

Facility: River Bend Station Examination Level: RO		Date of Exam: Operating Test Number:
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N	2.1.25 Perform a Jet Pump Operability Test
Conduct of Operations	N	2.1.21 Verify the latest revision of SOP-0045 13.8 KV SYSTEM
Equipment Control	N	2.2.13 Determine tagout for Turbine Lube Oil Suction Header Strainer LOS-STR1 to submit to the tagging official.
Radiation Control	N	2.3.4 Perform a dose assessment for performing an evolution in the RWCU pump room.
Emergency Plan		Not Applicable
NOTE: All 5 items are required for SRO. Only 4 items are required for RO unless only the administrative portion of the test is being retaken, then all 5 are required.		
*Type Codes and Criteria: (C)ontrol Room (D)irect from Bank (≤ 3 RO; ≤ 4 SRO & RO retake) (N)ew or (M)odified (≥ 1) (P)revious 2 exams (≤ 1 ; randomly selected) (S)imulator		

Facility: River Bend Station Examination Level: SRO		Date of Exam: Operating Test Number:	
Administrative Topic (See Note)	Type Code*	Describe activity to be performed	
Conduct of Operations	N	2.1.25	Review Jet Pump Operability Surveillance with 2 Errors
Conduct of Operations	N	2.1.4	Determine if Shift Staffing Requirements are Met
Equipment Control	N	2.2.13	Review the tagout to support cleaning and inspecting the Turbine Lube Oil Suction Header Strainer LOS-STR1 for approval.
Radiation Control	N	2.3.6	Review a liquid radwaste release permit issued by chemistry.
Emergency Plan	S	2.4.41	Classify an Emergency Condition
NOTE: All 5 items are required for SRO. Only 4 items are required for RO unless only the administrative portion of the test is being retaken, then all 5 are required.			
*Type Codes and Criteria: (C)ontrol Room (D)irect from Bank (≤ 3 RO; ≤ 4 SRO & RO retake) (N)ew or (M)odified (≥ 1) (P)revious 2 exams (≤ 1 ; randomly selected) (S)imulator			

Facility: River Bend Station Examination Level: RO and SRO-I&U		Date of Exam: Operating Test Number:	
Control Room Systems** (RO = 8; SRO-I = 7; SRO-U = 2 or 3)			
System / JPM Title		Type Code*	Safety Function
a.	202001 Recirculation System – Startup second recirculation pump	S,D	1
b.	204000 RWCU – Lineup for Blowdown to the Condenser	S	2
c.	241000 Reactor / Turbine Pressure Regulating system – Establish 75°F/hr C/D rate using the bypass valves	S	3
d.	239001 Main and Reheat Steam System – Perform MSIV stroke time testing	A,S	4
e.	264000 Standby Diesel Generator – Start and Parallel and EDG B to the Respective Standby Bus	A,S,P	6
f.	201005 RC&IS – Bypass A Control Rod in RC&IS	C,P	7
g.	400000 Supply RPCCW Header with Service Water	S	8
h.	239003 MS-PLCS – Place MS-PLCS in Service	C,A	9
In-Plant Systems** (RO = 3; SRO-I = 3; SRO-U = 3 or 2)			
i.	295013 Add Water to the Suppression Pool From the CST by Gravity Drain Through HPCS	D, R	5
j.	Line Up Fire Water System for RPV Injection (Station Blackout)	R	2
k.	262002 UPS – Place and Inverter in Service	A	6
** All control room (in-plant) systems must be different and serve different safety functions; In-plant systems and functions may overlap those tested in the control room.			
*Type Code		Criteria for RO / SRO-I / SRO-U	
(A)lternate path		4-6 / 4-6 / 2-3	
(C)ontrol room			
(D)irect from bank		≤9 / ≤8 / ≤4	
(E)mergency or abnormal in-plant		≥1 / ≥1 / ≥1	
(L)ow power		≥1 / ≥1 / ≥1	
(N)ew or (M)odified from bank including 1(A)		≥2 / ≥2 / ≥1	
(P)revious 2 exams		≤3 / ≤3 / ≤2 (Randomly sampled)	
(R)CA		≥1 / ≥1 / ≥1	
(S)imulator			

**RIVER
BEND STATION**

Number: ***RJPM-OPS-IPS-02**
Revision: **0**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***LINE UP FIRE WATER PROTECTION SYSTEM FOR RPV INJECTION (STATION BLACKOUT)**

REASON FOR REVISION:

2007 NRC Exam JPM **IN PLANT SYSTEM #2**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-IPS-02

TASK DESCRIPTION:	Line Up Fire Water Protection System for RPV Injection (Station Blackout)
--------------------------	--

TASK REFERENCE:	SOP-0050, Station Blackout, Attachment 2
------------------------	--

K/A REFERENCE & RATING:	
------------------------------------	--

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

COMPLETION TIME:	25 minutes
-------------------------	------------

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

JOB LEVEL:	ALL
-------------------	-----

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

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

PSA RISK DOMINATE:	Yes – operator action required to prevent core damage
---------------------------	---

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

SAFETY FUNCTION	2
------------------------	---

RJPM-OPS-IPS-02

SIMULATOR SETUP SHEET

Task Description: **Line Up Fire Water Protection System for RPV Injection
(Station Blackout)**

Required Power: **NA**

IC No.: **NA**

Notes: **NONE**

RJPM-OPS-IPS-02

DATA SHEET

References for Development:	Line Up Fire Water Protection System for RPV Injection (Station Blackout)
Required Materials:	AOP-0050 Station Blackout, Attachment 2
Required Plant Condition:	ANY
Applicable Objectives:	HLO-541, Obj. 4.4
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

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

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

RJPM-OP-IPS-02

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

While operating at 100 percent power the plant has experienced a station blackout RCIC has tripped, and efforts are in progress to restore RCIC. The diesel-powered fire water pumps are running..

Initiating Cue:

The CRS has directed you to perform AOP-50 (Station Blackout), Attachment 2, Step 4.

ALL VALVE AND EQUIPMENT MANIPULATIONS WILL BE SIMULATED

RJPM-OP-IPS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
At Control Building 102 ft el, southwest			
* 1.	Open FPW-V818, SWP BACKUP TO CB HOSE RACKS ISOLATION.		
NOTE: Items in the Performance Step column are the standards to be applied for all steps, unless otherwise noted.			
* 2.	Unlock and open SWP-V961, SVCE WTR SUPPLY TO FIRE PROTECTION IN CONTROL BLDG ISOL VLV		
At Fuel Building 74 ft el, southwest:			
* 3.	Open FPW-V396, ISOLATION VALVE FOR SWP BACKUP TO FUEL BLDG HOSE RACKS.		
* 4.	Unlock and open SWP-V971, DIV 2 STBY SWP TO FUEL BLDG FIRE PROT ISOL VLV.		
At Auxiliary Building 100 ft el, northeast crescent area:			
* 5.	Open FPW-V321, SWP BACKUP TO RB AND AUX BLDG HOSE RACKS ISOLATION VALVE.		

RJPM-OP-IPS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 6.	Unlock and open SWP-V968, SVCE WTR TO FIRE PROTECTION MAN ISOL VLV.	—	
At Auxiliary Building 80 ft el, RHR Pump 'B' Room:			
* 7.	Open E12-MOVF094, UP STREAM SVCE WATER CONTMT FLOOD VALVE.	—	NOTE: If the pump room is inaccessible, have the candidate describe the locations. CUE: Inform the candidate that this JPM is complete.
* 8.	4.4.2. Open E12-MOVF096, DN STREAM SVCE WATER CONTMT FLOOD VALVE.	—	

Terminating Cue: AOP-50 Station Blackout, Attachment 2, Step 4 has been completed.

RJPM-OP-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-OP-IPS-02

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: While operating at 100 percent power the plant has experienced a station blackout RCIC has tripped, and efforts are in progress to restore RCIC. The diesel-powered fire water pumps are running.

Initiating Cues: The CRS has directed you to perform AOP-50 (Station Blackout), Attachment 2, Step 4.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-IPS-01**
Revision: **0**
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***GRAVITY DRAIN THE CST TO THE SUPPRESSION POOL**

REASON FOR REVISION:

2007 NRC Exam JPM **IN PLANT SYSTEMS #1**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-IPS-01

TASK DESCRIPTION: Gravity Drain the CST to the Suppression Pool

TASK REFERENCE: AOP-0050 Station Blackout, Attachment 9

K/A REFERENCE & RATING: 295013 AK2.01 (3.6 / 3.7)
223001 K1.13 (3.4 / 3.5)

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

COMPLETION TIME: 20 min.

MAX TIME: N/A

JOB LEVEL: ALL

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION 5

RJPM-OPS-IPS-01

SIMULATOR SETUP SHEET

Task Description: Gravity Drain the CST to the Suppression Pool

Required Power: NA

IC No.: NA

Notes: NONE

RJPM-OPS-IPS-01

DATA SHEET

References for Development:	Gravity Drain the CST to the Suppression Pool
Required Materials:	AOP-0050 Station Blackout, Attachment 9
Required Plant Condition:	ANY
Applicable Objectives:	HLO541.00 Obj. 4.3
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-OP-IPS-01

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is in a station blackout condition and has been for 5 hours. Current suppression pool temperature is 175⁰F.

Initiating Cue:

The CRS has directed you to perform Attachment 9 of AOP-0050 Station Blackout Step 1 to provide makeup water to the suppression pool.

RJPM-OP-IPS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1. Check RCIC suction is transferred to the Suppression Pool. IF RCIC is injecting to the vessel with CST, THEN select a different source of makeup water to the Suppression Pool.	<i>NOTE Items in the Performance Step column are the standards to be applied for all steps, unless otherwise noted.</i>	_____	CUE: The RCIC system is secured and the suppression pool suction valve E51-F031, RCIC PUMP SUP PL SUCTION VALVE is OPEN.
_____ 2. At Auxiliary Building 78 ft el, HPCS Cubicle, verify open E22-MOVF001, HPCS SUCTION FROM CST.		_____	
* _____ 3. At Auxiliary Building 78 ft el, Crescent Area, manually throttle open E22-MOVF023, HPCS FULL FLOW TEST to add water to the Suppression Pool.		_____	CUE: Clutch engaged and percent (%) valve indication is changing from 0% towards 100%.
_____ 4. WHEN Suppression Pool Water Level is satisfactory, THEN close E22-MOVF023 HPCS.		_____	CUEs: <ul style="list-style-type: none"> • 15 minutes have elapsed and the control has directed to close E22-MOVF023. • Clutch engaged and percent (%) valve indication is changing towards 0% the valve is closed.

RJPM-OP-IPS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 5. IF CST inventory is depleted AND additional water is needed, THEN establish a flow path to gravity drain the Demineralizer Water Storage Tank to the CST via temporary hoses.		_____	CUE: If requested, CST inventory is satisfactory and no additional water is needed.

Terminating Cue: CST water has been added to the suppression pool and E22-MOVF023, HPCS FULL FLOW TEST has been closed.

RJPM-OP-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-OP-IPS-01

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is in a station blackout condition and has been for 5 hours. Current suppression pool temperature is 175⁰F.

Initiating Cues: The CRS has directed you to perform Attachment 9 of AOP-0050 Station Blackout Step 1 to provide makeup water to the suppression pool.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***PLACE MS-PLCS IN SERVICE**

REASON FOR REVISION:

2007 NRC Exam JPM **CONTROL ROOM SYSTEMS #8**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-08

TASK DESCRIPTION: Place MS-PLCS in Service

TASK REFERENCE: SOP-0034 MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control.

K/A REFERENCE & RATING: 239003 A4.01 (3.2 / 3.2)

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

COMPLETION TIME: 20 min.

MAX TIME: N/A

JOB LEVEL: SRO / RO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): YES

SAFETY FUNCTION 9

RJPM-OPS-CRS-08

SIMULATOR SETUP SHEET

Task Description: Place MS-PLCS in Service

Required Power: NA

IC No.: NA

Notes: NONE

RJPM-OPS-CRS-08

DATA SHEET

References for Development:	SOP-0034 MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control.
Required Materials:	SOP-0034 MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control.
Required Plant Condition:	Reactor Shutdown RPV Depressurized RPV Water Level being maintained with Condensate pumps.
Applicable Objectives:	STM-208 Obj. 6
Safety Related Task:	
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 is NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

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

Initial Conditions:

The reactor was scrammed and has been Emergency Depressurized one (1) hour ago due to offsite release rates per EOP-0003 Secondary Containment and Radioactivity Release Control. RPV pressure is 0 psig and PVLCS system air pressure is 120 psig. RPV water level is being controlled 10 – 51 inches with condensate pumps.

Initiating Cue:

The CRS has directed you to place Division 1 Main Steam PVLCS in service per SOP-0034 ‘MSIV Sealing System and Penetration Valve Leakage Control’ per section 4.2 ‘MS-PLCS Startup’.

RJPM-OPS-CRS-08

Performance Step		Standard	S/U	Comments
<u>Continued</u>	<ul style="list-style-type: none"> • B21-F098D, MSL D SHUTOFF VALVE • B21-F019, MSL WARMUP HDR OUTBD CONTMT ISOL VLV • B21-F085, MSL WARMUP HDR SHUTOFF VALVE 	<p align="center"><i>NOTE: B21-F086, MSL DRAIN HDR SHUTOFF VALVE is not closed and should be closed.</i></p>	<hr style="width: 10%; margin: auto;"/>	
	<ul style="list-style-type: none"> • B21-F086, MSL DRAIN HDR SHUTOFF VALVE 			
	<ul style="list-style-type: none"> • B21-F067A, MSL A DRAIN VALVE 			
	<ul style="list-style-type: none"> • B21-F067B, MSL B DRAIN VALVE 			
	<ul style="list-style-type: none"> • B21-F067C, MSL C DRAIN VALVE 			
	<ul style="list-style-type: none"> • B21-F067D, MSL D DRAIN VALVE 			

RJPM-OPS-CRS-08

Performance Step		Standard	S/U	Comments
* 2.	Place E33A-S1A, OPERATE INBOARD MSIV PLCS Switch to OPERATE		_____	
* 3.	Check E33-F014, INBD BYPASS VALVE opens		_____	CUE: E33-F014 red light ON, green light OFF
* 4.	Check E33-F006, DRAIN VALVE closes		_____	CUE: E33-F006 red light OFF, green light ON
* 5.	Check E33-F005, INJECTION VALVE opens		_____	CUE: Timer is running E33-F005 red light ON, green light OFF
* 6.	Check E33-F007, ISOLATION VALVE open.		_____	CUE: Main Steam Lines pressure is < 35 psig (E33-N605); E33-F007 red light ON, green light OFF
* 7.	Check E33-F008, ISOLATION VALVE open.		_____	CUE: E33-F008 red light ON, green light OFF
* 8.	Check E33-F014, INBD BYPASS VALVE closed		_____	CUE: 5 minutes have elapsed, timer has timed out; E33-F014 red light OFF, green light ON
* 9.	Check E33-R603, PRESS CONTROLLER operates to control inboard system differential pressure at 8.5 psid.		_____	CUE: Red needle is controlling in the green band

RJPM-OPS-CRS-08

Performance Step		Standard	S/U	Comments
* 10.	Check flow is less than 5 scfm as indicated on E33-R607, RECORDER		—	CUE: Flow is < 5 scfm on E33-R607.
* 11.			—	CUE: <ul style="list-style-type: none"> • If requested state that division 2 PCLS will be placed in service by another operator. • If requested containment pressure is .15 psig and stable.

Terminating Cue: Division 1 MS-PVLCS is in service.

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: The reactor was scrammed and has been Emergency Depressurized one (1) hour ago due to offsite release rates per EOP-0003 Secondary Containment and Radioactivity Release Control. RPV pressure is 0 psig and PVLCS system air pressure is 120 psig. RPV water level is being controlled 10 – 51 inches with condensate pumps.

Initiating Cues: The CRS has directed you to place Division 1 Main Steam PVLCS in service per SOP-0034 'MSIV Sealing System and Penetration Valve Leakage Control' per section 4.2 'MS-PLCS Startup'.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** ALIGN SSW TO THE RPCCW SYSTEM TO SUPPLY COOLING TO
THE CRD PUMP BEARING COOLER**

REASON FOR REVISION:

2007 NRC Exam JPM **CONTROL ROOM SYSTEMS #7**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-07

TASK DESCRIPTION:	Align SSW to the RPCCW System to Supply Cooling to the CRD Pump Bearing Cooler
--------------------------	--

TASK REFERENCE:	AOP-0011 Loss of Reactor Plant Component Cooling Water
------------------------	--

K/A REFERENCE & RATING:	400000 A2.01 (3.3 / 3.4)
------------------------------------	--------------------------

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

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
----------------------------------	----

SAFETY FUNCTION	8
------------------------	---

RJPM-OPS-CRS-07

SIMULATOR SETUP SHEET

Task Description: **Align SSW to the RPCCW System to Supply Cooling to the CRD Pump Bearing Cooler**

Required Power: **Plant Shutdown**

IC No.: **129**

Notes: **NONE**

RJPM-OPS-CRS-07

DATA SHEET

References for Development:	Align SSW to the RPCCW System to Supply Cooling to the CRD Pump Bearing Cooler
Required Materials:	AOP-0011 Loss of Reactor Plant Component Cooling Water
Required Plant Condition:	ANY
Applicable Objectives:	HLO-530, Obj. 6
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

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

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

RJPM-OP-CRS-07

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant has been scrammed and stabilized following a leak in the division one safety loop of RPCCW.

Initiating Cue:

The CRS has directed you to align Standby Service Water to the division 2 RPCCW header to supply cooling to the CRD Pump Bearing Cooler per AOP-0011 Loss of Reactor Plant Cooling Water per section 5.3 in preparation for restarting the CRD system.

RJPM-OP-CRS-07

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* ___ 1.	Open SWP-MOV510B, RPCCW LOOP B SUPPLY.	<i>NOTE: Items in the Performance Step column are the standards to be applied for all steps, unless otherwise noted.</i>	___	
* ___ 2.	Open SWP-MOV504B, RPCCW LOOP B RETURN.		___	
* ___ 3.	Place RPCCW DIV I TEST Switch in TEST.		___	
* ___ 4.	Place RPCCW DIV 2 TEST Switch in TEST.		___	
* ___ 5.	Open CCP-MOV169, CRD PUMP CLG UP STREAM.		___	
* ___ 6.	Open CCP-MOV163, CRD PUMP CLG DN STREAM.		___	CUE: If the candidate continues to the CRD pumps inform him that the starting of the CRD pumps will be performed by another operator.

Terminating Cue: Standby Service Water is being supplied to the RPCCW header.

RJPM-OP-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-OP-CRS-07

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant has been scrammed and stabilized following a leak in the division one safety loop of RPCCW.

Initiating Cues: The CRS has directed you to align Standby Service Water to the division 2 RPCCW header to supply cooling to the CRD Pump Bearing Cooler per AOP-0011 Loss of Reactor Plant Cooling Water per section 5.3 in preparation for restarting the CRD system.

**RIVER
BEND STATION**

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

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** BYPASS CONTROL ROD 16-25 IN RC&IS (RACS)**

REASON FOR REVISION:

2007 NRC Exam JPM **CONTROL ROOM SYSTEMS #6**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-06

TASK DESCRIPTION: Bypass Control Rod 16-25 in RC&IS (RACS)

TASK REFERENCE: SOP-71, Rod Control and Information System
STP-500-0705, Bypassing Control Rods in RACS

K/A REFERENCE & RATING: 201005 K1.05 3.5/3.5
K4.06 3.5/3.5
K6.02 3.2/3.3

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

COMPLETION TIME: 30 min.

MAX TIME: N/A

JOB LEVEL: ALL

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): NO

SAFETY FUNCTION 7

RJPM-OPS-CRS-06

SIMULATOR SETUP SHEET

Task Description: Bypass Control Rod 16-25 in RC&IS (RACS)

Required Power: ANY – Simulated JPM

IC No.: NA

Notes: NONE.

RJPM-OPS-CRS-06

DATA SHEET

References for Development: SOP-71 (Rod Control and Information System)
STP-500-0705

Required Materials: SOP-71 (Rod Control and Information System)
STP-500-0705

Required Plant Condition: ANY – Simulated JPM

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-OP-CRS-06

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is performing a startup. Thermal power is less than 10% of rated. Control rod 16-25 is in the correct position when both position reed switches fail. In order to clear the rod block to continue the moving rod 16-25 the rod will have to be bypassed in RACS.

Initiating Cue:

In order to meet Technical Specification 3.1.3 requirements, the CRS directs you to bypass control rod 16-25 in accordance with STP-500-0705, Bypassing Control Rods in RACS.

