ES-301 Administrative Topics Outline Form ES-301-1

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000

Examination Level (circle one): RO / ***SRO*** Operating Test Number: __1___

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions	Knowledge / Ability	IMPORTANCE	Additional K/A's	ORIGIN	NOTES
A.1	Conduct of Operations	JPM Demonstrate the ability to evaluate plant performance and make operational judgements based on operating characteristics/reactor behavior/and instrument interpretation Perform calculations per GOP-0004 for SLO.	2.1.7	4.4		**NEW**	J05307r0
	Procedure Use and Control	JPM Demonstrate the ability to obtain and verify a controlled procedure copy. Prepare a Comment Only PAR on SOP-0040.	2.1.21	3.2		**NEW**	J25402r0
A.2	Protective Tagging	JPM Identify components to prepare a Red Tag for a component including a sequence of hanging.	2.2.13	3.8		**NEW**	J20102r0
A.3	Radiation Work Permits	JPM Entry and Egress from the Controlled Access Area (CAA). Include entry into a High Radiation Area.	2.3.1	3.0		**NEW**	J60101r0
A.4	Emergency Plan Assessment	JPM Perform the Emergency Plan Classification of a given event and complete the notification short form.[1]	2.4.41	4.1		**Mod**	J97501r2

[1]

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000
Exam Level (circle one): RO / SRO(I) / ***SRO(U)*** Operating Test No.: ___1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
1. 217000 RCIC (N) (S) (A) Reset a RCIC tubine trip with an initiation signal present	II		A2.01 A4.03	3.8 3.4		**NEW**	J20905r0
2. 218000 Automatic Depressurization System (N) (A) (S) Inhibit ADS as directed during ATWS conditions, recognizing a failure of the " B" Logic channel of ADS to inhibit.	III		K4.01 A4.04	3.7 4.1		**NEW**	J10905r0
3. 263000 DC Electrical Distribution (P) (N) Place the Division III 125 VDC Battery Charger in service	VI		K1.02 K4.02 A1.01 A3.01	3.2 3.1 2.5 3.2		**NEW**	J30501r0

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

ES-301 Administrative Topics Outline Form ES-301-1

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000

Examination Level (circle one): ***RO*** / SRO Operating Test Number: __1___

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions	Knowledge / Ability	IMPORTANCE	Additional K/A's	ORIGIN	NOTES
A.1	Conduct of Operations	JPM Demonstrate the ability to evaluate plant performance and make operational judgements based on operating characteristics/reactor behavior/and instrument interpretation Perform calculations per GOP-0004 for SLO.	2.1.7	3.7		**NEW**	J05307r0
	Procedure Use and Control	JPM Demonstrate the ability to obtain and verify a controlled procedure copy. Prepare a Comment Only PAR on SOP-0040.	2.1.21	3.1		**NEW**	J25402r0
A.2	Protective Tagging	JPM Identify components to prepare a Red Tag for a component including a sequence of hanging.	2.2.13	3.6		**NEW**	J20102r0
A.3	Radiation Work Permits	JPM Entry and Egress from the Controlled Access Area (CAA). Include entry into a High Radiation Area.	2.3.1	2.6		**NEW**	J60101r0
A.4	Emergency Operating Procedures	QUESTIONS (2) Demonstrate knowledge of EOP-2 entry conditions and immediate action steps	2.4.1	4.3		**NEW**	Q2-4-1r0

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000

Examination Level (circle one): ***RO*** / SRO Operating Test Number: __1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
1. 217000 RCIC (N) (S) (A) Reset a RCIC tubine trip with an initiation signal present	II		A2.01 A4.03	3.8 3.4		**NEW**	J20905r0
2. 218000 Automatic Depressurization System (N) (A) (S) Inhibit ADS as directed during ATWS conditions, recognizing a failure of the " B" Logic channel of ADS to inhibit.	III		K4.01 A4.04	3.7 4.1		**NEW**	J10905r0

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

ITALIC PRINT INDICATES REVISION FROM ORIGINAL SAMPLE PLAN.

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000

Examination Level (circle one): ***RO*** / SRO Operating Test Number: __1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
3. 209001 Low Pressure Core Spray System (S) (N)	IV		K1.02 K4.07 A4.01	3.4 2.8 3.8		**NEW**	J20504r0
Place the LPCS system in the full flow test mode (Supression Pool to Suppression Pool)							
4. 219000 RHR Suppression Pool Cooling (P) (D)	V		A4.11	3.4		**Bank**	J20002r6
Manually startup RHR " A" in Suppression Pool Cooling from Remote Shutdown Panel							

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000

Examination Level (circle one): ***RO*** / SRO Operating Test Number: __1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
5. 263000 DC Electrical Distribution (P) (N) Place the Division III 125 VDC Battery Charger in service	VI		K1.02 K4.02 A1.01 A3.01	3.2 3.1 2.5 3.2		**NEW**	J30501r0
6. 202001 Recirculation (N) (A) (S) Transfer Recirc Pumps from Fast to Slow Speed (Trip to off of one Recirc Pump).	I		A4.01	3.7 / 3.7	A2.03: 3.6/3.7 A3.07: 3.3/3.3 **202002** A1.01 3.2/3.2 A2.01: 3.4/3.4 A4.07: 3.3/3.2	**NEW**	J05306r0

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000

Examination Level (circle one): ***RO*** / SRO Operating Test Number: __1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
7. 201001 Control Rod Drive Hydraulic (N)(P)(R) Swap Control Rod Drive Drive Water Filters	I		2.1.30	3.9 / 3.4		**NEW**	J05208r0
8. 205000 Shutdown Cooling System (ADHR/RHR) (S) (N) Operate ADHR/SPC and inject into the RPV from the Suppression Pool IAW EOP-0005, Enclosure 35	IV		G 2.1.31 G 2.4.6 EA1.08	4.2 3.1 3.8		**NEW**	J80035r0 EOP enclosure

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

ITALIC PRINT INDICATES REVISION FROM ORIGINAL SAMPLE PLAN.

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000

Examination Level (circle one): ***RO*** / SRO Operating Test Number: __1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
9. 261000 Standby Gas Treatment System (S) Start and Align SBGT Train A to the Auxiliary Building	IX		A4.02 A4.03 A4.09	3.1 3.0 2.7		**NEW**	J25704r0
10. 201005 Rod Control and Information System (C) Bypass RC&IS Interlocks IAW EOP-0005, Enclosure 14	VII		K4.04 A2.06	3.5 3.2		**BANK**	J80014r4

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000
Exam Level (circle one): RO / SRO(I) / ***SRO(U)*** Operating Test No.: ___1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
4. 205000 Shutdown Cooling System (ADHR/RHR) (S) (N) Operate ADHR/SPC and inject into the RPV from the Suppression Pool IAW EOP-0005, Enclosure 35	IV		G 2.1.31 G 2.4.6 EA1.08	4.2 3.1 3.8		**NEW**	J80035r0 EOP enclosure
7. 201001 Control Rod Drive Hydraulic (N)(P)(R) Swap Control Rod Drive Drive Water Filters	I		2.1.30	3.9 / 3.4		**NEW**	J05208r0

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000
Exam Level (circle one): RO / ***SRO(I)*** / SRO(U) Operating Test No.: ___1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
1. 217000 RCIC (N) (S) (A) Reset a RCIC tubine trip with an initiation signal present	II		A2.01 A4.03	3.8 3.4		**NEW**	J20905r0
2. 218000 Automatic Depressurization System (N) (A) (S) Inhibit ADS as directed during ATWS conditions, recognizing a failure of the " B" Logic channel of ADS to inhibit.	III		K4.01 A4.04	3.7 4.1		**NEW**	J10905r0

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

ITALIC PRINT INDICATES REVISION FROM ORIGINAL SAMPLE PLAN.
REVISION 0 6/29/2000

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000
Exam Level (circle one): RO / ***SRO(I)*** / SRO(U) Operating Test No.: ___1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
3. 209001 Low Pressure Core Spray System (S) (N) Place the LPCS system in the full flow test mode (Supression Pool to Suppression Pool)	IV		K1.02 K4.07 A4.01	3.4 2.8 3.8		**NEW**	J20504r0
4. 219000 RHR Suppression Pool Cooling (P) (D) Manually startup RHR " A" in Suppression Pool Cooling from Remote Shutdown Panel	V		A4.11	3.4		**Bank**	J20002r6

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000
Exam Level (circle one): RO / ***SRO(I)*** / SRO(U) Operating Test No.: ___1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
5. 263000 DC Electrical Distribution (P) (N) Place the Division III 125 VDC Battery Charger in service	VI		K1.02 K4.02 A1.01 A3.01	3.2 3.1 2.5 3.2		**NEW**	J30501r0
6. 202001 Recirculation (N) (A) (S) Transfer Recirc Pumps from Fast to Slow Speed (Trip to off of one Recirc Pump).	I		A4.01	3.7 / 3.7	A2.03: 3.6/3.7 A3.07: 3.3/3.3 **202002** A1.01 3.2/3.2 A2.01: 3.4/3.4 A4.07: 3.3/3.2	**NEW**	J05306r0

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

ITALIC PRINT INDICATES REVISION FROM ORIGINAL SAMPLE PLAN.

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000
Exam Level (circle one): RO / ***SRO(I)*** / SRO(U) Operating Test No.: ___1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
7. 201001 Control Rod Drive Hydraulic (N)(P)(R)	I		2.1.30	3.9 / 3.4		**NEW**	J05208r0
Swap Control Rod Drive Drive Water Filters							
8. 205000 Shutdown Cooling System (ADHR/RHR) (S) (N)	IV		G 2.1.31 G 2.4.6 EA1.08	4.2 3.1 3.8		**NEW**	J80035r0
Operate ADHR/SPC and inject into the RPV from the Suppression Pool IAW EOP-0005, Enclosure 35							EOP enclosure

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

Facility: RIVER BEND STATION Date of Examination: 10/30/2000 – 11/9/2000
Exam Level (circle one): RO / ***SRO(I)*** / SRO(U) Operating Test No.: ___1___

System / JPM Title / Type Codes*	Safety Function	Planned Follow-up Questions: K/A/G - Importance - Description	Knowledge / Ability	IMP.	Additional K/A's	ORIGIN	NOTES
9. 261000 Standby Gas Treatment System (S) (A) (N) Start and Align SBGT Train A to the Auxiliary Building	IX		A4.02 A4.03 A4.09	3.1 3.0 2.7		**NEW**	J25704r0
10. 201005 Rod Control and Information System (C) (D) Bypass RC&IS Interlocks IAW EOP-0005, Enclosure 14	VII		K4.04 A2.06	3.5 3.2		**BANK**	J80014r4

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (P)lant, (R)CA

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-053-07, Revision 0

TASK DESCRIPTION: **Administrative Task:** Perform the Calculations in GOP-0004 Single Loop Operation.

K/A REFERENCE & RATING: 2.1.7 3.7/4.4

TASK REFERENCE:

TESTING METHOD: Simulate Performance: ___ Actual Performance: _X_
Control Room: __ Simulator: _X__ In-Plant: ___

COMPLETION TIME: 10 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: N/A

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Perform the Calculations in GOP-0004 Single Loop Operation.

Required Power: Any

IC No.: N/A

Notes: None

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: GOP-0004, Single Loop Operation; Steam Tables, Combustion Engineering.

Required Materials: GOP-0004, Single Loop Operation
Steam Tables, Combustion Engineering
Calculator (simple)

Required Plant Condition: Any

Applicable Objectives:

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

Control Manipulations: None

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

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

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: Reactor Recirc Pump 'B' has tripped due to a failed relay, Recirc Loop flow indicator C51-R614, LOOP A/B FLOW RECORDER did not act as expected when the trip occurred and its readings are suspect, the plant has been stabilized with the following conditions:

- Recirc Loop 'B' discharge valve has been closed for the required time and has been re-opened.
- The plant process computer indicates steam dome pressure is 1014 psig
- Core thermal power is 2107 MWt
- Recirc Loop 'A' B33-R612A, TOTAL FLOW indicates 41.4 mlbm/hr flow
- Recirc Loop 'B' B33-R612B, TOTAL FLOW indicates 0.0 mlbm/hr flow
- Total flow on B33-R613, TOTAL FLOW/ΔPRESSURE indicates 41.4 mlbm/hr flow
- C51-R614, Loop A/B Flow Recorder, Loop 'A' indicates 28.4 kgpm flow
- C51-R614, Loop A/B Flow Recorder, Loop 'B' indicates 1.4 kgpm flow
- Process computer indicates Loop 'A' temperature is 528°F
- Process computer indicates Loop 'B' temperature is 519°F
- Process point B33NA005 is 10.930 mlbm/hr flow
- Process point B33NA006 is 10.928 mlbm/hr flow
- Process point B33NA007 is 0.307 mlbm/hr flow
- Process point B33NA008 is 0.330 mlbm/hr flow

Initiating Cue: The OSS has directed you to independently verify the STA, and CRS calculations contained in GOP-0004, Single Loop Operation for step 4.1 (show the calculation for step 4.1), step 4.3.2 (show the calculation for step 4.3.2), and step 7.1 (show the calculation for step 7.1) use the applicable values given in the Initial Conditions for your calculations.

