

**RIVER
BEND STATION**

Number: ***RJPM-OPS-ADM-R01**
Revision: **1**
Page 1 of 10

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** COMPLETE DAILY LOGS VERIFICATION OF POWER
DISTRIBUTION LIMITS DURING SINGLE LOOP OPERATIONS**

REASON FOR REVISION:

NRC Exam JPM

RO ADMIN - 1

PREPARE / REVIEW:

Erich Weinfurter	1497	7/7/2004
Preparer	KCN	Date
Roger Persons	0862	7/8/2004
Technical Review (SME)	KCN	Date
Frank McLean	0803	7/9/2004
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-R01

TASK DESCRIPTION:	Complete Daily Log Verification of Power Distribution Limits during Single Loop Operation.
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TASK REFERENCE:	302001002001
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K/A REFERENCE & RATING:	2.1.19 (3.0/3.0)
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	6 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):	Yes
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RJPM-OPS-ADM-R01

SIMULATOR SETUP SHEET

Task Description: Complete Daily Log Verification of Power Distribution Limits during Single Loop Operation

Required Power: N/A

IC No.: N/A

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

RJPM-OPS-ADM-R01

DATA SHEET

References for Development:	STP-000-0001, Daily Operations Logs GOP-0004, Single Loop Operation
Required Materials:	STP-000-0001, Daily Operations Logs GOP-0004, Single Loop Operation Attached POWERPLEX Core Performance Log
Required Plant Condition:	N/A
Applicable Objectives:	STM-514, Obj. H5
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-OPS-ADM-R01

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 “A” Reactor Recirc Pump tripped from full power and GOP-0004, Single Loop Operation has been entered. Reactor Engineering has NOT implemented a new core monitoring system thermal limit deck for Single Loop Operation.

Initiating Cue:

The CRS has directed you to complete Step 113 of STP-000-0001, Data Sheet, with the attached Core Performance Log data.

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PERFORMANCE STEP		STANDARD	S/U	COMMENTS
1.	<p align="center"><u>STEP 113 NOTES</u></p> <p>Power Distribution Limits shall be verified to be within the limits stated in Technical Specifications within 12 hours after Thermal Power is $\geq 23.8\%$ of rated thermal power and once per 24 hours thereafter.</p> <p>During Single Loop Operation, refer to GOP-0004 to determine if administrative limits are applicable.</p>	Refer to administrative limits in GOP-0004 Step 3.4.	—	<p>CUE: Reactor Engineering has not implemented the appropriate core monitoring system thermal limit deck.</p> <p>NOTE: Do NOT provide GOP-0004, Attachment 1 until requested by candidate.</p>
2.	<p>GOP-0004 Step 3.4</p> <p>During Single Loop Operation, an administrative limit of 0.980 shall be applied to MFLCPR and an administrative limit of 0.79 shall be applied to MAPRAT while core flow is greater than 50% rated. The administrative limits may be removed once Reactor Engineering implements the appropriate core monitoring system thermal limit deck.</p>	Uses 0.980 Admin limit for MFLCPR and 0.79 for MAPRAT.	—	<p>CUE: If asked as CRS, Reactor Engineering has not implemented the appropriate core monitoring system thermal limit deck.</p>

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PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 3.	Reviews Core Performance Log to obtain values for MFLPD, MAPRAT, and MFLCPR for operating log Step 113.	Fills in Step 113 identifying MFLCPR at 0.988 as exceeding SLO administrative limit. Notifies CRS of MFLCPR exceeding limit.	—	CUE: As CRS, acknowledge MFLCPR exceeding limit. NOTE: Reading being circled is NOT critical.

Terminating Cue: Step 113 of STP-000-0001, Data Sheet 1 completed and MFLCPR identified as exceeding limit.

RJPM-OPS-ADM-R01

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-OPS-ADM-R01

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: The “A” Reactor Recirc Pump tripped from full power and GOP-0004 Single Loop Operation has been entered.
Reactor Engineering has NOT implemented a new core monitoring system thermal limit deck for Single Loop Operation.

Initiating Cues: The CRS has directed you to complete Step 113 of STP-000-0001, Data Sheet 1, with the attached Core Performance Log data.

RJPM-OPS-ADM-R01

POWERPLEX – III CORE PERFORMANCE LOG – OPS - 03FEB10 – 164555
 B1-01-04 (02.11.03 @ 2100)
 PREDICT CALCULATION – UPD TDXEC PREV PCS Y

GEOM=FULL
 RESTART 03FEB10 - 161100

POWER	2036.0	MWTH	CYCLE EXP	10133.4	MWD/MT	CMFLCPR	.988	23-22
	(67.0%)		CORE EXP	23317.4	MWD/MT	CMAPRAT	.781	21-32-17
FLOW	45.4	MLB/HR	PRESS	1015.0	PSIA	CMFLPD	.824	21-32-17
	(53.7%)		DHS	30.40	BTU/LB	CMPF	2.558	19-32-15
ELEC	719.6	MWE	WFW	7.473	MLB/HR	FCBB	1.879	2.46 FT
ROD-LN	106.9	%	TFW-A	383.7	DEG F	P-PCS	.000	17-34-18
K-EFF	1.0054		NON-EQ XE	.00		P-PCFC	-.252	35-10-10

CONTROL RODS SYMMETRIC,											C.R. SEQUENCE: B-1,				C.R. DENSITY: .070			
	04	08	12	16	20	24	28	32	36	40	44	48	52					
53				--	--	--	--	--	--	--				53				
49			--	--	--	--	--	--	--	--				49				
45		--	--	--	--	--	--	--	--	--				45				
41	--	--	--	--	06	--	12	--	06	--	--	--	--	41				
37	--	--	--	--	--	--	--	--	--	--	--	--	--	37				
33	--	--	10	P	24*	--	--	--	24	--	10	--	--	33				
29	--	--	--	--	--	--	--	--	--	--	--	--	--	29				
25	--	--	10	--	24	--	--	--	24	--	10	--	--	25				
21	--	--	--	--	--	R--	12	--	--	--	--	--	--	21				
17	--	--	--	--	06	--	--	--	17	--	--	--	--	17				
13		--	--	--	--	--	--	--	--	--	--	--	--	13				
09			--	--	--	--	--	--	--	--	--	--	--	09				
05			--	--	--	--	--	--	--	--	--	--	--	05				
	04	08	12	16	20	24	28	32	36	40	44	48	52					

KEY
 R-MFLCPR
 M-MAPRAT
 X-FDLRX
 P-PRECOND
 *-MULT
 SUBST RODS

THERMAL LIMIT DETAIL (TOP 5)								AXIAL REL POWER			
MFLCPR	LOC	MAPRAT	LOC	MFLPD	LOC	TPF	LOC	LOC	NOTCH	RPOWER	
.988	23-22	.781	21-32-17	.824	21-32-17	2.558	19-32-15	25		.098	
.961	27-22	.773	19-24-17	.763	19-32-17	2.461	21-34-15	24	00	.315	
.938	21-28	.760	19-32-17	.751	19-24-17	2.438	23-48-04	23	02	.801	
.925	15-22	.739	15-20-09	.746	29-48-04	2.376	35-12-04	22	04	1.007	
.920	13-20	.737	13-26-21	.746	29-48-04	2.376	35-12-04	21	06	1.100	

FUEL TYPE DETAIL				AXIAL DISTRIBUTION DETAIL			
TYPE	MAX LHGR	LOC	BATCH	CORE –AVERAGE			
	LHGR	LOC	AVG EXP	POWER (PINER)			
14	7.427	15-20-20	32.972	-3.458			
15	6.380	05-20-20	27.034	CORE-AVERAGE			
16	5.005	05-30-20	27.375	EXPOSURE (INER)			
17	7.140	19-22-17	20.836	-10.915			
18	8.616	19-28-17	26.561				
19	9.622	21-32-15	28.341				
20	9.045	21-28-17	12.792				
21	10.185	19-32-17	12.224				

RADIAL RING	1	2	3	4	5	6	7		
RING REL POWER	1.07	1.26	1.29	1.20	1.21	1.13	.59		

**RIVER
BEND STATION**

Number: *RJPM-OPS-ADM-R02
Revision: 4
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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

RO ADMIN – 2

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/7/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/8/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-R02

TASK DESCRIPTION:	Determine Containment Water Level During Containment Flooding.
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TASK REFERENCE:	200063005001
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K/A REFERENCE & RATING:	2.1.23, 3.9/4.0
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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-OPS-ADM-R02

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-OPS-ADM-R02

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-OPS-ADM-R02

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

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.

RJPM-OPS-ADM-R02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____1.	EOP Enclosure 23, Figure 8, Primary Containment Water Level Determination, to determine Containment Water Level. Reports Primary Containment water level to CRS.	_____	CUE: CRS requests calculated value to confirm and determine more precisely containment level
*_____2.	Confirms Primary Containment Water Level from Figure 8 with calculation per Step 3.3.	_____	NOTE: $[30-7.5)2.3]+4 = \text{Level in ft}$ $[(22.5)2.3]+4 = \text{Level in ft}$ $[51.75]+4 = 55.75 \text{ ft}$
*_____3.	Uses Table 1 and calculated value of containment water level to determine RPV water level.	_____	Uses interpolation of Table 1 values for containment levels of 55 ft and 56 ft to determine RPV water level at -237 inches.

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

RJPM-OPS-ADM-R02

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-OPS-ADM-R02

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

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.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-ADM-R03**
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 **RO ADMIN - 3**

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/17/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/17/2004</u>
Technical Review (SME)	KCN	Date
<u>Tim Manry</u>	<u>0757</u>	<u>7/19/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-R03

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, 3.6/3.8
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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-OPS-ADM-R03

SIMULATOR SETUP SHEET

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

Required Power: N/A

IC No.: N/A

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

RJPM-OPS-ADM-R03

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 reset.
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-OPS-ADM-R03

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 per WO579067, which is expected to take 10 hours to complete. The eSOMs Tagging Computer is down so the tagout is to be manual, and the tags will be entered into the system after it is back in service.

Initiating Cue:

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 complete the remaining parts of the Tagout Cover Sheet you have been given by the CRS.

RJPM-OPS-ADM-R03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1. Reviews OSP-0038 Attachment 7 Tagout Cover Sheet and obtains documents to develop tagging.	Obtains PID for SLC and SOP-0028	_____	CUE: Provide PID and SOP when requested. NOTE: Including the component location on the tagging sheet is NOT critical.
* _____ 2. Complete Tagout Tag Hung List Control Switchs	C41-S1A in Main Control Room	_____	Steps 2 to X may be written down in any order, provided that the final Hang List matches the critical steps when completed
_____ 3. Complete Tagout Tag Hung List Control Switch	C41-PC001A H22-PNLP011 Control	_____	Optional Tag (not required with breaker tagged)
* _____ 4. Complete Tagout Tag Hung List Electrical Breaker	EHS-MCC2A BKR 2C	_____	
* _____ 5. Complete Tagout Tag Hung List Isolation Valves	C41-VF003A and C41-VF002A	_____	

RJPM-OPS-ADM-R03

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* _____6.	Complete Tagout Tag Hung List Sequence for Tag installation	Sequence for Critical Tags Steps 2,4,5 in accordance with attached completed sample. Control, Breaker, Valves	_____	

Terminating Cue: Manual Tagout Form completed.

RJPM-OPS-ADM-R03

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-OPS-ADM-R03

Clearance # (U-YY-Man-##) 1-04-MAN-01
Tagout: 201-C41-RVF029A -001

Date 9/20/04

Tag No.	Tag Type	Equipment Equipment Desc Equip Location	Seq	Placement Configuration	Placement 1 st Verif	Placement 2 nd Verif	Seq	Restoration Configuration	As left Config	Rest 1 st Verif	Rest 2 nd Verif
				Notes				Notes			
1	Danger	C41-S1A SLC Pump A 136' CB H13-P601	1	NEUTRAL			7	NEUTRAL			
				Key Removed				Key Removed			
2	Danger	C41-PC001A H22-PNLP011 Control SLSPNL120	2	DISABLE			6	DISABLE			
				Key Removed				Key Removed			
3	Danger	EHS-MCC2A BKR 2C Standby Liquid Control Pump A 141' AB West	3	OFF			5	ON			
4	Danger	C41-VF003A SLC Pump A Manual Discharge Vlv 141' RB Az 80	4	CLOSED			4	LOCKED OPEN			
5	Danger	C41-VF002A SLC Pump A Suction Valve 141' RB Az 80	5	CLOSED			3	LOCKED OPEN			

RJPM-OPS-ADM-R03

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 per WO579067, which is expected to take 10 hours to complete.

The eSOMs Tagging Computer is down so the tagout is to be manual, and the tags will be entered into the system after it is back in service.

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Initiating Cues: The CRS has directed you to assist in preparing the tagout to remove and replace the relief valve.

Because of the 8 hour LCO for both SLC Pumps out of service, it has been determined that the clearance must not INOP the 'B' SLC pump.

A tagging Official will complete the remaining parts of the Tagout Cover Sheet you have been given by the CRS.

RJPM-OPS-ADM-R03

Clearance No. (U-YY-MAN-##) 1-04-MAN-01

Tagout: (SSS-FFFFFFFFFFFFFF-QQQ) 201-C41-RVF029A-001

Date: 9/20/04

Component To Be Worked: C41-RVF029A, Standby Liq Cntrl Pmp 1A
Header Press Relief Vlv

Description: Clearance for the purpose of replacing the relief valve

Placement Inst. _____

Hazards: Double valve isolation is NOT required and a vent and drain path are NOT required

Restoration Inst. None for this JPM

Tagout Attributes:

Attribute description	Attribute value
Tech Spec Impact?	Yes\No (circle one)
Compensatory Actions Required?	Yes\No (circle one)
Locked Components?	Yes\No (circle one)
Fire Protection Impairment?	Yes\No (circle one)
Equip Drain/Vent Required?	Yes\No (circle one)

Work Order Task List

Work Order Task #	Description
WO579067	Replace C41-RVF029A, Standby Liq Cntrl Pmp 1A Header Press Relief Vlv

Tagout Verification:

Status	Description	User	Verification Date
Prepared	Ops Prepared By		
Reviewed	Ops reviewed By		
Approved	Approved By		
Verified Hung	Tags Verified By		
Removal Approved	Removal Approved		
Verified Removed	Tags Verified Removed By		

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** ENTER AND EXIT A HIGH RADIATION AREA FOR VALVE LINEUP**

REASON FOR REVISION:

NRC Exam JPM

RO/SRO ADMIN - 4

PREPARE / REVIEW:

Roger Persons	0862	7/19/2004
Preparer	KCN	Date
Erich Weinfurter	1497	7/19/2004
Technical Review (SME)	KCN	Date
Tim Manry	0757	7/21/2004
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-RS04

TASK DESCRIPTION: Perform task requiring entry into a High Radiation Area

TASK REFERENCE: 301001005003
301011005003

K/A REFERENCE & RATING: 2.3.10, 2.9/3.3

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

COMPLETION TIME: 14 min.

MAX TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): Yes

RJPM-OPS-ADM-RS04

SIMULATOR SETUP SHEET

Task Description: Enter and exit a High Radiation Area for a valve lineup

Required Power: N/A

IC No.: N/A

Notes: **This will be performed using the Mockup area for Radiation Worker Training in the Main Admin 3 Building.**

RJPM-OPS-ADM-RS04

DATA SHEET

References for Development: EOI Rad Worker Training

Required Materials: Mockup area for Radiation Worker Training in the Main Admin 3 Building

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.

RJPM-OPS-ADM-RS04

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 when it becomes necessary to determine the position of manually operated Reactor Water Cleanup Drain Valve, G33-V4.

Initiating Cue:

The CRS has directed you to enter the High Radiation area to verify the position of RWCU Drain Valve, G33-V4 in the Mockup South Area.

RJPM-OPS-ADM-RS04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____ 1.	Reviews appropriate RWP and Task Description for entry requirements.	Selects RWP 2004-2097, Task 1 as the correct RWP for the task assigned and reviews entry requirements and survey map.	_____ Provide the three different RWPs for the area.
* _____ 2.	Obtains Electronic Alarming Dosimeter (EAD) from rack and activates at the terminal using appropriate Radiation Work Permit (RWP) number, and enters CAA entrance through the turnstile.	Insert EAD into the activation slot SCAN the bar code on his TLD and follow instructions on the screen. Entering 2004-2097, Task 1 and answers the questions on the computer fields of the access terminal outside the mockup.	_____ CUE: Inform the candidate that you will play the role of the independent verifier.
_____ 3.	Enters mockup High Radiation area.	Before entering mockup High Radiation area and identifies the RP sign is facing the wrong direction and informs RP of the improper posting condition.	_____ CUE: RP will send a tech out to the area to correct posting as required and write a CR.
* _____ 4.	Verifies position RWCU Drain Valve, G33-V4.	Attempts to verify position RWCU Drain Valve, G33-V4 in mockup High Radiation area.	_____ CUE: Examiner initiates EAD alarm as candidate begins to approach valve and informs candidate his EAD is alarming.
* _____ 5.	Exits High Radiation area.	Immediately exits area with Independent Verifier and reports to RP.	_____ CUE: JPM is terminated.

Terminating Cue: Entry and exit of the High Radiation area completed.

RJPM-OPS-ADM-RS04

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-OPS-ADM-RS04

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is operating at 100% power when it becomes necessary to determine the position of manually operated Reactor Water Cleanup Drain Valve, G33-V4.

Initiating Cues: The CRS has directed you to enter the High Radiation area to verify the position of RWCU Drain Valve, G33-V4 in the Mockup South Area.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** DETERMINE ALTERNATE DECAY HEAT REMOVAL METHOD**

REASON FOR REVISION:

NRC Exam JPM

SRO ADMIN - 1

PREPARE / REVIEW:

Roger Persons	0862	7/17/2004
Preparer	KCN	Date
Erich Weinfurter	1497	7/18/2004
Technical Review (SME)	KCN	Date
Tiffany Aley	1338	7/20/2004
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-S01

TASK DESCRIPTION:	Determine Alternate Decay Heat Removal Method per OSP-0041
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TASK REFERENCE:	301001005003 301011005003
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K/A REFERENCE & RATING:	2.1.25, 3.1
------------------------------------	-------------

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

COMPLETION TIME:	13 min.
-------------------------	---------

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

JOB LEVEL:	SRO
-------------------	-----

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

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

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

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

RJPM-OPS-ADM-S01

SIMULATOR SETUP SHEET

Task Description: Determine Alternate Decay Heat Removal Method per OSP-0041

Required Power: N/A

IC No.: N/A

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

RJPM-OPS-ADM-S01

DATA SHEET

References for Development: OSP-0041, Alternate Decay Heat Removal

Required Materials: OSP-0041, Alternate Decay Heat Removal, Pages 1-13, and Attachments 1 through 6

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.

RJPM-OPS-ADM-S01

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 was operating at 100% power when a reactor scram occurred and the plant is now in a forced outage. The scram occurred at 0700 hours on September 19, 2004. It is now 2300 hours on September 20, 2004. A Level 3 isolation of SDC and the inability to re-open one of the SDC suction isolation valves, after restoring RPV water level and resetting the isolation, has resulted in both RHR-SDC loops being inoperable. The following conditions exist:

- Reactor coolant temperature is 165°F
- Service Water Temperature is 83°F
- RPCCW Temperature is 91°F

Initiating Cue:

The OSM has directed you to complete OSP-0041, Alternate Decay Heat Removal, Section 6.2, Determination of Alternate Decay Heat Removal Method.

RJPM-OPS-ADM-S01

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____ 1.	Determine time since reactor shutdown and record on Attachment 1, Mode Selection.	Using information provided, determines time after shutdown to be 40 hours and records on Attachment 1.	_____	
* _____ 2.	Determine core decay heat after shutdown, per Attachment 6, Decay Heat After Shutdown From Full Power or from the Incore Fuels Group if extremely accurate Decay Heat Data is needed. Record Value on Attachment 1.	Using time after shutdown at 20 hours determines Decay Heat to be 58 MBtu/hr (± 2 MBtu/hr) and records on Attachment 1.	_____	CUE: Decay Heat information from Incore Fuels Group is NOT available at this time.
* _____ 3.	<p>Determine method of Alternate Decay Heat Removal desired based on the capacity of the systems available. <u>IF</u> RHR-SDC is <u>not</u> being used as an alternate for itself, <u>THEN</u> select an alternate method from Attachment 1, Mode Selection.</p> <ol style="list-style-type: none"> 1. Record number of inoperable RHR-SDC Loops. 2. List alternate method for each inoperable RHR-SDC Loops. 	<p>Records “2” as number of RHR-SDC Loops INOP.</p> <p>Using 63 MBtu/hr as a value for Decay Heat, and referring to Step 3 of Attachment 1, determines and records in Substep 2 of 6.2.3</p> <p>SPC/ADHR as 1st Alternate Method</p> <p>MSL Flooding as 2nd Alternate Method.</p>	_____	

Terminating Cue: OSP-0041, Alternate Decay Heat Removal, Section 6.2, Determination of Alternate Decay Heat Removal Method completed.

RJPM-OPS-ADM-S01

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-OPS-ADM-S01

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant was operating at 100% power when a reactor scram occurred and the plant is now in a forced outage.

The scram occurred at 0700 hours on September 19, 2004.

It is now 2300 hours on September 20, 2004.