RJPM-OP-CRS-06

THIS WILL BE PERFORMED IN THE CONTROL ROOM. ALL ACTIONS WILL BE SIMULATED

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___4.1	Key Number 1161, located on the Reactor Operator key ring in the Unit Operator desk, will be needed to access the Rod Bypass file.	___	NOTE: the key is not needed. All controls can be viewed without the key. CUE: You have the key.
___6.2	Each performer indicate that they have read and understand this procedure by completing the following: <i>[Signature blocks]</i>	___	QUE: As the second worker, you have signed the paperwork.
___6.4	Verify all control rod motion will be per one or more of the following: 6.4.2. The plant is operating in Mode 1 or 2 and a control rod is to be bypassed in RACS per SR 3.3.2.1.9 in support of required actions for LCO 3.1.3 or LCO 3.1.6.	___	NOTE: Step 6.5 is N/A.
___7.1	Perform Attachment 2, Control Rods to be Bypassed for each Control Rod to be bypassed.	___	<i>NEXT STEPS ARE ATTACHMENT 2</i>
___1.1	Perform the matrix below for each control rod to be bypassed	___	
___M1	Record Control Rod	___	NOTE: Attachment 2 matrix row 1

RJPM-OP-CRS-06

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
___M2	Step 1.2 complete	1.2 Prior to control rod movement, verify the movement of the control rod is per one of the following authorized movements • Rod movement per LCOs 3.1.3 bypassing of an inoperable control rod or 3.1.6 Action A.1 or B.1, movement to restore BPWS.	___	NOTE: Attachment 2 matrix row 2
___M3	Step 1.2 Ind.Verified		___	NOTE: Attachment 2 matrix row 3 QUE: As independent verifier, step 1.2 is verified.
___M4	Perform Attachment 3		___	<i>NEXT STEPS ARE ATTACHMENT 3</i>
___1.	Using the approved Reactivity control Plan, record the control rod to be moved in step 1.6 through step 1.7, of this attachment.		___	
* __2.	Using Attachment 1, Control Rod number to Binary Code, determine binary code for selected Control Rod and record below.	X4 = 0 X3 = 0 X2 = 1 X1 = 1 X0 = 0 Y4 = 0 Y3 = 1 Y2 = 0 Y1 = 0 Y0 = 0	___	

RJPM-OP-CRS-06

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* ___3.	On H13-P651, Rod Bypass File A3, enter the address obtained in step 1.2 into the Bypass Cards Ident Select Switches of one bypass card.	Switches are turned LEFT for 0. Switched are turned RIGHT for 1. Switches are simulated aligned in the binary code sequence indicated: X4 = 0 X3 = 0 X2 = 1 X1 = 1 X0 = 0 Y4 = 0 Y3 = 1 Y2 = 0 Y1 = 0 Y0 = 0	<p>NOTE: Any row of switches will work</p> <p>NOTE: The switch positions correlate to the binary code as follows: LEFT = 0 RIGHT = 1</p> <p>QUE: As the second worker, acknowledge whatever binary code sequence the candidate gives as a simulated input.</p>
* ___3.1	Place the BYPASS SWITCH in the BYPASSED Position on the effected card.		
___3.2	Check that the BYPASSED LED comes on.		<p>NOTE: The LED is immediately below the Bypass/Enable Switch and would be readily visable when it lit.</p> <p>QUE: BYPASSED LED is ON</p>

RJPM-OP-CRS-06

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 4.	On H13-P652, Rod Bypass File A3, enter the address obtained in Step 1.2 into the Bypass Cards Ident Select Switches of one bypass card.	Switches are turned LEFT for 0. Switched are turned RIGHT for 1. Switches are simulated aligned in the binary code sequence indicated: X4 = 0 X3 = 0 X2 = 1 X1 = 1 X0 = 0 Y4 = 0 Y3 = 1 Y2 = 0 Y1 = 0 Y0 = 0	NOTE: The switch positions correlate to the binary code as follows: LEFT = 0 RIGHT = 1 QUE: As the second worker, acknowledge whatever binary code sequence the candidate gives as a simulated input.
* 4.1	Place the BYPASS SWITCH in the BYPASSED Position on the effected card.		
4.2	Check that the BYPASSED LED comes on.		QUE: BYPASSED LED is ON
6.	Check that the POSITION BYP. LED comes on for Control Rod 16-25.		QUE: If the candidate has given the proper codes for both RACS Rod Bypass File A3 bypass cards, then inform the candidate: POSITION BYP. LED is on for control rod 16-25. Otherwise: POSITION BYP. LED is OFF for control rod 16-25

RJPM-OP-CRS-06

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
7.	Independently Verify Control Rod 16-25 is properly bypassed per Steps 1.3 through step 1.5.		—	QUE: As the independent verifier, control rod 16-25 is properly bypassed. Inform the candidate that this JPM is complete.

Terminating Cue: Rod 16-25 is bypassed in the RACS cabinets.

RJPM-OP-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-OP-CRS-06

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is performing a startup. Thermal power is less than 10% of rated. Control rod 16-25 is in the correct position when both position reed switches fail. In order to clear the rod block to continue the moving rod 16-25 the rod will have to be bypassed in RACS.

Initiating Cues: In order to meet Technical Specification 3.1.3 requirements, the CRS directs you to bypass control rod 16-25 in accordance with STP-500-0705, Bypassing Control Rods in RACS.

**RIVER
BEND STATION**

Number: *RJPM-OPS-CRS-05
Revision: 0
Page 1 of 9

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** PARALLEL THE DIV II EDG TO OFFSITE POWER**

REASON FOR REVISION:

2007 NRC Exam JPM **CONTROL ROOM SYSTEMS #5**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-05

TASK DESCRIPTION:	Parallel the Div II EDG to offsite power					
TASK REFERENCE:	SOP-053, Standby Diesel Generator					
K/A REFERENCE & RATING:	264000	A4.02	3.4 / 3.4			
		A4.05	3.6 / 3.7			
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	Classroom	
COMPLETION TIME:	20 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	6					

RJPM-OPS-CRS-05

SIMULATOR SETUP SHEET

Task Description: Parallel the Div II EDG to offsite power

Required Power: Any

IC No.: 126

Notes: The Div II EDG is running and supplying Div II power. Station reserve transformer 1D is energized from offsite. ENS-ACB26 is OPEN.

This is an alternate path JPM. Breaker, ENS-ACB26 will malfunction such that the red CLOSED light will not illuminate, but indication of the breaker (single or two phase(s)) closing will be present on the synchroscope.

RJPM-OPS-CRS-05

DATA SHEET

References for Development: SOP-053 Standby Diesel Generator and Auxiliaries

Required Materials: SOP-053 Standby Diesel Generator and Auxiliaries

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-OP-CRS-05

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

Standby Diesel Generator B is supplying the Div II standby bus, and offsite power is available.

Initiating Cue:

The CRS directs you to parallel Offsite Power to Standby Diesel Generator B from the Control Room in accordance with SOP-53, Step 5.1.

RJPM-OP-CRS-05

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p align="center">____1.</p>	<p>IF ENS-ACB026, NORMAL SUPPLY BRKR is to be closed, THEN place the REMOTE SYNC SW to NORM.</p>	<p align="center">Remote Sync switch to Normal</p>	
<p align="center">____2.</p>	<p>Adjust diesel voltage, as observed on V-1RUN-1SYDB01, RUNNING VOLTAGE to approximately 1- 2 volts above V-1IN-1SYDB01, INCOMING VOLTAGE using the STBY DIESEL GENERATOR B VOLTAGE REGULATOR CONT.</p>	<p align="center">V-1RUN-1SYDB01, RUNNING VOLTAGE is 1- 2 volts above V-1IN-1SYDB01,</p>	
<p align="center">____^ 4.</p>	<p>Adjust diesel speed, using the STBY DIESEL GENERATOR B GOVERNOR CONTROL, to bring the frequency within the range of grid frequency. Adjust speed so the SY-1-SYDB01, STBY BUS 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.</p>	<p align="center">SYNCHROSCOPE rotating slowly in the SLOW direction (counterclockwise) at greater than or equal to 4 seconds and less than or equal to 6 seconds.</p>	

RJPM-OP-CRS-05

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* ^ 5.	<p>NOTE: The breaker must not be shut while the synchroscope is standing still.</p> <p>ENS-ACB026, NORMAL SUPPLY BRKR closed</p>	—	<p>NOTE: The red breaker closed light will NOT come on.</p>
* 5.1	<p>Hand switch returned to trip</p>	—	<p>CUE: When the candidate reports that ENS-ACB026 has been tripped reply that another operator will respond to this issue.</p>

Terminating Cue: The division 2 Standby Diesel output breaker is opened.

RJPM-OP-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-OP-CRS-05

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: Standby Diesel Generator B is supplying the Div II standby bus, and offsite power is available.

Initiating Cues: The CRS directs you to parallel Offsite Power to Standby Diesel Generator B from the Control Room in accordance with SOP-53, Step 5.1.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***Perform STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST**

REASON FOR REVISION:

2007 NRC Exam JPM **CONTROL ROOM SYSTEMS #4**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-04

TASK DESCRIPTION:	Perform STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST
--------------------------	---

TASK REFERENCE:	STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST
------------------------	---

K/A REFERENCE & RATING:	239001 A4.01 4.2/4.0
------------------------------------	----------------------

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

COMPLETION TIME:	35 min.
-------------------------	---------

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

JOB LEVEL:	SRO / RO
-------------------	----------

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

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

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

ALTERNATE PATH (FAULTED):	YES
----------------------------------	-----

SAFETY FUNCTION	4
------------------------	---

RJPM-OPS-CRS-04

SIMULATOR SETUP SHEET

Task Description: Perform STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST

Required Power: Plant Shutdown Mode 4 or 5

IC No.: N/A

Notes: NONE

RJPM-OPS-CRS-04

DATA SHEET

References for Development:	STP-109-6802	'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST
	OSP-0042	'ASME SECTION XI INSERVICE TESTING IMPLEMENTATION'
Required Materials:	STP-109-6802	'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST
	OSP-0042	'ASME SECTION XI INSERVICE TESTING IMPLEMENTATION'
Required Plant Condition:	Reactor Shutdown (Mode 4 or 5)	
Applicable Objectives / Task:	239003002001	
Safety Related Task:	NA	
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-04

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is shutdown in Mode 4 for a refueling outage and STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST' is required to be performed. The MSIVs are considered to be 'wet' until next shift and dry stroke time limits are currently not applicable.

Initiating Cue:

The CRS has directed you to perform STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST' for MSIV B21-MOVF022A MSL A INBD MSIV. The STP has been completed thru step 6.6.

RJPM-OPS-CRS-04

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____ 1.	A person is requested to be stationed at B21-F022A to perform valve position verification.	NOTE: Items in the Performance Step column are the standards to be applied for all steps, unless otherwise noted.	_____	CUE: When request is made for an individual to be stationed at B21-F022A inform the candidate that a NLO is stationed at the valve to monitor for valve position.
* ____ 2.	At H13-P601 the control switch for B21-F022A is taken to CLOSE.		_____	
NOTE: ERIS archive data can not be obtained in the simulator. When the candidate goes to the ERIS terminal provide them with the ERIS data sheet #1 that is attached.				
* ____ 3.	Calculate T ₁	<u>43.43</u> recorded for B21EC071 <u>42.63</u> recorded for B21EC069 Calculated T ₁ = <u>.80</u> seconds	_____	CUE: When verification requested respond that verification made.
* ____ 4.	Calculate T ₂	<u>47.43</u> recorded for B21EC070 <u>42.63</u> recorded for B21EC069 Calculated T ₂ = <u>4.8</u> seconds	_____	CUE: When verification requested respond that verification made.
____ 5.	Request from NLO at B21-F022A the local indicated position AND , Verify B21-F022A is full closed at P601		_____	CUE: Report that local indication is that B21-F022A is full closed
____ 6.	Record the closing stroke time, T ₂ and full stroke exercise results for B21-F022A on Data Sheet 1, VALVE OPERABILITY DATA SHEET.		_____	

RJPM-OPS-CRS-04

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 7.	Tmin calculated Tmax calculated	Tmin calculated to be $4.8 - .8 \times 1.3 = 5.2$ Tmax calculated to be $4.8 - .8 \times 1.43 = 5.72$	—	
* 8.	Determine that stroke time in 7.1.4 and 7.1.5 are out of tolerance.	Stroke times determined to be out of tolerance.	—	
* 9.	Request that maintenance adjust B21-F022A closing stroke time per Attachment 2.	Maintenance contacted to adjust stroke time.	—	CUE: Report as CRS that maintenance has adjusted the stroke time of B21-F022A and continue with the Surveillance Test
* 10.	Open B21-F022A		—	
* 11.	At H13-P601 the control switch for B21-F022A is taken to CLOSE.		—	
NOTE: ERIS archive data can not be obtained in the simulator. When the candidate goes to the ERIS terminal provide them with the ERIS data sheet #2 that is attached.				
* 12.	Calculate T ₁	<u>43.43</u> recorded for B21EC071 <u>42.63</u> recorded for B21EC069 Calculated T ₁ = <u>.8</u>	—	
* 13.	Calculate T ₂	<u>46.43</u> recorded for B21EC070 <u>42.63</u> recorded for B21EC069 Calculated T ₂ = <u>3.8</u>	—	
* 14.	Request from NLO at B21-F022A the local indicated position <u>AND</u> , Verify B21-F022A is full closed at P601		—	CUE: Report that local indication is that B21-F022A is full closed

RJPM-OPS-CRS-04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____ 15.	Record the closing stroke time, T ₂ and full stroke exercise results for B21-F022A on data sheet 1, Valve Operability Determination.	_____	
* ____ 16.	Tmin calculated Tmax calculated	_____	
* ____ 17.	Determine that stroke time in 7.1.4 and 7.1.5 are acceptable.	_____	
* ____ 18.	Open B21-F022A	_____	
* ____ 19.	Request from NLO at B21-F022A the local indicated position <u>AND</u> , Verify B21-F022A is full open at P601	_____	CUE: Report that local indication is that B21-F022A is full open

RJPM-OPS-CRS-04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* 21. Slow Close B21-F022A as follows:</p> <ul style="list-style-type: none"> • Place B21H-S1B, MSL A INBD MSIV handswitch in OPEN/SLOW TEST. • Depress and hold B21H-S3B, MSL A INBD MSIV TEST pushbutton. • Verify that the remote position indication depicts a fully closed valve (green light only). This verifies the fail-safe position of B21-F022A. • Place B21H-S1B handswitch in CLOSE • Release B21H-S3B pushbutton 		<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	
<p>* 22. Verify B21-F022A remains closed.</p>		<p>_____</p>	
<p>* 23. Slow open B21-F022A as follows:</p> <ul style="list-style-type: none"> • Depress and hold B21H-S3B pushbutton • Place B21H-S1B handswitch in OPEN/SLOW TEST • Intermittently release and depress B21H-S3B pushbutton until B21-F022A is full open 		<p>_____</p>	
<p>* 24. Place B21H-S1B handswitch in AUTO.</p>		<p>_____</p>	

RJPM-OPS-CRS-04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 25.	Verify remote position indication depicts a fully open valve (red light only)	—	
* 26.	Record the fail-safe determination and complete the Valve Acceptance Determination for B21-F022A on data sheet 1, Valve Operability data sheet.	—	
* 27.	Record the Position Indication Verification results as determined by Steps 7.1.3 and 7.1.8 on data sheet 2, Position Indication Verification Data Sheet.	—	CUE: Once position indication verification results are determined tell candidate that someone else will complete the remainder of the STP.

Terminating Cue: STP-109-6802 ‘MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST has been performed for MSIV B21-MOVF022A MSL A INBD MSIV.

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 shutdown in Mode 4 for a refueling outage and STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST' is required to be performed. The MSIVs are considered to be 'wet' until next shift and dry stroke time limits are currently not applicable.

Initiating Cues: The CRS has directed you to perform STP-109-6802 'MSIV COLD SHUTDOWN FULL STROKE OPERABILITY TEST' for MSIV B21-MOVF022A MSL A INBD MSIV. The STP has been completed thru step 6.6.

DATA SHEET #1

TYPE: ARCHIVE REPORT BY POINT ID
INPUT POINTS: GROUP – F022A

	TIME	EU VALUE	UNITS	QUALITY
B21EC069	MSIV F022A SOL STATUS			
	XX-JUN-2007 04:00:15.53	ENER		GOOD
	XX-JUN-2007 04:05:42.63	DEENER		GOOD
B21EC070	MSIV F022A 10% OPEN STATUS			
	XX-JUN-2007 04:00:15.53	OPEN		GOOD
	XX-JUN-2007 04:05:47.43	FULL CL		GOOD
B21EC071	MSIV F022A 90% OPEN STATUS			
	XX-JUN-2007 04:00:15.53	FULL OP		GOOD
	XX-JUN-2007 04:05:43.43	CLOSED		GOOD

DATA SHEET #2

TYPE: ARCHIVE REPORT BY POINT ID
INPUT POINTS: GROUP – F022A

	TIME	EU VALUE	UNITS	QUALITY
B21EC069	MSIV F022A SOL STATUS			
	XX-JUN-2007 05:00:15.53	ENER		GOOD
	XX -JUN-2007 05:05:42.63	DEENER		GOOD
B21EC070	MSIV F022A 10% OPEN STATUS			
	XX -JUN-2007 05:00:15.53	OPEN		GOOD
	XX -JUN-2007 05:05:46.43	FULL CL		GOOD
B21EC071	MSIV F022A 90% OPEN STATUS			
	XX -JUN-2007 05:00:15.53	FULL OP		GOOD
	XX -JUN-2007 05:05:43.43	CLOSED		GOOD

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***ESTABLISH A 75⁰F COOLDOWN RATE USING BYPASS VALVES**

REASON FOR REVISION:

2007 NRC Exam JPM

CONTROL ROOM SYSTEMS #3

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-03

TASK DESCRIPTION: Establish a 75⁰F Cooldown Rate Using Bypass Valves

TASK REFERENCE: 300002002005
300246001001

K/A REFERENCE & RATING: 241000K/A 1.30 (3.2 / 3.3)

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

COMPLETION TIME: 20 min.

MAX TIME: N/A

JOB LEVEL: SRO / RO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION 3

RJPM-OPS-CRS-03

SIMULATOR SETUP SHEET

Task Description: Establish a 75⁰F Cooldown Rate Using Bypass Valves

Required Power: Plant Shutdown in Mode 3

IC No.: 127

Notes: NONE

RJPM-OPS-CRS-03

DATA SHEET

References for Development:	<ul style="list-style-type: none">• GOP-0002 'Plant Shutdown'• STP-050-0700 'RCS Pressure / Temperature Limits Verification'
Required Materials:	<ul style="list-style-type: none">• GOP-0002 'Plant Shutdown'• STP-050-0700 'RCS Pressure / Temperature Limits Verification'
Required Plant Condition:	<ul style="list-style-type: none">• Reactor Shutdown (Mode 3)• Reactor Pressure 950 psig with control on bypass valves• Reactor Water Level being maintained at ~ 25" with Startup Feedwater Level Control Valve• Feedwater Pump Level 8 Trip has been bypassed
Applicable Objectives:	HLO-501 Obj. #10 SMS-301 RO Obj #2
Safety Related Task:	300002002005 300246001001
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 is NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

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

Initial Conditions:

A plant shutdown is in progress per GOP-0002 'Power Decrease / Plant Shutdown'. RPV parameters are stable and the RPV needs to be depressurized / cooldown per GOP-0002. Brittle Fracture RPV Metal Temperatures are being monitored by the UO per STP-050-0700 section 7.2.1.

Initiating Cue:

The CRS has directed you to establish a $\leq 75^{\circ}\text{F}/\text{hour}$ cooldown rate using the bypass valves per GOP-0002 'Power Decrease / Plant Shutdown' at step 55 by adjusting pressure setpoint. You are to track the cooldown rate using STP-050-0700 at step 7.2.2. 45 minutes of data has been recorded on Data Sheet 1.

RJPM-OPS-CRS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	At H13-P680 slowly and periodically reducing turbine pressure by depressing the “DECREASE” pushbutton on the PRESSURE REGULATOR.	_____	
2.	STP-050-0700 ‘RCS Pressure / Temperature Limits Verification’ is implemented.	_____	

NOTE: Items in the Performance Step column are the standards to be applied for all steps, unless otherwise noted.

Terminating Cue:

A cooldown rate has been established $\leq 75^{\circ}\text{F} / \text{hour}$ and documented on STP-050-0700 ‘RCS Pressure / Temperature Limits Verification’.

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: A plant shutdown is in progress per GOP-0002 'Power Decrease / Plant Shutdown'. RPV parameters are stable and the RPV needs to be depressurized / cooldown per GOP-0002. Brittle Fracture RPV Metal Temperatures are being monitored by the UO per STP-050-0700 section 7.2.1.

Initiating Cues: The CRS has directed you to establish a $\leq 75^{\circ}\text{F}$ /hour cooldown rate using the bypass valves per GOP-0002 'Power Decrease / Plant Shutdown' at step 55 by adjusting pressure setpoint. You are to track the cooldown rate using STP-050-0700 at step 7.2.2. 45 minutes of data has been recorded on Data Sheet 1.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***LINE UP RWCU FOR BLOWDOWN TO THE MAIN CONDENSER**

REASON FOR REVISION:

2007 NRC Exam JPM **CONTROL ROOM SYSTEMS #2**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-02

TASK DESCRIPTION:	LINE UP RWCU FOR BLOWDOWN TO THE MAIN CONDENSER					
TASK REFERENCE:	SOP-0090 Reactor Water Cleanup System					
K/A REFERENCE & RATING:	204000 A4.08 3.4 / 3.4					
TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	Classroom	
COMPLETION TIME:	25 min.					
MAX TIME:	N/A					
JOB LEVEL:	ALL					
TIME CRITICAL:	No					
EIP CLASSIFICATION REQUIRED:	No					
PSA RISK DOMINATE:	No					
ALTERNATE PATH (FAULTED):	No					
SAFETY FUNCTION	2					

RJPM-OPS-CRS-02

SIMULATOR SETUP SHEET

Task Description: **LINE UP RWCU FOR BLOWDOWN TO THE MAIN
CONDENSER.**

Required Power: **Modes 2 thru 5**

IC No.: **126**

Notes: **None**

RJPM-OPS-CRS-02

DATA SHEET

References for Development:	SOP-0090 Reactor Water Cleanup System
Required Materials:	SOP-0090 Reactor Water Cleanup System
Required Plant Condition:	Modes 2 thru 5
Applicable Objectives / Task:	204015001001
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-OP-CRS-02

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is coming out of refueling outage and currently in cold shutdown. RWCU is to be lined up to reject RPV water level to control level.