RBS JOB PERFORMANCE MEASURE

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__1. Calculate GOP-0004, Step 4.1	Candidate indicates 72.8% +/-0.1% 2107 MWt / 2894 MWt = 0.72806	_____	**Note to Evaluator:** This value is within the limits of single loop operation.
__*__2. Calculate GOP-0004, Step 4.3.2	Candidate indicates 28.8 kgpm +/- 0.1 kgpm 10.930 x 0.02112 x 124.68 = 28.781 kgpm OR 10.928 x 0.02112 x 124.68 = 28.776 kgpm	_____	**Note to Evaluator:** This value is within the limits of single loop operation.
__*__3. Calculate GOP-0004, Step 7.1	Candidate uses calculation in step 4.1 OR performs same calculation again, and indicates comparative value 32.5% (+/- 0.1%) 72.8% > (2.5 x ((41.4 mlbm/hr/84.5 mlbm/hr)x 100%)-90 72.8% > (2.5 x 49.0%)-90 72.8% > 122.5% - 90 72.8% > 32.5%	_____	**Note to Evaluator:** This value is within the limits of single loop operation. **Note to Evaluator:** The thermal power calculation in step 4.1 is used to compare in step 7, **this is NOT Double Jeopardy** because both calculations are critical steps, a failure to calculate properly on the first case constitutes JPM failure, failing the JPM **again** for this will not effect the final outcome (failure).

Termination Criteria: Calculations Complete.

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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: _____

RBS JOB PERFORMANCE MEASURE

***Error! Reference source not found.**

RIVER BEND STATION
ERROR! REFERENCE SOURCE NOT FOUND.
***ERROR! REFERENCE SOURCE NOT FOUND.

**SINGLE LOOP OPERATION*

PROCEDURE NUMBER:	***ERROR! REFERENCE SOURCE NOT FOUND.
REVISION NUMBER:	***ERROR! REFERENCE SOURCE NOT FOUND.
Effective Date:	*_____

NOTE : SIGNATURES ARE ON FILE.

*INDEXING INFORMATION

TABLE OF CHANGES

LETTER DESIGNATION TRACKING NUMBER	DETAILED DESCRIPTION OF CHANGES

TABLE OF CONTENTS

1 PURPOSE

1.1 Provide guidelines for single Recirculation Loop Operation.

2 REFERENCES

2.1 Technical Requirements Manual

2.2 RBS Technical Specifications

2.3 ADM-0003, Procedure Preparation, Review And Approval

2.4 ADM-0006, Thermal Hydraulics Stability Controls

2.5 AOP-0024, Thermal Hydraulic Stability Controls

2.6 GOP-0001, Plant Startup

2.7 GOP-0002, Power Decrease/Plant Shutdown

2.8 OSP-0007, Preparation Of Operations Section Procedure

2.9 SOP-0003, Reactor Recirculation

2.10 STP-000-0001, Daily Operating Logs

2.11 Commitment 00328, Preparation of GOP's Per FSAR

2.12 MR 95-037

2.13 MR 96-0004

2.14 SER 7-95

2.15 GE Document 24A1912, Jet Pump Cavitation (SLO)

2.16 ISEG OER 89-004, Single Loop Operation

2.17 RICSIL NO. 006 SUPP 2 and APMS-91-150, Single Loop Operation

2.18 ER 97-0172

3 PRECAUTIONS

3.1 See Attachments 1 and 2 for appropriate precautions.

4 RECORDS

4.1 Record disposition (i.e. handling, interim storage, and transfer to PPF) shall be in accordance with ADM-0006, Control Of Plant Records.

SINGLE LOOP OPERATION

INITIATED	**COMPLETED**
ON: DATE/TIME: today	ON: DATE/TIME: _____
BY: NCO *SIGNED* / 0001 (Signature) KCN	BY: NCO _____ / _____ (Signature) KCN
OSS *SIGNED* / 1001 (Signature) KCN	OSS _____ / _____ (Signature) KCN

OTHER DOCUMENTS ATTACHED: _____

REMARKS: _____

3.0 PRECAUTIONS

3.1 During Single Loop Operation (SLO) do not exceed Recirculation Loop Flow rate of 33 kgpm. (TR 3.4.1.1.1)

3.2 During Single Loop Operation the Recirculation System Loop flow controllers are to be kept in MANUAL. (TR 3.4.1.1.3)

3.3 During Single Loop Operation Reactor Power shall not exceed 83% (2402 MWTH) rated thermal power. (TS 3.4.1.1.2)

3.4 During Single Loop Operation, an administrative limit of 0.99 shall be applied to MFLCPR. If extended single loop operation is expected, Reactor Engineering may implement a change to 3D MONICORE that automatically implements this administrative limit, whereby the MFLCPR limit of 1.000 would be valid.

3.5 When in Single Loop Operation process computer point B33NA01V should be used to determine core flow. B33-R613 TOTAL CORE FLOW (Red Pen) may be inaccurate in this configuration and should not be used.

3.6 During Single Loop Operation frequently monitor Thermal Power VS Core Flow curves in AOP-0024, Thermal Hydraulics Stability Controls.

3.8 It is prudent to begin placing the APRM FCTR Card SLO/TLO Toggle Switches in SLO and performing STP-505-5203(4) Division 1(2) Flow Control Trip Reference (FCTR) Card Switch Verification as soon as possible. (LCO 3.4.1.B.5).

SINGLE LOOP OPERATION

3.0 **PRECAUTIONS** (Continued)

3.9 Single loop operations with less than 40% rated core flow could result in exceeding the 50°F ΔT limit between the two recirculation loops due to insufficient flow through the idle loop. Increased monitoring of recirculation loop temperatures will be required to ensure the idle pump can be restarted without requiring a plant shutdown. (Ref. 2.14)

STEP		INITIALS DATE/TIME
	NOTE *If plant conditions prevent notification prior to Single Loop Operation, The General Manager-Plant Operations, or in his absence the Manager-Operations, shall be notified as soon as possible.*	
1	Obtain the approval of the General Manager-Plant Operations, or in his absence the Manager - Operations prior to entering Single Loop Operation.	**L**
	NOTE *Steps 2 and 3 can be performed prior to shutting down the recirc pump.*	
2	One B33-C001A(B), RECIRCULATION PUMP, is shutdown per SOP-0003, Reactor Recirculation, and immediate actions of AOP-0024, Thermal Hydraulic Stability Controls, are carried out. ***B*** *Recirc Pump Secured*	**L**

SINGLE LOOP OPERATION

STEP		INITIALS DATE/TIME
	NOTE *Process computer point B33NA01V should be used to determine core flow when one recirc pump is OFF. B33-R613, TOTAL CORE FLOW, (Red Pen) may be inaccurate in this configuration and should not be used.* *Step 3 may be required to be performed every 15 minutes during a startup or a power increase until greater than 30% thermal power and greater than 50% recirculation loop flow is obtained.* *Step 3 is applicable during single loop operation when either reactor thermal power is less than 30% of rated thermal power (868 MWT) or recirculation loop flow in the operating loop is less than 50% of rated flow (16.5 kgpm).*	
3	Within 15 minutes prior to EITHER an increase in reactor thermal power OR an increase in recirculation loop flow rate, perform DATA SHEET 1, Differential Temperature Verification . (SR 3.4.11.8 and SR 3.4.11.9)	**L**
	NOTE *Steps 4, 5, and 6 should be performed concurrently but completed within their respective time limits.* *Record initial reading here then every 12 hours on STP-000-0001, Daily Operating Logs.*	
4	Within one hour of entering Single Loop Operation, verify the following:	
	4.1. Thermal Power is less than or equal to 83% Rated Thermal Power (2402 MWTH) _____CMWTH=_____% ≤83% 2894 (TSR 3.4.1.1.2)	_____
	AND	
	4.2. At H13-P680, B33-HYVF060A and B33-HYVF060B, FLOW CONT VALVE, is in LOOP MANUAL. (TSR 3.4.1.1.3)	**L**

SINGLE LOOP OPERATION

STEP		INITIALS DATE/TIME
	4.3. Total loop flow in running loop is less than 33 kgpm using one of the following methods (N/A method not used): (TSR 3.4.1.1.1) 1. Obtain flow from C51-R614, LOOP A/B FLOW RECORDER, for the operating loop. _____ kgpm 2. Use computer point for the operating loop (LOOP A - B33NA005 or B33NA006; LOOP B - B33NA007 or B33NA008) and convert from mlbm/hr to kgpm using the following formula: _____ (flow) x _____ (sv) x (124.68) = _____ (kgpm) WHERE: flow = loop flow from computer point in mlbm/hr. sv = specific volume from steam tables (Vf) (dependent on loop temp) in ft^3/lbm.	**N/A** _____
5	Within 24 hours of Single Loop Operation perform the following: (LCO 3.4.1.B.3, TS 3.2.1, and LCO 3.4.1.B.4, 3.2.2) 5.1. Verify on a monitor case edit that the Correction Factor for MAPRAT is in accordance with the COLR for single loop operation, and the option flag indicates SINGLE LOOP. It may be necessary to demand a monitor case if it has not executed automatically. **NOTE** *An administrative limit of 0.99 shall be applied to MFLCPR. This limit may be applied by the computer, during extended single loop operation. Reactor Engineer shall be consulted if in single loop operation for an extended period of time (Greater than 12 hours) to determine if the limit has been applied in the computer.* 5.2 Verify on a monitor case edit that MFLCPR is less than or equal to 0.99, OR less than or equal to 1.000 if limit was changed in the 3D MONICORE computer by Reactor Engineering.	**L** **L**

SINGLE LOOP OPERATION

STEP		INITIALS DATE/TIME
6	Within 24 hours of entering Single Loop Operation verify APRM SLO/TLO Toggle Switches are in SLO and STP-505-5203(4) Division 1(2) Flow Control Trip Reference (FCTR) Card Switch Verification are complete.(LCO 3.4.1.B.5) Check off when complete: A B C D E F G H	_____ ___
7	Refer to Attachment 3, RBS Single Loop Operation Power/Flow Map, during power changes to prevent entry into Monitored or Restricted Regions. 7.1. Confirm that Thermal Power (%) is greater than [2.5 X (Core flow in %) - 90] to avoid excessive cavitation of the jet pumps.	
8	Refer to AOP-0024, Core Thermal Hydraulics Stability Controls, for actions if the regions are entered.	**L**
9	WHEN conditions permit, THEN activate the core monitor as desired.	

RETURN TO TWO LOOP OPERATION

INITIATED	**COMPLETED**
ON: DATE/TIME:_____	ON: DATE/TIME:_____
BY: NCO_____/_____ (Signature) KCN	BY: NCO_____/_____ (Signature) KCN
OSS_____/_____ (Signature) KCN	OSS_____/_____ (Signature) KCN