A Level 3 isolation of SDC and the inability to re-open one of the SDC suction isolation valves, after restoring RPV water level and resetting the isolation, has resulted in both RHR-SDC loops being inoperable.

The following conditions exist:

- Reactor coolant temperature is 165°F
- Service Water Temperature is 83°F
- RPCCW Temperature is 91°F

Initiating Cues: The OSM has directed you to complete OSP-0041, Alternate Decay Heat Removal, Section 6.2, Determination of Alternate Decay Heat Removal Method.

**RIVER
BEND STATION**

Number: *RJPM-OPS-ADM-S02
Revision: 1
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** COMPLETE LCO STATUS SHEET FOR INOPERATIVE CONTROL
ROOM FRESH AIR INITIATION INSTRUMENTATION**

REASON FOR REVISION:

NRC Exam JPM

SRO ADMIN - 2

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/16/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/18/2004</u>
Technical Review (SME)	KCN	Date
<u>Tiffany Aley</u>	<u>1338</u>	<u>7/20/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-S02

TASK DESCRIPTION:	Complete LCO Status Sheet for Inoperative Control Room Fresh Air System					
TASK REFERENCE:	301001005003					
K/A REFERENCE & RATING:	2.1.12, 2.9/4.0					
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-OPS-ADM-S02

SIMULATOR SETUP SHEET

Task Description: Complete LCO Status Sheet for Inoperative Control Room Fresh Air System

Required Power: N/A

IC No.: N/A

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

RJPM-OPS-ADM-S02

DATA SHEET

References for Development:	OSP-0040, LCO Tracking and Safety Function Determination Program Technical Specification 3.3.7.1
Required Materials:	OSP-0040, LCO Tracking and Safety Function Determination Program Technical Specification 3.3.7.1
Required Plant Condition:	N/A
Applicable Objectives:	HLO-408 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-OPS-ADM-S02

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 on 9/20/2004. Control Room Local Intake Radiation Monitor RMS-RE13B failed high at 1005 hours. The eSOMs Computer system is Out of Service for critical system upgrade to correct a known problem, and will not be available for the remainder of this shift.

Initiating Cue:

Complete attached LCO Status Sheet LCO 1-TS-04-016

RJPM-OPS-ADM-S02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	Complete LCO Status Sheet Blocks 5, 6, and 8.	Completes LCO Status Sheet Blocks 5, 6, and 8 per attached LCO Status Sheet.	NOTE: LCO Status Sheet KEY provided showing correct entries.
* 2.	Provide a brief description of the Condition(s) entered. All conditions that must be entered due to the inoperability should be documented.	Completes LCO Status Sheet Block 10 per attached LCO Status Sheet.	
* 3.	Provide the Required Actions if the TS LCO is not met.	Completes LCO Status Sheet Block 11 per attached LCO Status Sheet.	
* 4.	Record the Completion Time associated with each Required Action.	Completes LCO Status Sheet Block 12 per attached LCO Status Sheet.	
5.	When an LCO is entered for a system designated as a support system in Attachment 1, Support – Supported LCO Matrix of this procedure, evaluate the operability of the supported system. If T.S. 3.0.6 is to be used to prevent entering Conditions and Required Actions for supported systems, perform an evaluation per T.S. 5.5.10 to ensure that no loss of safety function exists.	Completes LCO Status Sheet Blocks 13 through 15 per attached LCO Status Sheet.	

Terminating Cue: Status Sheet LCO 1-TS-04-016 completed.

RJPM-OPS-ADM-S02

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-OPS-ADM-S02

ATTACHMENT 1 - LCO STATUS SHEET (TYPICAL)

LCO No.: 1-TS- 04 - 016

1 Date: 9/20/04	2 Time: 1005	3 % PWR 100	4 Mode: 1	Page 1 of 1
5 TS/TRM No.:		6 Mode Change Allowed: ___ Yes ___ No		
7 Mark No. <u>RMS-RE13B</u> Sys. No.: <u>511</u> Description <u>Control Room Local Intake Ventilation Radiation Monitor</u>		8 Applicable Modes: <u>X</u> 1 <u>X</u> 2 <u>X</u> 3 ___ 4 ___ 5 Other <u>OPDRV's and Movement of recently irradiated fuel assemblies in Containment or Fuel Building</u>		
9 CONDITION INITIATING LCO: Scheduled Outage _____ Equipment Failure <u>XX</u> _____ <u>Control Room Local Intake Radiation Monitor RMS-RE13B failed high</u> _____ _____				
10 Condition		11 Required Action		12 Completion Time
<u>A. One or more required channels inoperable</u> _____ _____		<u>A.1 Enter the condition referenced in Table 3.3.7.1-1 for the channel</u> _____		Required by: Date: <u>09/20/2004</u> Time: <u>1005</u> Completed: Date: ___/___/___ Time: _____ Initials: _____
<u>D. As required by Required Action A.1 and referenced in Table 3.3.7.1-1</u> _____		<u>D.1 Declare associated CRFA subsystem inoperable</u> _____		Required by: Date: ___/___/___ Time: _____ Completed: Date: ___/___/___ Time: _____ Initials: _____
_____ _____ _____		<u>D.2 Place channel in Trip</u> _____ _____		Required by: Date: <u>09/20/2004</u> Time: <u>1605</u> Completed: Date: ___/___/___ Time: _____ Initials: _____
_____ _____ _____		_____ _____ _____		Required by: Date: : ___/___/___ Time: _____ Completed: Date: ___/___/___ Time: _____ Initials: _____
13 LCO 3.0.6 ENTERED N/A		14 LOSS OF SAFETY FUNCTION EVALUATION COMPLETED Initials/KCN: ___/___		
15 PREPARED BY: Candidate's Name		16 REVIEWED BY:		
LCO CLOSEOUT				
17 COMMENTS/CORRECTIVE ACTIONS		18 LCO RESTORED DATE/TIME		
_____ _____ _____		_____ _____ _____		
19 RESTORED BY:		20 REVIEWED BY:		

RJPM-OPS-ADM-S02

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is operating at 100% power on 9/20/2004. Control Room Local Intake Radiation Monitor RMS-RE13B failed high at 1005 hours.

The eSOMs Computer system is Out of Service for critical system upgrade to correct a known problem, and will not be available for the remainder of this shift.

Initiating Cues: Complete attached LCO Status Sheet LCO 1-TS-04-016

**RIVER
BEND STATION**

Number: ***RJPM-OPS-ADM-S03**
Revision: **0**
Page 1 of 8

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** REVIEW COMPLETED IST SURVEILLANCE PROCEDURE FOR
APPROVAL**

REASON FOR REVISION:

NRC Exam JPM

SRO ADMIN - 3

PREPARE / REVIEW:

Roger Persons	0862	7/19/2004
Preparer	KCN	Date
Erich Weinfurter	1497	7/19/2004
Technical Review (SME)	KCN	Date
Tiffany Aley	1338	7/20/2004
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-S03

TASK DESCRIPTION:	Review completed IST Surveillance Procedure for approval.				
TASK REFERENCE:					
K/A REFERENCE & RATING:	2.2.12, 3.4				
TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X
COMPLETION TIME:	11 min.				
MAX TIME:	N/A				
JOB LEVEL:	SRO				
TIME CRITICAL:	No				
EIP CLASSIFICATION REQUIRED:	No				
PSA RISK DOMINATE:	No				
ALTERNATE PATH (FAULTED):	Yes				

RJPM-OPS-ADM-S03

SIMULATOR SETUP SHEET

Task Description: Review and approve completed IST Surveillance Procedure.

Required Power: N/A

IC No.: N/A

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

RJPM-OPS-ADM-S03

DATA SHEET

References for Development: ADM-0015, Station Surveillance Test Program

Required Materials: ADM-0015, Station Surveillance Test Program
Completed STP-201-6310

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.

RJPM-OPS-ADM-S03

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. STP-201-6310, SLC Quarterly Pump and Valve Operability Test has been completed and submitted for Section Superintendent approval.

Initiating Cue:

As CRS, perform the Section Superintendent review and approval of STP-201-6310, SLC Quarterly Pump and Valve Operability Test.

RJPM-OPS-ADM-S03

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____1.	Reviews ADM-0015 for responsibilities of Section Superintendent or Designee.		_____	Provide copy of ADM-0015, Station Surveillance Test Program, if requested.
_____2.	Reviews steps of STP for completeness.	Identifies Step 7.2.3 requiring independent verification that was signed by the performer instead of the verifier who signed Step 7.2.4.	_____	
*_____3.	Reviews pump and valve data sheets for meeting TS acceptance criteria.	Identifies MEASURED VALUE recorded for Step 7.3.7 is in the Required Action Range and does NOT meet Technical Specifications.	_____	
*_____4.	Rejects STP based on results.	Does NOT sign approval of STP and states a CR must be written and TS LCO for INOP SLC Loop B must be entered.	_____	CUE: CR and TS entry will be done by another CRS. JPM is completed.

Terminating Cue: Review of STP completed and NOT approved based on unacceptable value for SLC Pump B flowrate.

RJPM-OPS-ADM-S03

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-OPS-ADM-S03

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is operating at 100% power.

STP-201-6310, SLC Quarterly Pump and Valve Operability Test has been completed and submitted for Section Superintendent approval.

Initiating Cues: As CRS, perform the Section Superintendent review and approval of STP-201-6310, SLC Quarterly Pump and Valve Operability Test.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-ADM-S05**
Revision: **1**
Page 1 of 8

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** CLASSIFY AN EMERGENCY EVENT**

REASON FOR REVISION:

NRC Exam JPM

SRO ADMIN - 5

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/16/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/17/2004</u>
Technical Review (SME)	KCN	Date
<u>Tiffany Aley</u>	<u>1338</u>	<u>7/20/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-S05

TASK DESCRIPTION:	Classify an Emergency Event				
TASK REFERENCE:					
K/A REFERENCE & RATING:	2.4.41, 4.1				
TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X
COMPLETION TIME:	10 min.				
MAX TIME:	15 min.				
JOB LEVEL:	SRO				
TIME CRITICAL:	Yes (Max Time is limit)				
EIP CLASSIFICATION REQUIRED:	Yes				
PSA RISK DOMINATE:	No				
ALTERNATE PATH (FAULTED):	No				

RJPM-OPS-ADM-S05

SIMULATOR SETUP SHEET

Task Description: Classify an Emergency Event

Required Power: N/A

IC No.: N/A

Notes: **The performer has 15 minutes, from the time the information is given to classification of the event and complete the short notification form for the communicator to transmit.**

RJPM-OPS-ADM-S05

DATA SHEET

References for Development:	EIP-2-001
Required Materials:	EIP-2-001 Notification Message Short Forms for all 4 classifications
Required Plant Condition:	N/A
Applicable Objectives:	ETT-032 Obj. 4 ETT-032R Obj. 4 ETT-023 Obj. 8 ETT-023R 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-OPS-ADM-S05

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 was operating at 100% power when an electrical fault in the EHC Control panel started a small fire which quickly filled the Main Control Room with smoke. The Fire Brigade started suppression efforts to prevent the fire from spreading to the Safety Related RMS panels. Smoke reduced the visibility in the Main Control Room to the point that the Operations Shift Manager (OSM) ordered the evacuation of the Main Control Room (MCR). The following is a time line of the events:

- 1034 hrs Electrical Fault in EHC Panel results in fire with heavy smoke.
- 1036 hrs MCR personal in SCBA
- 1038 hrs ATC Operator overcome by smoke due to a faulty Air Pack and is removed from MCR to the Services Building for treatment
- 1039 hrs Evacuation of MCR ordered by OSM due to heavy smoke.
- 1040 hrs Fire Brigade attempts to extinguish fire with CO₂
- 1045 hrs Fire continues to burn, Div 1 Safety Related RMS panels threatened, but not involved.
- 1046 hrs Off-Site Fire Departments assistance requested by Fire Brigade.
- 1052 hrs Unit Operator completes AOP-0031 immediate operator actions, and begins working Attachment 12 actions for ATC.
- 1057 hrs CRS reports that RHR and RCIC Systems have just been placed in operation from Div.1 Remote Shutdown Panels and that reactor pressure is being controlled by manual operation of one SRV.
- 1059 hrs Fire Brigade Leader reports the fire under control.

Initiating Cue:

As OSM and Emergency Director, classify the event and complete the notification short form.

RJPM-OPS-ADM-S05

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	Review Emergency Action Levels for event classification.	EIP-2-001 reviewed	_____ CUE: Provide EIP-0-001 when requested.
* _____ 2.	Classify event.	Event classified as SAE (per EAL 15) as an SAE due to failure to establish RSP with in 15 min of evacuation of the Main Control Room Note: The next step is <u>TIME CRITICAL</u> and is to be completed 10 minutes from the time of declaration.	_____
* _____ 3.	Complete short form for notification of SAE.	Short form notification completed as follows: Form GSUN0952.1-99-93(Dec) filled out correctly for communicator. Declared : Time of Performance Step 2 On: Current Date For: Evacuation of the Main Control Room and Control of Shutdown Systems not established at Remote Shutdown Panels in 15 Min. Wind from: 202 deg. At: 5 miles Release: No Authorized by: Signature Title: Emergency Director or ED/RM	_____ CUE: <ul style="list-style-type: none"> • Wind direction 202 degrees • Wind speed 5 miles per hour • No precipitation.

Terminating Cue: Classification determined and the short form notification completed.

RJPM-OPS-ADM-S05

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-OPS-ADM-S05

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant was operating at 100% power when an electrical fault in the EHC Control panel started a small fire which quickly filled the Main Control Room with smoke. The Fire Brigade started suppression efforts to prevent the fire from spreading to the Safety Related RMS panels. Smoke reduced the visibility in the Main Control Room to the point that the Operations Shift Manager (OSM) ordered the evacuation of the Main Control Room (MCR). The following is a time line of the events:

- 1034 hrs Electrical Fault in EHC Panel results in fire with heavy smoke.
- 1036 hrs MCR personal in SCBA
- 1038 hrs ATC Operator overcome by smoke due to a faulty Air Pack and
is removed from MCR to the Services Building for treatment
- 1039 hrs Evacuation of MCR ordered by OSM due to heavy smoke.
- 1040 hrs Fire Brigade attempts to extinguish fire with CO₂
- 1045 hrs Fire continues to burn, Div 1 Safety Related RMS panels threatened, but not involved.
- 1046 hrs Off-Site Fire Departments assistance requested by Fire Brigade
- 1052 hrs Unit Operator completes AOP-0031 immediate operator actions, and begins working Attachment 12 actions for ATC.
- 1057 hrs CRS reports that RHR and RCIC Systems have just been placed in operation from Div.1 Remote Shutdown Panels and that reactor pressure is being controlled by manual operation of one SRV.
- 1059 hrs Fire Brigade Leader reports the fire under control.

Initiating Cues: As OSM and Emergency Director, classify the event and complete the notification short form.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***DEFEAT RC&IS INTERLOCKS PER EOP ENCLOSURE 14**

REASON FOR REVISION:

NRC Exam JPM **CR SYSTEMS - 1**

PREPARE / REVIEW:

<u>Roger L. Persons</u>	<u>0862</u>	<u>6/10/2004</u>
Preparer	KCN	Date
<u>Erich Weinfurter</u>	<u>1496</u>	<u>6/30/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/13/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-01

TASK DESCRIPTION: Defeat RC&IS Interlocks per EOP Enclosure 14

TASK REFERENCE: 200049005001

K/A REFERENCE & RATING: 201005 K1.02, 3.3/3.5
 201005 K5.02, 2.8/3.3
 201005 A1.01, 3.2/3.3
 295037 EK2.12, 3.6/3.8
 295037 EA1.08, 3.6/3.6

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

COMPLETION TIME: 12 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-OPS-CRS-01

SIMULATOR SETUP SHEET

Task Description: Defeat RC&IS Interlocks per EOP Enclosure 14.

Required Power: N/A

IC No.: N/A

Notes: This JPM is to be performed in the Control Room.

RJPM-OPS-CRS-01

DATA SHEET

References for Development: EOP-0005, Enclosure 14

Required Materials: EOP-0005, Enclosure 14

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.

RJPM-OPS-CRS-01

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

A Reactor SCRAM has occurred and 17 rods have failed to insert, Control Rod Withdraw Blocks and Control Rod Insert Blocks exists.

Initiating Cue:

The CRS directs you to defeat the RC&IS Control Rod Insert Blocks using EOP-0005, Enclosure 14. He informs you that EOP-0005, Enclosure 16, Defeating Containment Instrument Air Isolation Interlocks has already been installed.

RJPM-OPS-CRS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	OBTAIN EOP-0005 ENCL 14 key, one (1).	ENCL Key obtained.	<p>CUE: Key obtained. Once Emergency Key Locker has been opened and key identified.</p> <p>NOTE: Either trip unit, C11-N654A or C11-N654B can be done first.</p>
* 2.	Location: 1H13-P618 Affected Trip Unit: C11-N654B, FIRST STAGE TURBINE PRESSURE (left column, 2 nd row from top, 1 st Unit) UNLOCK and REMOVE bar.	Locking bar is removed.	<p>CUE: Locking Bar removed.</p> <p>Note: See Encl 14 Page 4 of 4 for MCR backpanel P618 location.</p>
3.	VERIFY center knob is full out.	Center knob on CAL Switch is full out.	<p>CUE: Center knob is full out.</p> <p>Note: Center knob is located on the CAL Unit CAL Select Switch.</p>
4.	VERIFY TRANSIENT CURRENT Knob is full out.	TRANSIENT CURRENT Knob is full out.	<p>CUE: TRANSIENT CURRENT Knob is full out.</p> <p>Note: TRANSIENT CURRENT Knob is located on the CAL Unit.</p>
5.	VERIFY center knob is rotated fully counter clockwise.	Center knob is rotated fully counter-clockwise.	<p>CUE: Center knob is rotated fully counter-clockwise.</p>

RJPM-OPS-CRS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 6.	ROTATE center knob 1 “click” clockwise to position 1.	Center knob is in Position 1.	CUE: Center knob is in Position 1.
* 7.	TURN power switch to ON.	Power switch is in the ON position.	CUE: Power switch is on. NOTE: Power switch is located on the CAL Unit.
* 8.	DEPRESS center knob.	Center knob depressed.	CUE: Center knob is depressed.
* 9.	ROTATE STABLE CURRENT knob fully clockwise <u>UNTIL</u> meter on trip unit is full scale and TRIP is reset.	STABLE CURRENT Knob fully clockwise and trip reset. Red trip light on C11-N654B - OFF	CUE: Stable Current Knob is fully clockwise, trip unit C11-N654B is full scale and red trip light on C11-N654B is OFF. NOTE: Stable Current Knob is located on CAL Unit.
* 10.	Location: 1H13-P629 Affected Trip Unit: C11-N654A, FIRST STAGE TURBINE PRESSURE (right column, bottom row, 8 th unit) UNLOCK and REMOVE bar.	Locking bar is removed.	CUE: Locking Bar removed. Note: See Encl 14 Page 4 of 4 for MCR backpanel P629 location.

RJPM-OPS-CRS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____ 11.	VERIFY center knob is full out.	Center knob on CAL Switch is full out.	CUE: Center knob is full out. Note: Center knob is located on the CAL Unit CAL Select Switch.
____ 12.	VERIFY TRANSIENT CURRENT Knob is full out.	TRANSIENT CURRENT Knob is full out.	CUE: TRANSIENT CURRENT Knob is full out. Note: TRANSIENT CURRENT Knob is located on the CAL Unit.
____ 13.	VERIFY center knob is rotated fully counter clockwise.	Center knob is rotated fully counter-clockwise.	CUE: Center knob is rotated fully counter-clockwise.
* ____ 14.	ROTATE center knob 8 “clicks” clockwise to position 8.	Center knob is in Position 8.	CUE: Center knob is in Position 8.
* ____ 15.	TURN power switch to ON.	Power switch is in the ON position.	CUE: Power switch is on. NOTE: Power switch is located on the CAL Unit.
* ____ 16.	DEPRESS center knob.	Center knob depressed.	CUE: Center knob is depressed.

RJPM-OPS-CRS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* 17.</p>	<p>ROTATE STABLE CURRENT knob fully clockwise <u>UNTIL</u> meter on trip unit is full scale and TRIP is reset.</p>	<p>STABLE CURRENT Knob fully clockwise and trip reset.</p> <p>Red trip light on C11-N654A - OFF</p>	<p>CUE: Stable Current Knob is fully clockwise, trip unit C11-N654A is full scale and red trip light on C11-N654A is OFF.</p> <p>NOTE: Stable Current Knob is located on CAL Unit.</p> <p>NOTE: If candidate does not reinstall locking bars, as may be the case if this was being done in an actual emergency, have him/her replace the locking bars at the conclusion of the JPM.</p>

Terminating Cue: RC&IS Control Rod Insert Blocks defeated using EOP-0005, Enclosure 14.

RJPM-OPS-CRS-01

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-OPS-CRS-01

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: A Reactor SCRAM has occurred and 17 rods have failed to insert, Control Rod Withdraw Blocks and Control Rod Insert Blocks exists.