Initiating Cue:

The CRS directs you to line up the Reactor Water Cleanup System for blowdown to the main condenser in accordance with SOP-90 (Reactor Water Cleanup), Step 5.11.1 and establish approximately 50 gpm flow rate.

RJPM-OP-CRS-02

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
___1.	Request chemistry sample to verify reactor water quality is within the specifications of Technical Requirement 3.4.13.	<i>NOTE: Items in the Performance Step column are the standards to be applied for all steps, unless otherwise noted.</i>	___	CUE: After the candidate requests, notify the candidate that reactor water quality is within the specifications of Technical Requirement 3.4.13.
___2.	Notify Radiation Protection prior to rejecting water to the Main Condenser or Radwaste.		___	CUE: Acknowledge rejecting water to the main condenser.
___3.	Verify closed: G33-F035, RWCU DRAIN TO RADWASTE		___	
___4.1	Verify closed: G33-F041, RWCU BYP TO MN COND		___	
___4.2.	Verify closed: G33-F046, RWCU DRAIN TO MN COND		___	
___4.3	Verify closed: G33-FCVF033, REJECT VALVE, using G33-R606, RWCU REJECT FLOW CONTROLLER		___	
*___5.1	At H13-P601, open G33-F028, RWCU INBD DRAIN VALVE		___	
*___5.2	At H13-P601, open G33-F034, RWCU OUTBD DRAIN VALVE		___	
*___5.3	At H13-P870, open WCS-MOV111, RWCU SHUTOFF VALVE		___	

RJPM-OP-CRS-02

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 6.	IF rejecting to the Main Condenser, THEN open G33-F046, RWCU DRAIN TO MN COND.		—	
* 8.	IF rejecting during cold shutdown or refueling, THEN open G33-F031, RWCU DRAIN ORIFICE BYP.		—	NOTE: Only performed if this JPM is performed in Mode 4
NA 9.	IF rejecting with the RWCU HXs isolated, THEN perform the following:		—	IF requested state that the NRHX ARE NOT isolated. NOTE: Steps 9.1 thru 9.4 will be N/A if RWCU HXs are NOT isolated
NA 9.1	Open G33-F107, RWCU REGEN HX BYPASS.	Step should be N/A'd NRHX is not isolated	—	
NA 9.2	Throttle open G33-FCVF033 REJECT VALVE to establish reject flow as indicated on G33-R602, RWCU REJECT FLOW	Step should be N/A'd NRHX is not isolated	—	
NA 9.3	IF necessary to establish adequate reject flow, THEN close G33-F040, RWCU INBD RETURN VALVE.	Step should be N/A'd NRHX is not isolated	—	

RJPM-OP-CRS-02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 10. To establish the reject and maintain RWCU flowrate on G33-R609, RWCU INLET FLOW nearly constant, simultaneously throttle the following: • G33-FCVF033 REJECT VALVE open using G33-R606, RWCU REJECT FLOW CONTROLLER • G33-F042, RWCU REGEN HX OUTLET closed	Do NOT allow temperature as indicated on G33-R607 to go above 130F Established reject flow rate approximately 50 gpm to main condenser.	—	NOTE: Simultaneous valve operation is required
11. Observe blowdown flow on G33-R602, RWCU REJECT FLOW.	Do NOT allow temperature as indicated on G33-R607 to go above 130F	—	
12. Monitor reactor water level while blowdown is in progress.		—	

Terminating Cue: RWCU reject to Main Condenser is established at approximately 50 gpm.

RJPM-OP-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-OP-CRS-02

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is coming out of refueling outage and currently in cold shutdown. RWCU is to be lined up to reject RPV water to control level.

Initiating Cues: The CRS directs you to line up the Reactor Water Cleanup System for blowdown to the main condenser in accordance with SOP-90 (Reactor Water Cleanup), Step 5.11.1 and establish approximately 50 gpm flow rate.

**RIVER
BEND STATION**

Number: ***RJPM-OPS-CRS-01**
Revision: **0**
Page 1 of 11

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***STARTUP A REACTOR RECIRCULATION PUMP**

REASON FOR REVISION:

2007 NRC Exam JPM **CONTROL ROOM SYSTEMS #1**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-CRS-01

TASK DESCRIPTION: STARTUP A REACTOR RECIRCULATION PUMP

TASK REFERENCE: SOP-003 Reactor Recirculation System

K/A REFERENCE & RATING: 202001 A4.01 3.7/3.7

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

COMPLETION TIME: 25 min.

MAX TIME: N/A

JOB LEVEL: ALL

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION 1

RJPM-OPS-CRS-01

SIMULATOR SETUP SHEET

Task Description: **STARTUP A REACTOR RECIRCULATION PUMP.**

Required Power: **Plant is shutdown**

IC No.: **126**

Notes: **NONE.**

RJPM-OPS-CRS-01

DATA SHEET

References for Development:	SOP-003 Reactor Recirculation System
Required Materials:	SOP-003 Reactor Recirculation System
Required Plant Condition:	Modes 1 thru 4
Applicable Objectives / Task:	202008001001
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-OP-CRS-01

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

You have just taken the shift, and the plant is coming out of a refueling outage and the RPV head has been set.

The recirculation pump thermal interlocks have been bypassed IAW SOP-003 Reactor Recirculation System Attachment 5 Section 1 and steps 4.4.1 thru 4.4.10 have been completed by the previous shift for starting recirculation pump 'A'.

Initiating Cue:

The CRS directs you to start recirculation pump 'A' in accordance with SOP-003, "Reactor Recirculation System" starting at step 4.4.11.

RJPM-OP-CRS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____1.	Depress B33-C001A, RECIRC PUMP MOTOR BREAKER 5A RELEASE pushbutton on the STOP/PUSH TO LOCK control switch	____	
____2.		____	CUE: PMRQ Prestart Checks are complete
____3.	Verify Pump A #1 seal cavity pressure as indicated on B33-R603A SEAL CAVITY #1 PRESS is 10 to 15 psig above reactor pressure	____	CUE: If pressure is Hi inform candidate that the CRS says to continue.
____4.	Verify Pump A #2 seal cavity pressure as indicated on B33-R602A, SEAL CAVITY #2 PRESS is approximately ½ of #1 seal cavity pressure	____	
____5.	Verify Annunciator P680-04A-C05, RECIRC PUMP A SEAL CLG WATER FLOW is clear	____	
____6.	Verify Annunciator P680-04A-E05, RECIRC PUMP A SEAL STAGING HIGH/LOW FLOW is clear	____	

RJPM-OP-CRS-01

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
___7.	At H13-P614, check motor and pump temperatures normal on Recorder B33-R601, RECIRC PUMP/MOTORS TEMP. MONITORING		___	
___8.	Check annunciators on H13-P680-04A are clear for the pump being started		___	
___9.	Within 15 minutes prior to starting an idle recirculation loop, verify the following:		___	
NA ___9a.	At H13-P614, thermal interlocks are satisfied by monitoring recorders B33-R604, RECIRC LOOP WATER TEMP. MONITORING and B21-R643, REACTOR VESSEL TEMP. MONITORING	NOTE: Per turnover sheet the thermal shock interlocks have been installed	___	
NA ___9a1.	IF RPV pressure is greater than or equal to 25 psig, THEN differential temperature between bottom head coolant and reactor pressure vessel coolant is less than or equal to 100°F.	NOTE: Reactor pressure is 0 psig.	___	
___9a2.	IF recovering an idle loop, THEN flow through the operating loop is less than or equal to 50% of rated loop flow.		___	

RJPM-OP-CRS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
NA_9a3.	Differential temperature between coolant in the Recirc Loop to be started and reactor pressure vessel coolant is less than or equal to 50°F.	—	
* ^ 10.	Verify B33-C001A PUMP A MOT BRKR 4A is closed.	—	
* ^ 11.	Depress B33-C001A PUMP A MOT BRKR 3A CLOSE pushbutton.	—	
* ^ 12.	IF the pump is to be operated in SLOW SPEED, THEN depress B33-C001A RECIRC PUMP A MOTOR BREAKER 5A START pushbutton and perform the following:	—	NOTE: The pump will be started in slow.
___13.	Verify B33-C001A RECIRC PUMP A MOTOR BREAKER 5A closes.	—	
___14.	Verify B33-S001A LFMG A DRIVE MOT BRKR 1A closes.	—	
___15.	Check for a surge on B33-R609A, PUMP A AMPS and on B33-R651A, PUMP A SPEED.	—	

RJPM-OP-CRS-01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>_____16. WHEN pump speed reaches approximately 1700 RPM, THEN verify B33-C001A RECIRC PUMP A MOTOR BREAKER 5A opens and pump decelerates.</p>		<p align="center">_____</p>	
<p>_____17. WHEN pump speed decelerates to 360-470 RPM, THEN check B33-S001A LFMG A GEN BRKR 2A closes.</p>		<p align="center">_____</p>	
<p>_____18. Open B33-HYV-F060A to approximately 94% valve position using B33-K603A.</p>		<p align="center">_____</p>	<p>CUE: When the valve indicates approximately 94% open, inform the candidate that another operator will perform subsequent steps of SOP-03. OR Is a FCV runback occurs inform the candidate that the JPM is completed.</p>

Terminating Cue: The ‘A’ recirculation pump is running in slow speed with the flow control valve full open approximately 94%

OR

A runback occurs.

RJPM-OP-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-OP-CRS-01

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: You have just taken the shift, and the plant is coming out of a refueling outage and the RPV head has been set.

The recirculation pump thermal interlocks have been bypassed IAW SOP-003 Reactor Recirculation System Attachment 5 Section 1 and steps 4.4.1 thru 4.4.10 have been completed by the previous shift for starting recirculation pump 'A'.

Initiating Cues: The CRS directs you to start recirculation pump 'A' in accordance with SOP-003, "Reactor Recirculation System" starting at step 4.4.11.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***CLASSIFY AN EMERGENCY CONDITION**

REASON FOR REVISION:

2007 NRC Exam JPM

SRO ADMIN - 5

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OP-ADM-SR05

TASK DESCRIPTION: CLASSIFY AN EMERGENCY CONDITION

TASK REFERENCE:

K/A REFERENCE & RATING: 2.4.41 (2.3 / 4.1)

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

COMPLETION TIME: 10 minutes

MAX TIME: 15 minutes

JOB LEVEL: SRO

TIME CRITICAL: YES (Maximum Time Limit)

EIP CLASSIFICATION REQUIRED: YES

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

RJPM-OP-ADM-SR05

SIMULATOR SETUP SHEET

Task Description: CLASSIFY AN EMERGENCY CONDITION.

Required Power: N/A

IC No.: N/A

Notes: Administrative JPM that will be conducted in the simulator following an evaluated scenario.

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-OP-ADM-SR05

DATA SHEET

References for Development:	EIP-2-001 Revision 14
Required Materials:	EIP-2-001 Revision 14; 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:	NA
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-OP-ADM-SR05

If In-Plant or In the Control Room:

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

Read to the Operator:

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

A portion of this JPM is time critical. You may take time to review and familiarize yourself with the JPM Task Conditions/Cues.

Let me know when you have completed familiarizing yourself with the JPM Task Conditions/Cues. You will then begin the time critical portion of the JPM.

Then let me know when you have classified the event.

Initial Conditions:

The plant has experienced a total loss of Normal Service Water. At 1400 on 6/1/07 a reactor scram was inserted with a failure of the rods to insert. ARI was then initiated at 1401 and the rods did not insert. The control rods were later inserted at time 1430 using alternate insertion methods. RPV parameters were maintained within prescribed bands throughout the transient.

Met Tower Data:

- Wind is from 160 Deg.
- Wind speed is 2 MPH
- No precipitation

Initiating Cue:

Classify the emergency that existed and fill out the short form notification.

RJPM-OP-ADM-SR05

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	Review Emergency Action Levels for event classification.	EIP-2-001 reviewed.	_____	NOTE: JPM Step 2 is TIME CRITICAL and is to be completed 15 minutes from the time the candidate states he/she understands plant conditions and is ready to begin the classification task. Start Time: _____ Stop Time: _____
* 2.	Classify the event.	Event classified in 15 minutes as a Site Area Emergency per EAL 7 due to failure of automatic and manual methods to insert control rods.	_____	

Terminating Cue: The event has been classified and the short form has been completed and given to the evaluator.

Notification of Site Area Emergency

Time/Date: 1401 – 1416 6/1/07

Message: 1

This is River Bend Station

A Site Area Emergency was declared at

1401 - 1416 on 6/1/07 for

Transient requiring operation of shutdown systems with failure of the automatic reactor protection systems to initiate and complete a scram. Manual Scram Methods are successful.

Wind from 160 Deg.

At 2 MPH

- No Release No Protective Actions Required.
- Release BELOW federally approved operating limits
- Release ABOVE federally approved operating limits

Authorized by: SRO Candidate

Title: Control Room Supervisor

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

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

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: Satisfactory / Unsatisfactory

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

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant has experienced a total loss of Normal Service Water. At 1400 on 6/1/07 a reactor scram was inserted with a failure of the rods to insert. ARI was then initiated at 1401 and the rods did not insert. The control rods were later inserted at time 1430 using alternate insertion methods. RPV parameters were maintained within prescribed bands throughout the transient.

Met Tower Data:

- Wind is from 160 Deg.
- Wind speed is 2 MPH
- No precipitation

Initiating Cues: Classify the emergency that existed and fill out the short form notification.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***REVIEW A LIQUID RADWASTE RELEASE PERMIT ISSUED BY
CHEMISTRY**

REASON FOR REVISION:

2007 NRC Exam JPM

SRO ADMIN - 4

PREPARE / REVIEW:

<u>John Fralick</u>	<u>0788</u>	<u>4/26/07</u>
Preparer	KCN	Date
<u>Brian Patin</u>	<u>0113</u>	<u>4/26/07</u>
Technical Review (SME)	KCN	Date
<u>Don Chase</u>	<u>1040</u>	<u>4/26/07</u>
Operations Validation	KCN	Date

* Indexing Information

RJPM-OP-ADM-SR04

TASK DESCRIPTION:	REVIEW A LIQUID RADWASTE RELEASE PERMIT ISSUED BY CHEMISTRY
--------------------------	---

TASK REFERENCE:

K/A REFERENCE & RATING:	2.3.6 (2.1 / 3.1)
------------------------------------	-------------------

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-OP-ADM-SR04

SIMULATOR SETUP SHEET

Task Description: REVIEW A LIQUID RADWASTE RELEASE PERMIT
ISSUED BY CHEMISTRY

Required Power: N/A

IC No.: N/A

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

RJPM-OP-ADM-SR04

DATA SHEET

References for Development: CSP-0110 Radioactive Liquid Effluent Batch Discharge

Required Materials:

Required Plant Condition: N/A

Applicable Objectives:

Safety Related Task: NA

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-OP-ADM-SR04

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

LWS-TK4D, Recovery Sample Tank, is ready for discharge.

Initiating Cue:

Chemistry has brought discharge permit 2007004 to you for authorization. Review the permit and either authorize it or determine why it should not be authorized. Explain your decision.

RJPM-OP-ADM-SR04

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	Review the discharge permit for authorization. Discharge permit 2007004 should be authorized. • Allow data is correct, not typographically errors • The RMS-RE107 alarm and alert setpoints on page 1 and page three agree	_____	

Terminating Cue: Discharge permit has been authorized by the SRO.

RJPM-OP-ADM-SR04

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-OP-ADM-SR04

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: LWS-TK4D, Recovery Sample Tank, is ready for discharge.

Initiating Cues: Chemistry has brought discharge permit 2007004 to you for authorization. Review the permit and either authorize it or determine why it should not be authorized. Explain your decision.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***REVIEW FOR APPROVAL THE TAGOUT THAT IS TO SUPPORT CLEANING AND INSPECTING THE TURBINE LUBE OIL SUCTION HEADER STRAINER LOS-STR1**

REASON FOR REVISION:

2007 NRC Exam JPM **SRO ADMIN - 3**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OP-ADM-SR03

TASK DESCRIPTION:	REVIEW FOR APPROVAL THE TAGOUT THAT IS TO SUPPORT CLEANING AND INSPECTING THE TURBINE LUBE OIL SUCTION HEADER STRAINER LOS-STR1
--------------------------	---

TASK REFERENCE:	300094003002
------------------------	--------------

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

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

COMPLETION TIME:	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-OP-ADM-SR03

SIMULATOR SETUP SHEET

Task Description: REVIEW FOR APPROVAL THE TAGOUT THAT IS TO SUPPORT CLEANING AND INSPECTING THE TURBINE LUBE OIL SUCTION HEADER STRAINER LOS-STR1

Required Power: N/A

IC No.: N/A

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

RJPM-OP-ADM-SR03

DATA SHEET

References for Development:	PID-16-03a PID-16-12A SOP-0012 Main Turbine Lube Oil System
Required Materials:	PID-16-03a PID-16-12A SOP-0012 Main Turbine Lube Oil System
Required Plant Condition:	N/A
Applicable Objectives:	ELP-OPS-CLR, Obj. 10
Safety Related Task:	NA
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-OP-ADM-SR03

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

A tagout has been developed to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1.

Initiating Cue:

As part of your outage support activities you have been given a tagout to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1 for approval. Review the tagout and determine if it should be approved, and if not, why.

RJPM-OP-ADM-SR03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	Review the turbine lube oil suction header strainer LOS-STR1 tagout for approval. DO NOT APPROVE THE TAGOUT for the following reason: 1. The placement sequence for all tags is 1. This is incorrect.	—	

Terminating Cue: The candidate has made a determination of the adequacy of the tagout.

RJPM-OP-ADM-SR03

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-OP-ADM-SR03

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: A tagout has been developed to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1.

Initiating Cues: As part of your outage support activities you have been given a tagout to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1 for approval. Review the tagout and determine if it should be approved, and if not, why.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***DETERMINE IF SHIFT STAFFING REQUIREMENTS ARE MET**

REASON FOR REVISION:

2007 NRC Exam JPM **SRO ADMIN - 2**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OP-ADM-SR02

TASK DESCRIPTION:	Determine if Shift Staffing Requirements Are Met				
TASK REFERENCE:	300012003003				
K/A REFERENCE & RATING:	2.1.4 (2.3 / 3.4)				
TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X
COMPLETION TIME:	20 min.				
MAX TIME:	N/A				
JOB LEVEL:	SRO				
TIME CRITICAL:	No				
EIP CLASSIFICATION REQUIRED:	No				
PSA RISK DOMINATE:	No				
ALTERNATE PATH (FAULTED):	No				

RJPM-OP-ADM-SR02

SIMULATOR SETUP SHEET

Task Description: Determine if Shift Staffing Requirements are met.

Required Power: N/A

IC No.: N/A

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

RJPM-OP-ADM-SR02

DATA SHEET

References for Development:	Technical Specifications EN-OP-115 EIP-2-16 Operations Support Center
Required Materials:	Technical Specifications
Required Plant Condition:	N/A
Applicable Objectives:	HLO-415, Obj. 2
Safety Related Task:	NA
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-OP-ADM-SR02

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is operating in Mode 1. With the following shift compliment on site following shift relief:

POSITION	NUMBER PRESENT	Fire Brigade members
Operation SM (OSM)	1	0
CRS	1	0
NCO	4	1
SNEO	4	2
STA	1	
Chemistry Technician	0	
Radiation Protection Technician	0	
Security	12	2

Initiating Cue:

Review the shift compliment and determine if the necessary compliment of personnel is present to man the shift in accordance with Technical Specifications and if not what action is required.

RJPM-OP-ADM-SR02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1.	Review Technical Specifications and determine if crew manning is acceptable. Tech Specs 5.2.2.d reviewed and it is determined that the manning IS NOT sufficient as follows: • The Radiation Protection Technician position is not filled and may be vacant for not more than 2 hours (must be filled within two hours).	—	

Terminating Cue: Tech Specs reviewed and crew manning determined to be inadequate based upon not having a Radiation Protection Technician present.

RJPM-OP-ADM-SR02

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-OP-ADM-SR02

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: The plant is operating in Mode 1. With the following shift compliment on site following shift relief:

POSITION	NUMBER PRESENT	Fire Brigade members
Operation SM (OSM)	1	0
CRS	1	0
NCO	4	1
SNEO	4	2
STA	1	
Chemistry Technician	0	
Radiation Protection Technician	0	
Security	12	2

Initiating Cues: Review the shift compliment and determine if the necessary compliment of personnel is present to man the shift in accordance with Technical Specifications and if not what action is required.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***REVIEW JET PUMP OPERABILITY SURVEILLANCE**

REASON FOR REVISION:

2007 NRC Exam JPM

SRO ADMIN - 1

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OP-ADM-SR01

TASK DESCRIPTION:	Review Jet Pump Operability Surveillance				
TASK REFERENCE:	302001002001				
K/A REFERENCE & RATING:	2.1.25 (3.0/3.0)				
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-OP-ADM-SR01

SIMULATOR SETUP SHEET

Task Description: Review STP-053-3001 Jet Pump Operability Test.

Required Power: N/A

IC No.: N/A

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

RJPM-OP-ADM-SR01

DATA SHEET

References for Development:	STP-053-3001, Jet Pump Operability Test
Required Materials:	Completed STP-053-3001, Jet Pump Operability Test
Required Plant Condition:	N/A
Applicable Objectives:	STM-053, Obj. H21
Safety Related Task:	NA
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-OP-ADM-SR01

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is operating at 100% power and STP-053-3001 'Jet Pump Operability Test' was scheduled to be performed. The STP has been performed by the on-shift UO and is ready for review.

Initiating Cue:

STP-053-3001 'Jet Pump Operability Test' needs to be reviewed.