OTHER DOCUMENTS ATTACHED:_____

_____

_____

REMARKS:_____

_____

_____

_____

_____

_____

_____

_____

3.0 PRECAUTIONS

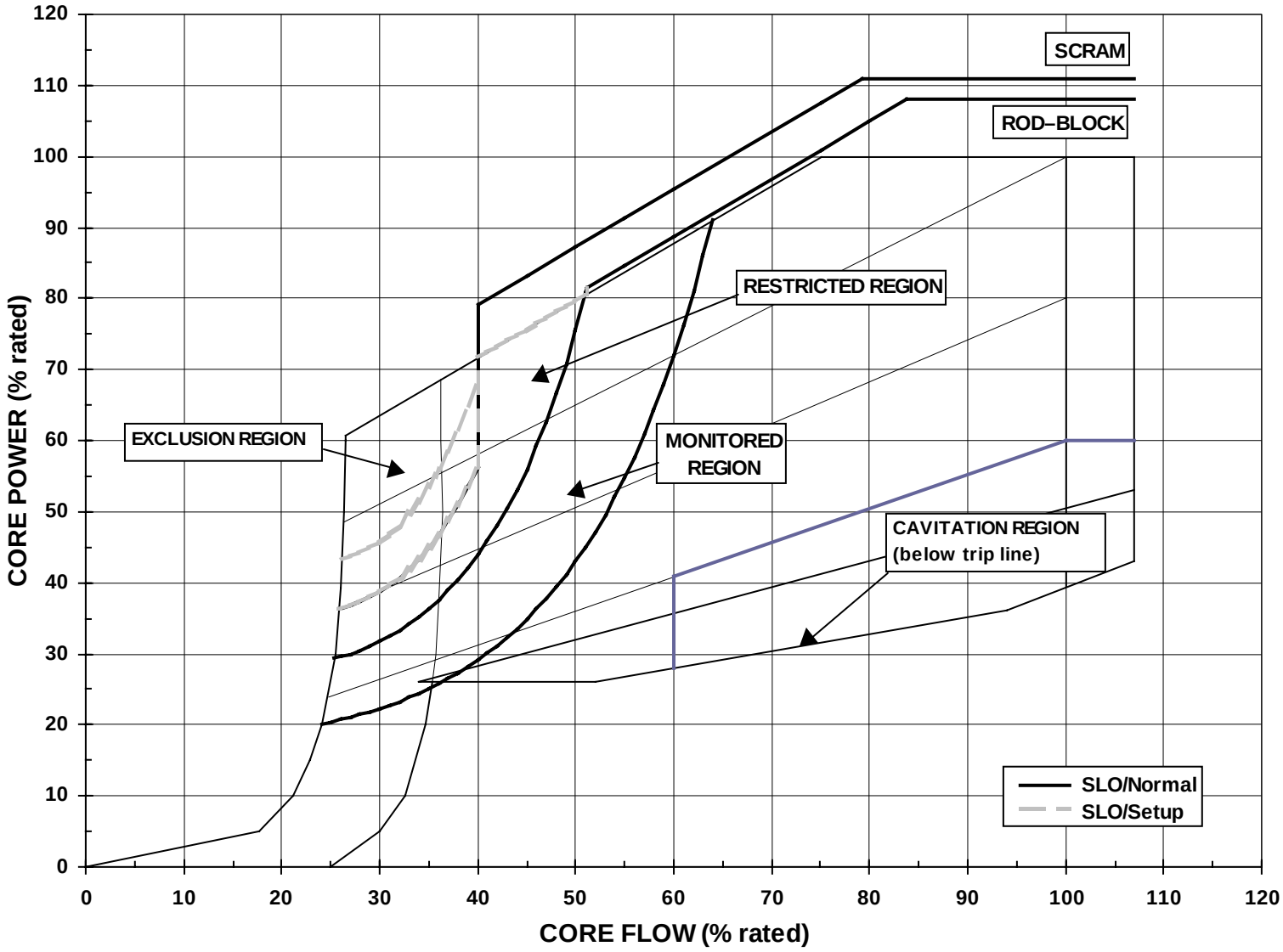
3.1 During Single Loop operation frequently monitor Thermal Power Vs Core Flow curves in AOP-0024, Thermal Hydraulics Stability Controls.

3.2 During performance of Step 2.1 it is anticipated that the plant will approach the Restricted Region of the Power/Flow map as defined in AOP-0024, Thermal Hydraulics Stability Controls. Therefore if core conditions allow, or can be adjusted to ensure FCBB is less than 1.0, then performance of Step 1 is recommended. If the Restricted Region is not entered, Step 1 can be skipped at the OSS discretion.

RETURN TO TWO LOOP OPERATION

STEP		INITIALS DATE/TIME
1	IF performance of Step 2.1 will place the plant into the Restricted Region of the Power/Flow map as defined in AOP-0024, Thermal Hydraulic Stability Controls THEN prior to entering the Restricted Region perform the following : 4.2 Verify FCBB is less than or equal to 1.000.(TS 3.2.4) 4.3 Place each APRM FCTR in 'Setup' by depressing the Normal/Setup pushbutton as necessary to alternate between Normal & Setup arrays until the Normal/Setup LED indication light is Yellow indicating that the 'Setup' trip reference boundaries are in effect.	_____ _____
2	To prevent excessive thermal gradients and possible false pump starts, within 15 minutes prior to attempted start of an idle recirculation loop, ensure the following temperature differentials and core flow are within the limits below: 2.1 Difference between the bottom head coolant temperature and the reactor pressure vessel (RPV) coolant temperature is less than or equal to 100°F. (not applicable when Reactor steam dome pressure is less than 25 psig) (SR 3.4.11.3) 2.2 Difference between the reactor coolant temperature in the recirculation loop to be started and the RPV coolant temperature is less than or equal to 50°F. (SR 3.4.11.4) 2.3 The operating recirculation loop flow rate is less than or equal to 16,500 gpm. (TSR 3.4.11.2.1)	_____ _____ _____
3	Restart the idle recirculation pump per SOP-0003, Reactor Recirculation.	
4	Verify APLHGR Limits are restored to dual loop operating limits as follows: (TS 3.2.1) When in dual loop confirm that the option flag indicates DUAL LOOP mode on a monitor case edit.	
5	Restore APRM FCTR SLO/TLO Toggle Switches to TLO and I&C complete STP-505-5203(4) Division 1(2) Flow Control Trip Reference (FCTR) Card Switch Verification are complete. (LCO 3.4.1.B.5) Check off when complete: A B C D E F G H	
6	Activate the core monitor as needed.	
7	Refer to GOP-0001, Plant Startup, or GOP-0002, Power Decrease/Plant Shutdown, for further power maneuvering.	

RBS SINGLE LOOP OPERATION POWER/FLOW MAP



DIFFERENTIAL TEMPERATURE VERIFICATION

TIME	REACTOR POWER		RECIRC LOOP FLOW B33-R614 ***		RECIRC LOOP SUCTION TEMP B33-R604 PT 1 and 2 ****		RX COOLANT PRESS C33-R605 OR C33NA001	STEAM DOME TEMP CONVERSION OR B21NA006	BOTTOM HEAD DRAIN TEMP B21-TR643 PT 4 OR G33NA001	OPERATOR INITIALS	SS/COG INITIALS
	MWT	%	A kgpm	B kgpm	A	B					

ACCEPTANCE CRITERIA

1. ≤100°F between RPV temperature and bottom head drain temperature (SR 3.4.11.8)

2. <50°F between the reactor coolant within the loop not in operation and the coolant in the reactor pressure vessel ** (SR 3.4.11.9)

** With one recirculation loop not in operation and isolated, the differential temperature requirements are not applicable.

*** or use Computer Points B33NA005 or B33NA006 (A loop) or B33NA007 or B33NA008 (B loop) and convert mlbm/hr to kgpm per Step 4.c.2 of Attachment 1.

**** Computer Points B33NA033 and B33NA035 or B33NA034 and B33NA036 may be used.

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: Reactor Recirc Pump 'B' has tripped due to a failed relay, Recirc Loop flow indicator C51-R614, LOOP A/B FLOW RECORDER did not act as expected when the trip occurred and its readings are suspect, the plant has been stabilized with the following conditions:

- Recirc Loop 'B' discharge valve has been closed for the required time and has been re-opened.
- The plant process computer indicates steam dome pressure is 1014 psig
- Core thermal power is 2107 MWt
- Recirc Loop 'A' B33-R612A, TOTAL FLOW indicates 41.4 mlbm/hr flow
- Recirc Loop 'B' B33-R612B, TOTAL FLOW indicates 0.0 mlbm/hr flow
- Total flow on B33-R613, TOTAL FLOW/ΔPRESSURE indicates 41.4 mlbm/hr flow
- C51-R614, Loop A/B Flow Recorder, Loop 'A' indicates 28.4 kgpm flow
- C51-R614, Loop A/B Flow Recorder, Loop 'B' indicates 1.4 kgpm flow
- Process computer indicates Loop 'A' temperature is 528°F
- Process computer indicates Loop 'B' temperature is 519°F
- Process point B33NA005 is 10.930 mlbm/hr flow
- Process point B33NA006 is 10.928 mlbm/hr flow
- Process point B33NA007 is 0.307 mlbm/hr flow
- Process point B33NA008 is 0.330 mlbm/hr flow

Initiating Cues: The OSS has directed you to independently verify the STA, and CRS calculations contained in GOP-0004, Single Loop Operation for step 4.1 (show the calculation for step 4.1), step 4.3.2 (show the calculation for step 4.3.2), and step 7.1 (show the calculation for step 7.1) use the applicable values given in the Initial Conditions for your calculations.

Termination Criteria: Calculations Complete.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-201-02, Revision 0

TASK DESCRIPTION: Administrative Task: Preparation for tag out and draining of SLS*STRT1B, Standby Liquid Control Pump 'B' Suction Strainer.

K/A REFERENCE & RATING: 2.2.13 3.6/3.8

TASK REFERENCE:

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

COMPLETION TIME: 15 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: N/A

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Administrative Task: Manually tag out SLS*STRT1B, Standby Liquid Control Pump 'B' Suction Strainer.

Required Power: N/A

IC No.: N/A

Notes: None

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: PID-27-16A; SOP-0028, STANDBY LIQUID CONTROL; ADM-0027, PROTECTIVE TAGGING

Required Materials: PID-27-16A; SOP-0028, STANDBY LIQUID CONTROL; ADM-0027, PROTECTIVE TAGGING

Required Plant Condition: Any

Applicable Objectives:

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

Control Manipulations: None

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

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: The tagging computer has suffered a system failure that cannot be immediately repaired. During a pump run testing just completed, SLC pump 'B' had abnormal suction pipe noise and vibration when operating, the suction strainer is suspect.

Initiating Cue: To expedite trouble shooting, you are to prepare a list of components to tag-out for SLS*STRT1B Standby Liquid Control Pump 'B' Suction Strainer, include the position and sequence of tag placement for draining and inspection.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__1. Tag Control Room Control switch Tag EHS-MCC 2B Breaker 2C pump motor	Tag Control Room Control switch – neutral and covered. EHS-MCC 2B Bkr 2C pump motor – open/off.	_____	**Note to examiner:** Tagging the cover is not critical, task can be safely done without this tag. These can be done in any order but prior to next step.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__3. Pump Discharge isolation (down stream of strainer) Pump Suction and Strainer upstream Isolation	Tag Closed C41-VF003B Tag Closed C41-VF002B.	_____	These can be done in any order but prior to next step.
__*__4. Drain strainer for inspection.	Remove cap and open SLS-V3001 (drain), And remove cap and open SLS-V28 (vent)	_____	These steps to be accomplished last.

Termination Criteria: Components identified and hanging sequence and draining identified.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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 tagging computer has suffered a system failure that cannot be immediately repaired, during a pump run testing just completed SLC pump 'B' had abnormal suction pipe noise and vibration when operating, the suction strainer is suspect.

Initiating Cues: To expedite trouble shooting, you are to prepare a list of components to tag-out for SLS*STRT1B Standby Liquid Control Pump 'B' Suction Strainer, include the position and sequence of tag placement for draining and inspection.

Termination Criteria: Components identified and hanging sequence and draining identified.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-254-02, Revision 0

TASK DESCRIPTION: **Administrative Task:** Obtain an Official Work Copy of SOP-0040 and Wright a PAR.

K/A REFERENCE & RATING: 2.1.21 3.1/3.2

TASK REFERENCE:

TESTING METHOD: Simulate Performance: ___ **Actual Performance: __X__**
Control Room: __ Simulator: ____ **In-Plant: __X__**

COMPLETION TIME: 27 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: Administrative Performance

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE
SIMULATOR SETUP SHEET

Task Description: **Administrative Task:** Obtain an Official Work Copy of SOP-0040 and Wright a PAR.

Required Power: N/A

IC No.: N/A

Notes: N/A

RBS JOB PERFORMANCE MEASURE
DATA SHEET

References for Development: SOP-0040, HYDROGEN MIXING, PURGE, RECOMBINERS, AND IGNITORS; ADM-0006, CONTROLLED DOCUMENTS AND PLANT RECORDS; RBNP-0001, CONTROL AND USE OF RBS PROCEDURES

Required Materials: RBNP-0001, CONTROL AND USE OF RBS PROCEDURES

Candidate may also use a calculator, but is not required.

Required Plant Condition: Any

Applicable Objectives:

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

Control Manipulations: N/A

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

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

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: You have been designated to improve SOP-0040, HYDROGEN MIXING, PURGE, RECOMBINERS, by eliminating the opportunity to make a mathematical error while performing in a more stressful environment.