Initiating Cues: The CRS directs you to defeat the RC&IS Control Rod Insert Blocks using EOP-0005, Enclosure 14. He informs you that EOP-0005, Enclosure 16, Defeating Containment Instrument Air Isolation Interlocks has already been installed.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***CCP VALVE QUARTERLY STROKE TEST**

REASON FOR REVISION:

NRC Exam JPM

CR SYSTEMS - 2

PREPARE / REVIEW:

<u>Roger L. Persons</u>	<u>0862</u>	<u>6/11/2004</u>
Preparer	KCN	Date
<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/7/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-02

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-OPS-CRS-02

SIMULATOR SETUP SHEET

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

Required Power: Any

IC No.: 168

Notes: **Malfunctions to trip of both operating 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-OPS-CRS-02

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.

RJPM-OPS-CRS-02

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-OPS-CRS-02

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:</p> <p>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>			

RJPM-OPS-CRS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>_____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>_____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 in TEST position</p>	<p>_____</p>	<p>NOTE: Will receive alarm P870-55A-G04, DIVISION 1 RPCCW SYSTEM INOPERATIVE</p>
<p>_____3.</p> <p>Place the STBY SVCE WTR TEST (Div 1) Switch in TEST.</p>	<p>STBY SVCE WTR TEST (Div 1) Switch in TEST position.</p>	<p>_____</p>	<p>NOTE: Will receive alarm P870-55A-H07, DIVISION 1 STBY SERVICE WTR INOPERATIVE</p>
<p>_____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>	
<p>_____5.</p> <p>Place SWP-P2C, STBY SVCE WTR in LOCKOUT</p>	<p>SWP-P2C, STBY SVCE WTR PUMP 2C LOCKOUT pushbutton depressed. (P601)</p>	<p>_____</p>	<p>NOTE: Will receive alarm P601-18A-B01, DIV 3 STBY SVCE WATER SYSTEM INOPERATIVE</p>

RJPM-OPS-CRS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 6.	Close and time CCP-MOV130, LOOP A DN STREAM RETURN Green light ON Red light OFF	Starts stop watch when control switch moved to close and stops when CCP-MOV130 Closed. _____	
* 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 at 30 seconds (± 2 seconds) _____	
* 8.	Close and time CCP-MOV335, LOOP A UP STREAM RETURN.	Starts stop watch when control switch moved to close and stops 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 at 30 seconds (± 2 seconds) _____	

RJPM-OPS-CRS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 10.	Close and time CCP-MOV16A, RPCCW LOOP A SUPPLY. Green light ON Red light OFF	Starts stop watch when control switch moved to close and stops 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 at 30 seconds (± 2 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 and/or directed by the OSM/CRS.	SWP-P2A Starts (P870) Green light OFF Red light ON	<p>CUE: As CRS, if candidate reports loss of NSW, direct taking action per STP to allow Division 1 SSW to initiate</p>

RJPM-OPS-CRS-02

PERFORMANCE 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 and/or directed by the OSM/CRS. 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 and/or directed by the OSM/CRS. 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 and/or directed by the OSM/CRS.	—	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-OPS-CRS-02

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-OPS-CRS-02

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

**RIVER
BEND STATION**

Number: ***RJPM-OPS-CRS-03**
Revision: **1**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** SUPPRESSION POOL MAKEUP, EOP ENLCOSURE 30 USING
SPC/ADHR**

REASON FOR REVISION:

NRC Exam JPM

CR SYSTEMS - 3

PREPARE / REVIEW:

<u>Roger L. Persons</u>	<u>0862</u>	<u>7/9/2004</u>
Preparer	KCN	Date
<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/9/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Training Supervisor	KCN	Date

* Indexing Information

RJPM-OPS-CRS-03

TASK DESCRIPTION: Suppression Pool Makeup per EOP-0005, Enclosure 30

TASK REFERENCE: 200017005002

K/A REFERENCE & RATING: 223001 K1.13, 3.4/3.5
223001 A2.11, 3.6/3.8

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

COMPLETION TIME: 15 min.

MAX TIME: N/A

JOB LEVEL: All

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): Yes

SAFETY FUNCTION: 8

RJPM-OPS-CRS-03

SIMULATOR SETUP SHEET

Task Description: Suppression Pool Makeup per EOP-0005, Enclosure 30.

Required Power: Any

IC No.: 162

Notes: **Insert Override to close RHS-AOV63 to occur when valve reaches OPEN position.**

RJPM-OPS-CRS-03

DATA SHEET

References for Development: EOP-0005, Enclosure 30, Suppression Pool Makeup

Required Materials: EOP-0005, Enclosure 30, Suppression Pool Makeup

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.

RJPM-OPS-CRS-03

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 RCIC out of service. Suppression Pool level has lowered to 18 feet.

Initiating Cue:

The CRS directs you to raise Suppression Pool water level using SPC/ADHR per EOP-0005, Enclosure 30.

RJPM-OPS-CRS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
1.	Obtain copy of EOP-0005, Enclosure 30.		Enclosures are located in drawer to the left of the DRMS Monitor.
2.	VERIFY E12-F105, RHR PUMP C SUP PL SUCTION VALVE is open (1H13-P601) Green light OFF Red light ON	Verifies E12-F105, RHR PUMP C SUP PL SUCTION VALVE is open. Green light OFF Red light ON	
* 3.	VERIFY open RHS-AOV62, SPC SUCTION VALVE (1H13-P601) Green light OFF Red light ON	Places RHS-AOV62, SPC SUCTION VALVE control switch to OPEN. Green light OFF Red light ON	
* 4.	VERIFY open RHS-AOV63, SPC SUCTION VALVE (1H13-P601) Green light OFF Red light ON	Places RHS-AOV63, SPC SUCTION VALVE control switch to OPEN. Green light OFF Red light ON	NOTE: ALTERNATE PATH RHS-AOV63 recloses when it reaches full open and cannot be reopened.
5.	Reports failure of RHS-AOV63 to remain open and informs CRS.		CUE: As CRS, acknowledge failure of AOV63 and direct using HPCS.

RJPM-OPS-CRS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
4.	VERIFY HPCS pump suction is aligned to the CST. Verifies E22-MOVF001, HPCS CST SUCTION VALVE is open. Green light OFF Red light ON Verifies E22-MOVF015, HPCS SP SUCTION VALVE is closed. Green light ON Red light OFF	—	
* 5.	START the HPCS pump. (1H13-P601) VERIFY HPCS pump motor current is less than or equal to 350 amps Places HPCS control switch to START Green light OFF Red light ON Pump current verified <350 amps	—	
6.	VERIFY OPEN E22-F012 HPCS MIN FLOW VALVE TO SUPPRESSION POOL. (1H13-P601) Verifies E22-F012 open. Green light OFF Red light ON	—	CUE: As CRS, additional makeup is NOT required.

Terminating Cue: HPCS operating with minimum flow open transferring water to the Suppression Pool from the CST.

RJPM-OPS-CRS-03

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-OPS-CRS-03

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The Plant is operating at rated conditions with RCIC out of service.

Suppression Pool level has lowered to 18 feet.

Initiating Cues: The CRS directs you to raise Suppression Pool water level using SPC/ADHR per EOP-0005, Enclosure 30.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** PLACE FWREG VALVE C IN MANUAL WITH STARTUP LEVEL
CONTROL VALVE IN AUTO**

REASON FOR REVISION:

NRC Exam JPM

CR SYSTEMS - 4

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>6/29/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/7/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-04

TASK DESCRIPTION:	Place FWREG Valve C In Manual With Startup Level Control Valve In Auto
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TASK REFERENCE:	259013001001
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K/A REFERENCE & RATING:	259002 K5.01, 3.1/3.1 259002 A1.05, 2.9/2.9 259002 A4.03, 3.8/3.6
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	15 min.
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MAX TIME:	N/A
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JOB LEVEL:	RO/SRO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	No
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ALTERNATE PATH (FAULTED):	Yes
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RJPM-OPS-CRS-04

SIMULATOR SETUP SHEET

Task Description: Place FWREG Valve C In Manual With Startup Level Control Valve In Auto.

Required Power: 12%

IC No.: IC-168

Notes: **Malfunction on FWREG Valve is initiated in IC-168.**

RJPM-OPS-CRS-04

DATA SHEET

References for Development:	SOP-0009, Reactor Feedwater System
Required Materials:	SOP-0009, Reactor Feedwater System
Required Plant Condition:	Plant at approximately 10% power with Startup Feedwater Level Controller in Automatic
Applicable Objectives:	
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	007, Manual Control of Feedwater

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-OPS-CRS-04

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 approximately 12% power with Startup Feedwater Level Controller in Automatic.

Initiating Cue:

The CRS has directed you to place FWREG Valve C in manual with the Startup Level Control Valve in Auto in accordance with SOP-0009, Section 4.8, Reactor Feedwater System. An SNEO is stationed at the valve.

RJPM-OPS-CRS-04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS	
____ 1.	Verify C33-R602A, FWREG VALVE C FLOW CONTROLLER in MANUAL and set at 0%.	Controller verified to be in MANUAL and set at 0%.	____	
____ 2.	Verify the bias thumbwheel on C33-R601A, FWREG VALVE A FLOW CONTROLLER and C33-R602A, FWREG VALVE C FLOW CONTROLLER set at 50.	Bias thumbwheels set at 50.	____	
____ 3.	Verify C33-R600, FWREG VALVES MASTER FLOW CONTROLLER in MANUAL set at 0%.	Master FRV controller verified in manual at 0%.	____	
* ____ 4.	Place C33-R602A, FWREG VALVE FLOW CONTROLLER C in AUTO.	Controller is placed in AUTO. Green light ON Amber light OFF	____	
____ 5.	Verify FWS-MOV27C, FW REG VLV C INLET is closed.	FWS-MOV27C closed. Green light ON Red light OFF	____	
____ 6.	Test stroke C33-LVF001C, FWREG VAVLE C as follows: Station an operator locally at the valve to verify proper valve movement and position.	Operator is stationed locally for observation of the valve during stroking.	____	CUE: If contacted by Gaitronics respond as Turbine Building Operator stationed locally to observe valve movement and position during stroking.

RJPM-OPS-CRS-04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* 7.</p>	<p>Use the OPEN and CLOSE Pushbuttons on C33-R600, FW REG VALVES MASTER FLOW CONTROLLER to stroke open and closed C33-LVF001C</p> <p>Check proper valve movement and smooth operations.</p> <p>Check C33-LVF001A full closed.</p>		<p>CUE: As Turbine Building Operator, inform the candidate that the valve did not move. Valve appears to be bound or stuck.</p> <p>CUE: As CRS direct placing the A FWREG valve in service. You will notify I&C to investigate the failure of the “C” FRV.</p> <p>NOTE: May Place C33-R601C, FWREG VALVE FLOW CONTROLLER C back in MANUAL.</p>
<p>8.</p>	<p>Verify C33-R601A, FWREG VALVE A FLOW CONTROLLER in MANUAL and set at 0%.</p>	<p>_____</p>	
<p>9.</p>	<p>Verify the bias thumbwheel on C33-R601A, FWREG VALVE A FLOW CONTROLLER and C33-R602A, FWREG VALVE C FLOW CONTROLLER set at 50.</p>	<p>_____</p>	
<p>10</p>	<p>Verify C33-R600, FWREG VALVES MASTER FLOW CONTROLLER in MANUAL set at 0%.</p>	<p>_____</p>	

RJPM-OPS-CRS-04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 11.	Place C33-R601A, FWREG VALVE FLOW CONTROLLER A in AUTO. Green light ON Amber light OFF	_____	
12.	Verify FWS-MOV27A, FW REG VLV A INLET is closed. Green light ON Red light OFF	_____	
13.	Test stroke C33-LVF001A, FWREG VAVLE A as follows: Station an operator locally at the valve to verify proper valve movement and position.	_____	CUE: If contacted by Gaitronics respond as Turbine Building Operator stationed locally at C33-LVF001A to observe valve movement and position during stroking.
14.	Use the OPEN and CLOSE Pushbuttons on C33-R600, FW REG VALVES MASTER FLOW CONTROLLER to stroke open and closed C33-LVF001A Check proper valve movement and smooth operations. Check C33-LVF001A full closed.	_____	CUE: As Turbine Building Operator, inform the candidate that the valve moved from full closed to full open and back to full closed. Valve operation was smooth.
* 15.	Open FWS-MOV27A, FW REG VLV A INLET is closed. Green light ON Amber light OFF	_____	

RJPM-OPS-CRS-04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____16	C33-LVF001C, FWREG VALVE C open and START UP FWREG VALVE position greater than 20 and less than 50% open.	_____	

Terminating Cue: RPV level is being maintained automatically by the Startup Level Controller with the “A” FWREG valve in AUTO on the Master Level Controller in MANUAL.

RJPM-OPS-CRS-04

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-OPS-CRS-04

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is operating at approximately 12% power with Startup Feedwater Level Controller in Automatic.

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Initiating Cues: The CRS has directed you to place FWREG Valve C in manual with the Startup Level Control Valve in Auto in accordance with SOP-0009, Section 4.8, Reactor Feedwater System.

An SNEO is stationed at the valve.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-CRS-05**
Revision: **3**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** BYPASS MSR STEAM SUPPLY VALVES INTERLOCK PER EOP
ENCLOSURE 5**

REASON FOR REVISION:

NRC Exam JPM

CR SYSTEMS - 5

PREPARE / REVIEW:

<u>Roger Persons</u>	<u>0862</u>	<u>7/13/2004</u>
Preparer	KCN	Date
<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/13/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/13/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-05

TASK DESCRIPTION:	Bypass MSR Steam Supply Valves Interlock Per EOP Enclosure 5				
TASK REFERENCE:	200005005004				
K/A REFERENCE & RATING:	239001 K1.01, 3.4/3.4 239001 K1.01, 2.8/2.8				
TESTING METHOD:	Simulate Performance	X			Actual Performance
	Control Room	X	Simulator		In-Plant
COMPLETION TIME:	11 min.				
MAX TIME:	N/A				
JOB LEVEL:	RO/SRO				
TIME CRITICAL:	No				
EIP CLASSIFICATION REQUIRED:	No				
PSA RISK DOMINATE:	No				
ALTERNATE PATH (FAULTED):	No				

RJPM-OPS-CRS-05

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 will be simulated in the Main Control Room.

RJPM-OPS-CRS-05

DATA SHEET

References for Development: EOP-0005, Enclosure 5

Required Materials: EOP-0005, Enclosure 5

Required Plant Condition: A scram has occurred following extended high power operations. EOP-0001 and EOP-0002 are being executed. A malfunction in the turbine bypass valves and high suppression pool temperature require use of alternate pressure control methods.

Applicable Objectives:

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-OPS-CRS-05

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

A scram has occurred following extended high power operations. EOP-0001 and EOP-0002 are being executed. A malfunction in the turbine bypass valves and high suppression pool temperature require use of alternate pressure control methods.

Initiating Cue:

The CRS has directed you to install EOP-0005, Enclosure 5 Defeating MSR Steam Supply Valves Interlock.

RJPM-OPS-CRS-05

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	OBTAIN EOP-0005 ENCL 5 jumper kit from the Control Room Emergency Locker.	EOP-0005 ENCL 5 jumper Kit No. 5 obtained from Control Room Emergency Locker	NOTE: Have candidate return jumper kit to Emergency Locker once identified and inventoried.
2.	Inspect kit for 2 jumpers.	Two jumpers located in Jumper Kit No 5.	NOTE: Controls and indications for MSRs are located on H13-P870, Insert 52
3.	Verify MSS-MOV111, MSR 1 STM SPLY SHUTOFF <u>AND</u> , MSS-MOV112, MSR 2 STM SPLY SHUTOFF Control Switches are in CLOSE.	MSS-MOV111 in CLOSE Position Green light ON Red light OFF MSS-MOV112 in CLOSE Position Green light ON Red light OFF	CUE: MSS-MOV111 Green light is on and red light is off NOTE: With the plant at power these valves should indicate open. CUE: MSS-MOV112 Green light is on and red light is off
* 4.	Location: 1H13-P869 Bay D Affected relay: 63B-1MSSN17 (Left row of agastat relays, 8 th relay from top) REMOVE relay 63B-1MSSN17	Locates H13-P869 Bay D and identifies relay 63B-1MSSN17 and describes squeezing upper and lower cover latches to remove relay.	NOTE: Relay is labeled 63B-1MSSN17 and is in left row of agastat relays, 8 th relay from top CUE: Relay 63B-1MSSN17 removed
* 5.	Jumper No. 1 JUMPER Terminal M3 on Relay Block 63B-1MSSN17 to Terminal R3 on Relay Block 63B-1MSSN17	Identifies terminals to install Jumper No. 1	CUE: Jumper No. 1 installed NOTE: Enclosure 5 contains sketch of relay terminals for reference.

RJPM-OPS-CRS-05

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 6.	Jumper No. 2 JUMPER Terminal M4 on Relay Block 63B-1MSSN17 to Terminal R4 on Relay Block 63B-1MSSN17	Identifies terminals to install Jumper No. 2		CUE: Jumper No. 2 installed
* 7.	OPEN MSS-MOV111, MSR 1 STM SPLY SHUTOFF <u>AND</u> , MSS-MOV112, MSR 2 STM SPLY SHUTOFF as directed by the CRS.	Places MSS-MOV111 control switch to OPEN Position Green light OFF Red light ON Places MSS-MOV112 control switch to OPEN Position Green light OFF Red light ON		CUE: As CRS, direct opening both MSS-MOV111 and 112.

Terminating Cue: EOP-0005, Enclosure 5 installed and both MSR Steam Supply Shutoff Valves open.

RJPM-OPS-CRS-05

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-OPS-CRS-05

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: A scram has occurred following extended high power operations.

EOP-0001 and EOP-0002 are being executed.

A malfunction in the turbine bypass valves and high suppression pool temperature require use of alternate pressure control methods.

Initiating Cues: The CRS has directed you to install EOP-0005, Enclosure 5 Defeating MSR Steam Supply Valves Interlock.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-CRS-06**
Revision: **0**
Page 1 of 12

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** RESTORE FUEL BUILDING FILTRATION SYSTEM TO STANDBY
FOLLOWING AN AUTOMATIC INITIATION**

REASON FOR REVISION:

NRC Exam JPM

CR SYSTEMS - 6

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>7/1/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0988</u>	<u>7/7/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-06

TASK DESCRIPTION:	Restore Fuel Building Filtration System to Standby following an Automatic Initiation
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TASK REFERENCE:	289008001001
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K/A REFERENCE & RATING:	288000 K4.03, 2.8/2.9 288000 A2.01, 3.3/2.4 288000 A4.01, 3.1/2.9
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	12 min.
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MAX TIME:	N/A
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JOB LEVEL:	RO/SRO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	No
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ALTERNATE PATH (FAULTED):	No
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RJPM-OPS-CRS-06

SIMULATOR SETUP SHEET

Task Description: Restore Fuel Building Filtration System to Standby following an Automatic Initiation

Required Power: NA

IC No.: IC-161

Notes:

RJPM-OPS-CRS-06

DATA SHEET

References for Development: SOP-0062, Fuel Building Ventilation

Required Materials: SOP-0062, Fuel Building Ventilation

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.

RJPM-OPS-CRS-06

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 Division I Fuel Building Ventilation Filter Train received an automatic initiation signal from an I&C Surveillance. All conditions are normal and I&C has corrected the problem.

Initiating Cue:

The Control Room Supervisor has directed you to restore the Fuel Building Ventilation System to standby, per SOP-0062. The prerequisites have been verified complete.

RJPM-OPS-CRS-06

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____1.	Verify all initiation and isolation signals have been reset	Observes that No LOCA or Fuel Building Ventilation Exhaust radiation high-high signals present.	NOTE: Candidate should use SOP-0062, Section 5.7. CUE: If candidate asks, NO fuel movement is in progress in the Fuel Building (P&L 2.2)
_____2.	Verify only one HVF-FN3A or B, EXH FLTR TRAIN is running	Observes that only Division 1 Fuel Building Exhaust Filter Train is operating.	
_____3.	<u>IF</u> DIVISION 1 and 2 RADIATION OVERRIDE Switches were utilized to override a High-High Radiation signal for Refuel Mode Operation, <u>THEN</u> place the following in NORM: DIVISION 1 RADIATION OVERRIDE DIVISION 2 RADIATION OVERRIDE	Neither switch in OVERRIDE.	NOTE: Override Switches were not used.