RJPM-OP-ADM-SR01

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____ 1.	Review the completed STP for accuracy and acceptance.	_____	
* 2.	Determine that the acceptability of the STP. Candidate determines that the STP is NOT ACCEPTABLE. <u>Candidate must state at least 5 of the below 6 items to pass the JPM:</u> 1. Page 6 Step 7.5 is incorrect. It should be checked NO. 2. Page 6 Step 8.1.3 is incorrect. It should be checked NOT ACCEPTABLE. 3. Page 11 Attachment 1 Figure 3 data was plotted wrong. 4. Page 11 Attachment 1 Figure 3 step 2 should be NO. 5. Page 14 Attachment 1 Figure 6 data point is plotted wrong. 6. Cover sheet is marked as acceptable and should be marked as unacceptable.	_____	

Terminating Cue: STP-053-3001 has been reviewed and determined to be UNACCEPTABLE.

RJPM-OP-ADM-SR01

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-OP-ADM-SR01

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: The plant is operating at 100% power and STP-053-3001 'Jet Pump Operability Test' was scheduled to be performed. The STP has been performed by the on-shift UO and is ready for review.

Initiating Cues: STP-053-3001 'Jet Pump Operability Test' needs to be reviewed.

RJPM-OP-ADM-SR01

JPM Task Conditions/Cues

(Operator Copy)

Initial conditions: The plant is operating at 100% power and STP-053-3001 'Jet Pump Operability Test' has been performed using the below data.

Reactor Thermal Power 100%
Recirculation Pumps Fast Speed
FCV-A Position 61%
FCV-B Position 60%
Recirculation Loop Flows are in compliance with TS 3.4.1

Initiating cue: STP-053-3001 'Jet Pump Operability Test' is ready for review. Complete review and determine the acceptability of the STP.

AFTER COMPLETING THE SURVEILLANCE, ANSWER THE FOLLOWING QUESTION:

Are the requirements of SR 3.4.3.1 satisfied?

P680 B33-R613:

73 MLBM/hr

P680 C51-R614:

Loop A: 30 KGPM

Loop B: 28 KGPM

P619 B33-R610:

Jet Pump	Differential Pressure (%)	Jet Pump	Differential Pressure (%)
#1	48	#11	35
#2	40	#12	25
#3	38	#13	25
#4	33	#14	32
#5	29	#15	33
#6	35	#16	32
#7	37	#17	30
#8	39	#18	23
#9	33	#19	35
#10	26	#20	30

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***PERFORM A DOSE ASSESSMENT FOR PERFORMING AN
EVOLUTION IN THE RWCU PUMP ROOM**

REASON FOR REVISION:

2007 NRC Exam JPM **RO ADMIN - 4**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-R04

TASK DESCRIPTION:	PERFORM A DOSE ASSESSMENT FOR PERFORMING AN EVOLUTION IN THE RWCU PUMP ROOM
--------------------------	---

TASK REFERENCE:	302001002001
------------------------	--------------

K/A REFERENCE & RATING:	2.3.4 (2.5/3.1)
------------------------------------	-----------------

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

COMPLETION TIME:	10 min.
-------------------------	---------

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

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

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

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

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

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

RJPM-OPS-ADM-R04

SIMULATOR SETUP SHEET

Task Description: **PERFORM A DOSE ASSESMENT FOR PERFORMING AN EVOLUTION IN THE RWCU PUMP ROOM**

Required Power: N/A

IC No.: N/A

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

RJPM-OPS-ADM-R04

DATA SHEET

References for Development: RP Survey Map for AB 95 RWCU Pump Rooms

Required Materials: RP Survey Map for AB 95 RWCU Pump Rooms
Calculator

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-R04

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is at 100% power with the RWCU system in operation.

Initiating Cue:

The CRS has directed you to enter the RWCU pump room and listen for abnormal bearing noise emitting from the motor of G33-C001B, RWCU PUMP 1B. This will require you to stand on the motor pedestal directly south of motor. The evolution will take you eight (8) minutes. Calculate the expected exposure you will receive while standing on the south side of RWCU pump 1B motor.

RJPM-OPS-ADM-R04

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 1.	Calculate the dose received.	(300 mrem/hr x 8 minutes)/60 minutes/hour = 40 mrem Expected dose stated to be 40 mrem.	_____	CUE: If asked, state you will stand directly south as indicated on the survey map.

Terminating Cue:

Anticipated dose received calculated and given to the examiner.

RJPM-OPS-ADM-R04

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-R04

JPM Task Conditions/Cues (Operator Copy)

Initial Conditions: The plant is at 100% power with the RWCU system in operation.

Initiating Cues: The CRS has directed you to enter the RWCU pump room and listen for abnormal bearing noise emitting from the motor of G33-C001B, RWCU PUMP 1B. This will require you to stand on the motor pedestal directly south of motor. The evolution will take you eight (8) minutes. Calculate the expected exposure you will receive while standing on the south side of RWCU pump 1B motor.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***DETERMINE TAGOUT FOR TURBINE LUBE OIL SUCTION HEADER STRAINER LOS-STR1 TO SUBMIT TO THE TAGGING OFFICIAL.**

REASON FOR REVISION:

2007 NRC Exam JPM **RO ADMIN - 3**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-R03

TASK DESCRIPTION:	DETERMINE TAGOUT FOR TURBINE LUBE OIL SUCTION HEADER STRAINER LOS-STR1 TO SUBMIT TO THE TAGGING OFFICIAL.
--------------------------	---

TASK REFERENCE:	300094003002
------------------------	--------------

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

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

COMPLETION TIME:	20 min.
-------------------------	---------

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

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

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

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

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

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

RJPM-OPS-ADM-R03

SIMULATOR SETUP SHEET

Task Description: DETERMINE TAGOUT FOR TURBINE LUBE OIL SUCTION HEADER STRAINER LOS-STR1 TO SUBMIT TO THE TAGGING OFFICAL.

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-16-03A PID-16-12A SOP-0012 'Main Turbine Lube Oil System'
Required Materials:	PID-16-03A PID-16-12A SOP-0012 'Main Turbine Lube Oil System'
Required Plant Condition:	N/A
Applicable Objectives:	ELP-OPS-CLR, Obj. 10
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

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

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

RJPM-OPS-ADM-R03

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is operating at 100% power and preparing to enter an outage. One of the outage jobs will be to clean and inspect the main turbine lube oil transfer pump suction strainer LOS-STR1. A list of equipment/components needing to be tagged out to provide an adequate safety boundary for personnel and plant equipment needs to be generated and given to the tagging official.

Initiating Cue:

Your supervisor has directed you to develop the list of equipment that needs to be tagged out to supply the personnel and equipment safety boundary for cleaning and inspecting the main turbine lube oil transfer pump suction strainer LOS-STR1. Determine the components and their required positions to give to the tagging official.

RJPM-OPS-ADM-R03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
<p>* 1.</p>	<p>The following components given as needing to be tagged out to support the work:</p> <ol style="list-style-type: none"> 1. Control switch LOS-P1 TURBINE OIL TRANSFER PUMP - STOP 2. NHS-MCC1K Brkr 3C - OFF 3. LOS-V16, TURBINE OIL XFER PUMP DISCH VLV - CLOSED 4. LOS-V11 TURBINE OIL TRANSFER PUMP SUCTION VLV - CLOSED. <p>NOTE: It is acceptable to NOT TAG LOS-V12 OPEN and allow maintenance to control the position of the valve. IF LOS-V12 is not tagged the candidate should state that it will be left untagged for maintenance to control.</p> <ol style="list-style-type: none"> 5. LOS-V12 TURBINE OIL TRANSFER PUMP SUCTION STRAINER DRAIN VLV - OPEN. 	<p>_____</p>	<p>NOTE: It would not be wrong to include V14 and/or V39 in the tagout although they are not required.</p>

Terminating Cue: Items requiring to be tagged out for cleaning and inspecting the main turbine lube oil transfer pump suction strainer with their required positions are supplied to the examiner.

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

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is operating at 100% power and preparing to enter an outage. One of the outage jobs will be to clean and inspect the main turbine lube oil transfer pump suction strainer. A list of equipment/components needing to be tagged out to provide an adequate safety boundary for personnel and plant equipment needs to be generated and given to the tagging official.

Initiating Cues: Your supervisor has directed you to develop the list of equipment that needs to be tagged out to supply the personnel and equipment safety boundary for cleaning and inspecting the main turbine lube oil transfer pump suction strainer LOS-STR1. Determine the components and their required positions to give to the tagging official.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***VERIFY THE LATEST REVISION OF SOP-0045 13.8 KV SYSTEM**

REASON FOR REVISION:

2007 NRC Exam JPM **RO ADMIN - 2**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-R02

TASK DESCRIPTION:	VERIFY THE LATEST REVISION OF SOP-0045 13.8 KV SYSTEM
--------------------------	---

TASK REFERENCE:	NA
------------------------	----

K/A REFERENCE & RATING:	2.1.21 (3.1/3.2)
------------------------------------	------------------

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

COMPLETION TIME:	10 min.
-------------------------	---------

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

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

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

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

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

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

RJPM-OPS-ADM-R02

SIMULATOR SETUP SHEET

Task Description: **Verify the latest revision of SOP-0045 13.8 KV SYSTEM.**

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:	RFLIB
Required Materials:	Company Computer SOP-0045 "13.8 KV SYSTEM" Rev. _____
Required Plant Condition:	N/A
Applicable Objectives:	HLO-202 Obj. #3
Safety Related Task:	NA
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 is NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

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

Initial Conditions:

You are preparing for a pre-job briefing on the operation of the auto tap changer for RTX-XSR1E and have been given a copy of SOP-0045 “13.8 KV SYSTEM” for review.

Initiating Cue:

Verify the copy of SOP-0045 “13.8 KV SYSTEM” you have been given is the correct revision to use.

RJPM-OPS-ADM-R02

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____ 1.	Log on to a company computer	Logged On	—
____ 2.	Open the Reference Library program.	REFLIB Opened	—
____ 3.	Open PROCEDURES	PROCEDURES Opened	—
____ 4.	Open SYSTEM OPERATING PROCEDURES	SYSTEM OPERATING PROCEDURES Opened	—
____ 5.	Locate SOP-0045 13.8 KV System.	SOP-0045 “13.8 KV SYSTEM” located.	—
* ____ 6.	Determines the procedure they have is the correct revision from the index OR open SOP-0045 and determine they have the correct revision..	States that the revision they have is the correct revision.	—

Terminating Cue: Candidate states that they have the correct revision of SOP-0045.

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: You are preparing for a pre-job briefing on the operation of the auto tap changer for RTX-XSR1E and have been given a copy of SOP-0045 “13.8 KV SYSTEM” for review.

Initiating Cues: Verify the copy of SOP-0045 “13.8 KV SYSTEM” you have been given is the correct revision to use.

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*** PERFORM JET PUMP OPERABILITY SURVEILLANCE**

REASON FOR REVISION:

2007 NRC Exam JPM **RO ADMIN - 1**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-ADM-R01

TASK DESCRIPTION:	Perform jet Pump Operability Surveillance				
TASK REFERENCE:	302001002001				
K/A REFERENCE & RATING:	2.1.25 (3.0/3.0)				
TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X
COMPLETION TIME:	30 min.				
MAX TIME:	N/A				
JOB LEVEL:	RO				
TIME CRITICAL:	No				
EIP CLASSIFICATION REQUIRED:	No				
PSA RISK DOMINATE:	No				
ALTERNATE PATH (FAULTED):	No				

RJPM-OPS-ADM-R01

SIMULATOR SETUP SHEET

Task Description: Perform Jet Pump Operability Test.

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-053-3001, Jet Pump Operability Test
Required Materials:	STP-053-3001, Jet Pump Operability Test
Required Plant Condition:	N/A
Applicable Objectives:	STM-053, Obj. H21
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

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

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

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is operating at 100% power and STP-053-3001 'Jet Pump Operability Test' is due to be performed.

Initiating Cue:

The CRS has directed you to complete STP-053-3001 'Jet Pump Operability Test' by using the data provided and determine if acceptance criteria are being met.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	NOTE: Items in the Performance Step column are the standards to be applied for all steps, unless otherwise noted.	_____	CUE: Provide data sheet for STP completion.
* _____ 2.	STP-053-3001 'Jet Pump Operability Test' completed and jet pumps #7, #12 and #14 found NOT meeting acceptance criteria. ALL others are meeting acceptance criteria.	_____	CUE: Acknowledge that the acceptance criteria has been met.

Terminating Cue: STP-053-3001 completed and jet pumps #7, #12 and #14 found NOT meeting acceptance criteria. ALL others are meeting acceptance criteria..

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

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

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

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

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial conditions: Complete STP-053-3001 'Jet Pump Operability Test' is required to be performed with plant conditions as follows:

Reactor Thermal Power 100%
 Recirculation Pumps Fast Speed
 FCV-A Position 61%
 FCV-B Position 60%
 Recirculation Loop Flows are in compliance with TS 3.4.1

Initiating cue: The CRS has directed you to complete STP-053-3001 'Jet Pump Operability Test' by using the data provided and determine if acceptance criteria are being met

P680 B33-R613:

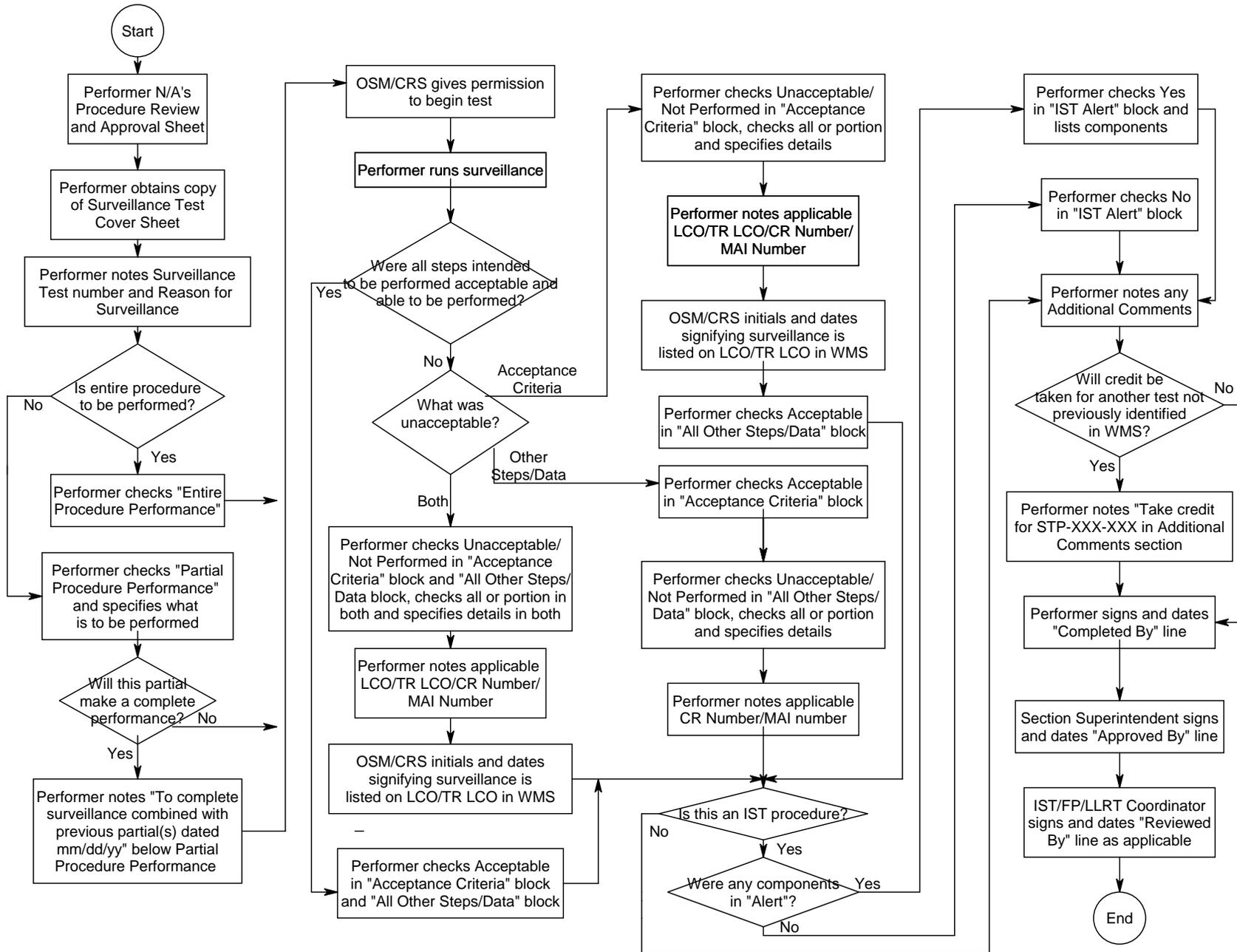
73 MLBM/hr

P680 C51-R614:

Loop A: 30 KGPM
Loop B: 28 KGPM

P619 B33-R610:

Jet Pump	Differential Pressure (%)	Jet Pump	Differential Pressure (%)
#1	45	#11	35
#2	30	#12	40
#3	32	#13	25
#4	33	#14	38
#5	29	#15	33
#6	35	#16	32
#7	47	#17	30
#8	39	#18	23
#9	33	#19	35
#10	26	#20	30



**RIVER
BEND STATION**

Number: ***RJPM-OPS-IPS-03**
Revision: **0**
Page 1 of 10

JOB PERFORMANCE MEASURE



TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

***PLACE INVERTER ENB-INV01A IN SERVICE**

REASON FOR REVISION:

2007 NRC Exam JPM **IN PLANT SYSTEMS #3**

PREPARE / REVIEW:

John Fralick	0788	4/26/07
Preparer	KCN	Date
Brian Patin	0113	4/26/07
Technical Review (SME)	KCN	Date
Don Chase	1040	4/26/07
Operations Validation	KCN	Date

* Indexing Information

RJPM-OPS-IPS-03

TASK DESCRIPTION: Place Inverter ENB-INV01A in Service

TASK REFERENCE:

K/A REFERENCE & RATING: 262002 A4.01 (2.8 / 3.1)

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

COMPLETION TIME: 15 minutes

MAX TIME: N/A

JOB LEVEL: ALL

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PSA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): YES

SAFETY FUNCTION 6

RJPM-OPS-IPS-03

SIMULATOR SETUP SHEET

Task Description: Place Inverter ENB-INV01A in Service

Required Power: NA

IC No.: NA

Notes: NONE

RJPM-OPS-IPS-03

DATA SHEET

References for Development: Place Inverter ENB-INV01A in Service

Required Materials: SOP - 048 120 VAC SYSTEM

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-OP-IPS-03

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The plant is shut down. Inverter ENB-INV01A has just been placed in bypass in accordance with section 4.2 of SOP-48, 120VAC System.

Initiating Cue:

The CRS directs you to start up inverter ENB-INV01A in accordance with SOP-48, 120VAC System, Step 4.3.

RJPM-OP-IPS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1.	Verify inverter is operating in bypass per Section 4.2 or 6.2.	---	NOTE: The candidate should know that the inverter is operating in BYPASS based on the initial conditions
* ___2.	Close Inverter STATIC SWITCH INPUT breaker.	---	CUE: 4.3.3. Bypass Line breaker yellow light is ON.
* ___3.	Close Inverter OUTPUT breaker.	---	
___4.	Place the VOLTMETER Selector Switch to the RECTIFIER position.	---	
* ___5.	Close Inverter INPUT POWER breaker.	---	
* ___6.	Approximately 15 seconds AFTER closing the INPUT POWER breaker, depress LAMP TEST/ALARM RESET Pushbutton to clear alarms.	---	QUE: After the pushbutton is simulated depressed, inform the candidate that the alarms are clear.
___7.	Observe rectifier voltage increases to approximately 140 VDC.	---	QUE: When the candidate looks at the voltage meter (or asks what the voltage is), inform the candidate that voltage is rising and stops at 139VDC.

RJPM-OP-IPS-03

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
8.	Observe that the Inverter begins generating AC Output Voltage.	—	QUE: When the candidate observes AC Output Voltage, inform the candidate that the inverter is generating AC output voltage.
9.	Observe that Inverter synchronizes to the bypass line and LOSS OF SYNC Light is out	—	<p>NOTE: The LOSS OF SYNC light will NOT de-energize</p> <p>QUE: When the candidate inquires about the status of the light, inform the candidate that the light is illuminated</p>
	IF the inverter fails to synchronize, THEN perform the following:		
* 10	Open Inverter INPUT POWER breaker.	—	
* 11	Open Inverter OUTPUT breaker.	—	
* 12	Open Inverter STATIC SWITCH INPUT breaker.	—	CUE: 4.3.3. Bypass Line breaker yellow light is OFF.

RJPM-OP-IPS-03

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
13	Report the inverter failure to the Control Room.		—	QUE: Acknowledge the inverter failure and inform the candidate that this JPM is complete.

Terminating Cue: Acknowledge the inverter failure and inform the candidate that this JPM is complete.

RJPM-OP-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-OP-IPS-03

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is shut down. Inverter ENB-INV01A has just been placed in bypass in accordance with section 4.2 of SOP-48, 120VAC System.

Initiating Cues: The CRS directs you to start up inverter ENB-INV01A in accordance with SOP-48, 120VAC System, Step 4.3.

RIVER BEND STATION

NUCLEAR TRAINING DEPARTMENT

LICENSE OPERATOR SIMULATOR TRAINING

*TPP-7-009

(CROSS REFERENCE)

EXAM SCENARIO NUMBER

*R-SIS-22.0

(DOC. NO.)