Initiating Cue:

Obtain an Official Work Copy of SOP-0040, HYDROGEN MIXING, PURGE, RECOMBINERS,
Verify it is current including any approved outstanding changes,
Wright a Comment (CM) PAR to change the method of determining Initial Hydrogen Recombiner kW setting from a calculation to a Look-up by doing the following:

- Replace the steps in SOP-0040 for determining Initial Hydrogen Recombiner kW setting with one step that states "Determine the required Recombiner Power Setting by using Attachment 5, Recombiner Power vs Containment Pressure" (or words to this effect).
- Rename Attachment 5, from "RECOMBINER POWER CORRECTION FACTOR VS CONTAINMENT PRESSURE CURVE" to "RECOMBINER POWER VS CONTAINMENT PRESSURE".
- Rename the vertical axis from "PRESSURE FACTOR (CP)" to "RECOMBINER POWER (kW)".
- Replace the Cp factors on the vertical axis with kW by multiplying the Cp number by 43KW, do not round off calculations.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1. Obtain an Official Work Copy of SOP-0040, HYDROGEN MIXING, PURGE, RECOMBINERS	SOP-0040, HYDROGEN MIXING, PURGE, RECOMBINERS stamped in red OFFICIAL WORK COPY.	____	
* 2. Verify it is current including any approved outstanding changes	This can be done by phone call to CIRC, if the copy made and stamped by CIRC this is already accomplished, OR this can be looked up on NORMS database (computer based system).	____	
* 3. Wright a Comment (CM) PAR to change the method of determining Initial Hydrogen Recombiner kW setting	The PAR should be evaluated against the one attached to this JPM, the candidate may attach other parts of the procedure that reference Attachment 5, or they may attach the entire procedure	____	**WHEN** obtaining a tracking number from the ASG, **THEN:** **CUE:Use the words NRC EXAM for a tracking number.** **WHEN** the candidate indicates they are done filling out the PAR, **THEN:** **CUE: Submit the PAR to me (the examiner, do not submit to the ASG).**

Termination Criteria: PAR form complete with attached marked up procedure pages.

RBS JOB PERFORMANCE MEASURE
VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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: _____

ENTERGY

PAR

TRACKING NO. NRC EXAM

PAGE _____ OF _____

PROCEDURE ACTION REQUEST

PROCEDURE NO	CURRENT REV	PROCEDURE TITLE
SOP-0040	10a (**note to evaluator:** this may change prior to exam)	HYDROGEN MIXING, PURGE, RECOMBINERS, AND IGNITORS

TYPE OF ACTION:

❒ PROCEDURE REVISION (PR)
❒ NEW PROCEDURE (NP)
❒ CHANGE NOTICE (CN)
❒ OTHER
❒ EDITORIAL CHANGE (EC) ❒ INCORP EC IMMEDIATELY
■ COMMENT (CM)
❒ CANCEL PROCEDURE (CX)

Change Notice (CN) is not allowed if there is a Change of Intent

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

For detail of procedure change, see attached (**note to evaluator:** the candidate may apply the detail that is given in the JPM describing the change, this is acceptable but mark-up is expected).	**Reason for change:** eliminate the opportunity to make a mathematical error while performing in the more stressful conditions of eliminating hydrogen from containment post LOCA (or words to this effect).

CN SAFETY EVALUATION SCREENING REVIEWER (*KCN / DATE*)_____
Must be 50.59 qualified

(Attach applicable forms from LI-101)

CHECKLIST:

❒ ACCREDITED TRAINING PROGRAM AFFECTED *(Refer toR-SAD-TQ-005)*
❒ TRAINING REQUIRED ❒ BEFORE ISSUE *or* ❒ AFTER ISSUE

❒ CHANGE TO THE TECH SPEC / STP/ LSFT CROSS REFERENCE MATRIX *(Attach change request from ADM-0015 if applicable)*
❒ VERIFY LICENSEE COMMITMENTS *(All changes)*
❒ CROSS DISCIPLINE REVIEW

REVIEW AND APPROVAL:

	SIGNATURE / KCN / DATE		*SIGNATURE / KCN / DATE*
PREPARER	*Signed / 0000 / mo/dy/yr*	VALIDATION	_____
SUPV/TECH VERIF*	_____	FRC REVIEW	_____
L-SRO *(CN Only)*	_____	FRC MEETING NO	_____
APPROVAL	_____	PROOFER *(CN Incorp)*	_____

**(Must be an individual other than the preparer)*

EFFECTIVE DATE:

4.3 Startup of the Hydrogen Recombiners

NOTE

All switch operations will take place at panel H13-P808.

4.3.1. Turn the HYDROGEN RECOMBINER A(B) POWER OUTPUT switch to ON.

4.3.2. Read the Post-LOCA Containment Pressure from one of the indications listed below and determine from plant operating records the Pre-LOCA Containment Temperature.

INDICATOR	PANEL
CMS-ES45A	H13-P819
CMS-ES45B	H13-P820
CMS-PR2A, Blue Pen	H13-P808

~~4.3.3. Determine Pressure Factor (Cp) using Error! Reference source not found.,~~ **~~Recombiner Power Correction Factor vs Containment Pressure.~~**

~~4.3.4. Determine the required Recombiner Power Setting by multiplying the Reference Power, 43 KW, times Cp.~~

(Re-number) Determine the required Recombiner Power Setting by using **Attachment 5, Recombiner Power vs Containment Pressure.**

NOTE

Hydrogen Recombiner Kilowatt Meter Indication lags the Potentiometer. When adjusting Recombiner Power, the potentiometer should be adjusted incrementally to allow the Kilowatt Meter Indication to keep pace with the potentiometer.

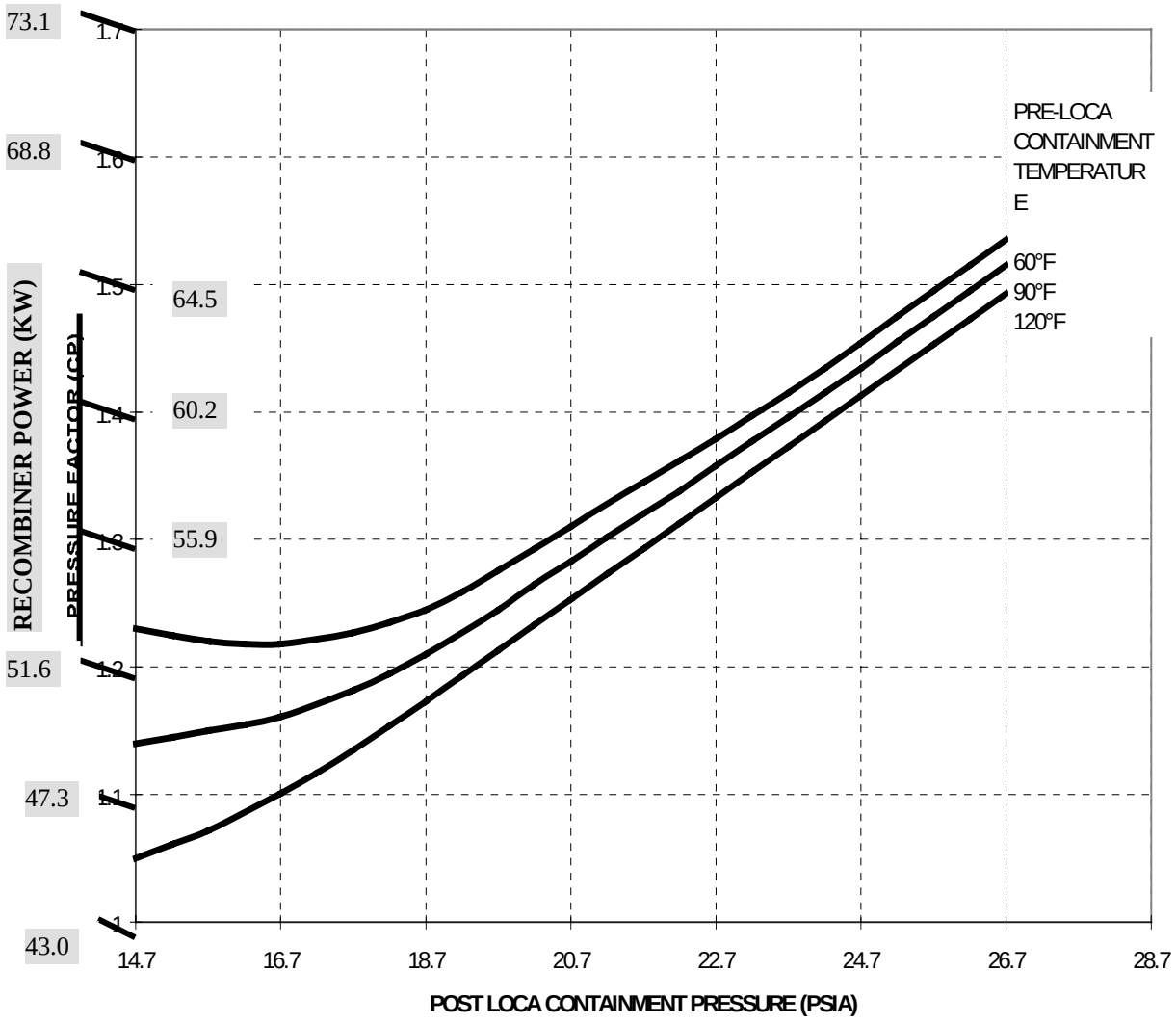
4.3.5. Turn the HYDROGEN RECOMBINER A(B) KILOWATT CONTROL Potentiometer clockwise until 5 KW is obtained on the HCS-WM10A/B, HYDROGEN RECOMBINER 1A(1B) KILOWATTS. Hold at this power level for 10 minutes.

4.3.6. Turn the HYDROGEN RECOMBINER A(B) KILOWATT CONTROL Potentiometer clockwise until 10 KW is obtained on the HCS-WM10A/B, HYDROGEN RECOMBINER 1A(1B) KILOWATTS. Hold at this power level for 10 minutes.

ATTACHMENT 5
PAGE 1 OF 1

~~**RECOMBINER POWER CORRECTION FACTOR VS CONTAINMENT PRESSURE CURVE**~~

RECOMBINER POWER VS CONTAINMENT PRESSURE



JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: You have been designated to improve SOP-0040, HYDROGEN MIXING, PURGE, RECOMBINERS, by eliminating the opportunity to make a mathematical error while performing in a more stressful environment.

Initiating Cues:

Obtain an Official Work Copy of SOP-0040, HYDROGEN MIXING, PURGE, RECOMBINERS,

Verify it is current including any approved outstanding changes,

Wright a Comment (CM) PAR to change the method of determining Initial Hydrogen Recombiner kW setting from a calculation to a Look-up by doing the following:

- Replace the steps in SOP-0040 for determining Initial Hydrogen Recombiner kW setting with one step that states "Determine the required Recombiner Power Setting by using Attachment 5, Recombiner Power vs Containment Pressure" (or words to this effect).
- Rename Attachment 5, from "RECOMBINER POWER CORRECTION FACTOR VS CONTAINMENT PRESSURE CURVE" to "RECOMBINER POWER VS CONTAINMENT PRESSURE".
- Rename the vertical axis from "PRESSURE FACTOR (CP)" to "RECOMBINER POWER (kW)".
- Replace the Cp factors on the vertical axis with kW by multiplying the Cp number by 43KW, round calculations to the nearest tenth of a kW.

Termination Criteria: PAR form complete with attached marked up procedure pages.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-601-01, Revision 0

TASK DESCRIPTION: Administrative Task: Entering a High Radiation Area for valve position verification.

K/A REFERENCE & RATING: 2.3.1 2.6/3.0

TASK REFERENCE:

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

COMPLETION TIME: 15 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: N/A

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Administrative Task: Entering a High Radiation Area for valve manipulation.

Required Power: N/A

IC No.: N/A

Notes: None

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: GET 2; RWP 00-1202-01, Authorized To Enter LHRA, ARA, HCA

Required Materials: RWP 00-1202-01

Required Plant Condition: Plant Operating Off-Gas in service

Applicable Objectives:

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

Control Manipulations: None

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

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

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: Following Off-Gas Dryer Chiller inspection, verifying valve line-up prior to placing in use, plant at 100% power with Off-Gas in service.

Initiating Cue: You are required to verify N64-VF099B, DRYER-CHILLER "B" GLYCOL INLET ISOL is open, this valve is located on Dryer Skid 'B'.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. Review High Radiation RWP 00-1202-01	RWP 00-1202-01	_____	
__*_2. Obtain an EAD and log in on computer.	EAD log in successfully complete. Dose settings 50 mr, and 1500 mr/hr	_____	
__*_3. Review Task with Radiation Protection.	Discussed with RP.	_____	
___4. Become aware of Radiological conditions.	Review survey maps OR discuss with RP.	_____	
___5. Observe all postings.		_____	
___6. Enter room and as quickly as possible locate valve.	ALARA	_____	**CUE: Simulate this.**

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___7. Verify valve open.	Moves valve in close direction slightly then re-opens.	_____	**CUE: Simulate this.**
__*_8. Exit CAA	Count out through PCM1B, successfully exit CAA.	_____	
___9. Sign off RWP 00-1202-01.	Computer reports dose, and max dose rate.	_____	

Termination Criteria: N64-VF099B, DRYER-CHILLER "B" GLYCOL INLET ISOL verified open.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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: Following Off-Gas Dryer Chiller inspection, verifying valve line-up prior to placing in use, plant at 100% power with Off-Gas in service.

Initiating Cues: You are required to verify N64-VF099B, DRYER-CHILLER "B" GLYCOL INLET ISOL is open, this valve is located on Dryer Skid ‘B’.