RJPM-OPS-CRS-06

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* 4.</p> <p>Verify open the following dampers:</p> <ul style="list-style-type: none"> • HVF-AOD102, FUEL BLDG EXH FAN INLT • HVF-AOD112, FUEL BLDG EXH FAN INLT • HVF-AOD104, FUEL BLDG EXH ISOL • HVF-AOD137, FUEL BLDG EXH ISOL • HVF-AOD101, FUEL BLDG AIR SPLY ISOL • HVF-AOD122, FUEL BLDG AIR SPLY ISOL 	<p>Opens HVF-AOD102 and HVF-AOD104</p> <p>Green light OFF Red light ON</p> <p>Verifies that all other listed dampers are open</p> <p>Green light OFF Red light ON</p>	<p align="center">_____</p>	<p>Note: Only HVFAOD102 and HVF-AOD104 are critical actions for this step, the remaining dampers listed in this step are already open.</p>
<p>5.</p> <p><u>IF</u> no Fuel Building Supply Fan is running, <u>THEN</u> start one of the following fans:</p> <ul style="list-style-type: none"> • HVF-ACU1 FN1A, FUEL BLDG SPLY FAN A • HVF-ACU1 FN1B, FUEL BLDG SPLY FAN B 	<p>Verifies one fan operating.</p> <p>Green light OFF Red light ON</p>	<p align="center">_____</p>	

RJPM-OPS-CRS-06

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
5.	Check associated HVF-AOD13A(B), FUEL BLDG SPLY FAN A(B) DISCH opens HVF-AOD13A(B) damper open for fan operating Green light OFF Red light ON	—	
* 6.	Stop the running HVF-FN3A(B), EXH FLTR TRAIN. Places HVF-FN3A fan control switch to STOP. Green light ON Red light OFF	—	
7.	Verify the following: <ul style="list-style-type: none"> • Associated HVF-AOD20A(B), FILTER 2A(B) INLET is closed. • Associated HVF-AOD31A(B), FAN 3A(B) DISCH is closed. • Associated HVF-FN7A(B), FLT 2A(B) DECAY HEAT REMOVAL is running. • Associated HVF-AOD3A(B), DECAY HEAT REMOVAL INLET is open. • Associated HVF-AOD33A(B), DECAY HEAT REMOVAL DISCH is open. 	—	All listed dampers are open Green light OFF Red light ON HVF-FN7A is running Green light OFF Red light ON

RJPM-OPS-CRS-06

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 8.	Start one HVF-FN8A(B), FUEL BLDG EXH FAN A(B) Places HVF-FN8A(B) fan control switch to START and verifies fan started Green light OFF Red light ON	_____	
9.	Check associated HVF-AOD6A(B), FUEL BLDG EXH FAN A(B) DISCH opens. HVF-AOD6A(B) damper open Green light OFF Red light ON	_____	
10	Place the non-running HVF-FN8B(A), FUEL BLDG EXH FAN B(A) in AUTO. Places HVF-FN8A(B) fan control switch to AUTO	_____	
* 11	<u>WHEN</u> system flow has stabilized, <u>THEN</u> place the stopped HVF-FN3A(B) EXH FLTR TRAIN in AUTO. Places HVF-FN3A(B) fan control switch to AUTO	_____	
* 12	Verify closed HVF-AOD37A, FUEL BLDG ALT AIR SUPPLY and HVF-AOD37B, FUEL BLDG ALT AIR SUPPLY. Closes HVF-AOD37A and B Green light ON Red light OFF	_____	

RJPM-OPS-CRS-06

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* _____ 13</p>	<p>Places HVF-FN7A(B) fan control switch to STOP, verifies that the fan stops.</p> <p>Green light ON Red light OFF</p> <p>Listed dampers are closed</p> <p>Green light ON Red light OFF</p> <p>Places HVF-FN7A(B) fan control switch to AUTO</p>	<p>_____</p>	<p>CUE: CRS directs securing the decay heat removal fan now.</p>
<p>_____ 14</p>	<p>Operator Contacts Reactor Building operator for Differential pressure reading.</p>	<p>_____</p>	<p>CUE: Reactor Building Operator reports that Fuel Building pressure on HVF-PDI103 is 0.125" water gauge</p>

Terminating Cue: The Fuel Building Ventilation System has been restored to Standby.

RJPM-OPS-CRS-06

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-OPS-CRS-06

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The Division I Fuel Building Ventilation Filter Train received an automatic initiation signal from an I&C Surveillance. All conditions are normal and I&C has corrected the problem.

Initiating Cues: The Control Room Supervisor has directed you to restore the Fuel Building Ventilation System to standby, per SOP-0062. The prerequisites have been verified complete.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-CRS-07**
Revision: **1**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** PARALLEL OFFSITE POWER WITH DIVISION II EDG SUPPLYING
ENS-SWG1B**

REASON FOR REVISION:

NRC Exam JPM

CR SYSTEMS - 7

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>6/29/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/6/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-07

TASK DESCRIPTION:	Parallel Offsite Power With Div 2 EDG Supplying ENS-SWG1B.
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TASK REFERENCE:	264009001001
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K/A REFERENCE & RATING:	264000 A2.01, 3.5/3.6 264000 A2.05, 3.6/3.6 264000 A4.02, 3.4/3.4 295003 AA1.02, 4.2/4.3
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	10 min.
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MAX TIME:	N/A
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JOB LEVEL:	RO/SRO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	Yes
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ALTERNATE PATH (FAULTED):	Yes
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RJPM-OPS-CRS-07

SIMULATOR SETUP SHEET

Task Description: Parallel Offsite Power With Div 2 EDG Supplying ENS-SWG1B

Required Power: Cold Shutdown following a Loss of Offsite Power

IC No.: 161

Notes:

The simulator will be setup for a startup at 12% power for another JPM. However, the P877 panel configuration is consistent with expected conditions for performance of this JPM as the final step in recovering Offsite Power. ENS-SWG1A has been returned to normal lineup and Div I EDG has been shutdown.

RJPM-OPS-CRS-07

DATA SHEET

References for Development:	AOP-0004, Loss of Offsite Power SOP-0053, Standby Diesel Generator and Auxiliaries
Required Materials:	SOP-0053, Standby Diesel Generator and Auxiliaries
Required Plant Condition:	Following LOP
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-OPS-CRS-07

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

A Loss of Offsite Power has occurred with the plant in cold shutdown. AOP-0004, Loss of Offsite Power was entered and all required actions taken. Plant conditions are stable and Offsite power is being restored to the plant per AOP-0004, Section 5.16. AOP-0004 has been completed through Step 5.16.11.

Initiating Cue:

The CRS has directed you to parallel Offsite Power to the ENS-SWG1B per SOP-0053 using the normal supply breaker ACB26.

RJPM-OPS-CRS-07

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	IF ENS-ACB06(26), NORMAL SUPPLY BRKR is to be closed, <u>THEN</u> place the REMOTE SYNC SW to NORM.	_____	SOP-0053, Section 5.1
_____ 2.	Adjust diesel voltage, as observed on V-1RUN-1SYDA(B)01, RUNNING VOLTAGE to approximately 1- 2 volts above V-1IN-1SYDA(B)01, INCOMING VOLTAGE using the STBY DIESEL GENERATOR A(B) VOLTAGE REGULATOR CONT.	_____	
* 3.	Adjust diesel speed, using the STBY DIESEL GENERATOR A(B) GOVERNOR CONTROL, to bring the frequency within the range of grid frequency. Adjust speed so the SY-1-SYDA(B)01, STBY BUS A(B) SYNCHROSCOPE indicator is rotating slowly in the SLOW direction (counterclockwise) at a rate of one revolution in greater than or equal to 4 seconds and less than or equal to 6 seconds.	_____	

RJPM-OPS-CRS-07

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 4.	<p>WHEN the synchroscope indicator is moving slowly in the SLOW direction AND the synchroscope indicator is 5 minutes to 2 minutes before the 12 o'clock position, THEN close the desired feeder breaker, ENS-ACB06(26), NORMAL SUPPLY BRKR or ENS-ACB04(24), ALTERNATE SUPPLY BRKR. Verify the red breaker closed light comes ON. If not, return the breaker handswitch to TRIP.</p>	<p>_____</p>	<p>NOTE: Annunciator for STANDBY DIESEL GEN B BACKUP PROT ACTIVATED will alarm at this time to create ALTERNATE PATH.</p>
5.	<p>Acknowledges alarm and refers to ARP-P877-32A-H02..</p>	<p>_____</p>	<p>CUE: CRS states that operation of the Div 2 EDG is no longer required and directs UO to remove Div 2 EDG from ENS-SWG1B and stop the Diesel per SOP-0052.</p>
* 6.	<p>Open ENS-ACB27.</p>	<p>_____</p>	
* 7.	<p>Stop Div 2 EDG</p>	<p>_____</p>	

Terminating Cue: Offsite Power supplying ENS-SWG1B and the Div II Emergency Diesel tripped.

RJPM-OPS-CRS-07

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-OPS-CRS-07

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions:

A Loss of Offsite Power has occurred with the plant in cold shutdown. AOP-0004, Loss of Offsite Power was entered and all required actions taken. Plant conditions are stable and Offsite power is being restored to the plant per AOP-0004, Section 5.16. AOP-0004 has been completed through Step 5.16.11.

Initiating Cues:

The CRS has directed you to parallel Offsite Power to the ENS-SWG1B per SOP-0053 using the normal supply breaker ACB26.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** RESET A RECIRC FLOW CONTROL VALVE RUNBACK**

REASON FOR REVISION:

NRC Exam JPM

CR SYSTEMS - 8

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>6/29/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/7/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-08

TASK DESCRIPTION:	Reset a Recirc Flow Control Valve Runback.
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TASK REFERENCE:	202002004001
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K/A REFERENCE & RATING:	202002 K4.08, 3.3 202002 A1.08, 3.4 202002 A2.07, 3.3
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	12 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-OPS-CRS-08

SIMULATOR SETUP SHEET

Task Description: Reset a Recirc Flow Control Valve Runback

Required Power: Approximately 12% following Recirc FCV Runback

IC No.: 162

Notes:

RJPM-OPS-CRS-08

DATA SHEET

References for Development: ARP P680-04A-A03

Required Materials: ARP P680-04A-A03

Required Plant Condition:

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-OPS-CRS-08

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 at approximately 12% power. A Recirc FCV Runback occurred due to a Level 4 condition. The RPV level has been restored to 35 inches and is stable.

Initiating Cue:

The CRS has directed you to reset the FCV Runback per the ARP.

RJPM-OPS-CRS-08

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1. Adjust B33-K603A, RECIRC LOOP A FLOW CONTROL station to obtain zero % LIMITER ERROR.	B33-K603A adjusted to obtain zero % LIMITER ERROR	—	
* 2. Adjust B33-K603B, RECIRC LOOP B FLOW CONTROL station to obtain zero % LIMITER ERROR.	B33-K603B adjusted to obtain zero % LIMITER ERROR	—	
3. Depress both cavitation INTLK Recirc Pmp A/B RESET pushbuttons and verify the alarm resets	Cavitation INTLK Recirc Pmp A/B RESET pushbuttons depressed and alarms reset	—	
* 4. Adjust B33-K603A, RECIRC LOOP A FLOW CONTROL station to maximum valve position.	B33-K603A adjusted to obtain 100% FCV A position	—	
* 5. Adjust B33-K603B, RECIRC LOOP B FLOW CONTROL station to maximum valve position.	B33-K603B adjusted to obtain 100% FCV B position	—	

Terminating Cue: Recirc FCV Runback reset and restored to Flux Manual in accordance with ARP-P680-04A-A03.

RJPM-OPS-CRS-08

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-OPS-CRS-08

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: Reactor is at approximately 12% power.

A Recirc FCV Runback occurred due to a Level 4 condition.

The RPV level has been restored to 35 inches and is stable.

Initiating Cues: The CRS has directed you to reset the FCV Runback per the ARP.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-IPS-01**
Revision: **2**
Page 1 of 13

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** VENT THE SCRAM AIR HEADER PER EOP-0005, ENCLOSURE 11**

REASON FOR REVISION:

NRC Exam JPM **IN-PLANT – 1**

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>6/29/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/5/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/8/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-IPS-01

TASK DESCRIPTION: Vent the Scram Air Header per EOP-0005, Enclosure 11, Venting Scram Air Header

TASK REFERENCE: 201001005004

K/A REFERENCE & RATING: 201001 K1.09, 3.1/3.2
 295037 EK3.07, 4.2/4.3
 295037 EA1.05, 3.9/4.0

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

COMPLETION TIME: 18 min.

MAX TIME: N/A

JOB LEVEL: All

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

RJPM-OPS-IPS-01

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. It involves entering the CAA and Primary Containment.**

RJPM-OPS-IPS-01

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

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-OPS-IPS-01

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-OPS-IPS-01

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
___ 1.	OBTAIN EOP-0005 ENCL 11 tool kit from Control Room Emergency Locker	Key to emergency locker obtained and the tool kit for EOP-0005, Enclosure 11 identified.	___	NOTE: This JPM begins in the Control Room but involves entering the CAA and Primary Containment.
___ 2.	INSPECT kit for the following: 1. One (1) Flashlight with batteries 2. Two (2) 10" Crescent wrenches	Verifies Flashlight and two crescent wrenches in tool kit.	___	CUE: Return tool kit to Emergency Locker
* 3.	CLOSE C11-VF095 INSTR AIR SUPPLY TO SCRAM PILOT VALVES ISOL (Containment EL 114 ft AZ 195, to right of backup scram valves)	Identifies C11-VF095 and indicates valve is closed by turning handwheel in clockwise direction.	___	CUE: Valve is closed
* 4.	Remove test connection cap downstream of C11-PT-N052-V2 PILOT AIR HEADER PRESSURE TRANSMITTER TEST VALVE (above and left of backup scram valve)	Identifies test connection and cap downstream of C11-PT-N052-V2. Describes removal of cap using crescent wrenches in tool kit.	___	CUE: Cap is removed
* 5.	OPEN C11-PT-N052-V2 PILOT AIR HEADER PRESSURE TRANSMITTER TEST VALVE	Identifies C11-PT-N052-V2 and indicates valve is opened by turning handwheel in counter-clockwise direction.	___	CUE: Valve is open and the sound of 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-OPS-IPS-01
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-OPS-IPS-01

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

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

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

REASON FOR REVISION:

NRC Exam JPM

IN-PLANT – 2

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>6/29/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/7/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Verification	KCN	Date

* Indexing Information

RJPM-OPS-IPS-02

TASK DESCRIPTION:	Place Div. 1 Standby Service Water System in service from the Remote Shutdown Panel (with SWP-P2A Pump Trip)
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TASK REFERENCE:	400076004001
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K/A REFERENCE & RATING:	264000 K6.07, 3.8/3.9 295016 AK2.01, 4.4/4.5 295016 AK2.02, 4.0/4.1
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TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room		Simulator		In-Plant	X

COMPLETION TIME:	10 min.
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MAX TIME:	N/A
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JOB LEVEL:	RO/SRO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	Yes
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ALTERNATE PATH (FAULTED):	Yes
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RJPM-OPS-IPS-02

SIMULATOR SETUP SHEET

Task Description: Place Div. 1 Standby Service Water 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 simulated in the Control Building.

RJPM-OPS-IPS-02

DATA SHEET

References for Development:	AOP-0031, Shutdown from Outside the Main Control Room
Required Materials:	AOP-0031, Shutdown from Outside the Main Control Room, without attachments
Required Plant Condition:	Any
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-OPS-IPS-02

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 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.

Initiating Cue: The CRS has directed you to place the Division 1 Standby Service Water System in service by starting SWP-P2A (preferred) or SWP-P2C from the appropriate Remote Shutdown Panel, per AOP-0031, step 5.10.5

RJPM-OPS-IPS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____1.	On C61-P001, verify both LOCAL SWP EMERGENCY CONTROL ALIGNED Lights are on.	Verifies both lights on.	<p>_____</p> <p>CUE: If operator requests as CRS direct him to begin with procedure step 5.10.5</p> <p>CUE: Inform operator that both lights are on.</p>
* _____2.	On RSS-PNL101, start SWP-P2A	Places SWP-P2A pump control switch to START and verifies tripped (or started and tripped).	<p>_____</p> <p>CUE: SWP-P2A Pump Status RED light on, GREEN light off; and immediately, RED light off, GREEN light on.</p> <p>NOTE: ALTERNATE PATH</p>
* _____3.	On EGS-PNL4C, start SWP-P2C (Located in Div 3 Swgr Room)	Places SWP-P2C pump control switch to START and verifies pump started.	<p>_____</p> <p>CUE: SWP-P2C Pump Status RED light on, GREEN light off</p>
_____4.	Verify SWP-MOV40C STBY SVCE WTR PUMP DISCHARGE Valve opens.	SWP-MOV40C STBY SVCE WTR PUMP DISCHARGE Valve open	<p>_____</p> <p>CUE: SWP-MOV40C STBY SVCE WTR PUMP DISCHARGE Valve status RED light on, GREEN light off</p>
* _____5.	Open SWP-MOV55A STBY CLG TOWER 1 INLET	Places SWP-MOV55A STBY CLG TOWER 1 INLET valve control switch momentarily to OPEN (then released). Verifies valve has opened.	<p>_____</p> <p>CUE: SWP-MOV55A STBY CLG TOWER 1 INLET Valve status RED light on, GREEN light off.</p>

RJPM-OPS-IPS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 6.	Close SWP-MOV96A and B NORM SVC WTR RETURN Valves	—	CUE: SWP-MOV96A and B NORM SVCE WTR RETURN Valves status RED lights off, GREEN lights on.
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.	—	CUE: As CRS acknowledges Dive 1 SSW in service with P2C running and request for Basin Level monitoring for leakage from SSW. Terminate JPM.

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

RJPM-OPS-IPS-02

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-OPS-IPS-02

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.

Initiating Cues: The CRS has directed you to place the Division 1 Standby Service Water System in service by starting SWP-P2A (preferred) or SWP-P2C from the appropriate Remote Shutdown Panel, per AOP-0031, Step 5.10.5.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***RESTORE RPS B NORMAL POWER SUPPLY**

REASON FOR REVISION:

NRC Exam JPM **IN-PLANT - 3**

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>6/29/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/7/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-IPS-03

TASK DESCRIPTION: Restore RPS B Normal Power Supply

TASK REFERENCE: 212004001004

K/A REFERENCE & RATING: 212000 K1.04, 3.4/3.6
 212000 K2.01, 3.2/3.3
 212000 A1.01, 2.8/2.9
 212000 A2.01, 3.7/3.9

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

COMPLETION TIME: 10 min.

MAX TIME: N/A

JOB LEVEL: All

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

RJPM-OPS-IPS-03

SIMULATOR SETUP SHEET

Task Description: Restore RPS B Normal Power Supply

Required Power: N/A

IC No.: N/A

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

RJPM-OPS-IPS-03

DATA SHEET

References for Development: SOP-0079, Reactor Protection System

Required Materials: SOP-0079, Reactor Protection System

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.

RJPM-OPS-IPS-03

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 at 100% power. RPS B Bus is being supplied from the Alternate Supply. Electrical maintenance has been working on the MG set supply breaker.

Initiating Cue:

The CRS has directed you to start the RPS MG set and close the appropriate breakers to make RPS Bus B ready to transfer to the Normal Supply, in accordance with SOP-0079, Reactor Protection System.

RJPM-OPS-IPS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* ^ 1.	At NHS-MCC10B, close BKR 1C, REACTOR PROT SYSTEM MOTOR GENERATOR SET.	Indicates Breaker 1C on NHS-MCC10B closed by moving handle all the way to left.	<p>NOTE: MG Set components are located on 116' EL of the Control Building.</p> <p>NOTE: The CAUTION at the beginning of the procedure requires checking the torque seal intact prior to closing the Generator Output Breaker. This is NOT CRITICAL STEP since the torques seal is intact for the JPM.</p> <p>CUE: If verified, torque seal is intact.</p> <p>Breaker closed when red end of breaker control level is in the fully left position (red end of handle against the breaker compartment).</p> <p>CUE: Breaker BKR 1C is closed.</p>
* ^ 2.	At MG Set Panel C71-S001B, depress the MOTOR ON pushbutton while observing the Motor Generator Set output voltmeter.	MOTOR ON pushbutton depressed as motor generator comes up to proper voltage..	<p>CUE: MG status lights above motor control pushbuttons are</p> <p>Green light OFF Red light ON</p>

RJPM-OPS-IPS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 3.	Verify Motor Generator Set output voltmeter stabilizes at ≥ 123.5 volts.	Motor Generator Set output voltage verified to be ≥ 123.5 volts.	CUE: MG Set output voltmeter indicates 124 volts.
* 4.	WHEN the MG Set output voltmeter is ≥ 123.5 volts, THEN at C71-S001B, close the Generator Output Breaker.	Torque seal verified intact, and indicates the Generator Output Breaker on C71-S001B is closed by moving it to the upper position.	<p>NOTE: The CAUTION at the beginning of the procedure requires checking the torque seal intact prior to closing the Generator Output Breaker. This is NOT CRITICAL STEP since the torques seal is intact for the JPM.</p> <p>CUE: If verified, torque seal is intact.</p> <p>CUE: Generator Output Breaker is Closed.</p> <p>On EPA Breaker C71-S003B: EPA INPUT - Red light ON POWER SUPPLY OUTPUT - Red light ON</p>
* ^ 5.	Close C71-S003B, MG SET LOAD BREAKER	Indicates how EPA Breaker C71-S003B is closed by rotating breaker lever to the ON (fully counter-clockwise) position	<p>CUE: EPA Breaker C71-S003B EPA OUTPUT red light ON and on EPA Breaker C71-S003D: EPA INPUT - Red light ON POWER SUPPLY OUTPUT - Red light ON</p>

RJPM-OPS-IPS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* ^ 6.	Indicates how EPA Breaker C71-S003D is closed by rotating breaker lever to the ON (fully counter-clockwise) position	—	CUE: EPA Breaker C71-S003D EPA OUTPUT red light ON

Terminating Cue: RPS MG Set B running with power available to transfer RPS B Bus to the Normal Supply.

RJPM-OPS-IPS-03

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-OPS-IPS-03

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is at 100% power. RPS B Bus is being supplied from the Alternate Supply. Electrical maintenance has been working on the MG set supply breaker.