TOPIC

CCP Pump Trip – Failure of Standby to Auto Start / Rod Drift / CWS Leak – Loss of Vacuum / Loss of NPS ‘A’ / ATWS / Loss of High Pressure Injection – Emergency Depressurization

AVERAGE DURATION

*** 1.0 HOUR**

PREPARED BY:	<u>John Fralick / 0788</u>	Date:	<u>4/26/07</u>
	INSTRUCTOR / KCN		
REVIEWED BY:	<u>Brian Patin / 0113</u>	Date	<u>4/26/07</u>
	TECHNICAL REVIEW / KCN		
VALIDATED BY:	<u>Don Chase / 1040</u>	Date	<u>4/26/07</u>
	OPERATIONS CRS / KCN		

* Indexing Information

NRC EXAM SCENARIO No. 1 IC-121

Facility: <u>River Bend Station</u>		Scenario No.: <u>1</u>	Ops-Test No.: _____
Examiners: <u>(Chief)</u>		Operators: <u>(CRS)</u>	
<u>(E1)</u>		<u>(ATC)</u>	
<u>(E2)</u>		<u>(UO)</u>	
Initial Conditions: Plant startup is in progress currently at 50 percent power. (End of Cycle) 3 Circulating water pumps are running P1A, P1B and P1C Div II EDG declared INOPERABLE and tagged out due to cracked fuel line. RCIC is inoperable and tagged out due to failed steam flow transmitter. Suppression pool temperature is 90°F due to leaking SRV B21-RVF051D Leaking			
Turnover: Power Ascension in progress. Place RHR 'B' in suppression pool cooling per ODMI CR-RBS-2006-4168			
Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R (ATC)	Raise power to 55 percent
2	N/A	N (UO)	Align RHR 'B' for suppression pool cooling
3	N/A	N (ATC)	Adjust VARs on the Main Generator
4	CCP001B CCP004C	C (UO,CRS)	Running RPCCW pump trips and standby fails to auto start will manually start
5	CRDM4025	C, TS (ATC, CRS)	Rod drifts out
6	CWS002 CNM001	C,R,M (All)	Failed expansion joint in circulating water system. Loss of vacuum leading to a manual or automatic scram (momentary ATWS condition).
7	RPS0001 ED002A CNM004B	M,C (ATC,CRS)	Loss of NPS-SWG1A and all feedwater. (The only scram function that will insert rods is the ARI level 2 initiation ~43").
8	HPCS002	C (All)	Failure of HPCS injection valve to open.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Total Malfunctions	= 6	RPCCW Pump, Rod Drift, Loss of Circ Water, LOP, ATWS, HPCS Inj Valve Fails to Open
Malfunctions after EOP	= 1	HPCS Inj Valve Fails to Open
Abnormal Events	= 4	AOP-1 (Scram); AOP-0002 (Turbine Main Gen Trip); AOP-4 (LOP); AOP-5 (loss of Vacuum); AOP-61 (Control Rods Mispositioned);
Major Transients	= 2	Loss of vacuum; LOP (only SLC for high pressure injection)
EOP entered	= 3	EOP-1; EOP-1A; EOP-2; EOP-4
EOP Contingencies	= 1	EOP-4 Alternate Level Control; Emergency Depressurization
Critical Tasks	= 2	Inserting drifting control rod; Emergency depressurization

Narrative:

- Event 1) The crew will raise power using recirculation flow control per plant startup.
- Event 2) Due to elevated suppression pool temperature, the crew will place RHR 'B' in suppression pool cooling in accordance with SOP-31.
- Event 3) The dispatcher will contact the control room following the power ascension and request VAR output be brought to 0 VARs. The crew will adjust the VAR loading of the main generator per SOP-0080.
- Event 4) RPCCW pump CCP-P1A and P1B are running. B pump trips and C pump fails to auto start. Per ARP-870-55A-C04 "REACTOR PLANT CMPNT CLG PUMPS AUTO TRIP" the UO will start the standby pump.
- Event 5) Control rod 40-25 will start drifting out due to a failure of the DCV 122 associated with that HCU. The crew will take action in accordance with ARP P680-07A-B02, CONTROL ROD DRIFT and AOP-0061 Miss-Positioned Control Rods. They will be required to fully insert the control rod using continuous insertion. Isolating the HCU will stop outward rod motion. The control rod will be inoperable, and the CRS will consult TS 3.1.3.
- Event 6) An expansion joint on the Circ Water system will fail, causing a sufficient loss of flow to the main condenser such that vacuum will decay. The rate of decay will be such that operators should be able to take action to scram the plant on low vacuum before the vacuum is lost causing the MSIVs to close. The condenser will remain unavailable and RPV pressure control will be via the SRVs.
- Event 7) Following the scram and turbine trip the plant will experience a loss of NPS-SWG1A. This will cause a loss of condensate pumps P1A and P1C. Due to the loss of the A and C condensate pumps condensate pump P1B will trip on over load. After the condensate/feedwater loss the only high pressure injection that will be available will be SLC.

The reactor will initially fail to scram both automatically and manually. When RPV water level lowers to -60 inches ARI will actuate to allow rods to insert at which time the ATWS will terminate.

Due to loss of all high pressure feed RPV water level will be the challenge. The crew should recognize that the only source of injection into the RPV that can maintain RPV water level division one ECCS (RHR-A and LPCS). Heat removal / pressure control within the RPV will remove a sufficient mass requiring an Emergency Depressurization in order to allow low pressure injection sources to recover RPV water level. The crew should have transitioned to alternate level control early in the event, since sources of injection are known to be low pressure. The decision to emergency depressurize will be made after RPV level reaches -162 inches. After emergency depressurization has commenced, the crew should inject with all available LPCS/LPCI.

- Event 8) The HPCS injection valve will not open. Any attempt to open the HPCS injection valve will be unsuccessful.

The scenario will terminate once the crew has transitioned out of alternate level control where level > -162 inches and rising.

Event Description: Raise reactor power to 55 percent

Time	Position	Applicants Actions or Behaviors
<i>T = 0</i>		CUE: Directed per turnover sheet.
	CRS	Directs ATC to raise power to 55 percent using recirculation flow control.
	ATC	Raises power to 55 percent using Recirculation loop manual control <ul style="list-style-type: none">• Momentarily takes B33-K603A(B), RECIRC LOOP A(B) FLOW CONTROL MAN/AUTO to the open position • Maintains recirculation loop flows within 5% of each other.

Event Description: The CRS directs the UO to align RHR 'B' for suppression pool cooling

Time	Position	Applicants Actions or Behaviors
<i>T = 10</i>		CUE: Directed per turnover sheet.
	CRS	Directs UO to align RHR 'B' for suppression pool cooling per SOP-0031 Residual Heat Removal System
	UO	<p>Aligns RHR 'B' for suppression pool cooling in accordance with SOP-31 Section 4.6</p> <ul style="list-style-type: none"> • throttle open E12-F068B, RHR HX B SVCE WTR RTN to establish less than or equal to 5800 gpm flow • Start the E12-C002B, RHR PUMP B • Open E12-F024B, RHR PUMP B TEST RTN TO SUP PL • Throttle closed E12-F048B, RHR B HX BYPASS VALVE to obtain the desired cooling

Event Description: Adjust the VAR loading on the Main Generator

Time	Position	Applicants Actions or Behaviors
<i>T = 15</i>		CUE: Requested by load dispatcher
	CRS	Directs ATC to adjust VARs as request by the load dispatcher
	ATC	Adjusts VARs as directed by the CRS per SOP-0080 ‘Main Generator’ <ul style="list-style-type: none"> • To lower VARS on the VOLTAGE REGULATOR AUTO ADJUST depress momentarily the LOWER Pushbutton, while monitoring VARS output on VAR-1SPGN05, GENERATOR VARS. • Continue momentarily depressing the LOWER pushbutton until desired VAR value is reached.

Event Description: Trip of a RPCCW pump P1B.

Time	Position	Applicants Actions or Behaviors
<i>T = 20</i>		CUE: Alarm P870-55A-C04
	CRS	Directs UNO to reference ARP for pump trip. Directs UNO to manually start the standby pump.
	UNO	Acknowledge alarm and reference ARP P870-55A-C04 <ul style="list-style-type: none"> • Verify the standby pump starts (depresses the start pushbutton for CCP-P1C)

Event Description: ATC responds to Control Rod 40-25 drifting out due to the failure of a directional control valve. Control rod HCU must be hydraulically isolated.

Time	Position	Applicants Actions or Behaviors
<i>T = 25</i>		<p>CUES: Alarm P680-07A-B02, CONTROL ROD DRIFT When selected, CR 40-25 position indicates rod moving out.</p>
	CRS	<p>Directs the implementation of:</p> <ul style="list-style-type: none"> • ARP-P680-07A-B02 and, • AOP-0061 CONTROL ROD(S) MISPOSITIONED/MALFUNCTION
	ATC	<p>Refers to:</p> <ul style="list-style-type: none"> • ARP-P680-07A-B02 and, • AOP-0061 CONTROL ROD(S) MISPOSITIONED/MALFUNCTION <p>Depresses ROD DRIFT pushbutton to find drifting control rod on Full Core display (P680)</p> <p>(CRITICAL TASK) Inserting the control rod. Selects drifting control rod 40-25 with RCIS Select Matrix and continuously INSERTs rod 40-25</p> <p>Releases INSERT pushbutton and reports control rod drifting out (P680) Depresses and holds INSERT pushbutton (P680)</p>
	CRS	Directs Reactor Building Operator to Hydraulically Isolate CR 40-25
	ATC	After HCU is reported hydraulically isolated, releases INSERT pushbutton and reports control rod stays inserted (P680)
	CRS	<p>Per ARP-P680-07A-B02: Refers to AOP-0061, CONTROL ROD(S) MISPOSITIONED/MALFUNCTION</p> <p>Notifies Reactor Engineering of control rod 40-25 drifting out.</p> <p>Consults TS 3.1.3 Action C.for inoperable control rod</p>

Event Description: Failed Circ Water System expansion joint causes reduced Circ Water flow to condensers, and loss of vacuum; Reactor Scram / momentary ATWS condition.

Time	Position	Applicants Actions or Behaviors
<i>T = 30 min</i>		<p>CUES: Alarms: P870-51-G01 TURB BLDG FL DRAIN SUMP LEVEL EXTREME HIGH/LOW 28 P680-15-A09, Condenser Low Vacuum</p>
	UO/ATC	<p>Recognizes lowering condenser vacuum Takes action in accordance with AOP-0005 “Loss of Condenser Vacuum” and ARP-P680-15-A09</p> <ul style="list-style-type: none"> • Lower reactor power using recirculation flow
	CRS	Directs action in accordance with AOP-5, Loss of condenser vacuum
	UO/ATC	Recognizes vacuum cannot be maintained above 22” Hg
	CRS	Directs the reactor scrammed, and entry into AOP-1 Reactor Scram and AOP-2 Turbine Trip
	ATC	<p>Scrams the reactor</p> <ul style="list-style-type: none"> • Places mode switch in shutdown • Verifies rods in • Arms and depresses manual scram pushbuttons • Arms and depresses ARI pushbuttons • Reports ATWS condition to the CRS
	CRS	Directs actions IAW EOP-001 RPV Control and EOP-001A (The ATWS condition is momentary)

Event Description: Loss of NPS-SWG1A and all feedwater.

Time	Position	Applicants Actions or Behaviors
<i>T = 35 min</i>		CUES: Indication of NPS-SWG1A breaker positions on P680 Lighting in control room changes Condensate pumps P1A / P1C and FWS-P1B are lost immediatley.
	ATC	Recognizes loss of condensate pumps and feedpumps and takes action in accordance with AOP-0006 "Condensate and Feedwater Failures" Attempts to maximize feedwater injection
	UO	Attempts to inject with HPCS
	CRS	Directs actions IAW EOP-001 RPV Control

Event Description: Loss of all high pressure injection and reactor water level lowers to the Top of Active Fuel.

Time	Position	Applicants Actions or Behaviors
<i>T = 40 min</i>		CUES: <i>Loss of all Feedpumps due to loss of condensate pumps, RCIC unavailable, HPCS injection valve failing to open</i>
NOTE: <i>The MSIVs will be shut and hence the condenser will be unavailable throughout this event. Decay heat will be removed to the suppression pool by SRVs cycling in low-low set or by the operator taking manual control and maintaining RPV pressure. Div I and the HPCS EDG will be running.</i>		
	CRS	Enters EOP-1 for pressure control and level control Directs UO to maintain pressure below 1090 psig using SRVs or may direct UO to allow low-low set to control RPV pressure.
	UO	Maintains pressure below 1090 psig using SRVs (or monitoring low-low set operation)
	CRS	Recognizes suppression pool temperature cannot be maintained below 100F, and enters EOP-2 for suppression pool temperature
	CRS	Recognizes level cannot be maintained above -162 inches due to lack of high pressure injection, and transitions to EOP-4, Alternate Level Control Directs ADS inhibited
	UO	Inhibits ADS
	CRS	Directs the lineup of injection systems
	UO/ATC	Recognize Division 1 (RHR A and LPCI) and 2 (RHR B & C) ECCS pumps started at Level 1 or lines up injection systems
	CRS	When RPV level reaches -162 inches: Recognizes RPV level cannot be maintained above -186 inches without Emergency Depressurization (CRITICAL TASK) Emergency Depressurizes the RPV

Event Description: Loss of all high pressure injection and reactor water level lowers to the Top of Active Fuel.

	CRS	Directs 7 ADS/SRVs open
	UO	Opens 7 ADS/SRVs
	CRS	(CRITICAL TASK) Directs injection of all available low pressure sources and restores water level above the Top of Active Fuel
	UO/ATC	Injects LPCI A/B/C and LPCS
	CRS	Transitions to EOP-1 at RL when level is above -162 inches and rising
		<p>Termination criteria:</p> <ol style="list-style-type: none"> 1. RPV has been Emergency Depressurized 2. RPV water level has been restored and is being controlled >-162 inches

CRITICAL TASKS: Drives in drifting control rod
 Emergency Depressurization
 Restore RPV water level (Core Reflood)

I. DESCRIPTION OF SCENARIO

Current power is 50% with a plant startup is in progress following a forced outage. RCIC failed post maintenance testing due to flow controller failure and is tagged out. Div 2 DG declared inoperable last shift due to a cracked fuel line. RHR is placed into suppression pool cooling due to elevated temperature. RPCCW pump trips and the standby pump fails to auto start. Control rod 40-25 drifts out due to faulty directional control valve. Main condenser vacuum is lost due to the failure of the CWS expansion joint. When the main turbine trips due to low vacuum the reactor will not scram until level 2 is reached, prior to that all automatic and manual methods will fail. A loss of NPS-SWG1A occurs when the turbine trips and the HPCS injection valve fails to open when reactor water level reaches level 2. The crew will enter EOP-1 RPV Control, EOP-0001A ATWS (briefly) and EOP-004 Alternate Level Control / Emergency Depressurization to recover RPV water level.

II. TERMINAL OBJECTIVES

1. Recognize and respond to a trip of a running RPCCW pump with a failure of the standby pump to auto start.
2. Recognize and respond to rod drifting outward in accordance with plant procedures.
3. Recognize and respond to loss of main condenser vacuum and reactor scram in accordance with plant procedures.
4. Recognize and respond to a loss of NPS-SWG1A and a loss of all feed pumps (high pressure injection).
5. Implement EOP-004 Emergency Depressurization.

III. PERFORMANCE OBJECTIVES

A. Control Room Supervisor (CRS) – SRO

1. Direct crew response to a trip of a running RPCCW pump with a failure of the standby pump to auto start IAW ARP-P870-55A-C04.
2. Direct crew response to rod drifting outward in accordance with plant procedures per ARPs and AOP-0061, Mis-Positioned Control Rods.
3. Direct crew response to loss of main condenser vacuum and reactor scram per ARPs; AOP-0001 Reactor Scram, AOP-0002 Turbine Trip and AOP-0005 Loss of Main Condenser Vacuum.
4. Direct crew response to a loss of NPS-SWG1A and all feed water per EOP-001 and EOP-004 Alternate Level Control and Emergency Depressurization.
5. Direct crew response to changing Primary Containment parameters per EOP-0002, Primary Containment Control.

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

1. Respond to a rod drifting outward in accordance with plant procedures per ARPs and AOP-0061, Mis-Positioned Control Rods.
2. Respond to loss of main condenser vacuum per ARPs and AOP-0005 Loss of Main Condenser Vacuum.
3. Respond to a loss of feed water IAW AOP-0006 Condensate / Feedwater Failures.
4. Implement the actions of EOP-001, RPV Control, EOP-004 Alternate Level Control and Emergency Depressurization and EOP-0002, Secondary Containment Control as directed by the CRS.

C. Unit Operator (UO) – RO

1. Respond to to a failure trip of a running RPCCW pump with a failure of the standby pump to auto start IAW ARP-P870-55A-C04.
2. Respond to a rod drifting outward in accordance with plant procedures per ARPs and AOP-0061, Mis-Positioned Control Rods.
3. Respond to a loss of NPS-SWG1A (all feed water) and HPCS failure to inject.
4. Implement the actions of EOP-001 RPV Control, EOP-004 Alternate Level Control / Emergency Depressurization 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-163</p>	<p>GOP-0001, Plant Startup</p> <p>ARP-P87055A-C04, trip of a running RPCCW pump</p> <p>AOP-0061, Mis-Position Control Rods</p> <p>AOP-0005, Loss of Main Condenser Vacuum</p> <p>EOP-1, RPV Control</p> <p>EOP-4, Alternate Level Control</p> <p>EOP-4, Emergency Depressurization</p> <p>EOP-2, Primary Containment Control</p>	<p>Power: 50%</p> <p>Core: EOL, xenon equilibrium</p> <p>Equipment OOS:</p> <ul style="list-style-type: none"> • Div 2 DG • RCIC <p>STPs Due:</p> <ul style="list-style-type: none"> • None <p>LCOs:</p> <ul style="list-style-type: none"> • RCIC LCO • Div 2 DG LCO <p>Evolutions in progress:</p> <ul style="list-style-type: none"> • Plant startup ready to raise power with recirc flow 	<p>GOP-0001 completed (signed off) through Section G. Step 31.</p> <p>Startup Reactivity Control Plan 14-001 completed through Step 96.</p>