Termination Criteria: N64-VF099B, DRYER-CHILLER "B" GLYCOL INLET ISOL verified open.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-975-01 Rev. 2

TASK DESCRIPTION: Classify an event.

K/A REFERENCE & RATING: 295016 G2 3.1/4.5
G11 4.1/4.2

TASK REFERENCE: 301001005003
301011005003

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

COMPLETION TIME: 10 minutes

MAX TIME: N/A

JOB LEVEL: SRO

TIME CRITICAL: NO

EIP CLASSIFICATION REQUIRED: YES

PRA RISK DOMINATE: NO

ALTERNATE PATH (FAULTED): NO

SAFETY FUNCTION AREA N/A

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Classify an event.

Required Power: N/A

IC No.: ANY

Notes:

The performer has 15 minutes, from the classification of the event, to complete the notification form for the communicator to transmit.

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development:	EIP-2-001, CLASSIFICATION OF EMERGENCIES EIP-2-007, PROTECTIVE ACTION RECOMMENDATION GUIDELINES	
Required Materials:	EIP-2-001, CLASSIFICATION OF EMERGENCIES Notification Message Form (short form) EIP-2-007, PROTECTIVE ACTION RECOMMENDATION GUIDELINES	
Required Plant Condition:	N/A	
Applicable Objectives:	ETT-032 ETT-032R ETT-023 ETT-023R	obj. 4 obj. 4 obj. 8 obj. 8
Safety Related Task:	(If K/A less than 3.0)	
Control Manipulations:	N/A	

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

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

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

As the Shift Superintendent, Security has called you to inform you an assault on the plant is underway. During the phone conversation, armed, unauthorized personnel enter the Main Control room.

Initiating Cue:

As the Shift Superintendent and Emergency Director, classify the event and complete the appropriate notification short form.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. Review Emergency Action Levels for event classification.	EIP-2-001 reviewed	____	
__*_2. Classify event as General Emergency due to a loss of physical control of the facility.	Event classified as GE (per EAL 3)	____	**Note to Evaluator:** To figure the Classification EIP-2-001 will have to be utilized.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__3. Complete short form for notification of GE.	Short form notification completed as follows: **Declared at:** Time step 2 above completed **On:** *Current date* **For:** Loss of Physical Control of the Facility (or eords tthis effect) **Wind from:** 105° **At:** 12 mph **Release:** NO **PAR Scenario No.:** 10 **Authorized by:** *Signature* **Title:** Emergency Director	_____	**CUE: Wind direction 105° at 12 miles per hour, no precipitation.** **Note to Evaluator:** To figure the PAR EIP-2-007 will have to be utilized, this will have to be done to complete the short form, and it is only necessary for a GE..

Terminating Cue: Classification determined and short form notification completed.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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: As the Shift Superintendent, Security has called you to inform you an assault on the plant is underway. During the phone conversation, armed, unauthorized personnel enter the Main Control room.

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

Terminating Cues: Classification determined and short form notification completed.

NRC EXAM RO
Administrative Part A.4

Knowledge and Ability:	2.4.1
Importance Rating:	4.3
Subject Description:	Emergency Operating Procedures
Method of Evaluation	Two Administrative Questions demonstrating knowledge of EOP entry conditions and immediate action steps.

Question 1.

Without reference to procedure, list 6 of the 7 Entry Conditions with limits for EOP-0002.

Answer:

	Condition	Limit
_____	Drywell Temperature High	145°F
_____	Containment Temperature High	90°F
_____	Containment Pressure High	0.3 psid
_____	Suppression Pool Temperature High	100°F
_____	Suppression Pool Water Level Low	19’ 6”
_____	Suppression Pool Water Level High	20’ 0”
_____	Containment OR Drywell Hydrogen Concentration High	0.7%

NRC EXAM RO
Administrative Part A.4

Knowledge and Ability:	2.4.1
Importance Rating:	4.3
Subject Description:	Emergency Operating Procedures
Method of Evaluation	Two Administrative Questions demonstrating knowledge of EOP entry conditions and immediate action steps.

Question 2.

Given Conditions: The plant was operating at 100% when the Pilot Wire Trouble alarm was received, followed immediately by a main generator trip. You may assume that all plant equipment responds as designed.

Without reference to procedure, what would be the Immediate Operator Actions?

Answer:

_____ Arm and depress C71A-S3A, B, C, and D, MANUAL SCRAM Pushbuttons.

_____ Place C71A-S1, REACTOR SYSTEM MODE SWITCH, to SHUTDOWN.

_____ Check all Control Rods are fully inserted.

_____ Check Reactor Power lowering on the APRMs.

_____ Verify the Feedwater System is operating to restore Reactor Water Level.

_____ Verify Reactor Pressure is being maintained by one of the following:

- Turbine Bypass Valves
- Safety Relief Valves

_____ Verify Main Turbine has tripped.

NRC EXAM RO
Administrative Part A.4
(Operator Copy)

Question 2.

Given Conditions: The plant was operating at 100% when the Pilot Wire Trouble alarm was received, followed immediately by a main generator trip. You may assume that all plant equipment responds as designed.

Without reference to procedure, what would be the Immediate Operator Actions?

NRC EXAM RO
Administrative Part A.4
(Operator Copy)

Question 1.

Without reference to procedure, list 6 of the 7 entry conditions with limits for EOP-0002.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-052-08, Revision 0

TASK DESCRIPTION: Swap Control Rod Drive Discharge Filters.

K/A REFERENCE & RATING: 3.9/3.4

TASK REFERENCE:

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

COMPLETION TIME: minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: 1

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Swap Control Rod Drive Discharge Filters.

Required Power: Any

IC No.: N/A

Notes: None

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: SOP-0002

Required Materials: SOP-0002

Required Plant Condition: Any

Applicable Objectives:

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

Control Manipulations:

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.

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: Control Rod Hydrolic system is operating, in a normal lineup.

Initiating Cue: CRS has directed you as the Reactor building Operator to swap CRD Discharge filters from "A" in service to "B" in service, drain the "A" discharge filter.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. Verify the C11-PDIS-N002, Filter Differential Pressure Indicating Switch is in operation.	C11-PDIS-N002, Filter Differential Pressure Indicating Switch is in operating (valved in and indicating).	_____	
__*_2. Open C11-VF020B, CRD PMP DISCH FILTERS D003B INLET ISOL VALVE.	Valve fully counterclockwise.	_____	
__*_3. Open C11-VF022B, CRD PMP DISCH FILTER D003B VENT VLV and DER-V10, C11-FLTD003B VENT VALVE. WHEN air-free water is vented from filter, THEN close C11-VF022B, VENT VALVE and DER-V10, C11-FLTD003B VENT VALVE.	Solid stream of water (water w/o air)	_____	**Once candidate indicates water flowing;** **CUE: water without air is flowing.**

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__4. Slowly open C11-VF021B, CRD PMP DISCH FILTER D003B OUTLET ISOL VLV.	Valve fully counterclockwise.	_____	
__*__5. Close C11-VF021A, CRD PMP DISCH FILTER D003A OUTLET ISOL VALVE.	Valve fully clockwise.	_____	**NOTE to Evaluator: steps 2, 3, & 4 must be performed prior to this step. AND step 5 must be performed before step 7 for satisfactory results.**
___6. Verify proper filter operation by observing C11-PDIS-N002 is in normal band.	C11-PDIS-N002 is in normal band.	_____	**CUE: C11-PDIS-N002 indicates 4 psid**
*___7. Close C11-VF020A, CRD PMP DISCH FILTER D003A INLET ISOL VALVE.	Valve fully clockwise.	_____	**NOTE to Evaluator: steps 2, 3, & 4 must be performed prior to this step. AND step 5 must be performed before step 7 for satisfactory results.**
__*__8. Open C11-F022A, CRD PMP DISCH FILTER D003A VENT VLV.	Valve open (counterclockwise).	_____	**NOTE to Evaluator:** This step can be performed satisfactory without fully opening the vent.
__*__9. Open C11-VF023A, CRD PMP DISCH FILTER D003A DRAIN VLV.	Valve open (counterclockwise).	_____	**NOTE to Evaluator:** This step can be performed satisfactory without fully opening the drain.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__10. Open DER-V8, C11-FLTD003A VENT VALVE.	Valve open (counterclockwise).	____	**NOTE to Evaluator:** This step can be performed satisfactory without fully opening the vent.
__*__11. Open DER-V9, C11-FLTD003A DRAIN VALVE.	Valve open (counterclockwise).	____	**NOTE to Evaluator:** This step can be performed satisfactory without fully opening the drain. **When this step is complete:** **CUE: Water flow has stopped.**
__*__12. Close C11-F022A, CRD PMP DISCH FILTER D003A VENT VLV	Valve fully clockwise.	____	
__*__13. Close C11-VF023A(B), CRD PMP DISCH FILTER D003A(B) DRAIN VLV	Valve fully clockwise.	____	
__*__14. Close DER-V8(V10), C11-FLTD003A(B) VENT VALVE	Valve fully clockwise.	____	
__*__15. Close DER-V9(V11), C11-FLTD003A(B) DRAIN VALVE	Valve fully clockwise.	____	
___16. Notify Control Room that changeover is complete.	Control Room Notified.	____	**CUE: Control room acknowleges swap complete and indicates all flows and pressures are satisfactory.**

Termination Criteria: CRD Discharge Filter "B" inservice, "A" discharge filter drained.

RBS JOB PERFORMANCE MEASURE

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: Control Rod Hydrolic system is operating, in a normal lineup.

Initiating Cues: CRS has directed you as the Reactor building Operator to swap CRD Discharge filters from "A" in service to "B" in service, drain the "A" discharge filter.

Termination Criteria: CRD Discharge Filter "B" inservice, "A" discharge filter drained.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-053-06, Revision 0

TASK DESCRIPTION: Transfer Reactor Recirc Pumps to Fast Speed with a failure of "B" to Transfer

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

TASK REFERENCE:

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

COMPLETION TIME: 12 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): Yes

SAFETY FUNCTION GROUP: 1

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Transfer Reactor Recirc Pumps to Fast Speed with a failure of "B" to Transfer

Required Power: Approximately 44%

IC No.: Any

Notes:

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: GOP-0001, Plant Startup;SOP-0003, Reactor Recirculation System; GOP-0004, Single Loop Operation; AOP-0024, Thermal Hydraulic Stability Controls

Required Materials: SOP-0003, Reactor Recirculation System; GOP-0004, Single Loop Operation; AOP-0024, Thermal Hydraulic Stability Controls

Required Plant Condition: Any

Applicable Objectives:

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

Control Manipulations:

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.

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: The plant is in a startup, at approximently 44% reacter power.