Initiating Cues: The CRS has directed you to start the RPS MG set and close the appropriate breakers to make RPS bus B ready to transfer to the Normal supply, in accordance with SOP-0079, Reactor Protection System.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-BU-01**
Revision: **2**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** PERFORM CONTROL ROD OPERABILITY CHECK**

REASON FOR REVISION:

NRC Exam JPM

BACKUP - 1

PREPARE / REVIEW:

<u>Erich Weinfurter</u>	<u>1497</u>	<u>6/29/2004</u>
Preparer	KCN	Date
<u>Roger Persons</u>	<u>0862</u>	<u>7/9/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-BU-01

TASK DESCRIPTION:	Perform Control Rod Operability Check With Rod Over-Travel
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TASK REFERENCE:	201024001001 201001002001
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K/A REFERENCE & RATING:	201003 K4.02, 3.8/3.9 201003 A2.02, 3.7/3.8 201003 A\$.02, 3.5/3.5
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TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	12 min.
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MAX TIME:	N/A
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JOB LEVEL:	All
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	No
---------------------------	----

ALTERNATE PATH (FAULTED):	Yes
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RJPM-OPS-BU-01

SIMULATOR SETUP SHEET

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

Required Power: >27%

IC No.: 12 or 13

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

Malfunction(MFS) 15

Rod 16-29

Failure E (Rod Uncoupled)

Time 00:00:00

Malfunction to be removed when rod is driven into position 46 the second time at step 8.

RJPM-OPS-BU-01

DATA SHEET

References for Development: STP-052-0101
REP-0051

Required Materials: STP-052-0101
ARP-P680-

Required Plant Condition: Reactor at power, steady state >27%

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-OPS-BU-01

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 at power, steady state >27%.

Initiating Cue:

The CRS has directed you to perform control rod operability check on control rod 16-29.

RJPM-OPS-BU-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS	
____ 1.	Print out an OD-7 of present control rod positions.	OD-7 printed out.	____	None
____ 2.	Verify individual drive is selected.	Verify individual drive mode selected.	____	None
* ____ 3.	Select control rod 16-29.	Control rod 16-29 selected, position 48 displayed on full core display.	____	
* ____ 4.	Insert control rod to position 46 and verify position indication change.	Control rod insertion one notch; position indication change verified.	____	None
* ____ 5.	Withdraw control rod to position 48 and verify position indication change.	Control rod withdrawn to original position; position indication change verified. Position indication reads 48.	____	None
* ____ 6.	Perform coupling check for control rod.	Withdraw signal applied to control rod. Acknowledges alarm P680-7A-C02 CONTROL ROD OVERTRAVEL	____	Control rods returned to position 48 shall have a coupling check performed per T.S SR 3.1.3.5.

RJPM-OPS-BU-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____7.	Acknowledges alarm P680-7A-C02 CONTROL ROD OVERTRAVEL and notifies CRS of uncoupled rod 16-29.	Alarm acknowledged and CRS notified.	_____ CUE: CRS directs the Operator to take actions per ARP-P680-7A-C02.
*_____8.	Attempt to recouple rod by driving in to position 46 and withdrawing to position 48. (ARP-P680-7A-C02)	Note in Logbook successful recoupling of 16-29 RE Notified	_____ Malfunction Removed
_____9.	Printout another OD-7 of final control rod position.	OD-7 printed out.	_____ None
_____10	Verify all control rods have been returned to their original positions.	Initial and final OD-7 printouts compared.	_____ None

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

RJPM-OPS-BU-01

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-OPS-BU-01

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: Reactor at power, steady state >27%.

Initiating Cues: The CRS has directed you to perform control rod operability check on control rod 16-29.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-BU-02**
Revision: **0**
Page 1 of 12

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***ESTABLISH EMERGENCY CONTAINMENT VENTING PER EOP
ENCLOSURE 21**

REASON FOR REVISION:

NRC Exam JPM

BACKUP - 2

PREPARE / REVIEW:

<u>Roger L. Persons</u>	<u>0862</u>	<u>6/10/2004</u>
Preparer	KCN	Date
<u>Erich Weinfurter</u>	<u>1496</u>	<u>6/30/2004</u>
Technical Review (SME)	KCN	Date
<u>Frank McLean</u>	<u>0803</u>	<u>7/9/2004</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-BU-02

TASK DESCRIPTION:	Establish Emergency Containment Venting per EOP Enclosure 21
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TASK REFERENCE:	200023005002
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K/A REFERENCE & RATING:	223002 K1.10, 3.1/3.2 223002 K4.08, 3.3/3.7 500000 EK1.01, 3.3/3.9
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TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room	X	Simulator		In-Plant	X

COMPLETION TIME:	23 min.
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MAX TIME:	N/A
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JOB LEVEL:	RO/SRO
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TIME CRITICAL:	No
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EIP CLASSIFICATION REQUIRED:	No
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PSA RISK DOMINATE:	No
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ALTERNATE PATH (FAULTED):	No
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SAFETY FUNCTION:	7
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RJPM-OPS-BU-02

SIMULATOR SETUP SHEET

Task Description: Establish Emergency Containment Venting per EOP Enclosure 21

Required Power: N/A

IC No.: N/A

Notes: This JPM is to be performed in the Control Room and requires entering the CAA to perform the final step in the Auxiliary Building.

RJPM-OPS-BU-02

DATA SHEET

References for Development: EOP-0005, Enclosure 21

Required Materials: EOP-0005, Enclosure 21

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.

RJPM-OPS-BU-02

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

A large break LOCA has occurred in the Drywell. Containment pressure is 12 psig and Containment Hydrogen concentration cannot be maintained in the Safe Zone of the Hydrogen Deflagration Overpressure Limit (HDOL). Normal Containment Vent and Purge, Hydrogen Mixing and the Hydrogen Recombiners have been secured. EOP-0005, Enclosure 16, Defeating Containment Instrument Air Isolation Interlocks has been installed.

Initiating Cue:

The CRS has directed you install EOP-0005, Enclosure 21, Emergency Containment Venting and Defeating Containment Vent Path Isolation Interlocks.

RJPM-OPS-BU-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 4.	2. Location: 1H13*P952 Bay A Affected Relay: 45-1HVRB20 (2nd row of relays from top, 4th relay from left) Jumper No. 2 JUMPER Terminal M1 on Relay Block 45-1HVRB20. to Terminal R1 on Relay Block 45-1HVRB20.	Locates P952 Bay A, opens door and shows how/where Jumper No. 2 is installed.	_____ CUE: Jumper No.2 installed.
* 5.	OPEN 1HVR*AOV128 CONTMT RTN INBD ISOL as directed by the CRS.	At P863, demonstrates placing HVR-AOV128 control switch to open momentarily and verifies valve open RED light ON GREEN light OFF	_____ CUE: CRS directs you to open 1HVR*AOV128. CUE: 1HVR*AOV128 RED light on, GREEN light off
* 6.	VENT Primary Containment as follows: 1. OBTAIN EOP-0005 ENCL 21 key, one (1) for CPP- PNL102.	Obtains ENCL 21 Key.	_____

RJPM-OPS-BU-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>_____7.</p>	<p>2. VERIFY the Annulus Mixing System in operation with flow to SGTS.</p> <p>At P863, verifies at least one Annulus Mixing Train in operation aligned to SGTS:</p> <p>HVR-FN11A(B) ANNULUS MIXING FAN on</p> <p>RED light ON GREEN light OFF</p> <p>HVR-AOD53A(B) ANNULUS MIX FAN A(B) DISCH open</p> <p>RED light ON GREEN light OFF</p> <p>HVR- AOD22A(B) ANNULUS MIX SPLY TO SGTopen</p> <p>RED light ON GREEN light OFF</p>	<p>_____</p>	<p>CUE: Annulus Mixing is in operation with flow to SGTS.</p>

RJPM-OPS-BU-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
8.	<p>3. VERIFY the SGTS in operation with flow to the main plant exhaust duct.</p> <p>At P863, verifies at least one SGTS Train in operation aligned to main plant exhaust duct:</p> <p>GTS-AOD1A(B) SGT FILTER A(B) SUCT ISOL open</p> <p>RED light ON</p> <p>GREEN light OFF</p> <p>GTS -FN1A(B) SGT EXH FAN A(B) on</p> <p>RED light ON</p> <p>GREEN light OFF</p> <p>GTS –AOD3A(B) SGT EXH FAN A(B) DISCH open</p> <p>RED light ON</p> <p>GREEN light OFF</p>	---	<p>CUE: SGTS is aligned to Main Plant Stack.</p>
9.	<p>4. VERIFY 1IAS*MOV107 INST AIR SHUTOFF VALVE <u>AND</u> 1IAS*MOV106 INST AIR OUTBD ISOL are open (1H13*P870)</p> <p>At P870, verifies both MOVs are open.</p> <p>RED light ON</p> <p>GREEN light OFF</p>	---	<p>CUE: 1IAS*MOV107 and 1IAS*MOV106 both have RED light on, GREEN light off</p>

RJPM-OPS-BU-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____ 10.	5. VERIFY 1HVR*AOV128 CONTMT RTN INBD ISOL is open (1H13*P863).	At P863, verifies 1HVR*AOV128 open. RED light ON GREEN light OFF	____ CUE: 1HVR*AOV128 RED light on, GREEN light off
____ * 11.	6. OPEN 1HVR-AOD127 CONTMT PURGE RTN ISOL (1H13*P863).	At P863, demonstrates placing HVR-AOV127 control switch to open momentarily and verifies valve open RED light ON GREEN light OFF	____ CUE: 1HVR-AOD127 RED light on, GREEN light off. NOTE: The next step is in the plant (Aux Bldg) requiring CAA entry.
____ * 12.	7. OPEN 1CPP*MOV105 H2 PURGE FAN DISCH VALVE TO ANNULUS at 1CPP-PNL102 (171 ft Aux Bldg East Side, Containment Purge FLT 6/HVR FAN 14 Room).	Locates panel, opens door with key and demonstrates placing CPP*MOV105 control switch to open momentarily and verifies valve open RED light ON GREEN light OFF	____ CUE: CPP*MOV105 RED light on, GREEN light off..

Terminating Cue: EOP-0005, Enclosure 21 installation has been completed and the Containment is being vented.

RJPM-OPS-BU-02

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-OPS-BU-02

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: A large break LOCA has occurred in the Drywell.

Containment pressure is 12 psig and Containment Hydrogen concentration cannot be maintained in the Safe Zone of the Hydrogen Deflagration Overpressure Limit (HDOL).

Normal Containment Vent and Purge, Hydrogen Mixing and the Hydrogen Recombiners have been secured.

EOP-0005, Enclosure 16, Defeating Containment Instrument Air Isolation Interlocks has been installed.

Initiating Cues: The CRS has directed you install EOP-0005, Enclosure 21, Emergency Containment Venting and Defeating Containment Vent Path Isolation Interlocks.

RIVER BEND STATION

NUCLEAR TRAINING DEPARTMENT

LICENSE OPERATOR SIMULATOR TRAINING

*TPP-7-009
(CROSS REFERENCE)

EXAM SCENARIO NUMBER

*R-SIS-19.0
(DOC. NO.)

TOPIC

* Loss of RPS B / Loss of Feedwater / Hydraulic ATWS

AVERAGE DURATION

* 1.0 HOUR

PREPARED BY:	<u>Roger Persons / 0862</u> INSTRUCTOR / KCN	Date:	<u>6/15/04</u>
REVIEWED BY:	<u>Erich Weinfurter / 1497</u> TECHNICAL REVIEW / KCN	Date	<u>7/7/04</u>
VALIDATED BY:	<u>Ken Higginbotham / 0619</u> OPERATIONS CRS / KCN	Date	<u>7/8/04</u>

* Indexing Information

NRC EXAM SCENARIO No. 1

SCENARIO OUTLINE

Facility: <u>River Bend Station</u>	Scenario No.: <u>1 (SIS-19.0, IC-163)</u> NEW SCENARIO	Op.-Test No.: <u>1</u>
Examiners: _____ _____	Operators: <u>CRS – Control Room Suprv. (SRO)</u> <u>ATC – At-the-Controls (RO)</u> <u>UO – Unit Operator (BOP-RO)</u>	
Initial Conditions: Plant startup in progress at 30% power. Reactor Recirc pumps were shifted to fast speed last shift. Reactor Engineering has requested that reactor power be raised with recirc flow to raise core flow to 50%.		
Turnover: APRM 'C' INOP and bypassed due to power supply failure. Heater Drain Pumps, HDL-P1A and C tagged out due to excessive leakage. Main Generator voltage regulator in Manual due to erratic operation in Auto. Continue plant startup by raising core flow with Recirc flow control valves per Reactor Engineer request.		

Event No.	Malf. No.	Event Type *	Event Description
1 T = 0 min.	N/A	R (ATC)	Raise power and core flow with recirc flow control valves
2 T = 8 min.	CRD001B	C (UO/CRS)	CRD Pump B trip.
	CRDM4813(2)	I (ATC/CRS)	Accumulator instrument failure causes accumulator trouble to not clear when CRD Pump A is started. <i>(Tech Specs for CRS)</i>
3 T = 20 min.	CRDM2405(1)	C (ATC/CRS)	Control Rod Drifts out. <i>(Tech Spec for CRS)</i>
4 T = 30 min.	RPS003B	C (ALL)	Loss of RPS B
5 T = 40 min.	FWS007C	I (ATC/CRS)	FWRV 'C' control signal fails high failing FWRV open.
Automatic scram signal will be initiated on (or manual scram signal before reaching) high reactor water level.			
6 T = 40 min	CRD014	M (ALL)	Hydraulic ATWS
7 T = 42 min.	RCIC003	C (UO/CRS)	RCIC flow controller fails low. <i>(After EOP Entry)</i>

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

I. DESCRIPTION OF SCENARIO

The crew assumes the shift at 30% power during a plant startup. The Reactor Engineer has requested that core flow be raised following the Recirc Pump transfer last shift in preparation for raising power with control rod withdrawal. CRS directs the ATC to raise core flow to 50% of rated.

The UO responds to a trip of CRD Pump B. ATC identifies Control Rod 48-13 with accumulator fault. CRS consults TS LCO for CR Accumulators.

ATC responds to Control Rod 24-05 drifting out due to the failure of a directional control valve. Control rod HCU must be hydraulically isolated. CRS consults TS LCO for Inoperable fully inserted Control Rod.

RPS MG Set B output breaker trips. Crew must transfer RPS bus is re-energized, reset isolation logic and restore isolated systems. UO must restore cooling to Recirculation Pump seals to prevent scram.

FWRV C fails open causing rapid RPV level rise and High RPV Water Level Scram. ATC may initiate manual scram when he determines the automatic scram is imminent.

Hydraulic ATWS occurs on scram initiation. RPS functions correctly de-energizing scram solenoids and depressurizing scram air header but a hydraulic malfunction has prevented most of the control rods from inserting. Crew enters EOP-0001 RPV Control and transitions to EOP-0001A RPV Control – ATWS. Crew must lower RPV water level to -56" to prevent flux instability. EOP-0002, Containment Control is entered following Level 2 Isolations causing High DW Temperature.

RCIC initiates (or is manually initiated by UO) and fails to inject due to its flow controller failed low in AUTO. UO must recognize failure of flow controller and take manual control to inject into RPV.

II. TERMINAL OBJECTIVES

1. Recognize and respond to CRD Pump trip with control rod accumulator instrument failure in accordance with plant procedures.
2. Recognize and respond to a control rod drifting out in accordance with plant procedures.
3. Recognize and respond to a Loss of RPS Bus in accordance with plant procedures.
4. Establish safe and stable plant conditions following an ATWS in accordance with plant procedures.

III. PERFORMANCE OBJECTIVES

A. Control Room Supervisor (CRS) – SRO

1. Direct the response to CRD Pump trip and accumulator instrument failure per ARPs.
2. Direct the response to a control rod drifting out per ARP and AOP-0061, Mispositioned Control Rods.
3. Determine appropriate Tech Spec actions if any for accumulator instrument and control rod failures.
4. Direct response to Loss of RPS Bus B per AOP-0010, Loss of One RPS Bus.
5. Coordinate the implementation of AOP-0001, Reactor Scram; AOP-0002, Main Turbine and Generator Trips; AOP-0003, Automatic Isolations following the reactor scram.
6. Enters and coordinates the implementation of EOP-0001, RPV Control, EOP-0001A, RPV Control – ATWS and EOP-0002, Primary Containment Control.

B. At-The-Controls (ATC) Operator – RO

1. Respond to accumulator trouble in accordance with ARPs
2. Respond to drifting control rod in accordance with ARPs.
3. Respond to Loss of RPS Bus B in accordance with AOP-0010, Loss of One RPS Bus.
4. Respond to FWRV failure in accordance with AOP-0001 and AOP-0002, Main Turbine and Generator Trips.
5. Respond to an ATWS in accordance with EOP-0001A, RPV Control – ATWS and EOP-0002, Primary Containment Control, as directed.

C. Unit Operator (UO) – RO

1. Respond to CRD Pump Trip in accordance with ARPs.
2. Respond to Loss of RPS Bus B in accordance with AOP-0010, Loss of One RPS Bus.
3. Respond to an ATWS in accordance with EOP-0001A, RPV Control – ATWS and EOP-0002, Primary Containment Control, as directed.
4. Respond to failure of RCIC to inject when initiated in accordance with ARPs and as directed by CRS.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
<p>IC-163</p>	<p>GOP-0001, Plant Startup</p> <p>AOP-0010, Loss of RPS Bus</p> <p>AOP-0006, Condensate / Feedwater Failures</p> <p>EOP-1, RPV Control</p> <p>EOP-1A, RPV Control – ATWS</p> <p>EOP-2, Primary Containment Control</p>	<p>Power: 30%</p> <p>Core: MOL, xenon equilibrium</p> <p>Equipment OOS:</p> <ul style="list-style-type: none"> • Heater Drain Pumps, HDL-P1A and C • APRM C – INOP <p>STPs Due:</p> <ul style="list-style-type: none"> • None <p>LCOs:</p> <ul style="list-style-type: none"> • Tracking LCO for APRM C <p>Evolutions in progress:</p> <ul style="list-style-type: none"> • Plant startup ready to raise power and flow following RR pump shift to fast speed. 	<p>Startup Reactivity Control Plan 12-023 completed through Step 141.</p>

V. GENERAL INSTRUCTIONS

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup	<u>INITIAL CONDITION:</u> IC-163	PLANT CONFIGURATION: <ul style="list-style-type: none"> • APRM C Bypassed (P680) • Heater Drain Pumps HDL-P1A and HDL-P1C danger tagged (P680) • Main Generator Voltage Regulator in MANUAL (P680) • Drywell Unit Cooler DRS-UC1D Caution tagged OFF (P863)
	<u>TRIGGERS:</u> <p>t1, CRD Pump B trip and CRD 48-13 Accumulator Fault (15 second TD)</p> <p>t2, CRD 24-05 Drifts Out</p> <p>t3, RPS MG Set B Generator Output breaker trips</p> <p>t4, FWRV C Fails Open and 94% Hydraulic ATWS</p> <p>t5, Hydraulic Isolation of Control Rod 24-05</p> <p>t6, Resets NI Cabinet 20 VDC Power Supplies</p>	<p>Verify correct Startup Reactivity Plan 12-023</p> <p>Place Danger tag switch covers on HDL-P1A and HDL-P1C START/STOP pushbuttons and on OPEN/CLOSE pushbuttons for their discharge and suction valves.</p> <p>Place Caution tag switch cover on Drywell Unit Cooler DRS-UC1D control switch</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<p><u>MALFUNCTIONS:</u></p> <ul style="list-style-type: none"> • CRD014, 94, t4, Hydraulic ATWS (94%) • RCIC003 RCIC Flow Controller Failure Low • CRDM2405, t2, Control Rod 24-05 Drifts Out • CRDM4813, t1, 15 s TD, Control Rod 48-13 Accumulator Fault • CRD001B, t1, CRD Pump B Trip • FWS007C, t4, FWRV C Fails Open • RPS003B, t3, Trip of RPS MG B 	
	<p><u>REMOTE FUNCTIONS:</u></p> <ul style="list-style-type: none"> • NIS018, SETUP, FCTR rod block • CRDM2405, t5, Hydraulic Isolation of CRD 24-05 • NIS001, RESET, t6, NI Cabinet 20 VDC Power Supplies 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<u>LAMP OVERRIDES:</u> <ul style="list-style-type: none"> • lo_mss-mov155-g, OFF, P870-54C Mn Stm Sply to SSE Isol MOV green light • lo_hdl-mov55a-g, OFF, P680-2C Htr Drn Pump P1A Dischg Vlv green light • lo_hdl-mov53a-r, OFF, P680-2C Htr Drn Pump P1A Suct Vlv red light • lo_hdl-mov55c-g, OFF, P680-2C Htr Drn Pump P1C Dischg Vlv green light • lo_hdl-mov53c-r, OFF, P680-2C Htr Drn Pump P1C Suct Vlv red light 	
	<u>ANNUNCIATOR OVERRIDES:</u> <ul style="list-style-type: none"> • None 	
	<u>SWITCH OVERRIDES:</u> <ul style="list-style-type: none"> • None 	
	FREEZE	Provide Crew with Shift Turnover sheet and reactivity brief for raising reactor power.
Event 0	RUN	CREW: Board Walkdown and Turnover