V. GENERAL INSTRUCTIONS

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup	<u>INITIAL CONDITION:</u> IC-121	PLANT CONFIGURATION: <ul style="list-style-type: none"> • Main Generator VARs ~ 100 lagging • Div 2 DG tagged out • RCIC tagged out • 'A' and 'B' RPCCW pumps running • Verify correct Startup Reactivity Plan • Place Danger tag switch covers on: <ul style="list-style-type: none"> - Div 2 DG - RCIC
	<u>TRIGGERS</u> <ul style="list-style-type: none"> • t7 = Main Turbine Trip (tcitrip !=0) 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<p><u>MALFUNCTIONS:</u></p> <ul style="list-style-type: none"> • MOV Malfunctions E51MOV045 Breaker Trip • HPCS002, HPCS Inj Valve, F004, Fails to open • RPS0001A RPS Fails to Scram All Signals • CCP004C CCP-P1C Failure to Auto Start • CCP001B RPCCW Pump 'B' Trip, t4 • CRDM4025, 1 - Drift Out, t5 • CWS002, Failed expansion joint in circ water system, t6, s130,000 • CNM001, 50%, r10:00 t6, Main Cond Air In Leakage • ED002A t7, NPS-SWG1A Bus Fault • CNM004B, d00:15, t7, Condensate Pump 'B' trip 	<p>Manually trip the RCIC Turbine</p> <p>Tagout the Div 2 Diesel Generator</p> <ul style="list-style-type: none"> • Hang Div 2 OOS signs <p>Tagout RCIC</p> <ul style="list-style-type: none"> • Hang RCIC OOS signs
	<p><u>REMOTE FUNCTIONS:</u></p> <ul style="list-style-type: none"> • DG005 Div 2 DG to Maintenance Mode 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<p><u>LAMP OVERRIDES:</u></p> <ul style="list-style-type: none"> • LO_E51-F076-G, OFF RCIC Warmup Line Shur Off Valve • LO_E51-F063-G, OFF RCIC Stm Sply Inbd Isol • LO_E51-F064-G, OFF RCIC Stm Sply Outbd Isol • LO_E51-F045-G, OFF RCIC Stm Sply Turbine Stop Vlv • LO_E51-RTTVP-G, OFF RCIC Trip & Throttle Vlv Position • LO_E51-C002-G, OFF, RCIC Trip & Throttle Vlv Operator • LO_CNM-MOV-G ON CNDS VAC BRKR LTG • LO_CNM-MOV-R OFF CNDS VAC BRKR LTR • LO_ENS-ACB27-G OFF STBY DG B OUTPUT BRKR LTG 	
	<p><u>ANNUNCIATOR OVERRIDES:</u></p> <ul style="list-style-type: none"> • P680_4a:d_8 Recirc Motor B Bearing Oil High Level 	
	<p><u>SWITCH OVERRIDES:</u></p> <ul style="list-style-type: none"> • DI_CNM-MOV OPEN t7, CNDS VAC BRKR SW 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
	FREEZE	Provide Crew with Shift Turnover sheet and reactivity brief for raising reactor power.
Event 0	RUN	CREW: Board Walkdown and Turnover
<p>Event 1 Description: The CRS directs the ATC to raise reactor power with recirculation flow control valves to raise reactor power to 55%. Reactor Engineer directed power ascension to be conducted over a 30 minute period.</p>		
<p>Event 1 When the crew has assumed the shift.</p>	<p>ROLE PLAY: If contacted as Reactor Engineering state that power ascension to 55% reactor power with recirc flow over the next 30 minutes is the desired ascension rate. Hold reactor power at 55% once achieved to allow core cases to be run.</p>	<p>CRS: Directs ATC to raise core flow (and reactor power) to 55% reactor power. ATC: Alternately opens both recirc FCVs to raise power to 55% (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: CRS directs the UNO to place RHR 'B' is suppression pool cooling.</p>		
<p>Event 2 T = 10 min</p>	<p>ROLE PLAY: If requested as building operator to perform a GVI prior to or after the RHR B is started report in either case that the pump is ready and/or operating properly.</p>	<p>CRS: Directs UNO to start RHR B is suppression pool cooling per SOP-0031 'RHR System.' UNO: Places RHR 'B' in suppression pool cooling IAW SOP-0031 'RHR System'</p>
<p>Event 3 Description: CRS directs the ATC operator to adjust Main Generator VARs per Load Dispatcher request.</p>		
<p>Event 3 T = 15 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>ROLE PLAY: Contact the main control room after reactor power has been raised and request that the Main Generator VAR loading be adjusted to 0.</p>	<p>CRS: Directs the ATC operator to adjust Main Generator VARs ATC: Adjusts Main Generator VARs per SOP-0080 'Main Generator'.</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 4 Description: Trip of a running RPCCW pump with the failure of the standby pump to auto start.</p>		
<p>Event 4 T = 20 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t4, Inserts malfunction CCP001B, Trip of the 'B' RPCCW Pump.</p> <hr/> <p>ROLE PLAY: As Reactor Building Operator, when requested, investigate the trip of RPCCW pump P1B and report that there IS NO FIRE but a light haze and burnt smell in the vicinity of the pump RPCCW P1B.</p> <hr/> <p>ROLE PLAY: As Control Building Operator, when requested, investigate the trip of RPCCW pump P1B and report the supply breaker P1B is tripped on overcurrent.</p>	<p>CUES: <i>Alarms P870-55A-C04</i> <i>Amber trip light for RPCCW pump P1B breaker is lit.</i> <i>Standby RPCCW pump PIC did not auto start.</i></p> <p>CRS: Directs ARP P870-55A-C04 actions to be performed.</p> <p>UO: Implement the actions of ARP P870-55A-C04 Start the standby RPCCW pump</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 5 Description: Control Rod 40-25 drifts out due to a failed directional control valve.</p>		
<p>Event 5 T =25 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>NOTE: Delete the rod drift malfunction when the rod is isolated t5, Inserts malfunction CRD 40-25, Control rod drift out</p> <hr/> <p>ROLE PLAY: As Reactor Building when requested, isolate CR 40-25 hydraulically. Report back after several minutes CR 40-25 is isolated. Reactor Engineering acknowledge report of CR 40-25 now fully inserted and hydraulically isolated. Will be running core thermal limit case to determine effects.</p>	<p>CUES:</p> <ul style="list-style-type: none"> • Alarm P680-07-B02 Rod Drift • Reactor power change • RPV level rising on all P680 level instruments <p>CRS: Directs implementing the actions of ARP P680-07-B02 Directs entry into AOP-0061 Miss-Positioned Control Rods Reference and enter Tech Spec 3.1.3 Action Condition C</p> <p>ATC: Per ARP-P680-07-B02 and AOP-0061, Miss-Positioned Control Rods: Select and fully drive the drifting rod in Isolate the control rod</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 6 Description: Circ Water Expansion Boot develops a leak which causes Turbine Building Flooding and a loss of main condenser vacuum.</p>		
<p>Event 6 T = 30 min</p>	<p>t6, CWS002, Condenser expansion joint failure</p> <p>CNM001 50%, r10:00 Main Condenser Air In Leakage</p> <p>ROLE PLAY :</p> <p>REPORT THIS ROLE PLAY AFTER OFFGAS ALARMS COME IN</p> <p>As Turbine Building Operator report that there is about a foot of water on the entire 67 feet elevation of the turbine building and appears to be slowly rising and that it is circulating water.</p> <p>NOTE:</p> <p>MALFUNCTION RPS0001A RPS Fails to Scram All Signals NEEDS TO BE DELETED AT THE PRE-DETERMINED WATER LEVEL (~80") THAT WILL ALLOW THE SCENARIO TO PROGRESS TO THE TOP OF ACTIVE FUEL WHEN DESIRED.</p>	<p>CUES:</p> <ul style="list-style-type: none"> • <i>Low vacuum alarms on P680.</i> • <i>Lowering condenser vacuum indication on P680.</i> • <i>Turbine building sump level alarms in..</i> <p>CRS: Direct implementation of AOP-0005 'Loss of main Condenser Vacuum', AOP-0001 'Reactor Scram' and AOP-0002 'Generator Trip'</p> <p>ATC: Implement the actions of AOP-0005 'Loss of main Condenser Vacuum', AOP-0001 'Reactor Scram' and AOP-0002 'Generator Trip'</p> <p>UO: Implement the actions of AOP-0005 'Loss of main Condenser Vacuum', AOP-0001 'Reactor Scram' and AOP-0002 'Generator Trip'</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 7 Description: Main Turbine Trip with loss of NPS-SWG1A. All feed water is lost and no high pressure injection is available except SLC. CRITICAL TASKS: 1) Emergency Depressurization 2) Restore RPV water level (Core Reflood)</p>		
<p>Event 8 T = 35 min</p>	<p>NOTE: Delete RPS0001A RPS Fails to Scram All Signals when desired water level is reached.</p> <hr/> <p>NOTE: Trigger 7 fires upon main turbine trip</p> <p>t7, ED002A NPS-SWG1A Fault</p> <p>CNM004B Condensate pump 'B' trip</p> <p>NOTE:</p> <p>IF SSW is aligned to CCP to start CRD pumps trip the CRD pumps started with MALFUNCTIONS:</p> <p>CRD001A and/or CRD001B</p>	<p>CUES:</p> <ul style="list-style-type: none"> <i>Loss of all condensate / feedpumps; HPCS injection valve will not open; reactor water level rapidly lowering</i> <p>CRS: Direct implementation of EOP-001 and EOP-004 RPV Control, Alternate Level Control and Emergency Depressurization</p> <p>EOP-0002 'Primary Containment Control'</p> <p>ATC: Implement EOP-001 and EOP-004 RPV Control, Alternate Level Control and Emergency Depressurization as directed by the CRS,</p> <p>UO: Implement actions of EOP-0001, 0004 and EOP-0002 as directed by the CRS.</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 8 (Continued)</p>	<p>ROLE PLAY:</p> <p>If requested as electrical maintainance report:</p> <ul style="list-style-type: none"> • that NPS-SWG1A has internal damage and can not be repaired without lengthy overhall. • Condensate pump P1B breaker is damaged and will need to be replaced <p>If requestes as Reactor Building operator report that E22-F004 HPCS injection valve will not open, won't even budge.</p> <p>If requested install the following Enclosures:</p> <ul style="list-style-type: none"> • 16 Air • 20 Drywell cooling • 32A/B SDC injection valve. 	
<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 Depressurized 2. RPV Level stabilized above -162 inches 3. Containment parameters stabilized

IX. QUANTITATIVE SUMMARY

Total Malfunctions	<u>7</u>	(1) Trip of RPCCW pump, (2) Rod Drifts out, (3), Failed CWS expansion joint, (5), Loss of Main Condenser Vacuum (6) Loss of NPS-SWG1A, (7) Failure of the HPCS injection valve to open
Malfunctions after EOP entry	<u>1</u>	Failure of the HPCS injection valve to open
Abnormal Events	<u>2</u>	Trip of RPCCW pump, Rod drift
Major Transients	<u>2</u>	Loss of Main condenser Vacuum, Loss of NPS-SWG1A / all feed water
EOPs entered	<u>2</u>	EOP-0001, RPV Control; EOP-0002, Containment Control; EOP-0004 Alternate Level Control and Emergency Depressurization
EOP Contingencies used	<u>2</u>	EOP-0004 Alternate Level Control and Emergency Depressurization
Simulator Run Time	<u>45</u>	Minutes
EOP Run Time	<u>20</u>	Minutes
Critical Tasks	<u>2</u>	1) Emergency Depressurization 2) Restore RPV water level (Core Reflood)
Tech Specs Exercised	<u>Yes</u>	3.1.3, Control Rods

VII. REFERENCES

A. Plant Procedures

1. GOP-0001, Plant Startup
2. ARP-P870-55A-C04
3. ARP-P680-6A-B04
4. ARP-P680-07A-B02
5. ARP-P680-15-A09
6. AOP-0001, Reactor Scram
7. AOP-0002, Main Turbine and Generator Trips
8. AOP-0006, Condensate/Feedwater Failures
9. EOP-0001, RPV Control
10. EOP-0001A, RPV Control -ATWS
11. EOP-0002, Primary Containment Control
12. EOP-0004 Alternate Level Control
13. EOP-0004 Emergency Depressurization
14. OSP-0053, Emergency and Transient Response Support Procedure

B. Technical Specifications and Technical Requirements Manual

Offgoing OSS:	Oncoming OSS:	Off-Going Shift
(Print)	KCN	(Print) KCN
		N D
		Date
PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT		
UNIT STATUS	MODE	1 RX POWER 50%
EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION		
Plant startup in progress. GOP-0001, Attachment 1 is completed through Step Section G. Step 31.		
Startup Reactivity Control Plan completed through Step 96.		
Place RHR B in suppression pool cooling to lower suppression pool temperature.		
Continue plant startup by raising Recirc flow to 55% of rated reactor power. Reactor Engineer has directed the power ascension to 55% be conducted over 30 minutes.		
Power distribution STP due in 6 hours.		
SIGNIFICANT LCO STATUS		
One day into TS 3.8.1 Div 2 EDG inop due to cracked fuel line.		
Four hours into TS 3.3.6.1 RCIC inop due to failed steam flow transmitter.		
Four hours into TS 3.5.1 for RCIC.		
EQUIPMENT STATUS		
Div 2 EDG tagged out work in progress to repair fuel line.		
RCIC tagged out, repair work to commence next shift.		
SRV F051D Leaking		

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-23.0
(DOC. NO.)

TOPIC

APRM 'F' Fails Upscale / Stuck Open SRV / Trip of 'B' NWS Pump / Loss of NSS-SWG2A (Loss of all NSW Pumps) / ATWS – Turbine Trip / SLC Pump A Shaft Shear

AVERAGE DURATION

* 1.0 HOUR

PREPARED BY:	<u>John Fralick / 0788</u> INSTRUCTOR / KCN	Date:	<u>4/26/07</u>
REVIEWED BY:	<u>Brian Patin / 0113</u> TECHNICAL REVIEW / KCN	Date	<u>4/26/07</u>
VALIDATED BY:	<u>Don Chase / 1040</u> OPERATIONS CRS / KCN	Date	<u>4/26/07</u>

* Indexing Information

NRC EXAM SCENARIO No. 2

IC-122

Facility: <u>River Bend Station</u>		Scenario No.: <u>2</u>	Ops-Test No.: _____
Examiners: <u>(Chief)</u>	Operators: <u>(CRS)</u>		
<u>(E1)</u>	<u>(ATC)</u>		
<u>(E2)</u>	<u>(UO)</u>		
Initial Conditions: Plant is operating at 63% power. Operating per GOP-1, Section G complete through step 35.			
Turnover: Start the third condensate pump.			
Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R (ATC,CRS)	Pull Rods to 65% power
2	N/A	N (ATC)	Startup third condensate pump P1A
3	N/A	N (UOI)	Rotate TPCCW Pumps (start PIB and secure PIC)
4	NMS011A	ITS (ATC,CRS)	APRM 'F' fails upscale
5	MSS005()	C, TS (UO, CRS)	Stuck open SRV F051C
6	SWP001B ED003D	C,M (All)	Trip of 'B' normal service water pump followed by; Loss of NNS-SWG2A <ul style="list-style-type: none"> • Loss of 2 circulating water pumps • Loss of 2 normal service water pumps (Complete loss of normal service water)
7	CRD014	M,C (All)	ATWS (Hydraulic Lock) / Turbine Trip
8	SLC002A/B	C (UO,CRS)	SLC Pump A/B will experience a shaft shear 10 seconds following initiation
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Total Malfunctions = 5 APRM F; SRV 51C Fails Open; Loss of NNS-SWG2A; ATWS; SLC Pump

Malfunctions after EOP = 1 SLC Pump Fails

Abnormal Events = 4 AOP-1 (Scram); AOP-0002 (Turbine Main Gen Trip); AOP-9 Loss of Normal Service Water; AOP-0035 Open SRV

Major Transients = 2 Loss of Normal Service Water; ATWS

EOP entered = 3 EOP-1; EOP-1A; EOP-2

EOP Contingencies = 1 EOP-1A ATWS

Critical Tasks = 2 Lower Reactor Water Level and Initiate SLC for power control

Narrative:

- Event 1) Raise reactor power with rods to 65% power.
- Event 2) Start a third condensate pump CNM-P1A IAW SOP-0007, 'Condensate System'.
- Event 3) Rotate TPCCW pumps IAW SOP-0017 TPCCW.
- Event 4) APRM 'F' fails upscale. This will cause a reactor half scram. The crew should recognize that one APRM may be bypassed then bypass the APRM and reset the half scram. The CRS should reference TS 3.3.1.1 and recognize only three APRMs per channel are required also TS 3.3.2.1 and TR 3.3.2.1 and recognize only 6 APRMs are needed for rod blocks.
- Event 5) An SRV (F051C) will fail open due to an electrical fault in the control circuitry. The crew will respond to the event in accordance with ARP P-601-19-A09, MAIN STEAM SAFETY RELIEF VALVE OPEN, and AOP-35, Stuck Open Relief Valve. The immediate operator action is to place the SRV control switch to the open position. The SRV will close when the fuses for the SRV have been pulled. Suppression pool temperature will rise, and pool cooling may be placed in service. The ATC operator may lower reactor power due to the loss of feedwater heating.
- Event 6 & 7) Normal service water pump, SWP-P7B will trip due to a fault in the motor. The crew will verify the standby pump starts. Immediately after verifying the standby pump starts, bus NNS-SWG2A will be lost due to an electrical fault. Two circ water pumps and the remaining normal service water pumps will be lost. This is a loss of all normal service water. Standby service water will initiate. The immediate action for a loss of normal service water is to scram the plant and enter AOP-1.
- Event 8 & 9) When the scram is inserted, a hydraulic lock will prevent rods from inserting. If the turbine is still on line, it will eventually trip due to the loss of normal service water. The crew will take actions in accordance with EOP-1A. Suppression Pool Temperature will require boration. When the first SLC pump is started, it will experience a shaft shear ten seconds after starting. The crew should recognize this and start the other SLC pump.

The scenario will terminate when 69 pounds of boron have been injected, and action is taken to raise RPV level or at the discretion of the lead examiner the ATWS hydraulic lock condition can be modified to allow the control rods to be inserted.

Event Description: The CRS directs the ATC to raise power to 65%.

Time	Position	Applicants Actions or Behaviors
T = 0		CUE: Per the turnover sheet
	CRS	Directs ATC to raise reactor power with control rods.
	ATC	Raise reactor power with control rods per the Startup Package 14-001 step 100. <ul style="list-style-type: none">• On the ROD SELECT MODULE, select the rod to be moved • Depress and hold C11A-S334, WITHDRAW Pushbutton • Check that the new rod notch position displayed is the next highest even number

Event Description: The CRS directs the UO to start up the third condensate pump

Time	Position	Applicants Actions or Behaviors
T = 10		CUE: Per the turnover sheet
	CRS	Directs UO to start a third condensate pump CNM-P1A per SOP-007 Condensate System.
	ATC	<p>As directed by the CRS start a third condensate pump IAW SOP-007 Condensate System Section 5.1.</p> <ul style="list-style-type: none"> • Open CNM-AOV43A, PUMP 1A DISCH VENT for the pump to be started. • Start CNM-P1A, CNDS PUMP 1A • Open CNM-MOV3A, CNDS PUMP 1A DISCH. • WHEN CNM-MOV3A, CNDS PUMP 1A DISCH is full open, THEN depress the STOP pushbutton. • Close CNM-AOV43A, PUMP 1A DISCH VENT

Event Description: The CRS directs the UO to rotate running TPCCW pumps.

Time	Position	Applicants Actions or Behaviors
T = 15		CUE: Per the turnover sheet.
	CRS	Directs operators to rotate the TPCCW pumps per SOP-0017 section 5.1.
	UO	Rotate TPCCW pumps per SOP-0017 TPCCW System as directed by the CRS. <ul style="list-style-type: none"> • Direct the pump to be vented • Start the standby CCS-P1B, TPCCW PUMP and verify: <ul style="list-style-type: none"> - CCS-P1B, TPCCW PUMP starts - CCS-MOV15B, TPCCW PUMP DISCH VLV opens - CCS-P1B, TPCCW PUMP MOTOR AMPS are normal • Depress the STOP Pushbutton to shutdown CCS-P1C, TPCCW PUMP and verify CCS-MOV15C, TPCCW PUMP DISCH VLV closes.

Event Description: APRM 'F' fails upscale

Time	Position	Applicants Actions or Behaviors
T = 20		CUES: <ul style="list-style-type: none"> • Annunciator P680-06-A03 APRM B OR F UPSCALE TRIP OR INOP • Reactor ½ scram on Div 2.
	CRS	Directs ATC to review ARP P680-06-A03 APRM B OR F UPSCALE TRIP OR INOP References to Tech Specs <ul style="list-style-type: none"> • 3.3.1.1 for APRM RPS inputs only 3 required • 3.3.2.1 for APRM rod blocks only 6 required Directs ATC to bypass APRM 'F' Directs ATC to reset Div 2 ½ scram
	ATC	References ARP P680-06-A03 APRM B OR F UPSCALE TRIP OR INOP Bypasses APRM 'F' as directed by the CRS Resets ½ scram on Div 2 RPS as directed by the CRS

Event Description: Stuck open SRV F051C

Time	Position	Applicants Actions or Behaviors
T = 30		CUES: <ul style="list-style-type: none"> • Alarm P601-19-A09, MAIN STEAM SAFETY RELIEF VALVE OPEN • SRV Tail pipe temperature rise • Acoustic monitor light indication • Main steam flow rise
	ATC/VO /CRS	Makes plant announcement that SRV is open.
	CRS	Directs the implementation of AOP-35, Stuck Open SRV References Technical Specification 3.6.2.1 for suppression pool temperature References Tech Spec 3.4.4 for a failed SRV Refereneces Tech Spec 3.6.1.6 Low-Low Set References AOP-7, Loss of Feedwater Heating References Tech Spec 3.6.5.3 Drywell Penetration
	ATC	Reference AOP-07 Loss of Feedwater Heating (May reduce reactor power) ATC may reduce power per AOP-07 due to loss of Feedwater Heating
	VO	Recognizes that SRV F051C is open Implements AOP-0035 Stuck Open SRV as directed. <ul style="list-style-type: none"> • Places the SRV control switch in OPEN on P601 • Cycles control switch on P601 • Cycles control switch on P631 NOTE: When fuses are pulled, the SRV will close <ul style="list-style-type: none"> • Removes fuses for SRV F051C per AOP-0035 Attachment 1 • Aligns RHR for suppression pool cooling as directed

Event Description: Trip of Normal Service Water pump 'B', SWP-P7B Loss of NNS-SWG2A; Total Loss of NSW

Time	Position	Applicants Actions or Behaviors
T = 40		<p>CUES:</p> <ul style="list-style-type: none"> • Harris Panel Alarm • Standby pump starts (SWP-P7C) • Alarm P808-84-H08, SERVICE WATER DISCHARGE HEADER PRESS EXTREME LOW • Loss of power to 2 Circ Water pumps
	CRS	<p>Direct implementation of:</p> <ul style="list-style-type: none"> • AOP-09, Loss of Normal Service Water • AOP-01 Reactor Scram • AOP-02 Turbine Trip • AOP-05 Loss of Main Condenser Vacuum • AOP-53, Initiation of Standby Service Water
	ATC	<p>Reference ARP P808-84-H08</p> <p>Implement the following procedures</p> <ul style="list-style-type: none"> • AOP-0009, Loss of Normal Service Water <ul style="list-style-type: none"> - Insert a manual reactor • AOP-01 Reactor Scram <ul style="list-style-type: none"> - Place C71A-S1, REACTOR SYSTEM MODE SWITCH, to SHUTDOWN - Verifies control rod status (Rods not inserted due to ATWS condition) - DUE TO THE ATWS <ul style="list-style-type: none"> Arm and depress C71A-S3A, B, C, and D, MANUAL SCRAM Pushbuttons & Arm and depress both C11C-S1A and B, ARI CHANNEL A and B MANUAL INITIATION, Pushbuttons.
	UO	Verifies that the standby pump (SWP-P7C) is running

Event Description: ATWS due to hydraulic lock

Time	Position	Applicants Actions or Behaviors
T = 41		CUES: Scram has been inserted, and all rods are not inserted; the reactor is NOT shut down
	CRS	Enters EOP-1 for scram condition present and power is above 5% Transitions to EOP-1A. Directs the following <ul style="list-style-type: none"> • Initiate ARI • Terminate and Prevent HPCS injection • Inhibit ADS • Transfer and Trip of Recirculation Pumps (High reactor pressure may trip recirc pumps) • Direct operators to defeat isolation logic signals as necessary in accordance with EOP-1A • (CRITICAL TASK) Terminate and prevent injection to lower water level to between -140 inches and -56 inches (Standard will be -100" to -150") • Stabilize pressure between 1090 psig and 950 psig using main turbine bypass valves • Direct Encl installation (Encl. 12, 14, 16, 24) • (CRITICAL TASK) Directs initiation of SLC and Encl 16 installation for SLC tank level indication <p>When 69 pounds of boron have been injected, directs operators to restore level to between +10 inches and +51 inches</p>

Event Description: **ATWS due to hydraulic lock**

Time	Position	Applicants Actions or Behaviors
	ATC	<p>Recognizes all control rods are NOT fully inserted and power is above 5% after the Mode switch has been placed in SHUTDOWN</p> <p>Recognize turbine trip and bypass valve failure</p> <p>May request RCIC to be secured due to level control</p> <p>Controls level as directed by the CRS; terminate and prevent injection from feed and condensate</p> <ul style="list-style-type: none"> • Take master controller to manual and reduce output to 0 (closing all FRVs) <p>Takes actions to insert control rods</p>
	UO	<p>Controls pressure as directed by the CRS utilizing SRVs</p> <ul style="list-style-type: none"> • Inhibit ADS <p>Maximizes CRD:</p> <ul style="list-style-type: none"> • Start C11-C001AP(BP), CRD AUX OIL PUMP A(B) • Verify C11-C001A(B), CRD PUMP A(B), white control power available light on. • Start C11-C001A(B), CRD PUMP A(B) • Place CRD HYDRAULICS FLOW CONTROLLER, in MANUAL and raise signal to 100% • Fully Open C11-F003, CRD DRIVE WATER PRESS CONTROL VALVE.