Initiating Cue: The CRD directs you to transfer Reactor Recirc pumps to fast speed.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. Verify above 3.1 x 10^6 1bm/hr as read on ERIS point C33EA018.	Note: This point is not available in the simulator.	_____	**CUE: Feed flow, as indicated on ERIS point C33EA018 is 3.92 x 10^6**
___2. Verify Bottom head coolant and reactor pressure vessel coolant differential temperature less than or equal to 100°F.	Bottom head coolant and reactor pressure vessel coolant differential temperature less than or equal to 100°F.	_____	
___3. Verify Recirculation loop and reactor pressure vessel coolant differential temperature less than 50°F.	Recirculation loop and reactor pressure vessel coolant differential temperature less than 50°F.	_____	
___4. Verify Steam line to pump suction differential temperature greater than 8.6°F.	Steam line to pump suction differential temperature greater than 8.6°F.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___5. Verify RPV level greater than level 3 (+9.7").	RPV level greater than level 3 (+9.7").	_____	
___6. Have the B33-S126A, POWER INTERLOCK BYPASS switches placed in bypass.	Calls the Reactor building operator (simulator instructor) to place these switches in bypass.	_____	**NOTE to Examiner:** The candidate may elect to start the "B" reactor Recirc pump 1st. If this is indicated by the candidate the examiner should intervene and direct the candidate to start the "A" pump 1st.
___7. Have the B33-S127A, TOTAL FEEDWATER FLOW INTERLOCK BYPASS switches placed in bypass	Calls the Reactor building operator (simulator instructor) to place these switches in bypass.	_____	
__*_8. Verify B33-K603A, RECIRC LOOP A FLOW CONTROL M/A Station is in MAN, and reduce B33-HYVF060A, FLOW CONTROL VALVE setpoint to the minimum position for the pump being shifted to fast speed as indicated on ERIS point B33EA062.	B33-HYVF060A, FLOW CONTROL VALVE indicates minimum (~0%)	_____	**When B33-HYVF060A, FLOW CONTROL VALVE indicates minimum (~0%) <u>THEN</u> CUE:ERIS point B33EA062 indicates minimum.**
___9. Allow feedwater flow/recirculation flow to stabilize for at least one minute to ensure that the feedwater flow interlock remains clear.	60 seconds pass.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___10. Verify feedwater flow is above 3.1×10^6 1bm/hr as indicated on ERIS Point C33EA018.	Total feed flow is $>3.1 \times 10^6$.	_____	**CUE: Feed flow, as indicated on ERIS point C33EA018 is 3.22×10^6.**
___11. Verify B33-C001A PUMP A MOT BRKR 4A is closed.	B33-C001A PUMP A MOT BRKR 4A is closed.	_____	
*__12 START B33-C001A RECIRC PUMP A, closing MOTOR BREAKER 5A.	MOTOR BREAKER 5A closed.	_____	**Note to evaluator:** It will take a few seconds for this breaker to close.
___13. Observe B33-S001A LFMG A GEN BRKR 2A and B33-S001A LFMG A MOT BRKR 1A open.	B33-S001A LFMG A GEN BRKR 2A and B33-S001A LFMG A MOT BRKR 1A open.	_____	
___14. Observe B33-C001A, RECIRC PUMP A speed coasts down to approximately 360 RPM.	B33-C001A, RECIRC PUMP A speed coasts down to approximately 360 RPM.	_____	
___15. Observe B33-C001A RECIRC PUMP A MOTOR BREAKER 5A closes.	B33-C001A RECIRC PUMP A MOTOR BREAKER 5A closes.	_____	
___16. Observe B33-C001A PUMP A MOT BRKR 3A closes.	B33-C001A PUMP A MOT BRKR 3A closes.	_____	
___17. Observe B33-C001A, RECIRC PUMP A accelerates to and stabilizes at 1800 RPM.	B33-C001A, RECIRC PUMP A accelerates to and stabilizes at 1800 RPM.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___18. Return B33-S126A, POWER INTERLOCK BYPASS to NORMAL	Calls the Reactor building operator (simulator instructor) to place these switches in normal.	_____	
___19. Return B33-S127A, TOTAL FEEDWATER FLOW INTERLOCK BYPASS.to NORMAL.	Calls the Reactor building operator (simulator instructor) to place these switches in normal.	_____	
___20. Verify above 3.1 x 10^6 1bm/hr as read on ERIS point C33EA018.	Note: This point is not available in the simulator.	_____	**CUE: Feed flow, as indicated on ERIS point C33EA018 is 3.92 x 10^6**
___21. Verify Bottom head coolant and reactor pressure vessel coolant differential temperature less than or equal to 100°F.	Bottom head coolant and reactor pressure vessel coolant differential temperature less than or equal to 100°F.	_____	
___22. Verify Recirculation loop and reactor pressure vessel coolant differential temperature less than 50°F.	Recirculation loop and reactor pressure vessel coolant differential temperature less than 50°F.	_____	
___23. Verify Steam line to pump suction differential temperature greater than 8.6°F.	Steam line to pump suction differential temperature greater than 8.6°F.	_____	
___24. Verify RPV level greater than level 3 (+9.7").	RPV level greater than level 3 (+9.7").	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___25. Have the B33-S126B, POWER INTERLOCK BYPASS switches placed in bypass.	Calls the Reactor building operator (simulator instructor) to place these switches in bypass.	_____	
___26. Have the B33-S127B, TOTAL FEEDWATER FLOW INTERLOCK BYPASS switches placed in bypass	Calls the Reactor building operator (simulator instructor) to place these switches in bypass.	_____	
*_27. Verify B33-K603B, RECIRC LOOP B FLOW CONTROL M/A Station is in MAN, and reduce B33-HYVF060B, FLOW CONTROL VALVE setpoint to the minimum position for the pump being shifted to fast speed as indicated on ERIS point B33EA063.	B33-HYVF060B, FLOW CONTROL VALVE indicates minimum (~0%)	_____	**When B33-HYVF060A, FLOW CONTROL VALVE indicates minimum (~0%) <u>THEN</u>** **CUE:ERIS point B33EA063 indicates minimum.**
___28. Allow feedwater flow/recirculation flow to stabilize for at least one minute to ensure that the feedwater flow interlock remains clear.	60 seconds pass.	_____	
___29. Verify feedwater flow is above 3.1×10^6 1bm/hr as indicated on ERIS Point C33EA018.	Total feed flow is $>3.1 \times 10^6$.	_____	**CUE: Feed flow, as indicated on ERIS point C33EA018 is 3.22×10^6.**
___30. Verify B33-C001B PUMP B MOT BRKR 4B is closed.	B33-C001B PUMP B MOT BRKR 4B is closed.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__31 START B33-C001B RECIRC PUMP B, closing MOTOR BREAKER 5B.	Recognize MOTOR BREAKER 5B failed to close.	_____	**Note to evaluator:** It will take a few seconds for the incomplete sequence relay to time out and alarm.
__*__32. Enter AOP-0024, Thermal Hydraulic Stability Controls.	AOP-0024, Thermal Hydraulic Stability Controls opened.	_____	
___33. Verify not in the exclusion region of the power to flow map.	Candidate checks power to flow map AOP-0024 Attachment 2 for Single Loop operation.	_____	
__*__34. Enter GOP-0004, Single Loop Operation.	CRS informed of need to enter GOP-0004, or obtains GOP-0004 for use.	_____	
___35. Verify B33-HYV-F060A (B), FLOW CONT VLV for both loops in MANUAL.	Both loops in MANUAL.	_____	
__*__36. Close B33-F067B, RECIRC PUMP B DISCH VALVE.	B33-F067B, RECIRC PUMP B DISCH VALVE green light only.	_____	
__*__37. Open B33-F067B, RECIRC PUMP B DISCH VALVE after five minutes have elapsed.	B33-F067B, RECIRC PUMP B DISCH VALVE red light only.	_____	**When Ask:** **CUE: We will attempt to restart pump as soon as practical.**
__*__38. Open B33-HYV-F060B, FLOW CONT VLV.	B33-HYV-F060A(B), FLOW CONT VLV 100%.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___39. Inform the CRS of the need to review Technical Specification 3.2.4, 3.3.1.3, 3.4.1, 3.4.2, 3.4.3, and 3.4.11.	CRS notified.	_____	
___40. Verify parameters specified in GOP-0004 not exceeded.	GOP-0004 referenced (precautions).	_____	**CUE: The CRS will have the STA and Reactor Engineer assist with GOP-0004.** **NOTE to Evaluator: The Candidate may be reluctant to declare completion at this point, but the calculations and decisions from this point forward would be conducted with the input from OSS,STA, CRS and Reactor Eng, and plant management.**

Termination Criteria: Reactor Recirc pump in fast speed.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

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

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues

(Operator Copy)

Initial Conditions: The plant is in a startup, at approximently 44% reacter power.

Initiating Cues: The CRD directs you to transfer Reactor Recirc pumps to fast speed.

Termination Criteria: Reactor Recirc pumps in fast speed.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-109-05, Revision 0

TASK DESCRIPTION: Inhibit ADS with a failure of the "B" channel to inhibit.

K/A REFERENCE & RATING: 218000 K4.01 3.7/3.9
A4.04 4.1/4.1

TASK REFERENCE:

TESTING METHOD: Simulate Performance: ___ Actual Performance: _X_
Control Room: __ Simulator: _X_ In-Plant: ___

COMPLETION TIME: 5 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): YES

SAFETY FUNCTION GROUP: 3

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Inhibit ADS with a failure of the "B" channel to inhibit.

Required Power: Post SCRAM, Level lowering.

IC No.: Any meeting conditions.

Notes:

Fail the "B" ADS Manual Inhibit Switch as follows:
Action List
Switch Overrides
601 Panel
DI_B21-CS34B ADS B Manual Inhibit SW
Inhibit
Insert

Secure feedwater (isolate feed reg valves)

Prevent ECCS and RCIC injection

Stop CRD pump

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: SOP-0011 Main Steam system

Required Materials: SOP-0011

Required Plant Condition: N/A

Applicable Objectives:

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

Control Manipulations:

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.

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: Reactor SCRAM has occurred, level is lowering, the CRS has determined that RPV water level cannot be maintained above –143".

Initiating Cue: The CRS directs you to inhibit ADS.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__1. Obtain 2 keys for ADS manual inhibit switch	2 keys in hand	____	**NOTE:** these keys are generic for the ATC area.
__*__2. Place the ADS A MANUAL INHIBIT Switch in the INHIBIT position.	ADS A MANUAL INHIBIT whight light iluminated.	____	Whight light is located on switch plate lable upper right corner.
___3. Verify ADS A inhibited.	ADS Inop annunciator Iluminitated, and ADS A MANUAL INHIBIT whight light iluminated.	____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___4. Place the ADS B MANUAL INHIBIT Switch in the INHIBIT position.	ADS B MANUAL INHIBIT in INHIBIT whight light and the ADS INOP annunciator will **not** iluminate.	_____	**When reported to CRS;** **CUE: Prevent Automatic ADS actuation.**
__*_5. Depress the ADS B TIMER/LEVEL 3 SEAL IN RESET Pushbutton at least every 105 seconds	Depreses the ADS B TIMER/LEVEL 3 SEAL IN RESET. Resetting the timer once adequately demonstrates the candidates ability to prevent ADS auto actuation. Repeated every 105 seconds will indefinitely prevent ADS auto actuation, when the candidate indicates this, the JPM should be terminated.	_____	**NOTE to examiner:** **If** level drops below level 1 (-143") and Drywell pressure is >1.68 psid, **THEN** candidate has 105 seconds to reset timer, or ADS will automatically actuate. **IF** level drops below level 1 and drywell pressure remains below 1.68 psid, **THEN** candidate has 5 minutes plus 105 seconds to reset the timer, or ADS will automaticly actuate.

Termination Criteria: Automatic ADS actuation prevented.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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: Reactor SCRAM has occurred, level is lowering, the CRS has determined that RPV water level cannot be maintained above –143" .

Initiating Cues: The CRS directs you to inhibit ADS.

Termination Criteria: Automatic ADS actuation prevented.

JPM NUMBER: JPM-200-02 Rev. 6

TASK DESCRIPTION: Manually Startup RHR "A" in Suppression Pool Cooling from the Remote Shutdown Panel.

K/A REFERENCE & RATING:

219000	K1.01	3.8/3.9	K3.01	3.9/4.1
	K6.06	3.7/3.7	A1.01	4.0/4.0
	A1.02	3.5/3.5	A1.08	3.7/3.6
	A4.01	3.8/3.7	A4.02	3.7/3.5
	A4.07	3.7/3.7		
295016	SG-07	3.1/3.4		

TASK REFERENCE: 400075004001

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

COMPLETION TIME: 10 minutes

MAX TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: NO

EIP CLASSIFICATION REQUIRED: NO

PRA RISK DOMINATE: NO

ALTERNATE PATH (FAULTED): NO

SAFETY FUNCTIONAL AREA 5

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Manually Startup RHR " A" in Suppression Pool Cooling from the Remote Shutdown Panel.

Required Power: N/A

IC No.: N/A

Notes: None

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development:	AOP-0031	
Required Materials:	AOP-0031, Enclosure 1	
Required Plant Condition:	Any	
Applicable Objectives:	HLO-066	obj. 2
	HLO-021	obj. 2, 6, 8, & 10.
Safety Related Task:	(If K/A less than 3.0)	
Control Manipulations:	None	

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

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

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

The Control Room has been evacuated due to a fire and resulting fumes from a ventilation duct heater, the fire is out, the Reactor is in Hot Shutdown and control has been established at the Remote Shutdown Panel.

Initiating Cue:

The CRS has directed you to place RHR "A" in Suppression Pool Cooling using AOP-0031, Enclosure 1. Normal Service Water is available for Heat Exchanger cooling.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__1. Open RHR "A" Hx Service Water return (1E12*MOVF068A).	MOVF068A opened. Red light, and green light on. (indicates valve is throttled).	____	
___2. Verify Service Water flow.	<6300 gpm on Flow indicator 1SWP*FI64A.	____	**Cue: 3800 gpm flow is indicated on 1SWP*FI64.** Note: indicate flow by indicating needle position with a pen or pencil.
__*__3. Start RHR "A" pump.	RHR Pump "A" running. Red light on, green light off.	____	**CUE: Red light on, green light off.**
__*__4. Open RHR "A" Test Return to Suppression Pool (1E12*MOVF024A).	MOVF024A open. Red light on. Green light off.	____	**Cue: Red light on, green light off.**

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___5. Verify RHR pump "A" amps in allowable range.	Pump amps verified at Switchgear (ENS*SWG1A)	_____	**CUE: 90 amps indicated.** Note: indicate flow by indicating needle position with a pen or pencil.
___6. Close RHR "A" Minimum Flow to Suppression Pool (1E12*MOVF064A)	MOVF064A closed. Green light only.	_____	**Cue: Flow is greater than 1100 gpm.**
_*_7. Throttle RHR "A" HX Bypass as necessary (1E12*MOVF048A).	MOVF048A throttled to achieve desired cooling; do not exceed 5550 gpm.	_____	

Terminating Cue: RHR "A" in Suppression Pool Cooling.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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 Control Room has been evacuated due to a fire and resulting fumes from a ventilation duct heater, the fire is out, the Reactor is in Hot Shutdown and control has been established at the Remote Shutdown Panel.