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 1 Description: The CRS directs the ATC to raise reactor power with recirc flow control valves to raise core flow to 50%. Reactor Engineer stated there are no core related restrictions on the power ramp rate.</p>		
<p>Event 1 When the crew has assumed the shift.</p>		<p>CRS: Directs ATC to raise core flow (and reactor power) to 50% of rated flow.</p> <p>ATC: Alternately opens both recirc FCVs to raise core flow to 50% (P680). Closely monitors reactor power and RPV level during changes in flow (P680) Monitors loop flows to maintain them within 10% of each other (P680)</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 2 Description: UO responds to CRD Pump B Trip. ATC identifies Control Rod 48-13 with accumulator fault that does not clear when CRDH charging header pressure returns to normal. CRS consults TS LCO for CR Accumulator instrumentation.</p>		
<p>Event 2 T = 8 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t1, Inserts malfunction CRD001B, CRD Pump B Trip and CRDM4813(2), CRD Accumulator Fault (time delayed 15 seconds)</p> <hr/> <p>ROLE PLAY: Reactor Building Operator when requested, investigates cause of CRD pump trip and prepares CRD A for start.</p> <hr/> <p>ROLE PLAY: Reactor Building Operator when requested, investigates Accumulator Trouble on Control Rod 48-13. Report that the local accumulator N₂ pressure is 1600 psig. Will use SOP-0002 to blow down level switch. After several minutes report level switch blowdown completed and standing by for any further action.</p>	<p>CUES: <i>Alarm P601-22A-A01, CRD PUMP A OR B AUTO TRIP</i> <i>P601 CRDH flows, pressures and ΔPs drop to zero.</i></p> <p>CRS: Directs UO to start standby pump per ARP</p> <p>UO: Refers to ARP-P601-22A-A01 for the following: Starts CRD Pump A oil pump (P601). Places CRD Flow Controller to MANUAL (P601). Closes CRD Flow Control Valve (P601). Starts Standby CRD Pump (P601). Reopens CRD Flow Control Valve (P601). Places CRD Flow Controller to AUTO (P601).</p> <p>CUES: <i>Alarm P680-7A-C03, ACCUMULATOR TROUBLE</i></p> <p>ATC: Refers to ARP-P680-7A-C03 for the following: Depresses P680 ACC FAULT button to display CR with fault. Notes and reports to CRS that fault does not clear on return of CRD Pump.</p> <p>CRS: Directs investigation of Accumulator Trouble on CR 48-13. Directs RB Operator to blowdown level switch per SOP-0002 Consults Tech Spec TR 3.1.5.1, Accumulator Instrumentation</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 3 Description: ATC responds to Control Rod 24-05 drifting out.</p>		
<p>Event 3 T = 20 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t2, Inserts malfunction CRDM2405(1), to cause Control Rod 24-05 to drift out.</p> <hr/> <p>ROLE PLAY: Reactor Building Operator when requested, isolates CR 24-05 hydraulically (t5, inserts remote function CRDM2405) and reports back completed.</p> <hr/> <p>ROLE PLAY: Reactor Engineering acknowledge report of CR 24-05 now fully inserted and hydraulically isolated. Will be running core thermal limit case to determine effects.</p>	<p>CUES: <i>Alarm P680-07A-B02, CONTROL ROD DRIFT</i> <i>When selected, CR 24-05 position indicates rod moving out.</i></p> <p>ATC: Refers to ARP-P680-07A-B02: Depresses ROD DRIFT pushbutton to find drifting control rod on Full Core display (P680) Selects drifting control rod with RCIS Select Matrix (P680). Depresses and holds INSERT pushbutton (P680). Verifies (or requests UO verify) cooling water pressure @ 20 psid (P601). Releases INSERT pushbutton and reports control rod drifting out Depresses and holds INSERT pushbutton (P680) Releases INSERT pushbutton and reports control rod stays inserted.</p> <p>UO: As directed or requested, monitors/verifies normal CRDH parameters (P601):</p> <p>CRS: Per ARP-P680-07A-B02: Notifies Reactor Engineering of directional control valve failure on control rod 48-13 Consults TS 3.1.3 for inoperable control rod</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 4 Description: RPS MG Set B output breaker trips. Crew must transfer RPS bus is re-energized, reset isolation logic and restore isolated systems.</p> <p>CRITICAL TASK: Restore cooling to Recirculation Pump seals to prevent scram.</p>		
<p>Event 4 T = 30 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t3, Inserts malfunction RPS003B, Trip of RPS MG Set B Generator Output Breaker.</p> <hr/> <p>ROLE PLAY: Backpanel Operator, when requested, resets NMS power supplies (t6, inserts remote function NIS001, RESET) and reports completed.</p> <hr/> <p>ROLE PLAY: Control Building Operator, when requested, investigate the loss of RPS Bus B. Report RPS MG Set output breaker and normal supply EPA breakers are all tripped and request Electrical Maintenance assistance.</p>	<p>CUES: <i>Alarms P680-DIV 2 RPS LOGIC ACTUATED</i> <i>All trip status lights for all four RPS 'B' APRMs are lit (P680).</i></p> <p><i>'B' RPS scram solenoid white light above each manual scram pushbutton NOT lit.</i></p> <p>CRS: Directs entry and execution of AOP-0010, Loss of One RPS Bus Direct investigation of the loss of RPS Bus B</p> <p>ATC: Recognize loss of RPS Bus B and report to CRS Requests Backpanel Operator to reset NMS power supplies Resets RPS B Trip once all APRM trips are cleared.</p> <p>UO: When directed, transfers RPS bus B to Alternate power (P610 backpanel switches in simulator) Reset CRVICS depressing both RESET pushbuttons (P601) Verifies/restores RPCCW to Reactor Recirc Pump Seals (P870) Verifies/restores Drywell cooling (P877, P870, P863) Verifies/restores remaining Inboard isolation valves, as directed by CRS. Continues AOP-0010 system restoration actions, as directed by CRS</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 5 Description: FWRV C fails open causing rapid RPV level rise and High RPV Water Level Scram. ATC may initiate manual scram when he determines the automatic scram is imminent.</p>		
<p>Event 5 T = 40 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t4, Inserts malfunction FWS007C, FWRV 'C' fails open.</p>	<p>CUES: <i>Alarm P680-3A REACTOR HIGH/LOW WATER LEVEL</i> <i>FWRV C Position vs Demand 5% Error Amber light lit (P680)</i> <i>RPV level rising on all P680 level instruments</i></p> <p>CRS: Directs entry into AOP-0001 and AOP-0002 for Level 8</p> <p>ATC: Per AOP-0006, Condensate/Feedwater Failures: May place flow controller for FWRV C in MAN and attempt to close (P680) or recognize controller is demanding zero and proceed to inform CRS manual scram required (P680)</p> <p>Per AOP-0001, Reactor Scram: Arms and Depresses four manual scram pushbuttons (P680) Places Reactor Mode switch in SHUTDOWN (P680) Initiates ARI (P680)</p> <p>Per AOP-0002, Turbine Generator Trip: Verifies Turbine trip and Generator Output breakers open (P680)</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 6 Description: On scram initiation, the RPS functions correctly de-energizing scram solenoids and depressurizing scram air header but a hydraulic lock due to a partially filled SDV prevents most of the control rods from scrambling. Use of EOP Encl. 12 will insert all rods after two more scrams.</p> <p>CRITICAL TASK: Lower RPV water level to -56 inches.</p>		
<p>Event 6 T = 40 min</p>	<p>t4, inserts malfunction CRD014, 94, for a Hydraulic Lock ATWS (94%)</p> <hr/> <p>ROLE PLAY : Third Control Room Operator, when requested, install EOP Enclosures with Remote Functions.</p> <hr/> <p>ROLE PLAY : Third Control Room Operator, report EOP Enclosure installation completed based on appropriate time intervals.</p>	<p>CUES: <i>P680 Alarms RPS TRIP LOGICS ACTIVATED</i> <i>Alarm P680 SCRAM PILOT VALVE AIR HEADER PRESS LOW</i> <i>Most Control Rods on Full Core Display indicating full out</i> <i>APRMs reactor power at ~15%</i></p> <p>CRS: Enters EOP-0001 RPV Control and transitions to execute EOP-0001A RPV Control – ATWS. Enters EOP-0002, Containment Control following High DW Temperature</p> <p>ATC: Per AOP-0001, determines numerous Control Rods Failed to insert and that power remaining above 5%. Reports to CRS When directed, trips recirc pumps (P680) When directed, attempts to insert rods by individual insertion and using Encl 12 to reset and manual scram. (P680) Isolates FWRV C and opens Inlet Isolation for FWRV A or B and if directed, starts RFP to inject into RPV (P680)</p> <p>UO: As directed by CRS Inhibits ADS (P601) Installs EOP Enclosures Verifies Isolations per AOP-0003</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 7 Description: RCIC initiates or is manually initiated by UO and fails to inject due to flow controller failed in AUTO. UO must recognize failure of flow controller and take manual control to inject into RPV</p> <p>CRITICAL TASK: Restore injection into the RPV to maintain RPV level above –186 inches.</p>		
<p>Event 7 T = 42 min</p>	<p>RCIC003, RCIC Flow Controller Failure Low</p>	<p>CUES:</p> <p><i>Alarm P601-16A-A04, HPCS INITIATION LOW RX WATER LEVEL 2</i></p> <p><i>RCIC steam stop, trip & throttle and injection valves open (P601)</i></p> <p><i>RCIC flow controller output low with 0 injection flow (P601)</i></p> <p>UO: Recognizes failure of RCIC to inject and reports to CRS (P601)</p> <p>If directed by CRS to inject with RCIC, transfers RCIC Flow Controller to Manual. (P601)</p> <p>Raises Manual setting of RCIC Flow Controller to raise turbine speed and inject into RPV to maintain level as directed by CRS (P601)</p> <p>If directed to secure RCIC (ATC restoring level with Feed System then shuts down RCIC (P601)</p>
<p>WHEN Termination Criteria are met and with Lead Examiner concurrence</p>	<p>FREEZE</p>	<p>TERMINATION CRITERIA:</p> <ol style="list-style-type: none"> 1. RPV Level stabilized above -186 inches 2. RPV pressure stabilized. 3. Containment parameters stabilized

IX. QUANTITATIVE SUMMARY

Total Malfunctions	<u>7</u>	(1) CRD Pump B Trip, (2) Accumulator Fault Instrument Failure, (3) Control Rod 24-05 drifts out on DCV failure, (4) RPS MG Set B Generator Output Breaker trips, (5) FWRV C fails open, (6) Hydraulic lock ATWS, (7) RCIC flow controller fails low.
Malfunctions after EOP entry	<u>1</u>	RCIC fails to inject.
Abnormal Events	<u>2</u>	Loss of CRD Pump, Inadvertent Containment Isolation on Loss of RPS Bus B
Major Transients	<u>1</u>	ATWS - scram condition present with reactor power above APRM downscale
EOPs entered	<u>2</u>	EOP-0001, RPV Control; EOP-0001A, RPV Control – ATWS; EOP-0002, Containment Control
EOP Contingencies used	<u>1</u>	EOP-0001A, Level/Power Control section of level control leg
Simulator Run Time	<u>55</u>	Minutes
EOP Run Time	<u>15</u>	Minutes
Critical Tasks	<u>3</u>	(1) Event 4 - Restore cooling to Recirculation Pump seals, (2) Event 6 - Lower RPV water level, (3) Event 7 - Restore injection into the RPV
Tech Specs Exercised	<u>Yes</u>	3.1.3, Control Rods and TR 3.1.5.1 Accumulator Instrumentation

VII. REFERENCES

A. Plant Procedures

1. GOP-0001, Plant Startup
2. ARP-P601-22A-A01
3. ARP-P680-7A-C03
4. ARP-P680-07A-B02
5. AOP-0001, Reactor Scram
6. AOP-0002, Main Turbine and Generator Trips
7. AOP-0010, Loss of One RPS Bus
8. AOP-0006, Condensate/Feedwater Failures
9. EOP-0001, RPV Control
10. EOP-0001A, RPV Control -ATWS
11. EOP-0002, Primary Containment Control
12. OSP-0053, Emergency and Transient Response Support Procedure

B. Technical Specifications and Technical Requirements Manual

RIVER BEND STATION

NUCLEAR TRAINING DEPARTMENT

LICENSE OPERATOR SIMULATOR TRAINING

*TPP-7-009
(CROSS REFERENCE)

EXAM SCENARIO NUMBER

*R-SIS-20.0
(DOC. NO.)

TOPIC

* Turbine Control Failure / Loss of Normal Feedwater / Steam Leak in Drywell

AVERAGE DURATION

* 1.0 HOUR

PREPARED BY:	<u>Roger Persons / 0862</u>	Date:	<u>6/15/04</u>
	INSTRUCTOR / KCN		
REVIEWED BY:	<u>Erich Weinfurter / 1497</u>	Date	<u>7/7/04</u>
	TECHNICAL REVIEW / KCN		
VALIDATED BY:	<u>Ken Higginbotham / 0619</u>	Date	<u>7/8/04</u>
	OPERATIONS CRS / KCN		

* Indexing Information

NRC EXAM SCENARIO No. 2

SCENARIO OUTLINE

Facility: <u>River Bend Station</u>	Scenario No.: <u>2 (SIS-20.0, IC-164)</u>	Op.-Test No.: <u>1</u>
MODIFIED SCENARIO		
Examiners: _____ _____ _____	Operators: <u>CRS – Control Room Suprv. (SRO)</u> <u>ATC – At-the-Controls (RO)</u> <u>UO – Unit Operator (BOP-RO)</u>	
Initial Conditions: Power ascension to rated in progress, holding at 90% power for Reactor Engineer to check core performance and effects of new rod pattern. RHR B in Suppression Pool Cooling Mode for RCIC slow roll to be done this shift.		
Turnover: APRM 'C' INOP and bypassed due to power supply failure. Heater Drain Pumps, HDL-P1A and C tagged out due to excessive leakage. Main Generator voltage regulator in Manual due to erratic operation in Auto. Complete preparations and slow roll RCIC following lube oil addition.		

Event No.	Malf. No.	Event Type *	Event Description
1 T = 0 min.	N/A	N (UO/CRS)	Place Containment HVAC in High Volume Purge.
2 T = 10 min.	NMS011D CRDM1605	I (ATC/CRS)	APRM 'D' fails upscale with single rod scram. <i>(Tech Specs for CRS)</i>
3 T = 20 min.	RCIC001	C (UO/CRS)	RCIC trip throttle valve fails to open during turbine slow roll. <i>(Tech Specs for CRS)</i>
4 T = 30 min.	OR_P680_3a:d-2 (Alarm Override)	C (ATC/CRS)	Loss of TPCCW to Reactor Feed Pump FWS-P1A Gear Incomer Lube Oil Cooler (requiring P1A shutdown).
	N/A	R (ATC/CRS)	Lower power with Recirc flow as needed for RFP shutdown.
Scram signal on high reactor pressure with Turbine CVs shut in ~4 seconds. RPS failure to scram requires ARI initiation to insert control rods.			
5 T = 40 min	EHC008	M (ALL)	EHC speed error signal causes Turbine Control Valves to close <i>[RBS LERs 2001-01 and 2003-08]</i>
	ED002B		Loss of NPS-SWG1B on transfer from Main Generator to Preferred Transformer.
	RPS001A		RPS fails to scram automatically and manually.
6 T = 41 min.	MSS001		A steam leak in Drywell rises to 500 GPM over 3 minutes.
7 T = 42 min.	HPCS003	C (UO/CRS)	HPCS fails to auto initiate. <i>(After EOP Entry).</i>

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

I. DESCRIPTION OF SCENARIO

The crew assumes the shift at 90% power. The Unit Operator (UO), as directed by the CRS, completes preparations for the RCIC slow turbine roll by placing Containment HVAC in High Volume Purge using SOP-00, Reactor Building HVAC.

The At-The-Controls (ATC) Operator responds to an APRM D Upscale failure. In completing the Annunciator Response Procedure for the failed APRM, the ATC discovers and identifies that Control Rod 16-05 has scrambled. The CRS consults Technical Specifications for the failed APRM and control rod that scrambled inadvertently.

The UO attempts to perform the RCIC turbine slow roll and discovers the trip throttle valve fails to open. The UO reports the RCIC failure to the CRS. The CRS determines RCIC must remain inoperative in LCO 3.5.

A rupture of the TPCCW supply to Reactor Feed Pump FWS-P1A Gear Increaser Lube Oil Cooler requires securing FWS-P1A. Removing one of the three operating Reactor Feed Pumps at 90% power requires The ATC must lower reactor power to ~75-80% with Recirc flow to lower reactor feed requirements to within the capacity of the two remaining Reactor Feed Pumps.

EHC speed error fails high indicating overspeed and closes Turbine Control Valves. An automatic scram will be initiated on High RPV pressure. RPS will fail to initiate electrically requiring ATC to initiate ARI per AOP-0001, Reactor Scram, to insert all control rods.

NPS-SWG1B is lost due to a failure of the automatic bus transfer to shift to the Preferred Station Service Transformer following the Generator Output Breaker trip resulting in a loss of normal feed. EOP-0001, RPV Control is entered to control RPV pressure and RPV water level.

A steam leak in the Drywell initiates at the time of the scram and grows to 500 gpm in 3 minutes. High Drywell temperature and Containment pressure require entering and executing EOP-0002 Containment Control.

HPCS fails to initiate on High Drywell pressure or RPV Low Level 2 and must be manually started by the UO to maintain RPV level above -162 inches.

II. TERMINAL OBJECTIVES

1. Recognize and respond to APRM failure with a single rod scram in accordance with plant procedures.
2. Recognize and respond to loss of CCS to Reactor Feed Pump C in accordance with plant procedures.
3. Recognize and respond to an EHC failure with a loss of NPS-SWG1B and failure of RPS to scram in accordance with plant procedures.
4. Establish safe and stable plant conditions after a reactor scram with a steam leak in the Drywell in accordance with plant procedures.

III. PERFORMANCE OBJECTIVES

A. Control Room Supervisor (CRS) – SRO

1. Direct the response to APRM D Upscale with Single Rod Scram per ARPs and AOP-0061, Mispositioned Control Rods.
2. Determine appropriate Tech Spec actions if any for APRM and RCIC failures.
3. Direct response to Loss of CCS to Reactor Feed Pump A speed increaser per AOP-0006, Condensate/Feedwater Failures and refer to AOP-0024 Thermal Hydraulic Instability.
4. Coordinate the implementation of AOP-0001, Reactor Scram; AOP-0002, Main Turbine and Generator Trips; AOP-0003, Automatic Isolations following the reactor scram.
5. Coordinate the implementation of EOP-1, RPV Control and EOP-2, Primary Containment Control.

B. At-The-Controls (ATC) Operator – RO

1. Respond to APRM D Upscale with Single Rod Scram in accordance with P680 ARPs and AOP-0061, Mispositioned Control Rods.
2. Respond to RFP Gear Increaser Lube Oil High Temperature in accordance with ARPs and AOP-0006, Condensate/Feedwater Failures.
3. Respond to EHC failure and Loss of NPS-SWG1B in accordance with AOP-0001, Reactor Scram.
4. Respond to Turbine trip in accordance with AOP-0002, Main Turbine and Generator Trips.
5. Respond to high RPV pressure and low RPV level in accordance with EOP-0001, RPV Control and EOP-0002, Primary Containment Control, as directed.