Event Description: ATWS due to hydraulic lock

Time	Position	Applicants Actions or Behaviors
	UO	<p>NOTE: The first SLC pump started will fail 10 seconds after initiation (shaft shear)</p> <p>Initiates SLC, recognizes first SLC pump failure</p> <ul style="list-style-type: none"> • Place SLC PUMP A(B) (NOT BOTH), control switch to RUN • Verify the following pump operation • Place SLC PUMP A(B), control switch to STOP • Notify CRS of SLC injection status • Enclosure 16 may be required • Record SLC Tank Level. • May trip the RCIC turbine <p>Installs Enclosures as directed by CRS</p>

Event Description: SLC pump shaft shear

Time	Position	Applicants Actions or Behaviors
T =		CUES: SLC discharge pressure drops to zero, SLC tank level steady, The pump motor will still be running.
	UO	Recognizes failure of the running SLC pump Starts the alternate SLC pump
	CRS	Direct operator to start the alternate SLC pump (CRITICAL TASK)
		Termination criteria: 1 SLC pump is running and injecting into the RPV 2. Level is restored following addition of 69 pounds of boron OR hydraulic ATWS malfunction modified to allow all rods to be inserted

I. DESCRIPTION OF SCENARIO

The scenario begins with the plant at 63% power; plant startup in progress. The third condensate pump will be started IAW GOP-001 Plant Startup and SOP-007 Condensate System. The reactor operator will pull control rods IAW the startup package to 65% reactor power. TPCCW pumps will be rotated. APRM 'F' will then fail upscale high causing a ½ scram on RBS B. The crew will respond per applicable ARPs. SRV F051C will then fail open and AOP-0035 Stuck Open SRV will be entered. The SRV will close when it's fuses are removed per AOP-0035 Stuck Open SRV Attachment 1. A loss trip of NSW Pump P1B will then occur followed by a complete loss of NSW due to a trip of NNS-SWG2A. A reactor scram will be inserted per AOP-0009 Loss of NSW but all rods will not insert due to a hydraulic lock. The turbine will trip shortly after that and the bypass valves will fail closed causing pressure control to be via the SRVs to the suppression pool. Suppression pool temperature will rise requiring SLC to be initiated. When the first SLC pump is started it will experience a shaft failure and the second SLC pump will then have to be started.

II. TERMINAL OBJECTIVES

1. Recognize and respond to a failure of APRM 'F' IAW ARPs.
2. Recognize and respond to SRV F051C failing open per SOP-0035 Stuck Open SRV.
3. Recognize and respond to a failure of NSW Pump P1B and a total loss of NSW due to a loss of a NNS-SWG2A per AOP-009 'Loss of Normal Service Water'.
4. Recognize and respond to loss of a reactor scram ATWS condition IAW AOP-01 Reactor Scram, EOP-01 (01A) RPV Control (ATWS).
5. Recognize and respond to a failure of a SLC pump to operate.

III. PERFORMANCE OBJECTIVES

A. Control Room Supervisor (CRS) – SRO

1. Direct crew response to a trip of APRM 'F' IAW ARPs and Tech Specs
2. Direct crew response to a failure of SRV F051C IAW AOP-0035 Stuck Open SRV.
3. Direct crew response to a trip of NSW Pump P1B and a total loss of NSW IAW AOP-009 Loss of Normal Service Water.
4. Direct crew response to reactor scram ATWS condition per AOP-01 Reactor Scram, AOP-02 Turbine Trip, EOP-01(01A) RPV Control (ATWS), and EOP-0002 Primary Containment Control.

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

1. Respond to a failure APRM 'F' per ARPs as directed by the CRS.
2. Respond to a failure of. SRV F051C per AOP-0035 Stuck Open SRV as directed by the CRS.
3. Respond to loss of NSW Pump P1B and a total loss of NSW IAW AOP-009 Loss of Normal Service Water as directed by the CRS.
4. Implement the actions of AOP-01 Reactor Scram, AOP-02 Turbine Trip, EOP-01(01A) RPV Control (ATWS), and EOP-0002 Primary Containment Control. as directed by the CRS.

C. Unit Operator (UO) – RO

1. Respond to a failure of. SRV F051C per AOP-0035 Stuck Open SRV as directed by the CRS.
2. Respond to loss of NSW Pump P1B and a total loss of NSW IAW AOP-009 Loss of Normal Service Water as directed by the CRS.
3. Implement the actions of AOP-01 Reactor Scram, AOP-02 Turbine Trip, EOP-01(01A) RPV Control (ATWS), 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-122</p>	<p>GOP-0001, Plant Startup</p> <p>ARP-P680-06-A01, APRM 'F' fails upscale</p> <p>AOP-0035, Stuck Open SRV</p> <p>AOP-0009, Loss of NSW</p> <p>EOP-1, RPV Control</p> <p>EOP-01A, RPV Control ATWS</p> <p>EOP-2, Primary Containment Control</p>	<p>Power: 63%</p> <p>Core: EOL, xenon equilibrium</p> <p>Equipment OOS:</p> <ul style="list-style-type: none"> • NONE <p>STPs Due:</p> <ul style="list-style-type: none"> • NONE <p>LCOs:</p> <ul style="list-style-type: none"> • NONE <p>Evolutions in progress:</p> <ul style="list-style-type: none"> • Plant startup ready to raise power with control rods 	<p>GOP-0001 completed (signed off) through Section G step 35.</p> <p>Startup Reactivity Control Plan 14-001 completed through Step 100.</p>

V. GENERAL INSTRUCTIONS

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup	<u>INITIAL CONDITION:</u> IC-122	PLANT CONFIGURATION: <ul style="list-style-type: none"> • NSW pumps A and B running • Verify correct Startup Reactivity Plan 14-001 Step • Verify GOP-0001 completed through Section G step 35. • FWS-P1B running • TPCCW pumps A and C are running
	<u>TRIGGERS:</u> t7, MODE SWITCH IN SHUTDOWN (tie a turbine trip and bypass valve fails closed to this due to the loss of NSW)	
	<u>MALFUNCTIONS:</u> <ul style="list-style-type: none"> • CRD014 Hydraulic Lock ATWS Severity 95% • EHC001, Turbine Trip t7; d00:03:00 • EHC002B Bypass Valves fail closed t7; d00:03:00 • NMS011F, APRM 'F' Fails Upscale, t1 • MSS005K, SRV F051C Fails Open, t2 • SWP001B, 'B' NSW Pump Trips, t3 • ED003D, Loss of NNS-SWG2A, t3 d00:00:30 • SLC002A malfunction for SLC A, t5 • SLC002B malfunction for SLC B, t6 	
	<u>REMOTE FUNCTIONS:</u> <ul style="list-style-type: none"> • NONE 	
	<u>LAMP OVERRIDES:</u> <ul style="list-style-type: none"> • NONE 	

Event	IC / Malfunctions / Overrides / Remotes	<i>Cues / Actions</i>
Simulator Setup Continued	<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: CRS directs the ATC to raise reactor power with control rods per the startup package.</p>		
<p>Event 1 When the crew has assumed the shift.</p>	<p>ROLE PLAY: If contacted as Reactor Engineering report that continuing the startup per the startup package is acceptable at this time.</p>	<p>CRS: Directs ATC to raise reactor power to 65% using control rods per RCP 14-001 page 27 Step ??.</p> <p>ATC: Raises power by pulling control rods IAW the startup package RCP 14-001 page 27 Step ??.</p>
<p>Event 2 Description: The CRS directs the ATC to start the third condensate pump per SOP-007 Condensate System.</p>		
<p>Event 2 T = 10 min</p>	<p>ROLE PLAY: If contacted as Turbine Building Operator, Engineering or Maintenance inform the control that the pump is ready to start and all individuals are standing by for start.</p>	<p>CRS: Directs ATC to start the third condensate pump.</p> <p>ATC: Starts third condensate pump per SOP-007, 'Condensate Pump' System section 5.1</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 3 Description: CRS directs the UNO to rotate TPCCW pumps.</p>		
<p>Event 3 T = 15 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>ROLE PLAY: If contacted as Turbine Building Operator for TPCCW pump rotation report that the ‘B’ pump is ready for start and that you are standing by.</p>	<p>CRS: Directs the UO to rotate the TPCCW pumps.</p> <p>UO: Rotates TPCCW pumps per SOP-0017 ‘Turbine Plant Component Cooling Water System’.</p>
<p>Event 4 Description: APRM ‘F’ fails upscale with a reactor half scram.</p>		
<p>Event 4 T = 20 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t1, Inserts malfunction NMS011F, Failure of APRM ‘F’ upscale</p> <p>ROLE PLAY: If contacted as WMC report that you will get trouble shooting and repair going OR as I&C take the report and state that someone will come to the control room shortly</p>	<p>CRS: Directs ARP P680-06-A01 actions to be performed. Direct the ATC to bypass APRM ‘F’ and reset the ½ scram</p> <p>ATC: Implement the actions of ARP P680-06-A01 Bypass APRM ‘F’ as directed by the CRS and reset the ½ scram</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Event 5 Description: Stuck open SRV F051C		
Event 5 T = 30 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.	t2 , Failure of SRV F051C	CRS: Directs implementing the actions of AOP-0035 Stuck Open SRV Reference and enter Tech Spec 3.4.4 Safety/Relief Valves (S/RVs) (tracking LCO) and 3.6.1.6 Action A UO: Implement actions of AOP-0035 Stuck Open SRV
	ROLE PLAY: As work control take report of stuck open SRV F051C and inform control room that you perform all required contacts and will get a work package started. As Back Panel: If requested to operate 'B' solenoid switch insert: <ul style="list-style-type: none"> • MSS012, Operate SRV 'B' Solenoid Switches OFF If requested to remove fuses for F051C insert: <ul style="list-style-type: none"> • MSS009 F051C Fuses Out If requested report that no acoustic monitors are lit.	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Event 6 Description: Trip of NSW Pump P1B and loss of NNS-SWG2A (Loss of all NSW)		
Event 6 T = 40 min	t3, Trip of NSW Pump P1B and ED003D, Trip of NNS-SWG2A ROLE PLAY : If contacted as work control take report on the trip of SWP-P7B and report that you will begin package development and will make all required contacts. If requested as Outside Operator report that there is a burnt smell all around NNS-SWG2A but no fire is evident. If requested as work control take report of a Total Loss of Normal Service Water and inform Control Room that you will make all required notifications.	CRS: Direct implementation of AOP-0009 'Total Loss of Normal Service Water', AOP-0001 'Reactor Scram' and AOP-0002 'Generator Trip' ATC: Implement the actions of AOP-0009 'Total Loss of Normal Service Water', AOP-0001 'Reactor Scram' and AOP-0002 'Generator Trip' UO: Verifies standby pump SWP-P7C starts. Implement the actions of AOP-0009 'Total Loss of Normal Service Water', AOP-0001 'Reactor Scram' and AOP-0002 'Generator Trip'

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 7 Description: ATWS condition with a trip of the main turbine and bypass valves failing closed.</p> <p>CRITICAL TASKS: 1) Lower RPV water level to lower reactor power 2) SLC injection to shutdown the plant</p>		
<p>Event 8 T = 41 min</p>	<p style="text-align: center;"><i>NOTE:</i> <i>Initiate ONE of the following triggers NOT both. Whichever SLC pump is started first should have it's associated trigger fired.</i></p> <p>t5, SLC Pump A Shaft Shear OR t6, SLC Pump B shaft shear</p> <p>ROLE PLAY : IF contacted as WMC take report on ATWS condition and failure of SLC. Report that you will get maintenance working on the SLC failure</p> <p>NOTE: With lead examiners concurrence modify the hydraulic ATWS malfunction to allow rods to be inserted.</p>	<p>CRS: Direct implementation of; EOP-0001 'RPV Control' EOP-001A 'RPV Control ATWS' EOP-0002 'Secondary Containment Control'</p> <p>ATC: Implement: EOP-0001 'RPV Control'; EOP-001A 'RPV Control ATWS'; and EOP-0002 'Secondary Containment Control' as directed by the CRS.</p> <p>UO: Implement: EOP-0001 'RPV Control'; EOP-001A 'RPV Control ATWS'; and EOP-0002 'Secondary Containment Control' as directed by the CRS.</p>
<p>WHEN Termination Criteria are met or at Lead Examiner discretion</p>	<p>FREEZE</p>	<p>TERMINATION CRITERIA:</p> <ol style="list-style-type: none"> 1 SLC pump is running and injecting into the RPV 2. Level is restored following addition of 69 pounds of boron OR hydraulic ATWS malfunction modified to allow all rods to be inserted

IX. QUANTITATIVE SUMMARY

Total Malfunctions	<u>5</u>	APRM F; SRV 51C Fails Open; Loss of NNS-SWG2A; ATWS; SLC Pump
Malfunctions after EOP entry	<u>1</u>	SLC Pump failure
Abnormal Events	<u>4</u>	AOP-1 (Scram); AOP-0002 (Turbine Main Gen Trip); AOP-9 Loss of Normal Service Water; AOP-0035 Open SRV
Major Transients	<u>2</u>	Loss of All NSW, ATWS
EOPs entered	<u>2</u>	EOP-0001, RPV Control; EOP-0001A, RPV Control ATWS, EOP-0002 Primary Containment Contro
EOP Contingencies used	<u>2</u>	EOP-0001A RPV Control ATWS
Simulator Run Time	<u>55</u>	minutes
EOP Run Time	<u>25</u>	minutes
Critical Tasks	<u>2</u>	1) Terminate and Prevent Injection into the RPV 2) SLC Injection
Tech Specs Exercised	<u>Yes</u>	3.3.1.1 RPS Instrumentation; 3.3.2.1 Rod Blocks; 3.4.4 Safety/Relief Valves (S/RVs) (tracking LCO) and 3.6.1.6 Action A

VII. REFERENCES

A. Plant Procedures

1. GOP-0001, Plant Startup
2. ARP-P680-6A-B04
3. ARP-P680-07A-B02
4. ARP-P680-15-A09
5. AOP-0001, Reactor Scram
6. AOP-0002, Main Turbine and Generator Trips
7. AOP-0009, Total Loss of Normal Service Water
8. EOP-0001, RPV Control
9. EOP-0001A, RPV Control -ATWS
10. EOP-0002, Primary Containment Control
11. 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-24.0
(DOC. NO.)

TOPIC

**Trip of HPCS During STP Run, Trip of a Feedpump, Recirc Pump 'B'
Seal Failure, Recirc Loop 'B' Rupture, RHR A Injection Valve Fails to
Open**

AVERAGE DURATION

*** 1.0 HOUR**

PREPARED BY:	<u>John Fralick / 0788</u> INSTRUCTOR / KCN	Date:	<u>4/26/07</u>
REVIEWED BY:	<u>Brian Patin / 0113</u> TECHNICAL REVIEW / KCN	Date	<u>4/26/07</u>
VALIDATED BY:	<u>Don Chase / 1040</u> OPERATIONS CRS / KCN	Date	<u>4/26/07</u>

* Indexing Information

NRC EXAM SCENARIO No. 3 IC-123

Facility: <u>River Bend Station</u>		Scenario No.: <u>3</u>	Ops-Test No.: _____
Examiners: <u>(Chief)</u>	Operators: <u>(CRS)</u>		
<u>(E1)</u>	<u>(ATC)</u>		
<u>(E2)</u>	<u>(UO)</u>		
Initial Conditions: Plant is operating at 100% power. CRD pump 'B' is tagged out for motor replacement.			
Turnover: Completion of HPCS Surveillance STP-203-6305 "HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST" has been completed through step 7.6.3			
Event No.	Malf. No.	Event Type*	Event Description
1		N,C (UO)	Perform HPCS Surveillance STP-203-6305 "HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST", trip of the HPCS pump
2		C,R (ATC,UO)	Reactor Feedpump 'B' oil leak leads to securing pump or pump trip. Reduce reactor power to support securing reactor feedpump 'B'
3		C (UO,ATC)	Recirc loop 'B' seal failure / small drywell steam leak
4		M (All)	Reactor scram due to seal failure / securing recirculation pump and failure of loop 'B' to isolate.
5		M (All)	Rupture of reactor recirculation loop 'B'
6		C (UO)	RHR A Injection valve E12-F042A, RHR PUMP A LPCI INJECT ISOL VALVE fails to open.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Total Malfunctions	= 5	HPCS Pump Trip, Reactor Feedpump B oil leak; Recirc Loop 'B' seal failure, Recirc Loop 'B' rupture, LPCI 'A' injection valve fails to open
Malfunctions after EOP	= 2	Recirc Loop 'B' rupture, LPCI 'A' injection valve fails to open
Abnormal Events	= 4	AOP-1 (Scram); AOP-0002 (Turbine Main Gen Trip); AOP-0003 Automatic Isolations; AOP-0006 Condensate Feedwater Failures
Major Transients	= 2	Manual Reactor Scram; Recirculation Loop Rupture
EOP entered	= 3	EOP-1; EOP-2; EOP-4
EOP Contingencies	= 2	EOP-4 Alternate Level Control, RPV Flooding
Critical Tasks	= 1	Core Re-flooding (opening E12-MOV053A)

Narrative:

- Event 1) The crew performs STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST” and shortly after the HPCS pump is started it faults and trips off.
- Event 2) Reactor feedpump ‘B’ will develop a lube oil leak. A temperature alarm will be received indicating rising motor and pump bearing temperatures. Alarms will be received and auxiliary oil pumps will start as lube oil pressure lowers. Reactor power should be reduced and the feedpump removed from service but if not the feedpump will trip due to low lube oil pressure.
- Event 3) A complete seal failure will occur on the ‘B’ recirculation pump causing a 10 gpm drywell steam leak. The leak will cause unidentified leakage, drywell temperature and pressure to rise and require the crew to scram the plant.
- Event 4) The plant will be scrammed and the ‘B’ recirculation pump will be isolated per SOP-003 Reactor Recirculation System. Scram and post scram actions will be taken. When an attempt to isolate ‘B’ recirculation loop is made the power supply to the isolation valves will trip precluding the loop from being isolated.
- Event 5) After the plant is stabilized following the reactor scram a rupture of recirculation loop ‘B’ will occur. EOP-0001 ‘RPV Control’ will be entered and EOP-0004 ‘Alternate Level Control’ and RPV may be entered. The one operating CRD pump and feedpumps ‘A’ & ‘C’ will trip as reactor water level lowers. The condensate system will not be able to inject due to failed valves.
- Event 6) Upon receiving the auto initiation signal from the ‘B’ loop rupture, the RHR A Injection valve E12-F042A, RHR PUMP A LPCI INJECT ISOL VALVE will not automatically open. This will require the operator to use E12-F053A, RHR PUMP A SDC INJECTION VALVE to inject with RHR A

The scenario will terminate when reactor water level is being restored following the opening of E12-F053A, RHR PUMP A SDC INJECTION VALVE

Event Description: Performance of HPCS Surveillance and trip of the HPCS pump.

Time	Position	Applicants Actions or Behaviors
T = 0		Cue: Per the turnover sheet
	CRS	<ul style="list-style-type: none"> • The CRS directs the UO to complete HPCS Surveillance STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST” section 7.6. • Following the HPCS pump trip references / enters Tech Spec 3.5.1 Action B
	UO	<p>Performs HPCS surveillance per STP-203-6305 at Step 7.6.</p> <ul style="list-style-type: none"> • Open E51-F031, RCIC PUMP SUP PL SUCTION VALVE • Starts E22-C001, HPCS PUMP. • Simultaneously throttle open E22-F010, HPCS TEST BYPASS VLV TO CST, AND E22-F011, HPCS TESTRETURN VALVE TO CST, equal amounts to establish 5050 gpm indicated on E22-R603 • Following the HPCS pump trip references ARP-P601-16A-B03/F05

Event Description: Reactor Feedpump FWS-P1B degradation and securing.