Initiating Cues: The CRS has directed you to place RHR "A" in Suppression Pool Cooling using AOP-0031, Enclosure 1. Normal Service Water is available for Heat Exchanger cooling.

Terminating Cues: RHR "A" in Suppression Pool Cooling.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-205-04, Revision 0

TASK DESCRIPTION: Operate LPCS Full Flow Test (Suppression Pool to Suppression Pool

K/A REFERENCE & RATING: K1.02 3.4/3.4 K4.07 2.8/3.0
A4.01 3.8/3.6

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

COMPLETION TIME: 13 Minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: 4

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Operate LPCS Full Flow Test (Suppression Pool to Suppression Pool

Required Power: Any

IC No.: Any

Notes:

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: SOP-0032

Required Materials: SOP-0032

Required Plant Condition: Any

Applicable Objectives:

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

Control Manipulations:

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.

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: Breaker maintenance on the LPCS breaker has been completed and requires a post maintenance test run.

Initiating Cue: The CRS has directed you as the Unit Operator to manualy operate LPCS Suppression Pool to Suppression Pool, establishing 5200 gpm flow to allow amp readings to be taken. Once complete, return LPCS system to standby.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. Notify Radiation Protection of impending system operation.	Radiation Protection via phone or Gai-Tronics	_____	**CUE: RP acknowledges**
__*_2. Start E21-C001, LPCS PUMP.	Red and whight lights only	_____	
___3. Check LPCS Pump current is less than 157 amps.	E21-C001, LPCS MOTOR AMPS indicates <157 amps	_____	
___4. Verify E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL is open.	E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL red light only.	_____	
___5. Check Annunciator P601-19A-F07, DIV 1 ADS LOGIC LPCS/LPCI OPR PERMISSIVE alarms.	Alarm P601-19A-F07, DIV 1 ADS LOGIC LPCS/LPCI OPR PERMISSIVE acknowleged.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__6. Open E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL.	E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL red and green lights.	_____	
___7. WHEN flow rises above 875 gpm, THEN verify E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL closes	E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL green light only.	_____	
__*__8. Adjust E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL to achieve 5200 gpm.	E21-R600. LPCS PUMP FLOW indicates 5000 – 5400 gpm.	_____	**Then this step is acomplished CUE: Electricians report they have satisfactory amp readings.**
___9. Verify adequate core cooling is assured by two independent indications.	RPV water level maintained above Top of Active Fuel.	_____	
__*__10. Close E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL.	E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL, green light only.	_____	
___11. Verify closed E21-F005, LPCS INJECT ISOL VALVE.	E21-F005, LPCS INJECT ISOL VALVE green light only.	_____	
___12. WHEN flow lowers below 875 gpm, THEN verify E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL opens.	E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL red light only.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___13. Verify E21-C002, LPCS/RHR DIV 1 LINE FILL PUMP is running.	E21-C002, LPCS/RHR DIV 1 LINE FILL PUMP red light only.		
_*_14. Stop E21-C001, LPCS PUMP.	Green and whight light only.	____	

Termination Criteria: LPCS in Standby.

RBS JOB PERFORMANCE MEASURE

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: Breaker maintenance on the LPCS breaker has been completed and requires a post maintenance test run.

Initiating Cues: The CRS has directed you as the Unit Operator to manualy operate LPCS Suppression Pool to Suppression Pool, establishing 5200 gpm flow to allow amp readings to be taken. Once complete, return LPCS system to standby.

Termination Criteria: LPCS in Standby

JPM NUMBER: JPM-209-05 REV: 00

TASK DESCRIPTION: Adjust RCIC Flow

K/A REFERENCE & RATING:

217000 A1.01, 3.7/3.6	217000 A4.02, 3.9/3.9
217000 A2.02, 3.8/3.7	217000 A4.08, 3.7/3.6
217000 A3.04, 3.6/3.5	

TASK REFERENCE: 217011001001
217019001001

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

COMPLETION TIME: 15 min.

MAX. TIME: N/A

JOB LEVEL: All

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): Yes

SAFETY FUNCTION GROUP: 2

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Adjust RCIC Flow

Required Power: RPV pressure >550 psig

IC No.: Any

Notes: Place RHR A in suppression pool cooling and place containment high volume purge in service.

Prevent High Pressure Core Spray from Injection

Terminate Feedwater injection and Lower RPV Water Level to level 2 (allow RCIC to auto initiate)

***ACTION REQUIRED*:** When operator begins to adjust RCIC flow controler, Trip RCIC turbine:

Action List

Malfunctions

RCIC Reactor Core Isolation Cooling

RCIC001 RCIC Turbine Trip (Insert)

RCIC001 RCIC Turbine Trip (Delete)

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development:	SOP-0035, Reactor Core Isolation Cooling System
Required Materials:	SOP-0035, Reactor Core Isolation Cooling System
Required Plant Condition:	RCIC in operation, auto initiation due to low RPV water level.
Applicable Objectives:	
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	No

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

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

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

RCIC is in operation due to an auto start on low water level; RHR A operating in Suppression Pool Cooling Mode; Containment Hi Volume Purge in Service.

Initiating Cue:

The CRS has directed you as the Unit Operator to adjust RCIC injection flow to 400 gpm.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. Adjust RCIC Pump flow to 400 gpm.	E51-R600, RCIC PUMP FLOW CONTROLLER, adjusted to achieve 350-450 gpm on E51-R606, RCIC PUMP FLOW.	_____	NOTE: Simulator instructor should initiate a RCIC Turbine Trip prior to or at the completion of this step (see page 2 Simulator Set Up Sheet).
__*_2. Recognize and Report RCIC Turbine Trip.	Candidate indicates RCIC Turbine Trip.	_____	**CUE: The CRS directs you to re-start RCIC and inject at 400 gpm.**
__*_3. Close E51-C002, RCIC TRIP & THROTTLE VALVE OPERATOR.		_____	
___4. Check for RCIC overspeed.	If the E51-C002, RCIC TRIP & THROTTLE VALVE OPERATOR will not latch to the RCIC TRIP & THROTTLE VALVE as indicated by indicator lights on the the RCIC TRIP & THROTTLE VALVE then Overspeed condition existed **OR** ask the CRS.	_____	**CUE: IF ASK: RCIC Turbine Trip was not overspeed.**
___5. Throttle E51-C002, RCIC TRIP & THROTTLE VALVE OPERATOR open to obtain 3000 rpm. on E51-C002-1, RCIC TURBINE SPEED.	Valve open. Red lights ON and green lights OFF. 2700 - 3300 rpm indicated on E51-C002-1, RCIC TURBINE SPEED.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__6. Open E51-F013, RCIC INJECT ISOL VALVE	Valve opened. Red light ON and green light OFF	____	
__*__7. Throttle E51-C002, RCIC TRIP & THROTTLE VALVE OPERATOR **OR** Adjust E51-R600, RCIC PUMP FLOW FLOW CONTROLLER HYVC002	Adjusted to achieve 350-450 gpm on E51-R606, RCIC PUMP FLOW.	____	

Terminating Cue: RCIC injecting with a flow rate of 350-450 gpm.

RBS JOB PERFORMANCE MEASURE

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: RCIC is in operation due to an auto start on low water level; RHR A operating in Suppression Pool Cooling Mode; Containment Hi Volume Purge in Service.

Initiating Cues: The CRS has directed you as the Unit Operator to adjust RCIC injection flow to 400 gpm.

Terminating Cues: RCIC injecting with a flow rate of 350-450 gpm.

JPM NUMBER: JPM-257-04 Rev 0

TASK DESCRIPTION: Manually startup Standby Gas Treatment Train B taking a suction on the Auxiliary Building with B component failure.

K/A REFERENCE & RATING: 261000 K1.01, 3.4/3.6
261000 K4.01, 3.7/3.8
261000 G04, 3.5/3.7
261000 G09, 3.7/3.5
261000 G13, 3.7/3.5

TASK REFERENCE: 261005001001

TESTING METHOD: Simulate Performance: _____ Actual Performance: _X_
Control Room: _____ Simulator: ___X___ In-Plant: ____

COMPLETION TIME: 10 min.

MAX. TIME: N/A

JOB LEVEL: All

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): Yes

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description:	Manually startup Standby Gas Treatment Train B taking a suction on the Auxiliary Building with B component failure.
Required Power:	Any
IC No.:	Any
Notes:	**Override GTS-AOD22B, GTS FILTER 'B' RECIRC damper Red light OFF AND green lightb ON.**

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development:	SOP-0043, Standby Gas Treatment System
Required Materials:	SOP-0043, Standby Gas Treatment System
Required Plant Condition:	Standby Gas Treatment in a Normal Standby Lineup.
Applicable Objectives:	HLO-033-03, Obj 3, 5, 7, and 8
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	None

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

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

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions:

Standby Gas Treatment in a Normal Standby Lineup and the following systems are operating:

- Fire Water Protection System per SOP-0037, Fire Protection - Water System.
- Instrument Air System per SOP-0022, Instrument Air System.
- Containment HVAC per SOP-0059, Containment Building HVAC.
- Auxiliary Building HVAC per SOP-0065, Auxiliary Building HVAC.
- Floor and Equipment Drains System per SOP-0104, Floor & Equipment Drains.

Initiating Cue:

The CRS has directed you as the Unit Operator to manually start Standby Gas Treatment Train 'B' taking a suction on the Auxiliary Building for engineering evaluation of building air flows. The CRS informs you **not** to use the MANUAL INITIATE Pushbuttons.

RBS JOB PERFORMANCE MEASURE

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__1. Select the Auxiliary Building for the GTS System to draw air and open HVR-AOD18B.	HVR-AOD18B is open; red lights on and green lights are off.	_____	
___2. Open HVR-AOD22B, ANNULUS MIXING OUT DMPR TO GTS	HVR-AOD22B is open; red lights on and green lights are off.	_____	
__*__3. Start Standby Gas Treatment Exhaust Fan B	Standby Gas Treatment Exhaust Fan B running; red light is on and green light is off.	_____	The start switch must remain depressed until GTS-AOD1A, SGT FILTER SUCTION ISOLATION, is full open.
___4. Verify GTS-AOD1B SGT FILTER B SUCTION ISOL opens.	GTS-AOD1B is open; red light is on and green light is off.	_____	
___5. Verify GTS-FN1B, STBY GAS TRTMT EXH FN starts.	GTS-FN1B is open; red light is on and green light is off.	_____	
___6. Verify GTS-AOD3B, SGT EXH FAN B DISCH opens.	GTS-AOD3B is open; red light is on and green light is off.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___7. Open GTS-AOD22B, GTS FILTER 'B' RECIRC damper.		_____	**Note to Evaluator:** This damper is failed, and will not open. **Then informed as CRS THEN:** **CUE:** To allow the engineering staff to complete test, shutdown the 'B' train and Start the 'A' Train of Standby Gas on the Aux Building.
___8. Verify both AUX BLDG TO SGT FLT A(B) MAN INIT RESET Pushbuttons are depressed.	Pushbuttons in RESET position	_____	
__*_9. Stop GTS-FN1B, SGT EXH FAN B.	GTS-FN1B, SGT EXH FAN B green and whight light only.	_____	
___10. Verify GTS-AOD1B SGT FILTER B SUCTION ISOL closes.	GTS-AOD1B SGT FILTER B SUCTION ISOL green light only.	_____	
___11. Verify GTS-AOD3B, SGT EXH FAN B DISCH closes.	GTS-AOD3B, SGT EXH FAN B DISCH green light only.	_____	
___12. Place GTS-AOD22B, GTS FILTER 'B' RECIRC damper in AUTO position.	GTS-AOD22B, GTS FILTER 'B' RECIRC in AUTO.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___13. Verify GTS-AOD22B, GTS FILTER 'B' RECIRC closed.	GTS-AOD22B, GTS FILTER 'B' RECIRC green light only.	_____	
__*_14. Close HVR-AOD18B AUX BLUG TO GTS ISOLATION	HVR-AOD18B AUX BLUG TO GTS ISOLATION green light only.	_____	
__*_15. Close HVR-AOD22B, ANNULUS MIXING OUT DMPR TO GTS	HVR-AOD22B, ANNULUS MIXING OUT DMPR TO GTS green light only	_____	
___16. Verify GTS-FN2B, GTS B DECAY HEAT REMOVAL running	GTS-FN2B, GTS B DECAY HEAT REMOVAL red light.	_____	
___17. Verify GTS-AOD4B, DECAY HEAT REMOVAL INTK open	GTS-AOD4B, DECAY HEAT REMOVAL INTK green light only.	_____	**THEN Ask:** **CUE:** Allow the decay heat removal fan to operate.
__*_18. Select the Auxiliary Building for the GTS System to draw air and open HVR-AOD18A.	HVR-AOD18A is open; red lights on and green lights are off.	_____	
___19. Open HVR-AOD22A, ANNULUS MIXING OUT DMPR TO GTS	HVR-AOD22A is open; red lights on and green lights are off.	_____	
__*_20. Start Standby Gas Treatment Exhaust Fan A	Standby Gas Treatment Exhaust Fan A running; red light is on and green light is off.	_____	The start switch must remain depressed until GTS-AOD1A, SGT FILTER SUCTION ISOLATION, is full open.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___21. Verify GTS-AOD1A SGT FILTER A SUCTION ISOL opens.	GTS-AOD1A is open; red light is on and green light is off.	_____	
___22. Verify GTS-FN1A, STBY GAS TRTMT EXH FN starts.	GTS-FN1A is open; red light is on and green light is off.	_____	
___23. Verify GTS-AOD3A, SGT EXH FAN A DISCH opens.	GTS-AOD3A is open; red light is on and green light is off.	_____	
_*_24. Open GTS-AOD22A, GTS FILTER 'A' RECIRC damper.	GTS-AOD22A, GTS FILTER 'A' RECIRC is open, red light only.	_____	