C. Unit Operator (UO) – RO

1. Place Containment HVAC in High Volume Purge in accordance with SOP-0059
2. Respond to RCIC trip throttle valve failure in accordance with ARPs.
3. Respond to low RPV level and high RPV pressure in accordance with EOP-1, RPV Control and EOP-2, Primary Containment Control, as directed.
4. Respond to High Drywell Pressure isolations in accordance with AOP-0003, Automatic Isolations, as directed.
5. Respond to failure of HPCS to initiate in accordance with ARPs and EOPs.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
<p>IC-164</p>	<p>GOP-0005, Power Maneuvering</p> <p>AOP-0001, Reactor Scram</p> <p>AOP-0006, Condensate / Feedwater Failures</p> <p>EOP-1, RPV Control</p> <p>EOP-2, Primary Containment Control</p>	<p>Power: 90%</p> <p>Core: MOL, xenon equilibrium</p> <p>Equipment OOS:</p> <ul style="list-style-type: none"> • Heater Drain Pumps, HDL-P1A and C • APRM C – INOP • RCIC for oil addition <p>STPs Due:</p> <ul style="list-style-type: none"> • STP-057-0700 for monitoring Suppression Pool Temperature is in progress. <p>LCOs:</p> <ul style="list-style-type: none"> • Tracking LCO for APRM C • 3.5.3 for RCIC <p>Evolutions in progress:</p> <ul style="list-style-type: none"> • Hold at 90% power 	<p>Reactivity Control Plan for returning to rated power</p>

V. GENERAL INSTRUCTIONS

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup	<p><u>INITIAL CONDITIONS:</u> IC 164</p>	<p>PLANT CONFIGURATION:</p> <ul style="list-style-type: none"> • APRM C Bypassed (P680) • Heater Drain Pumps HDL-P1A and HDL-P1C danger tagged (P680) • Main Generator Voltage Regulator in MANUAL (P680) • RHR B in Suppression Pool Cooling (P601) • Drywell Unit Cooler DRS-UC1D Caution tagged OFF (P863)
	<p><u>TRIGGERS:</u></p> <p>t1, APRM D fails Upscale and Control Rod 1605 scram</p> <p>t2, RFP Cooling Coil Leakage and 45 seconds later, High Temperature Alarm on RFP A Gear Increaser Lube Oil</p> <p>t3, EHC fault closes Turbine CVs, RPS fails to auto or manual scram, NPS-SWG1B is lost</p> <p>t4, Steam leak develops in the Drywell (500 gpm with 3 min ramp time)</p> <p>t5, RCIC Turbine Trip</p>	<p>Verify correct Reactivity Control Plan for return to rated power.</p> <p>Place Danger tag switch covers on HDL-P1A and HDL-P1C START/STOP pushbuttons and on OPEN/CLOSE pushbuttons for their discharge and suction valves.</p> <p>Place Caution tag switch cover on Drywell Unit Cooler DRS-UC1D control switch</p> <p>NOTE: t5 is actuated by RCIC Trip & Throttle Valve reaching full closed</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<p><u>MALFUNCTIONS:</u></p> <ul style="list-style-type: none"> • HPCS003, HPCS Failure to Auto Init. • RCIC001, t5, RCIC Turbine Trip • CRDM1621, t1, Single CR Scram • MSS001, 500 gpm, t4, 5 sec TD, 3 min ramp, Steam Leak in Drywell • NMS013C, APRM C Fails INOP • NMS11D, t1, APRM D Fails Upscale • ED002B, t3, 1 sec TD, NPS-SWG1B Bus Fault • EHC008, t3, Turbine Speed Error Failure • RPS001B, t3, Failure to SCRAM Auto • RPS001C, t3, Failure to SCRAM Manual 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
	<p><u>REMOTE FUNCTIONS:</u></p> <ul style="list-style-type: none"> • NONE <p><u>LAMP OVERRIDES:</u></p> <ul style="list-style-type: none"> • lo_mss-mov155-g, OFF, P870-54C Mn Stm Sply to SSE Isol MOV green light • lo_hdl-mov55a-g, OFF, P680-2C Htr Drn Pump P1A Dischg Vlv green light • lo_hdl-mov53a-r, OFF, P680-2C Htr Drn Pump P1A Suct Vlv red light • lo_hdl-mov55c-g, OFF, P680-2C Htr Drn Pump P1C Dischg Vlv green light • lo_hdl-mov53c-r, OFF, P680-2C Htr Drn Pump P1C Suct Vlv red light • 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<u>ANNUNCIATOR OVERRIDES:</u> <ul style="list-style-type: none"> • p680_3a:b_5, ON, t2, Reactor Feed Pump Cooling Coil Leakage Alarm • p680_3a:d_2, ON, t2, 45 s TD, Reactor Feed Pump P1A Gear Increaser High Temp Alarm 	
	<u>SWITCH OVERRIDES:</u> <ul style="list-style-type: none"> • di_e22-mida, DISARM, P601-16B, HPCS Man. Init. Switch Arming Collar 	
	FREEZE	Provide Crew with Shift Turnover sheet and pre-job brief for placing Containment HVAC in High Volume Purge.
Event 0	RUN	CREW: Board Walkdown and Turnover

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 1 Description: Unit Operator is directed by the CRS to place Containment HVAC in High Volume Purge.</p>		
<p>Event 1 When the crew has assumed the shift.</p>		<p>CRS: Directs UO to place Containment HVAC in High Volume Purge</p> <p>UO: Using SOP-0059, Containment HVAC. Section 5.5: Opens containment purge valves and dampers (P863) HVR-AOV165, Contmt Sply Outbd Isol HVR-AOV123, Contmt Sply Inbd Isol HVR-AOD124, Contmt Purge Sply Isol HVR-AOD127, Contmt Purge Rtn Isol HVR-AOV128, Contmt Rtn Inbd Isol HVR-AOV166, Contmt Rtn Outbd Isol HVR-AOD245, Contmt Purge to SGT HVR-AOD162, Contmt Purge to SGT Starts either train of SGTS (P863). Verifies proper start in alignment of SGTS (P863) Starts HVR-FN8 High Volume Purge supply fan (P863). Verifies HVR-FN8 Discharge Damper opens (P863).</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 2 Description: ATC responds to an APRM D Upscale failure. Using ARPs ATC identifies single scrambled control rod.</p>		
<p>Event 2 T = 10 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t1, Inserts malfunction NMS011D, APRM D failure Upscale and CRDM1605s, Single Control Rod Scram</p>	<p>CUES: <i>Alarm P680-6A-B03, APRM D OR H UPSCALE TRIP OR INOP</i> <i>Alarm P680-7A-B02, CONTROL ROD DRIFT</i> <i>APRM D recorder pen full scale (P680)</i> <i>Full Core display CR 16-05 full in green light lit (P680)</i></p> <p>ATC: Refers to ARP-P680-06A-B03: Verifies half scram (P680). Compares channel with other APRMs (P680). Verifies core flow unchanged (P680). Bypasses APRM D on CRS direction (P680). Resets half scram on CRS direction (P680).</p> <p>Refers to ARP-P680-07A-B02: Identifies scrambled rod using RCIS (P680). Reports scrambled rod to CRS.</p> <p>CRS: Refers to AOP-0061, Mispositioned Control Rod(s) Notifies RE for predictor case and control rod pattern recovery directions Consults Tech Spec 3.1.3 for scrambled Control Rod Consults Tech Spec 3.3.1.1 for APRM</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 3 Description: UO attempts to slow roll RCIC and discovers RCIC Trip & Throttle Valve fails to open. Reports condition to CRS and places RCIC in lineup as directed by CRS.</p>		
<p>Event 3 T = 20 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t5, inserts malfunction RCIC001, when RCIC Trip Throttle Valve reaches full closed simulating RCIC Turbine Trip Valve failure to open</p> <hr/> <p>ROLE PLAY : As Reactor Building Operator, when requested, investigate failure of RCIC Trip & Throttle Valve to open. If requested attempt to reset manually and report the spring on the reset bar is damaged and the valve cannot be reset.</p>	<p>UO: Refers to SOP-0035, RCIC, Section 4.3: Starts Gland Seal Compressor (P601) Closes Trip & Throttle Valve operator (P601) Acknowledges RCIC SYSTEM INOPERATIVE alarm (P601) Opens E51-F045, Steam Supply Turbine Stop Valve (P601) Verifies closed E51-F025, F026, F004, F005 Supply and Exh Drain Pot isolation valves (P601) Attempts to reopen Trip & Throttle valve to raise turbine speed to 3000 RPM (P601)</p> <p>CUES: <i>The Trip & Throttle valve indicates full closed - green light on, red light off as Trip & Throttle Valve Operator indication goes to intermediate position green light on and red light on.</i> <i>RCIC SYSTEM INOPERATIVE alarm does not clear.</i></p> <p>UO: Reports to CRS that Trip & Throttle Valve failed to open. CRS: Directs local attempt to reset RCIC Trip & Throttle Valve Directs UO to return RCIC to pre-start lineup Determines RCIC remains inoperable and stays in LCO 3.5.3 UO: When directed by CRS, returns RCIC to pre-start lineup</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 4 Description: Loss of TPCCW to Reactor Feed Pump FWS-P1A Gear Increaser Lube Oil Cooler requires lowering reactor power and shutdown of FWS-P1A.</p>		
<p>Event 4 T = 30 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t2, Inserts alarm p680_3a:b_5, RFP cooling coil leakage and 45 seconds later OR_P680_3a:d-2, to initiate alarm RFP A gear increaser high temperature</p>	<p>CUES: <i>Alarm P680-3A-B05, REACTOR FEED PUMP COOLING COIL LEAKAGE</i> <i>Alarm P680-3A-D02, RX FWP 1A GEAR INCREASER HIGH TEMP</i></p> <p>ATC: Refers to ARPs P680-3A-B05 and P680-3A-D02 When directed by CRS, lowers power with individual RR FCV controllers (P680)</p> <p>CRS: Directs ATC to lower reactor power with Recirc flow to within capacity of 2 reactor feed pumps (~75-80%)</p>
	<p>ROLE PLAY : As Turbine Building Operator, when requested, respond to investigate RFP Cooling Coil Leakage alarm and report water spraying on RFP A motor. On further investigation, spray is from CCS leak on supply line to Gear Increaser and is spraying on motor. Can isolate leak but will secure cooling to feed pump's gear increaser lube oil cooler. As Turbine building Operator, when directed to isolate, report back that the leak has been isolated.</p>	<p>ATC: Refers to SOP-0009, Feedwater System, when directed by CRS to secure FWS-P1A Directs Turbine Building Operator to isolate Hydrogen injection for RFP A Closes discharge valve on P1A (P680). Verifies min flow valve for P1A opens (P680). Monitors SF/FF mismatch and RPV Level to verify capability of remaining RFPs (P680). Stops Reactor Feed Pump P1A (P680).</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 5 Description: EHC speed error fails high indicating overspeed closing Control Valves. An automatic scram will be initiated on High RPV pressure. RPS will fail to initiate electrically requiring ARI initiation to scram all control rods. NPS-SWG1B is lost on the automatic bus transfer failure following the Generator Output Breaker trip resulting in a loss of normal feed.</p> <p>CRITICAL TASK: Initiate ARI to insert all control rods.</p>		
<p>Event 5 T = 40 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t3, inserts malfunctions EHC008, EHC Speed Error Failure, RPS001B&1C Failure to SCRAM Auto and Manual, and ED002B NPS-SWG1B Bus Fault time delayed to correspond with Generator Output Breaker opening,</p>	<p>CUES:</p> <p><i>MW Electric fluctuating on Main Generator</i> <i>Alarm P680-6A-B05, HIGH REACTOR PRESSURE</i> <i>Alarms P680-5A-A09 & A10 RPS TRIP LOGICS ACTIVATED</i> <i>Control Rods on Full Core Display indicating full out (P680)</i> <i>APRMs reactor power 100% (P680)</i></p> <p>CRS: Directs implementation of AOP-0001, Reactor Scram and AOP-0002, Turbine Trip Enters and coordinates executing EOP-0001, depending on how quickly loss of feed is diagnosed and HPCS recovered, may enter EOP-0004, Alternate Level Control.</p> <p>ATC: Recognizes RPS failure to insert control rods Initiates ARI Reports RPS failed to scram and ARI inserted all rods Reports loss of Feedwater due to loss of power to RFPs Executes AOP-0001 and AOP-0002 immediate and applicable subsequent actions</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 6 Description: The high RPV pressure caused by the EHC failure causes a steam leak to develop in the Drywell. The leak grows to 500 gpm three minutes after the scram.</p>		
<p>Event 6 T = 41 min</p>	<p>t4, inserts malfunction MSS001, with time delay to initiate a Steam Leak in the Drywell ramped to 500 gpm in 3 minutes</p> <hr/> <p>ROLE PLAY : Third Control Room Operator, when requested, install EOP Enclosures with Remote Functions.</p> <hr/> <p>ROLE PLAY : Third Control Room Operator, report EOP Enclosure installation completed based on appropriate time intervals.</p>	<p>CUES: <i>Alarm P680-6A-C05, DRYWELL HIGH/LOW PRESSURE followed shortly by</i> <i>Alarm P680-6A-B05, NSSSS INIT DRYWELL HIGH PRESSURE</i> <i>Alarm P601-19A-B05, DRYWELL AIR COOLER DRAIN HIGH LEAKAGE FLOW</i> <i>DRMS Drywell Rad Monitors trending up</i> <i>ERIS Drywell temperature trending up</i></p> <p>ATC: Identifies indications of a leak in the Drywell and reports to CRS</p> <p>CRS: Enters EOP-0002, Containment Control</p> <p>UO: Verifies ECCS initiations (P601) and EDG starts (P877). When directed by CRS, maximizes CRD flow When directed by CRS, maximizes Drywell Cooling When directed by CRS, verifies auto isolations per AOP-0003 Installs EOP Enclosures as directed by CRS</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 7 Description: Following the High Drywell Pressure condition caused by the steam leak, HPCS will fail to auto initiate.</p> <p>CRITICAL TASK: Recover HPCS as a high pressure injection source to maintain RPV level above -162 inches.</p>		
<p>Event 7 T = 42 min</p>	<p>HPCS003 prevents HPCS from auto initiating on Level 2 or High Drywell Pressure LOCA signal.</p>	<p>CUES:</p> <p><i>Alarm P601-16A-B05, HPCS INITIATION DRYWELL PRESSURE HIGH, and/or</i></p> <p><i>Alarm P601-16A-A04, HPCS INITIATION LOW RX WATER LEVEL 2</i></p> <p><i>HPCS Injection Valve E-22-MOVF004 indicating closed and HPCS pump not running (P601)</i></p> <p>UO: Recognizes failure of HPCS to initiate and reports to CRS Attempts to auto start with manual initiation pushbutton. Starts HPCS pump with pump breaker control switch. Opens Injection valve to inject into RPV as directed by CRS.</p>
<p>WHEN Termination Criteria are met and with Lead Examiner concurrence</p>	<p>FREEZE</p>	<p><u>TERMINATION CRITERIA:</u></p> <ol style="list-style-type: none"> 1. RPV level stabilized in control band of 10 – 51 inches. 2. Containment parameters stabilized.

IX. QUANTITATIVE SUMMARY

Total Malfunctions	<u>8</u>	(1) APRM D fails upscale with Control Rod 16-05 scram, (2) RCIC Trip Throttle Valve fails to open on slow roll, (3) Loss of TPCCW to RFP-P1A Gear Increaser, (4) EHC speed error signal failure, (5) RPS Fails to Scram Auto and Manually, (6) Loss of NPS-SWG1B, (7) Steam leak in the Drywell, (8) HPCS fails to auto initiate.
Malfunctions after EOP entry	<u>1</u>	HPCS fails to initiate.
Abnormal Events	<u>4</u>	Partial loss of CCW (RFP-P1A), Turbine Generator Trip on EHC failure, Low Reactor Water Level, High Reactor Pressure
Major Transients	<u>1</u>	Partial Loss of AC with Incomplete SCRAM leads to High Drywell Pressure and Temperature from a steam leak in the Drywell.
EOPs entered	<u>2</u>	EOP-0001, RPV Control and EOP-0002, Containment Control
EOP Contingencies used	<u>0</u>	
Simulator Run Time	<u>60</u>	Minutes
EOP Run Time	<u>20</u>	Minutes
Critical Tasks	<u>2</u>	(1) Event 5 - Initiate ARI, (2) Event 7 - Recover HPCS
Tech Specs Exercises	<u>Yes</u>	3.3.1.1, RPS Instrumentation; 3.1.3, Control Rods; and 3.5.3, RCIC

VII. REFERENCES

A. Plant Procedures

1. GOP-0005, Power Maneuvering
2. SOP-0009, Reactor Feedwater
3. SOP-0035, Reactor Core Isolation Cooling
4. SOP-0059, Containment HVAC
5. ARP-P680-06A-B03
6. ARP-P680-07A-B02
7. ARP-P680-3A-B05
8. ARP-P680-3A-D02
9. AOP-0001, Reactor Scram
10. AOP-0002, Main Turbine and Generator Trips
11. AOP-0003, Automatic Isolations
12. AOP-0006, Condensate/Feedwater Failures
13. EOP-0001, RPV Control
14. EOP-0002, Primary Containment Control
15. OSP-0053, Emergency and Transient Response Support Procedure

B. Technical Specifications and Technical Requirements Manual

Offgoing OSS:	Oncoming OSS:	Off-Going Shift	
_____	_____	N	D
(Print)	KCN	(Print)	KCN
		Date	
PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT			
UNIT STATUS:	MODE 1	REACTOR POWER	90%
EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION			
Rod sequence exchange completed last shift. Raising power to rated per GOP-0005, Step completed.			
Reactor Engineering has requested a hold at this power level until a new case is run.			
RHR B is in Suppression Pool cooling in preparation for RCIC slow roll following oil sample.			
The third control room operator is completing STP-057-0700 for monitoring Suppression Pool Temps			
Rad Protection has been notified of upcoming RCIC slow roll and has requested Containment Ventilation be placed in High Volume Purge.			
SIGNIFICANT LCO STATUS			
Tracking LCO for APRM C			
LCO 3.5.3 RCIC INOP for oil addition			
EQUIPMENT STATUS			
APRM C bypassed INOP failed power supply		DRS-UC1D Caution tagged - high vibration	
HDL-P1A and P1C tagged out, excessive leakage			
Main Generator Voltage Regulator in MANUAL			

Night Orders Standing Orders Board Walkdown Temp Alts

(Signature: Oncoming OSS Review Completed)

KCN

RIVER BEND STATION

NUCLEAR TRAINING DEPARTMENT

LICENSE OPERATOR SIMULATOR TRAINING

*TPP-7-009
(CROSS REFERENCE)

EXAM SCENARIO NUMBER

*R-SIS-21.0
(DOC. NO.)

TOPIC

* HPCS Initiation / Heater Drain Pump Trip / Recirc Loop Large Break LOCA

AVERAGE DURATION

* 1.0 HOUR

PREPARED BY:	<u>Roger Persons / 0862</u>	Date:	<u>6/15/04</u>
	INSTRUCTOR / KCN		
REVIEWED BY:	<u>Erich Weinfurter / 1497</u>	Date	<u>7/7/04</u>
	TECHNICAL REVIEW / KCN		
VALIDATED BY:	<u>Ken Higginbotham / 0619</u>	Date	<u>7/8/04</u>
	OPERATIONS CRS / KCN		

* Indexing Information

NRC EXAM SCENARIO No. 3 (Backup)

SCENARIO OUTLINE

Facility: <u>River Bend Station</u>	Scenario No.: <u>3 [BU] (SIS-21.0, IC-165)</u>	Op.-Test No.: <u>1</u>
MODIFIED SCENARIO		
Examiners: _____ _____ _____	Operators: <u>CRS – Control Room Suprv. (SRO)</u> <u>ATC – At-the-Controls (RO)</u> <u>UO – Unit Operator (BOP-RO)</u>	
Initial Conditions: Steady state operation at 100% power. RHR B is in suppression pool cooling.		
Turnover: APRM 'C' INOP and bypassed due to power supply failure. Heater Drain Pumps, HDL-P1A and C tagged out due to excessive leakage. Main Generator voltage regulator in Manual due to erratic operation in Auto. RCIC slow roll was completed last shift and suppression pool temperatures have been returned to normal. Remove RHR B from suppression pool cooling.		

Event No.	Malf. No.	Event Type *	Event Description
1 T = 0 min.	N/A	N (UO/CRS)	Remove RHR B from suppression pool cooling.
2 T = 10 min.	HPCS004	C (UO/CRS)	Spurious HPCS automatic start and injection. <i>(Tech Specs for CRS)</i>
3 T = 17 min.	NMS015F	I (ALL)	APRM 'F' flow reference signal fails downscale. <i>(Tech Specs for CRS)</i>
4 T = 27 min.	MSS010	C (UO/CRS)	Turbine gland seal pressure regulator valve fails closed.
5 T = 35 min.	P680_2a:e_8 (Alarm override)	C (ATC /CRS)	Heater Drain Pump HDL-P1D overload.
	N/A	R (ATC)	Lower reactor power with Recirc flow to maintain RPV level

Scram will be automatically initiated on high drywell pressure.

6 T = 45 min	RCS001	M (ALL)	Rupture of A recirculation loop (Large break LOCA)
	Override	C (ATC/CRS)	Recirc loop A suction isolation valve fails in open position. <i>(After EOP Entry)</i>
7 T = 47 min.	LPCS002	C (UO/CRS)	LPCS injection valve fails to open <i>(After EOP Entry).</i>

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

I. DESCRIPTION OF SCENARIO

The crew assumes the shift at 100% power. The Unit Operator (UO), as directed by the CRS, removes RHR B from Suppression Pool cooling and returns it to standby lineup.

The UO responds to a spurious initiation of HPCS due to initiation logic failure and on confirming adequate core cooling conditions determines misoperation of HPCS. The CRS directs the UO to terminate HPCS injection, coordinates troubleshooting and consults Technical Specifications.

The At-The-Controls (ATC) Operator responds to APRM F flow reference signal failure downscale resulting in a half-scam. The UO assists in investigating at APRM F backpanel. The CRS directs bypassing the APRM and consults Technical Specifications.

The UO responds to a failure of the Turbine Gland Seal header pressure control valve closed causing a loss of gland seal steam. The UO must bypass the pressure control valve and re-establish turbine sealing steam header pressure to prevent loss of condenser vacuum.

ATC responds to a Heater Drain Pump PID Overload condition. ATC must reduce reactor power to prevent a low suction pressure trip of a Reactor Feedwater Pump and stop Heater Drain Pump PID.

A large break LOCA occurs on the A Recirculation Loop suction line. ATC attempts to isolate and the recirc loop A suction isolation valve will not close. Low RPV water level, high Drywell pressure and temperature require entering and executing EOP-0001, RPV Control, EOP-0002 Containment Control. Emergency Depressurization contingency is required due to either high Suppression Pool level or inability to determine RPV water level.

The LPCS injection valve fails to open when the system automatically initiates the UO must identify failure to inject and attempt to manually open the injection valve.

II. TERMINAL OBJECTIVES

1. Recognize and respond to a spurious initiation and injection of HPCS in accordance with plant procedures.
2. Recognize and respond to APRM flow reference signal failure downscale in accordance with plant procedures.
3. Recognize and respond to a loss of turbine gland seal steam in accordance with plant procedures.
4. Recognize and respond to a Heater Drain Pump overload condition in accordance with plant procedures.
5. Establish safe and stable plant conditions after an unisolable, large-break, Recirc loop rupture LOCA inside the Drywell in accordance with plant procedures.