Time	Position	Applicants Actions or Behaviors
T = 15		CUES: Alarms P680-08-E06 Scanner Input P680-03-C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL
	CRS	Directs ATC to implement: <ul style="list-style-type: none"> • ARP P680-03-C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL • Direct ROs to implement AOP-006 Condensate and Feedwater Failures • Direct ROs to implement AOP-0024 Thermal Hydraulic Instabilities
	ATC	Lower reactor power with recirculation flow per the Shutdown Package Implement: <ul style="list-style-type: none"> • AOP-006 Condensate and Feedwater Failures and ARP P680-03-C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL <ul style="list-style-type: none"> - reducing reactor power with Recirc Flow Control - if pump amps continue to increase, THEN continue reactor power reduction until within the capacity of the remaining RFP's and trip FWS-P1B, REAC FEEDWATER PUMP - Secure FWS-P1B per SOP-009 Feedwater • If directed / necessary, reset the flow control valve runback
	UO	Reviw: <ul style="list-style-type: none"> • AOP-0024 Thermal Hydraulic Instabilities <ul style="list-style-type: none"> - verify location on the power to flow map • AOP-006 Condensate and Feedwater Failures <ul style="list-style-type: none"> - assist the ATC as needed / directed

Event Description: THIS IS CONDITIONAL DEPENDING ON WHETHER OR NOT THE CREW SECURES FWS-P1B.

Trip of FWS-P1B if it is not secured by the crew and it trips.

Time	Position	Applicants Actions or Behaviors
T = 20		CUE: Alarm P680-03-A01 RX FW PUMP BREAKERS AUTO TRIP
	CRS	Directs ATC to implement: <ul style="list-style-type: none"> • ARP P680-03-C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL • Direct ROs to implement AOP-006 Condensate and Feedwater Failures • Direct ROs to implement AOP-0024 Thermal Hydraulic Instabilities
	ATC	Lower reactor power with recirculation flow per the Shutdown Package Implement: <ul style="list-style-type: none"> • ARP P680-03-C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL • AOP-006 Condensate and Feedwater Failures <ul style="list-style-type: none"> - Reduce reactor power to within the available capacity of the feedwater system. • If necessary, reset the flow control valve runback
	UO	Implement: <ul style="list-style-type: none"> • AOP-0024 Thermal Hydraulic Instabilities <ul style="list-style-type: none"> - verify location on the power to flow map (monitored region) • AOP-006 Condensate and Feedwater Failures <ul style="list-style-type: none"> - assist the ATC as needed / directed • Secure feedpump lube oil as directed by CRS

Event Description: Recirculation Pump 'B' Seal Failure – Small Drywell Steam Leak

Time	Position	Applicants Actions or Behaviors
T = 35		CUES: Alarms ARP-P680-04A-D11 RECIRC PUMP B OUTER SEAL HIGH LEAKAGE ARP-P680-04A-E11 E11 RECIRC PUMP B SEAL STAGING HIGH/LOW FLOW ARP-P601-19-A05 REACTOR COOLANT SYS HIGH LEAKAGE RATE
	CRS	Directs the reference / implementation of: <ul style="list-style-type: none"> • ARP-P680-04A-D11 • ARP-P680-04A-E11 • ARP-P601-19-A05 REACTOR COOLANT SYS HIGH LEAKAGE RATE <ul style="list-style-type: none"> - Direct the UO to obtain a leakage report. - Refer To Technical Specification LCO 3.4.5 and LCO 3.4.7. - Refer To EIP-2-001, Classification Of Emergencies
	ATC	Reference/Implement actions of: <ul style="list-style-type: none"> • ARP-P680-04A-D11 • ARP-P680-04A-E11
	UO	Reference/Implement actions of: <ul style="list-style-type: none"> • ARP-P680-04A-D11 • ARP-P680-04A-E11 • ARP-P601-19-A05 REACTOR COOLANT SYS HIGH LEAKAGE RATE <ul style="list-style-type: none"> - Obtain a leakage report.

Event Description: Reactor Scram and Securing Recirc Pump 'B' and failure of Recirc Loop 'B' to isolate due to a trip of NJS-SWG1B.

Time	Position	Applicants Actions or Behaviors
		CUE: Directed by the CRS
T = 40	CRS	Directs the reference / implementation of: <ul style="list-style-type: none"> • AOP-001 Reactor Scram • AOP-002 Turbine Trip • EOP-01, RPV Control • EOP-02, Primary Containment Control Direct the tripping and isolating of recirc pump 'B' per <ul style="list-style-type: none"> • SOP-003 Reactor Recirculation System OR, • "Hard Card" OSP-0053 EMERGENCY AND TRANSIENT RESPONSE SUPPORT PROCEDURE ATTACHMENT 19 - ISOLATING RECIRC PUMP
	ATC	Reference/Implement actions of: <ul style="list-style-type: none"> • AOP-0001 <ul style="list-style-type: none"> - Place C71A-S1, REACTOR SYSTEM MODE SWITCH, to SHUTDOWN. - Check all Control Rods are fully inserted. • SOP-003 or HARD CARD trip and isolate the 'B' recirc loop <ul style="list-style-type: none"> - Depress the TRIP pushbutton for B33-S001A(B) LFMG A(B) GEN BRKR 2A(B) - Depress the TRIP pushbutton for B33-S001A(B) LFMG A(B) MOT BRKR 1A(B). <p>NOTE: The 'B' recirculation loop will not isolate due to NJS-SWG1B tripping.</p> <ul style="list-style-type: none"> - Close B33-F067B, RECIRC PUMP B DISCH VLV. - Close B33-F023B, RECIRC PUMP B SUCTION VLV. - Close G33-F106, RWCU RECIRC B SUCT.

Event Description: Rupture of reactor recirculation loop 'B'

Time	Position	Applicants Actions or Behaviors
T = 50	CRS	<p>Direct the implement the following procedures:</p> <ul style="list-style-type: none"> • EOP-0001 RPV Control <ul style="list-style-type: none"> - transition to EOP-04 Alternate Level Control Leg - transition to EOP-04 RPV Flooding - transition to EOP-04 Emergency Depressurization • EOP-0004 Alternate Level Control <ul style="list-style-type: none"> - Inhibit ADS - Direct injection with Inj subsystems to restore and maintain RPV water level - Transition to Emergency Depressurization • EOP-0004 Emergency Depressurization <ul style="list-style-type: none"> - Direct opening 7SRV/ADS valves • EOP-0002 Primary Containment Control
	ATC	<p>Implement the actions of the following as directed by the CRS</p> <ul style="list-style-type: none"> • EOP-0001 RPV Control <ul style="list-style-type: none"> - Attempt to align feedwater and condensate for injection. Can not be aligned due to the failure of FWS-MOV109 closed. • EOP-0004 Alternate Level Control • EOP-0004 RPV Flooding • EOP-0002 Primary Containment Control

CONTINUED		
Op Test No.:	Scenario No.: 3	Event No.: 5
Page 7 of 8		
Event Description: Rupture of reactor recirculation loop 'B'		
	UO	<p>Implement the actions of the following as directed by the CRS</p> <ul style="list-style-type: none"> • EOP-0001 RPV Control • EOP-0004 Alternate Level Control • EOP-0004 RPV Flooding <ul style="list-style-type: none"> - Open 7 ADS/SRVs • EOP-0002 Primary Containment Control

I. DESCRIPTION OF SCENARIO

The crew assumes the shift at 100% reactor power. The crew performs STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST” and shortly after the HPCS pump is started it faults and trips off. The ‘B’ feedpump will experience a lube oil leak that will require the pump to be shutdown but if the pump is not shutdown it will trip due to low lube oil pressure. Once the ‘B’ feedpump lube oil failure is dealt with the ‘B’ recirculation pump will experience seal failure with a small drywell steam leak requiring the reactor to be scrammed, the ‘B’ recirc pump to be secured and the ‘B’ recirculation loop isolated (the ‘B’ recirculation loop will not isolate). The reactor scram actions are taken and the loop is isolated recirculation loop ‘B’ will rupture. EOPs will be implemented to restore reactor water which will require implementing emergency depressurization.

II. TERMINAL OBJECTIVES

1. Recognize and respond to a trip of the HPCS pump.
2. Recognize and respond to degradation of the ‘B’ reactor feedwater pump by implementing AOP-006 Condensate / Feedwater Failures and ARPs.
3. Recognize and respond to recirculation loop ‘B’ seal failure.
4. Recognize and respond to loss of a rupture of reactor recirculation loop ‘B’ by implement EOPs.
5. Recognize and respond to a failure of E12-MOVF042A to open.

III. PERFORMANCE OBJECTIVES

A. Control Room Supervisor (CRS) – SRO

1. Direct crew response to trip of the HPCS pump.
2. Direct crew response to a degradation and securing or trip of the ‘B’ feedwater pump per ARPs and AOP-006 Condensate and Feedwater Failures.
3. Recognize and respond to recirculation loop ‘B’ seal failure
4. Direct crew response to rupture of the ‘B’ recirculation loop per EOPs.
5. Direct crew response to reduction in ECCS injection during a loss LOCA per EOPs.
6. Recognize and respond to a failure of E12-MOVF042A to open

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

1. Respond to a degradation / securing and or tripping of the ‘B’ feedwater pump per ARPs and AOP-006 Condensate and Feedwater Failures.
2. Respond to recirculation loop ‘B’ seal failure
3. Respond to a rupture of recirculation loop ‘B’ per EOP implementation.
4. Respond to reduction in ECCS injection during a LOCA per EOPs.

C. Unit Operator (UO) – RO

1. Respond to a trip of the HPCS pump during an STP run.
2. Respond to a degradation / securing and or tripping of the ‘B’ feedwater pump per ARPs and AOP-006 Condensate and Feedwater Failures.
3. Recognize and respond to recirculation loop ‘B’ seal failure
4. Respond to a rupture of recirculation loop ‘B’ per EOP implementation.
5. Respond to reduction in ECCS injection during a LOCA per EOPs.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
<p>IC-123</p>	<p>Trip of HPCS pump</p> <p>Loss of one feedpump; AOP-006 Condensate and Feedwater Failures</p> <p>Recirculation Pump ‘B’ seal failure</p> <p>LOCA response</p> <p>EOP-1, 4 implementation</p> <p>EOP-2 implementation</p>	<p>Power: 100%</p> <p>Core: EOL, xenon equilibrium</p> <p>Equipment OOS:</p> <ul style="list-style-type: none"> • CRD Pump ‘B’ <p>STPs Due:</p> <p>STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST”</p> <p>LCOs:</p> <ul style="list-style-type: none"> • NONE <p>Evolutions in progress:</p> <ul style="list-style-type: none"> • NONE 	<p>STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST”</p>

V. GENERAL INSTRUCTIONS

Event	IC / Malfunctions / Overrides / Remotes	<i>Cues / Actions</i>
Simulator Setup	<u>INITIAL CONDITION:</u> IC-123	PLANT CONFIGURATION: <ul style="list-style-type: none"> • Verify STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST” is correctly marked up
	<u>TRIGGERS:</u> t1, zdicap5(512) t10, zdicap4(107) t11, rrlwr , -142.0	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
	<p><u>MALFUNCTIONS:</u></p> <ul style="list-style-type: none"> • RHR001A, RHR "A" LOOP INJECTION VALVE, F042A, FAILS • HPCS001, HPCS pump trip, t1, d00:01:00 • ED004B NJS-SWG1B BUS FAULT (480 VAC), t10 • RCS001B, REACTOR RECIRC "B" LOOP RUPTURE, t5 • CRD CRD001A CRD "A" PUMP TRIP, t11 • FWS001A FEEDWATER PUMP "A" TRIP, t11 • FWS001C FEEDWATER PUMP "C" TRIP, t11 • FWS018 FW PMP B LUBE OIL LEAK, t2 • RCS005b Recirc B seal '1b' fails, t4, • RCS005d Recirc B seal '2b' fails, t4 d00:02:00 • MSS001 Steam Leak in Drywell, t4, d00:03:00, s10 	

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Simulator Setup Continued	<u>REMOTE FUNCTIONS:</u> <ul style="list-style-type: none"> • EOP020 EOP-5 ENCL 20 JUMPED, t20 • EOP032 EOP-5 ENCL ENCL 32 JUMPRD, t30 	
	<u>LAMP OVERRIDES:</u> <ul style="list-style-type: none"> • Lo_c11-c001bp-r crd aux oil pmp b ltr OFF • Lo_c11-c001bp-g crd aux oil pmp b ltg OFF • Lo_crtpb-g crd pmp b ltg OFF • Lo_crtpb-a crd pmp b lta OFF • Lo_crtpb-w crd pmp b ltw OFF • Lo_crtpb-r crd pmp b ltr OFF 	
	<u>ANNUNCIATOR OVERRIDES:</u> <ul style="list-style-type: none"> • p680_8a:e_6 Scanner Input FAIL ON t2 	
	<u>SWITCH OVERRIDES:</u> <ul style="list-style-type: none"> • c0011b crd pump b sw STOP • di_fws-MOV109 long cycle recirc sw CLOSE • di_CNS-MOV112 cnds line fill valve CLOSE 	
	FREEZE	Provide Crew with Shift Turnover sheet and reactivity brief for raising reactor power.

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Event 0	RUN	CREW: Board Walkdown and Turnover
<p>Event 1 Description: The CRS directs the UO to perform STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST” commencing at step 7.6</p>		
<p>Event 1 When the crew has assumed the shift.</p>	<p>ROLE PLAY: If contacted as personnel to support the STP inform the control that the HPCS pump is ready to start, individuals standing by for start. Pre start pump checks are satisfactory.</p> <p>If contacted as WMC take report and state you will contact maintenance and get repair package going.</p> <p>If contacted as building operator to investigate breaker report HPCS pump breaker is tripped on overcurrent. No obvious reason for trip evident at the pump.</p>	<p>CRS: Directs ATC to perform STP 203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST”. Reference Tech Specs upon HPCS pump trip T.S 3.5.1 Action Condition B</p> <p>UO: Performs STP-203-6305 “HPCS QUARTERLY PUMP AND VALVE OPERABILITY TEST” commencing at step 7.6 Reference ARP H13-P601/16A/F05</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 2 Description: Feedwater pump P1B motor degrades and the crew either removes it from service or it trips on low lube oil pressure.</p>		
<p>Event 2 T = 15 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>t2, Reactor Feedpump Oil Leak NOTE: the reactor feedpump will either be secured or trip.</p> <p>ROLE PLAY: As Back Panel report that TAMARIS points for FWS-P1B motor and pump bearings in alarm at 181⁰F and they are slowly rising NOTE: If temps are monitored report steady rise to > 185⁰F for the motor bearings but < 195⁰F and > 200⁰F for pump bearings but < 218⁰F.</p> <p>If contacted as Turbine Building operator the following:</p> <ul style="list-style-type: none"> • Oil leak from FWS-P1B • Sump level is visible but below add mark and slowly lowering <p>As WMC take report of FWS-P1B problem and inform the control room that you will inform maintenance and commence investigation.</p> <p>If requested as building operator report feedpump P1A and P1C amps read the same as P680</p>	<p>CRS: Directs operators to refer to:</p> <ul style="list-style-type: none"> - ARP P680-03 C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL - AOP-006 Condensate Feedwater Failures - AOP-0024 Thermal Hydraulic Instabilities <p>Directs power reduction in preparation for removing FWS-P1B from service per GOP-005 and shutdown package.</p> <p>ATC: References:</p> <ul style="list-style-type: none"> - ARP P680-03 C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL - - P680-03-D03 Feedpump B DC Oil Pump Running - - P680-03-E03 Feedpump B AC Oil Pump Running - AOP-006 Condensate Feedwater Failures. <p>Reduces reactor power to support removing feedpump from service</p> <p>UO: References ARP P680-03 C03 RX FWP 1B SUPPLY BRKR PRE TRIP OL and AOP-006 Condensate Feedwater Failures.</p> <p>Stops lube oil system after verifying pump has stopped rotating</p>

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Event 3 Description: “B” Recirculation Pump Seal Failure with small Steam Leak		
Event 4 T = 35 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.	t4, Recirculation pump ‘B’ seal leak NOTE: NJS-SWG1B trips upon isolation attempt ROLE PLAY: If contacted as Work Control or I&C take the report and state that someone will come to the control room shortly	CRS: Directs the implementation of: <ul style="list-style-type: none"> • ARP-P680-04A-D11 • ARP-P680-04A-E11 • ARP-P601-19-A05 • Refer To Technical Specification LCO 3.4.5 and LCO 3.4.7. • Refer To EIP-2-001, Classification Of Emergencies • AOP-001 Reactor Scram • AOP-002 Turbine Trip • Direct the tripping and isolating of recirc pump ‘B’ per <ul style="list-style-type: none"> - SOP-003 Reactor Recirculation System OR, - “Hard Card” OSP-0053 EMERGENCY AND TRANSIENT RESPONSE SUPPORT PROCEDURE ATTACHMENT 19 - ISOLATING RECIRC PUMP ATC: Reference/Implement actions of: <ul style="list-style-type: none"> • ARP-P680-04A-D11 • ARP-P680-04A-E11 • AOP-0001 • SOP-003 or HARD CARD trip and isolate the ‘B’ recirc loop UO: Reference/Implement actions of: <ul style="list-style-type: none"> • ARP-P601-19a-H03 DW Temp High • ARP-P680-04A-D11 • ARP-P680-04A-E11 • ARP-P601-19-A05 REACTOR COOLANT SYS HIGH LEAKAGE RATE

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
<p>Event 4 Description: Reactor Scram and securing recirculation pump ‘B’ with failure of ‘B’ recirculation loop to isolate.</p>		
<p>Event 5 T = 40 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.</p>	<p>ROLE PLAY: As WMC take report of plant condition and state you will make notifications.</p>	<p>CRS: Directs the reference / implementation of:</p> <ul style="list-style-type: none"> • AOP-001 Reactor Scram • AOP-002 Turbine Trip • Direct the tripping and isolating of recirc pump ‘B’ per -SOP-003 OR, “Hard Card” • EOP-001 RPV Control <p>ATC: Reference/Implement actions of:</p> <ul style="list-style-type: none"> • AOP-0001 • SOP-003 or HARD CARD trip and isolate the ‘B’ recirc loop • EOP-001 RPV Control

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Event 6 Description: Rupture of Recirculation Loop 'B'		
Event 6 T = 50 min Or, with lead examiner concurrence, when sufficient crew actions for previous event have been observed.	t5, Recirc Loop 'B' Rupture ROLE PLAY : If requested: t20 for Encl 20 Drywell Cooling t30 for Encl. 32A SDC Injection Valve	CRS: Directs the reference / implementation of: <ul style="list-style-type: none"> • EOP-0001 RPV Control • EOP-04 Alternate Level Control Leg • EOP-04 Emergency Depressurization • EOP-04 RPV Flooding • EOP-0002 Primary Containment Control ATC: Implement the actions of the following as directed by the CRS <ul style="list-style-type: none"> • EOP-0001 RPV Control • EOP-0004 Alternate Level Control • EOP-0004 RPV Flooding • EOP-0002 Primary Containment Control UO: Implement the actions of the following as directed by the CRS <ul style="list-style-type: none"> • EOP-0001 RPV Control • EOP-0004 Alternate Level Control • EOP-0004 RPV Flooding • EOP-0002 Primary Containment Control

Event	IC / Malfunctions / Overrides / Remotes	Cues / Actions
Event 7 Description: RHR A Injection valve E12-F042A Fails to open		
Event 7 T = 50 min	<p>NO TRIGGER REQUIRED.</p> <p>ROLE PLAY : If requested as building operator report that E12-MOVF042A will not open manually and the supply breaker to it EHS-MCC2C BKR 4A is tripped and will not reset.</p>	<p>CRS: Directs the reference / implementation of:</p> <ul style="list-style-type: none"> • EOP ENCLOSURE 32 - DEFEATING SDC INJECTION VALVES ISOLATION INTERLOCKS <p>UO: Implement the actions of the following as directed by the CRS</p> <ul style="list-style-type: none"> • Report E12-MOVF042A RHR A LPCI INJECT valve will not open • Request / Install EOP ENCLOSURE 32 - DEFEATING SDC INJECTION VALVES ISOLATION INTERLOCKS • Fully open E12-MOV53A
WHEN Termination Criteria are met and with Lead Examiner concurrence	FREEZE	TERMINATION CRITERIA: <ol style="list-style-type: none"> 1. E12-MOVF053A full open. 2. RPV water level being recovered and RPV Flooding in progress.

IX. QUANTITATIVE SUMMARY

Total Malfunctions	<u>5</u>	HPCS Pump Trip, Reactor Feedpump B oil leak; Recirc Loop 'B' seal failure, Recirc Loop 'B' rupture, LPCI 'A' injection valve fails to open
Malfunctions after EOP entry	<u>2</u>	Recirc Loop 'B' rupture, LPCI 'A' injection valve fails to open
Abnormal Events	<u>4</u>	AOP-1 (Scram); AOP-0002 (Turbine Main Gen Trip); AOP-0003 Automatic Isolations; AOP-0006 Condensate Feedwater Failures
Major Transients	<u>2</u>	Manual Reactor Scram; Recirculation Loop Rupture
EOPs entered	<u>3</u>	EOP-1; EOP-2; EOP-4
EOP Contingencies used	<u>2</u>	Alternate Level Control, RPV Flooding
Simulator Run Time	<u>70</u>	Minutes
EOP Run Time	<u>30</u>	Minutes
Critical Tasks	<u>1</u>	Core Re-flooding
Tech Specs Exercised	<u>YES</u>	3.5.3, 3.4.5 and 3.4.7

VII. REFERENCES

A. Plant Procedures

1. GOP-0001, Plant Startup
2. ARP-P680-6A-B04
3. ARP-P680-07A-B02
4. ARP-P680-15-A09
5. AOP-0001, Reactor Scram
6. AOP-0002, Main Turbine and Generator Trips
7. AOP-0009, Total Loss of Normal Service Water
8. EOP-0001, RPV Control
9. EOP-0001A, RPV Control -ATWS
10. EOP-0002, Primary Containment Control
11. EOP-0004, Alternate Level Control
12. EOP-0004, RPV Emergency Depressurization
13. OSP-0053, Emergency and Transient Response Support Procedure

B. Technical Specifications and Technical Requirements Manual

