Hedgepeth	0069	10-28-2009
Preparer	KCN	Date
Angela Orgeron	1538	2-15-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	01/12/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC10-S6

JPM NUMBER: JPM-309-01 Rev 05

TASK DESCRIPTION: Shutdown Division I Emergency Diesel Generator (EG1A)

K/A REFERENCE & RATING: 264000 A4.04, 3.7/3.7
264000 A1.09, 3.0/3.1
264000 A2.02, 3.1/3.1
264000 A2.03, 3.4/3.4
264000 A4.01, 3.3/3.4
264000 A4.04, 3.7/3.7
264000 K4.07, 3.3/3.4
264000 G07, 3.6/3.8
264000 G09, 3.8/3.9
264000 G13, 3.5/3.7

TASK REFERENCE: 264015001001

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

COMPLETION TIME: 15 min.

MAX. TIME: N/A

JOB LEVEL: All

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAILED): No

SAFETY FUNCTION: 6

RJPM-NRC10-S6

SIMULATOR SETUP SHEET

- Task Description:** Shutdown Division I Emergency Diesel Generator (EG1A)
- Required Power:** Any
- IC No.:** 232
- Notes:**
1. Require Div I EDG to be running in parallel with the Normal Supply.
 2. Have loaded to approx. 2000 kw.
 3. Use the emergency start pushbutton on P877 to start the diesel. Then depress the emergency start reset push button to setup the diesel for this JPM. If the local start remote function is used, the diesel will restart if the stop reset push buttons are depressed on P877.

RJPM-NRC10-S6

DATA SHEET

References for Development:	SOP-0053, Standby Diesel Generator and Auxiliaries
Required Materials:	SOP-0053 Section 6.1, Shutdown of EGS-EG1A STANDBY DIESEL GENERATOR from the Control Room.
Required Plant Condition:	Div I EDG is running in parallel with the Normal Supply per SOP-0053 for a post maintenance run.
Task Standard:	EGS-EG1A STANDBY DIESEL GENERATOR secured per SOP-0053
Applicable Objectives:	REQ-334-00, Obj 3 HLO-037-05
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	None

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-NRC10-S6

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:

Div I EDG is running in parallel with the Normal Supply per SOP-0053 for a post maintenance run.

Initiating Cue:

The CRS has directed you to unload and secure the Division I Emergency Diesel Generator from the control Room in accordance with SOP-0053 Section 6.1.

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PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___ 1. Reduce load with the STBY DIESEL GENERATOR A GOVERNOR to approximately 175 Kw and reactive load to no less than 0 KVAR using the STBY DIESEL GENERATOR A VOLTAGE REGULATOR CONT.	Load reduced to approximately 175 kw and reactive load is reduced to no less than 0 KVARs	___	This may be done per Attachment 6 guidance for KW vs. Vars. This step is not critical if Governor Control is later adjusted to 60 Hz.
___ 2. Allow diesel cylinder temperatures to stabilize	Cylinder temperatures stablized	___	CUE: Ten minutes have elapsed and the cylinder temperatures have stablized.
* ___ 3. Trip ENS-ACB07, STBY D/G A OUTPUT BRKR.	ENS-ACB07 open; green light is on and red light is off	___	
___ 4. Adjust the EG1A STANDBY DIESEL frequency to 60 Hz, using the STBY DIESEL GENERATOR A GOVERNOR CONTROL	DG frequency at 60 Hz.	___	This step is not critical if load was reduced to 175 kw in the previous steps.
* ___ 5. Depress the STBY DIESEL ENGINE A EMERGENCY START RESET Pushbutton	STBY DIESEL ENGINE A EMERGENCY START RESET Pushbutton depressed	___	Failure to press the Emergency Start Reset Pushbutton will cause EDG to restart. This step is not critical if performed in later steps.
___ 6. Allow the diesel to run unloaded for approximately 2 minutes	DG runs unloaded for approximately 2 minutes	___	CUE: Two minutes has elapsed.
* ___ 7. Depress the STBY DIESEL ENGINE A STOP Pushbuttons simultaneously	Both STBY DIESEL ENGINE A STOP Pushbuttons simultaneously depressed	___	CUE: Inform the operator that the DG is coasting down.

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PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___ 8. Open the Turbocharger Prelube Valve immediately after depressing the STOP Pushbuttons. EGO-V3006A	Turbocharger Prelube Valve opened within 1 minute after STOP pushbuttons depressed.	___	CUE: As diesel operator report that the EGO-V3006A, prelube valve is open.
___ 9 WHEN the engine has stopped, THEN depress STBY DIESEL ENGINE A STOP RESET pushbutton.	Diesel operator directed to depress the STOP RESET pushbutton on EGS-PNL3A. ENGINE CONTROL PANEL.	___	CUE: Diesel operator reports that the STOP RESET push button has been depressed.
___ 10 At EGS-PNL3A, depress the STOP pushbutton for HVP-FN2A, STBY VENT FAN.	Diesel operator directed to depress the STOP pushbutton for HVP-FN2A, STBY VENT FAN		CUE: Diesel operator reports that HVP-FN2A, STBY VENT FAN has been stopped.
___ 11 WHEN the Turbocharger has coasted to a stop, THEN close EGO-V3006A, TURBO MANUAL PRELUBE SHUTOFF.	Diesel operator directed to close the prelube valve when the diesel has coasted to a stop.		CUE: Diesel operator reports that the diesel has coasted to a stop and the prelube valve is closed. CUE: Diesel operator will continue with steps 6.1.10 to 6.1.13.

Terminating Cue: Diesel Generator shutdown in accordance with SOP-0053.

RJPM-NRC10-S6

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-NRC10-S6

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: Div I EDG is running in parallel with the Normal Supply per SOP-0053 for a post maintenance run.

Initiating Cues: The CRS has directed you to unload and secure the Division I Emergency Diesel Generator from the control Room in accordance with the SOP 0053 Section 6.1.