III. PERFORMANCE OBJECTIVES

A. Control Room Supervisor (CRS) – SRO

1. Direct the response to a spurious initiation of HPCS and an APRM flow reference signal failure downscale per ARPs.
2. Determine appropriate Tech Spec actions if any for APRM and HPCS failures.
3. Direct response to a loss of turbine gland seal steam per ARP and AOP-0005 Loss of Main Condenser Vacuum, if applicable.
4. Direct response to a Heater Drain Pump overload condition per ARPs, and AOP-0006, Condensate/Feedwater Failures.
5. Coordinate the implementation of applicable Abnormal Operating Procedures following the reactor scram.
6. Coordinate the implementation of applicable AOPs; EOP-0001, RPV Control; EOP-0004, Contingencies; and EOP-0002, Primary Containment Control.

B. At-The-Controls (ATC) Operator – RO

1. Respond to APRM flow reference signal failure downscale in accordance with P680 ARPs.
2. Respond to RFP Lube Oil High Temperature in accordance with ARPs.
3. Respond to a Heater Drain Pump overload condition per ARPs, and AOP-0006, Condensate/Feedwater Failures.
4. Respond to LOCA initiated scram in accordance with AOP-0001 and AOP-0002, Main Turbine and Generator Trips.
5. Respond to low RPV level and high Drywell pressure and temperature in accordance with applicable AOPs; EOP-0001, RPV Control; EOP-0004, Contingencies; and EOP-0002, Primary Containment Control, as directed by the CRS.

C. Unit Operator (UO) – RO

1. Remove RHR B from Suppression Pool Cooling per SOP-0031
2. Respond to a spurious initiation of HPCS in accordance with ARPs.
3. Respond to a loss of turbine gland seal steam in accordance with ARPs.
4. Respond to low RPV level and high Drywell pressure and temperature in accordance with applicable AOPs; EOP-0001, RPV Control; EOP-0004, Contingencies; and EOP-0002, Primary Containment Control, as directed by the CRS.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
<p>IC-165</p>	<p>GOP-0005, Power Maneuvering</p> <p>AOP-0006, Condensate / Feedwater Failures</p> <p>AOP-0024, Thermal Hydraulic Instability</p> <p>EOP-1, RPV Control</p> <p>EOP-2, Primary Containment Control</p>	<p>Power: 100%</p> <p>Core: MOL, xenon equilibrium</p> <p>Equipment OOS:</p> <ul style="list-style-type: none"> • Heater Drain Pumps, HDL-P1A and C • APRM C – INOP <p>STPs Due:</p> <ul style="list-style-type: none"> • None <p>LCOs:</p> <ul style="list-style-type: none"> • Tracking for APRM C <p>Evolutions in progress:</p> <ul style="list-style-type: none"> • Steady state at rated power 	<p>Shutdown Reactivity Control Plan.</p>

V. GENERAL INSTRUCTIONS

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup	<p><u>INITIAL CONDITIONS:</u></p> <p>IC-165</p>	<p>PLANT CONFIGURATION:</p> <ul style="list-style-type: none"> • APRM C Bypassed (P680) • Heater Drain Pumps HDL-P1A and HDL-P1C danger tagged (P680) • Main Generator Voltage Regulator in MANUAL (P680) • RHR B in Suppression Pool Cooling (P601) • Drywell Unit Cooler DRS-UC1D Caution tagged OFF (P863)
	<p><u>TRIGGERS:</u></p> <p>t1, Spurious HPCS Initiation</p> <p>t2, HDL-P1D Overload Alarm</p> <p>t3, APRM F Flow Converter Downscale</p> <p>t4, Recirc Loop A Rupture</p> <p>t5, SS Header PCV Fails Closed</p> <p>t6, Clears HDL-P1D Overload Alarm when HDL-P1D STOP pushbutton is depressed</p>	<p>Verify correct Shutdown Reactivity Plan 11-9300-B1-07</p> <p>Place Danger tag switch covers on HDL-P1A and HDL-P1C START/STOP pushbuttons and on OPEN/CLOSE pushbuttons for their discharge and suction valves.</p> <p>Place Caution tag switch cover on Drywell Unit Cooler DRS-UC1D control switch</p> <p>NOTE: Trigger t6 is preset to become true when HDL-P1D Pump STOP pushbutton on P680 is depressed to initiate the batch file that resets the alarm.</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<p><u>MALFUNCTIONS:</u></p> <ul style="list-style-type: none"> • LPCS002, LPCS Injection Valve F005 Fails to Open • HPCS004, t1, Spurious HPCS Auto Initiation. • MSS010, t5, SS PCV Fails Shut. • B33MOVFO23A, OPEN Recirc Loop A Suction Isolation Valve OPEN • RCS001A, t4, Recirc Loop A Rupture • NMS013C, APRM C Fails INOP • NMS15F, t2, APRM F Flow Converter Downscale 	
	<p><u>REMOTE FUNCTIONS:</u></p> <ul style="list-style-type: none"> • NONE <p><u>LAMP OVERRIDES:</u></p> <ul style="list-style-type: none"> • lo_mss-mov155-g, OFF, P870-54C Mn Stm Sply to SSE Isol MOV green light • lo_hdl-mov55a-g, OFF, P680-2C Htr Drn Pump P1A Dischg Vlv green light • lo_hdl-mov53a-r, OFF, P680-2C Htr Drn Pump P1A Suct Vlv red light • lo_hdl-mov55c-g, OFF, P680-2C Htr Drn Pump P1C Dischg Vlv green light • lo_hdl-mov53c-r, OFF, P680-2C Htr Drn Pump P1C Suct Vlv red light 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<u>ANNUNCIATOR OVERRIDES:</u> <ul style="list-style-type: none"> • p680_2a:e_8, ON, t3, Heater Drain Pump HDL-P1D Overload Alarm 	
	<u>SWITCH OVERRIDES:</u> <ul style="list-style-type: none"> • di_b33-f023a-g, OPEN, P680-4C Recirc Pump A Suction Valve Control Switch in OPEN 	
	FREEZE	Provide Crew with Shift Turnover sheet and pre-job brief for returning RHR B to Standby lineup
Event 0	RUN	CREW: Board Walkdown and Turnover

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 1 Description: Unit Operator removes RHR B from Suppression Pool cooling and returns it to standby lineup.</p>		
<p>Event 1 When the crew has assumed the shift.</p>		<p>CRS: Directs UO to remove RHR B from Suppression Pool Cooling</p> <p>UO: Using SOP-0031: Closes RHR Pump B Test Return to Suppression Pool (P601). Stops RHR Pump B (P601). Verifies minimum flow and HX outlet valves open (P601). Opens RHR B HX Bypass valve (P601). Closes RHR HX B Service Water Return (P870).</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 2 Description: Unit Operator responds to a spurious initiation of HPCS.</p>		
<p>Event 2 T = 10 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t1, Inserts malfunction HPCS004, Spurious HPCS Auto Initiation.</p> <p>ROLE PLAY: Backpanel Operator when requested, report status of HPCS initiation instrumentation.</p> <p>ROLE PLAY: I &C Maintenance/WMC, acknowledge request to investigate spurious HPCS initiation.</p>	<p>CUES: <i>P601 HPCS initiation signal white light lit</i> <i>P601 HPCS pump breaker closed and injection valve open.</i> <i>Alarm P601-16A-C02, DIV III D/G RUNNING</i> <i>P680 All three FWLC level instruments stable above 35 inches</i> <i>P680 Stable feed flow indication lower than steam flow.</i></p> <p>ATC: Confirms/reports FWLC controlling at higher stable level and Feed Flow/Steam Flow mismatch exists (P680). Verifies proper operation of FWLC system (P680).</p> <p>CRS: Directs UO to verify by two independent means adequate core cooling to confirm HPCS misoperation Directs UO to secure HPCS injection Directs investigation of spurious HPCS initiation Consults TS 3.5.1 for inoperable HPCS and TS 3.3.5.1 HPCS initiation instrumentation.</p> <p>UO: Verifies adequate core cooling PAM recorders (P601) When directed by CRS, overrides HPCS injection valve closed (P601) When directed by CRS, stops HPCS pump (P601) Verifies HPCS minimum flow valve closes (P601) Refers to ARP-P601-16A-C02 for HPCS Diesel Start and directs local operator to shutdown HPCS Diesel.</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 3 Description: APRM F flow reference signal fails downscale resulting in a half-scrum.</p>		
<p>Event 2 T = 17 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t3, Inserts malfunction NMS015F, APRM F flow reference signal failure downscale</p> <hr/> <p>ROLE PLAY: I &C Maintenance/WMC, acknowledge request to investigate failure of APRM F.</p>	<p>CUES: <i>Alarm P680-06A-A03, APRM B OR F UPSCALE TRIP OR INOP</i> <i>P680 Recorder and PMS indicates APRM F reading ~100%</i> <i>Alarm P680-6A-B03, APRM UPSCALE OR INOP TRIP</i></p> <p>ATC: Refers to ARPs for P680-06A-A03 and P680-06A-B03 Identifies APRM Channel F causing failed upscale (P680) Compares APRM F with other APRMs Verifies no control rod scrams (P680) When directed by CRS, bypasses APRM F (P680). When directed by CRS, resets half-scrum (P680).</p> <p>CRS: Directs ATC to bypass APRM F when determined failed Consults Tech Spec Section 3.3.1.1, RPS Instrumentation</p> <p>UO: Investigates APRM F failure at Backpanel Identifies flow unit downscale</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 4 Description: A failure of the Turbine Gland Seal header pressure control valve causes a loss of gland seal steam.</p> <p>CRITICAL TASK: Manually bypass the Seal Steam Header pressure control valve to re-establish gland seal steam.</p>		
<p>Event 4 T = 27 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t2, inserts malfunction MSS010, causing a loss of turbine seal steam header pressure.</p>	<p>CUES: <i>Alarm P870-54A-E05, SEAL STEAM EVAP STEAM HEADER LOW PRESSURE</i> <i>Seal Steam Header Pressure indication lowering to or at 0 psig on TME-PIEPR-4 (P870)</i></p> <p>UO: Refers to ARP-P870-54A-E05: Diagnoses loss of seal steam condition (P870) Opens seal steam PCV bypass MOVS2 (P870) Monitors seal steam header pressure TME-PIEPR-4 (P870) Adjusts MOVS2 to maintain 4-6 psig seal steam header (P870)</p>
	<p>ROLE PLAY : Turbine building Operator, when requested, Seal Steam Pressure Control Valve TME-PCVSSFV is closed.</p>	<p>CRS: Directs ATC to monitor condenser vacuum and requests TB operator investigate status of seal steam header pressure control valve TME-PCVSSFV</p> <p>ATC: Monitors condenser vacuum</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 5 Description: ATC responds to Heater Drain Pump P1D Overload. ATC must reduce reactor power to prevent a low suction pressure trip of a Reactor Feedwater Pump.</p>		
<p>Event 5 T = 35 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t5, Inserts override P680_2a:f_8 ON, to initiate alarm for Heater Drain Pump HDL-P1D overload and to raise HDL-P1D motor current to 175 amps.</p> <p>t8, will automatically remove P680_2a:f_8 ON when P1D is stopped.</p> <p>ROLE PLAY: Backpanel Operator, when requested, HDL-P1D vibration and motor temperatures are slowly trending up.</p> <p>ROLE PLAY: Electrical Maintenance/WMC, acknowledge request to investigate HDL-P1D overload condition.</p>	<p>CUES: <i>Alarm P680-02A-F08, HTR DR PUMP 1HDL-P1D OVERLOAD</i> <i>P1D Current indicates 175 amps (P680)</i></p> <p>ATC: Refers to ARP-P680-02A-F08: Reduces reactor power to prevent RFP low suction trip(P680) Closes HDL-P1D discharge valve (P680) Stops HDL-P1D (P680)</p> <p>CRS: Directs WMC investigate HDL-P1D overload</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 6 Description:</p> <p>A large break LOCA occurs on the A Recirculation Loop suction line. ATC attempts to isolate and the recirc loop A suction isolation valve will not close.</p> <p>CRITICAL TASK: Emergency Depressurize RPV due to high Suppression Pool level</p>		
<p>Event 6</p> <p>T = 45 min</p> <p>Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>RCS001 Rupture of A recirculation loop (Large break LOCA)</p> <hr/> <p>ROLE PLAY :</p> <p>Third Control Room Operator, when requested, install EOP Enclosures with Remote Functions.</p> <hr/> <p>ROLE PLAY :</p> <p>Third Control Room Operator, report EOP Enclosure installation completed based on appropriate time intervals.</p>	<p>CUES:</p> <p><i>All Division of ECCS initiation signal white lights lit (P601)</i></p> <p><i>Alarm P680-6A-B05,NSSSS INIT DRYWELL HIGH PRESSURE and reactor scram (P680)</i></p> <p><i>Rapidly rising Drywell Pressure and Temperature, Suppression Pool Level and Temperature on ERIS and P808</i></p> <p>CRS: Enters EOP-0001, RPV Control and EOP-0002, Primary Containment Control and directs actions</p> <p>Implements EOP-0004, Emergency Depressurization for high suppression pool level.</p> <p>ATC: Completes applicable actions for AOP-0001, Reactor Scram and AOP-0002, Turbine Trip (P680)</p> <p>Maximizes injection flow from the Condensate and Feedwater Systems to inject contents of condenser hotwell. (P680)</p> <p>Attempts to close Recirc Loop Suction isolation to isolate leak and reports failure to CRS (P680)</p> <p>UO: Verifies ECCS initiation and injection as applicable (P601)</p> <p>Maximizes CRD flow</p> <p>Inhibits ADS</p> <p>Opens ADS valves for Emergency Depressurization, when directed.</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 7 Description: The LPCS injection valve fails to open when the system automatically initiates.</p>		
<p>Event 7 T = 47 min</p>	<p>LPCS002 prevents LPCS Injection Valve F005 from opening when system is initiated.</p> <hr/> <p>ROLE PLAY : Reactor Building Operator, when requested, locally open E21-MOVF005, LPCS Injection Valve (remove malfunction LPCS002).</p>	<p>CUES: <i>DIV 1 ECCS initiation signal white light lit (P601)</i> <i>Alarm P601-21A-D08, LPCS PUMP E21-C001 AUTO START</i> <i>Alarm P601-21A-E06, LPCS INJ RX PRESS LOW PERMISSIVE</i> <i>LPCS pump running with injection valve closed (P601)</i></p> <p>UO: Recognizes failure of LPCS injection valve F005 (P601) Attempts to open injection valve F005 (P601) Reports failure to CRS When directed by CRS, directs Building Operator to attempt to manually open LPCS injection valve.</p>
<p>WHEN Termination Criteria are met and with Lead Examiner concurrence</p>	<p>FREEZE</p>	<p><u>TERMINATION CRITERIA:</u></p> <ol style="list-style-type: none"> 1. RPV level restored and maintained above -162 inches. 2. Containment parameters stabilized.

IX. QUANTITATIVE SUMMARY

Total Malfunctions	<u>7</u>	(1) HPCS spurious initiation, (2) APRM F flow reference fails downscale, (3) Turbine sealing steam header PCV fails closed, (4) Heater Drain Pump PID overload, (5) Rupture of A recirculation loop, (6) Recirc Loop A suction isolation MOV fails to close, (7) LPCS fails injection valve fails to open.
Malfunctions after EOP entry	<u>2</u>	(1) Recirc Loop A suction isolation valve fails to close and (2) LPCS injection valve fails to open
Abnormal Events	<u>2</u>	(1) Loss of Condenser Vacuum and (2) Condensate/Feedwater Failures
Major Transients	<u>1</u>	Recirculation Loop A suction line rupture in the Drywell
EOPs entered	<u>2</u>	(1) EOP-0001, RPV Control and (2) EOP-0002, Primary Containment Control
EOP Contingencies used	<u>1</u>	EOP-0004, Emergency Depressurization
Simulator Run Time	<u>65</u>	Minutes
EOP Run Time	<u>20</u>	Minutes
Critical Tasks	<u>2</u>	(1) Event 4 - Re-establish Turbine Seal Steam, (2) Event 6 - Emergency Depressurize
Tech Specs Exercised	<u>Yes</u>	3.3.1.1, RPS Instrumentation; 3.5.1, HPCS; and 3.3.5.1 ECCS Initiation Instrumentation

VII. REFERENCES

A. Plant Procedures

1. GOP-0005, Power Maneuvering
2. SOP-0010, MSRs and FW Heaters Vents and Drains
3. SOP-0031, Residual Heat Removal System
4. ARP-P601-16A-C02
5. ARP-P680-6A-A03
6. ARP-P680-6A-B03
7. ARP-P870-54A-E05
8. ARP-P680-02A-F08
9. AOP-0001, Reactor Scram
10. AOP-0002, Main Turbine and Generator Trips
11. AOP-0003, Automatic Isolations
12. AOP-0005, Loss of Condenser Vacuum
13. AOP-0006, Condensate/Feedwater Failures
14. EOP-1, RPV Control
15. EOP-0004, Contingencies
16. EOP-2, Primary Containment Control
17. OSP-0053, Emergency and Transient Response Support Procedure

B. Technical Specifications and Technical Requirements Manual

Operating Test Item Exam History and Description of Modifications

- 1. Admin JPM No. ADM-R01, Complete the Daily Logs verification of power distribution limits during Single Loop Operation.**

HISTORY: River Bend 2/2003 NRC Exam

The alternate path in the parent JPM was to identify the out-of-spec value of MAPRAT based on applying limits specified in GOP-0004 Single Loop Operation. The JPM was modified to make the alternate path identification of the out-of-spec value for MFLCPR based on a different limit specified in GOP-0004.

- 2. Admin JPM No. ADM-S05, Classify an Emergency Event.**

HISTORY: River Bend 10/2000 NRC Exam

The parent JPM required classification of a steam line break outside containment with failure to isolate. The JPM was modified to require classification of Evacuation of the Main Control Room and Control of Shutdown Systems not established at Remote Shutdown Panels in 15 Min.

- 3. Control Room Systems JPM No. CRS-01, Defeat RCIS Interlocks Per EOP Enclosure 14.**

HISTORY: River Bend 10/2000 NRC Exam

- 4. Control Room Systems JPM No. CRS-03, Makeup to Suppression Pool Using SPC/ADHR with failure of RHS-AOV63.**

HISTORY: River Bend 2/1999 NRC Exam

This JPM was originally written to use HPCS to makeup to the Suppression Pool with the HPCS pump tripping and requiring the use of RCIC to complete the task. Modified by making initial conditions having RCIC inoperative making it desirable to use the Suppression Pool Cleanup/Alternate Decay Heat Removal (SPC/ADHR) System rather the HPCS. The component failure is a failure that has occurred twice at River Bend making it more realistic. In the JPM, the failure of SPC/ADHR then requires the use of HPCS to complete the task.

Operating Test Item Exam History and Description of Modifications

- 5. Control Room Systems JPM No. CRS-04, Place FWRV 'C' in service on Master Feedwater Level Controller (FWLC) with Startup FWRV.**

HISTORY: River Bend 7/1997 NRC Exam

This JPM was originally written to use place FWRV 'A' in service and transfer the FWLC system from controlling on the Startup FWRV to the Master FWLC in AUTO. Modified existing JPM by using FWRV C and failing it requiring use of FWRV A. The modified JPM then requires the FWLC system to be configured with the Startup FWRV remaining in AUTO and the Master FWLC in MANUAL.

- 6. Control Room Systems JPM No. CRS-07, Parallel Offsite Power to ENS-SWG1B Supplied by Div II EDG with Backup Protection Activated Following Breaker Closure.**

HISTORY: River Bend 2/2003 NRC Exam

The parent JPM was written to parallel offsite with ENS-SWG1A and was NOT an alternate path JPM. Modified to use other Division and created alternate path by adding malfunction to simulate Generator ground fault as soon as offsite is paralleled with ENS-SWG1B. Alternate path actions require opening output breaker and stopping the Diesel from the control room which were not part of the original JPM.

- 7. Control Room Systems JPM No. CRS-08, Reset Recirc Flow Control Valve Runback.**

The parent JPM was written to reset a flow control valve (FCV) runback with the Recirc pumps on fast speed. The JPM was modified to reset the FCVs with the recirc system operating on the LFMs. This removed a non-critical step to place both FCVs in AUTO on the Flux Controller which is configuration not currently used at River Bend. It adds two additional critical steps to the JPM to re-open each loop FCVs to its full open position with the reactor at power.

- 8. In Plant Systems JPM No. IPS-02, Place Standby Service Water in service for Div I EDG from Remote Shutdown Panel.**

HISTORY: River Bend 2/2003 NRC Exam

Operating Test Item Exam History and Description of Modifications

9. Scenario No. 2 (R-SIS-20.0) Turbine Control Failure / Loss of Normal Feedwater / Steam Leak in Drywell

HISTORY: River Bend 2/2003 NRC Exam

The parent Scenario was submitted as a backup scenario for the 2/2003 exam and was never used during the exam. A copy of the parent scenario outline was provided with the exam material review package to show the modifications made to create proposed Scenario No. 2.

10. Backup Scenario No. 3 (R-SIS-21.0) HPCS Initiation / Heater Drain Pump Trip / Recirc Loop Large Break LOCA

HISTORY: River Bend 10/2000 NRC Exam

The parent Scenario was used as Scenario No. 2 for the 10/2000 exam. A copy of the parent scenario outline was provided with the exam material review package to show the modifications made to create proposed backup Scenario No. 3.