Terminating Cue: Standby Gas Treatment Train taking a suction on the Auxiliary Building in accordance with SOP-0043, Standby Gas Treatment System.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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: Standby Gas Treatment in a Normal Standby Lineup and the following systems are operating:

- Fire Water Protection System per SOP-0037, Fire Protection - Water System.
- Instrument Air System per SOP-0022, Instrument Air System.
- Containment HVAC per SOP-0059, Containment Building HVAC.
- Auxiliary Building HVAC per SOP-0065, Auxiliary Building HVAC.
- Floor and Equipment Drains System per SOP-0104, Floor & Equipment Drains.

Initiating Cues: The CRS has directed you as the Unit Operator to manually start Standby Gas Treatment Train 'B' taking a suction on the Auxiliary Building for engineering evaluation of building air flows. The CRS informs you **not** to use the MANUAL INITIATE Pushbuttons.

Terminating Cues: Standby Gas Treatment Train taking a suction on the Auxiliary Building in accordance with SOP-0043, Standby Gas Treatment System.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-305-01 , Revision 0

TASK DESCRIPTION: Place the Division 3 125 vdc Battery Charger in Service

K/A REFERENCE & RATING:

263000	K1.02	3.2/3.3
	K4.02	3.1/3.5
	A1.01	2.5/2.8
	A3.01	3.2/3.3

TASK REFERENCE:

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

COMPLETION TIME: 8 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: 4

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Place the Division 3 125 vdc Battery Charger in Service

Required Power: N/A

IC No.: N/A

Notes: N/A

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: SOP-049 125 VDC SYSTEM; OSP-0028 LOG REPORT - NORMAL SWITCHGEAR, CONTROL, AND DIESEL GENERATOR BUILDINGS.

Required Materials: SOP-049 125 VDC SYSTEM

Required Plant Condition: Any

Applicable Objectives:

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

Control Manipulations:

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.

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: Division 3 battery surveillances have all been completed, and the division 3 battery is in service supplying all loads, testing of the division 3 battery charger has just been completed.

Initiating Cue: The CRS has directed you to place the division 3 battery charger in service.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. Verify battery surveillance is current and battery is ready for service.		_____	
___2. Verify open AC Supply Breaker on E22-S001CGR, DIV III 125VDC HPCS Battery Charger.	E22-S001CGR, DIV III 125VDC HPCS Battery Charger AC breaker OFF.	_____	
___3. Verify open DC Output Breaker on E22-S001CGR, DIV III 125VDC HPCS Battery Charger.	E22-S001CGR, DIV III 125VDC HPCS Battery Charger DC breaker OFF.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__4. On E22-S002, DIV III HPCS MOTOR CONTROL CENTER, close breaker 3AL, HPCS BATT CHRG NO. 1 Supply Breaker.	3AL, HPCS BATT CHRG NO. 1 Supply Breaker closed.	_____	
___5. Verify closed E22-SW1, FUSED DISCONNECT SWITCH in Div III battery charger room.	E22-SW1, FUSED DISCONNECT SWITCH in Div III battery charger room closed.	_____	
___6. Verify closed CB9, E22-S001 CGR BATTERY CHARGER Supply Breaker on E22-PNLS001, DIV III 125VDC switchgear.	CB9, E22-S001 CGR BATTERY CHARGER Supply Breaker on E22-PNLS001, DIV III 125VDC switchgear closed.	_____	
__*__7. Close the DC Output Breaker on E22-S001CGR, 125VDC HPCS Battery Charger	On E22-S001CGR, 125VDC HPCS Battery Charger DC Output Breaker closed.	_____	
___8. Verify the FLOAT-EQUALIZE Switch is in NORMAL.	Switch in NORMAL.	_____	**Note**: If the charger is in EQUALIZE then **QUE**: Switch in NORMAL
__*__9. Close the AC Supply Breaker and verify the amber AC ON Lamp is illuminated, on E22-S001CGR, 125VDC HPCS Battery Charger.	AC ON Lamp is illuminated.	_____	
___10. Verify charger DC amps and volts are normal.	132 vdc – 140 vdc, <50 amps.	_____	**Note**: If the charger is in EQUALIZE then **QUE**: 135 VDC, <50 amps

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___11. Verify breakers are as indicated on SOP-049 125 VDC SYSTEM, Attachment 1C.	Candidate should initial the 1st Block.	_____	

Termination Criteria: Division 3 DC battery charger in service.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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: Division 3 battery surveillances have all been completed, and the division 3 battery is in service supplying all loads, testing of the division 3 battery charger has just been completed.

Initiating Cues: The CRS has directed you to place the division 3 battery charger in service.

Termination Criteria: Division 3 DC battery charger in service.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-800-14, Revision: 4

TASK DESCRIPTION: Defeat the RC&IS Interlocks

K/A REFERENCE & RATING: 201005 K4.04 3.5/3.5
A2.06 3.2/3.2

TASK REFERENCE: 200049005001

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

COMPLETION TIME: 5 min.

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: 1

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: N/A

Required Power: N/A

IC No.: N/A

Notes: N/A

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development:	EOP-0005, Enclosure 14, Defeating RC&IS Interlocks and Emergency Control Rod Insertion Data Sheet.
Required Materials:	EOP-0005, Enclosure 14.
Required Plant Condition:	Any, Simulated condition.
Applicable Objectives:	
Safety Related Task: (If K/A less than 3.0)	N/A
Control Manipulations:	016, Mispositioned Control Rods 020, Turbine/Generator trip 023, Reactor Scram

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.

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: A Reactor SCRAM has occurred and 17 rods have failed to insert, Control Rod Withdraw Blocks and Control Rod Insert Blocks exists, EOP-0005 Enclosure 16 is installed.

Initiating Cue: The CRS has directed you to defeat the RC&IS Control Rod Insert Blocks using EOP-0005 Enclosure 14.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__1. Obtain Rosemount Locking Bar Key, Enclosure 14.	EOP-0005 Enclosure 14 key, OR Key No. 46 is obtained	____	Key No. 46, from SS/CRS will also unlock locking bar .
__*__2. Unlock and remove the locking bar from C11-N654B, First Stage Turbine Pressure Tip Unit	Locking bar is removed	____	Trip unit C11-N654B is located on panel 1H13*P618, left column, 2nd row, 1st unit. **CUE:** **Locking Bar removed**

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___3. Verify the center knob is full out	Center knob on CAL Switch is full out	_____	Center knob is located on the CAL Unit CAL Select Switch. **CUE:** **Center knob is full out**
___4. Verify TRANSIENT CURRENT Knob is full out	TRANSIENT CURRENT Knob is full out	_____	TRANSIENT CURRENT Knob is located on the CAL Unit. **CUE:** **TRANSIENT CURRENT Knob is full out**
___5. Verify center knob is rotated fully counter-clockwise	Center knob is rotated fully counter-clockwise	_____	**CUE:** **Center knob is rotated fully counter-clockwise**
__*_6. Rotate center knob one click clockwise to position 1.	Center knob is in Position 1	_____	**CUE:** **Center knob is in Position 1.**
__*_7. Turn power switch to ON	Power switch is in the ON position	_____	Power switch is located on the CAL Unit. **CUE:** **Power switch is on**
__*_8. Depress center knob	Center knob depressed	_____	**CUE:** **Center knob is depressed**

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___* 9. Rotate STABLE CURRENT Knob fully clockwise until meter on trip unit is full scale and trip is reset	STABLE CURRENT Knob fully clockwise and trip reset	_____	STABLE CURRENT Knob is located on CAL Unit. **CUE:** **STABLE CURRENT Knob is fully clockwise, trip unit C11-N654B is full scale and red trip light on C11-N654B is OFF.**
___* 10. Unlock and remove the locking bar from C11-N654A, First Stage Turbine Pressure trip unit	Locking bar removed	_____	Trip unit C11-N654A is located on panel 1H13*P629, right column, bottom row, 8th unit. **CUE:** **Locking Bar removed.**
___11. Verify the center knob is full out.	Center knob on CAL Switch is full out	_____	Center knob is located on the CAL unit CAL Select Switch. **CUE:** **Center knob is full out.**
___12 Verify TRANSIENT CURRENT Knob is full out	TRANSIENT CURRENT Knob is full out	_____	TRANSIENT CURRENT Knob is located on the CAL Unit. **CUE:** **TRANSIENT CURRENT Knob is full out**
___13 Verify center knob is rotated fully counter-clockwise.	Center knob is rotated fully counter-clockwise	_____	**CUE:** **Center knob is rotated fully counter-clockwise**

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 14 Rotate center knob eight clicks clockwise to Position 8	Center knob in Position 8	____	**CUE:** **Center knob is in Position 8.**
* 15 Turn power switch to ON.	Power switch is in the ON position.		Power switch is located on the CAL Unit. **CUE:** **Power switch is on**
* 16 Depress center knob	Center knob depressed	____	**CUE:** **Center knob is depressed**
* 17 Rotate STABLE CURRENT Knob fully clockwise until meter on trip unit is full scale and trip is reset.	STABLE CURRENT Knob fully clockwise and trip reset	____	STABLE CURRENT Knob is located on CAL Unit. **CUE:** **STABLE CURRENT Knob is fully clockwise, trip unit C11-N654A is full scale and red trip light on C11-N654A is off.**
17 Report to the CRS/RO that EOP-0005 Enclosure 14 trips have been reset.	States EOP-0005 Enclosure 14 RC&IS blocks are now bypassed.	____	NOTE: Candidate may simply indicate that rods may now be driven inward.

Termination Criteria: RC&IS interlocks have been defeated.

RBS JOB PERFORMANCE MEASURE

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: A Reactor SCRAM has occurred and 17 rods have failed to insert, Control Rod Withdraw Blocks and Control Rod Insert Blocks exists, EOP-0005 Enclosure 16 is installed.

Initiating Cues: The CRS has directed you to defeat the RC&IS Control Rod Insert Blocks using EOP-0005 Enclosure 14.

Termination Criteria: RC&IS interlocks have been defeated.

RBS JOB PERFORMANCE MEASURE

JPM NUMBER: JPM-800-35, Revision 0

TASK DESCRIPTION: Operate ADHR/SPC and inject into the RPV.

K/A REFERENCE & RATING: 205000 G2.1.30 4.2/4.2
G2.4.6 3.1/3.1
EA1.08 3.8/3.8

TASK REFERENCE:

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

COMPLETION TIME: 13 minutes

MAX. TIME: N/A

JOB LEVEL: RO/SRO

TIME CRITICAL: No

EIP CLASSIFICATION REQUIRED: No

PRA RISK DOMINATE: No

ALTERNATE PATH (FAULTED): No

SAFETY FUNCTION GROUP: 4

Prepared by: **David Looney** **Date:** **9/3/00**

Ops Review: **J.A. Clark** **Date:** **9/3/00**

Approved by: **M.K. Cantrell** **Date:** **9/3/00**

RBS JOB PERFORMANCE MEASURE

SIMULATOR SETUP SHEET

Task Description: Operate ADHR/SPC and inject into the RPV.

Required Power: Shutdown

IC No.: Any

Notes:

Reactor Depressurized ____

RHR "C" unavailable (tagged out) ____

Bypass 1ARHSB30 & 1BRHSA30 as follows ____

Action
Remote Function
SPC Supp Pool Clg/ADHR
SPC004 SPC Isolation Bypass Switch
Byoass
Insert

WHEN ASK: to OPEN RHS-V3022 (RHR 'C' Test Return to SP Man Isol)
THEN:

Action
Remote Function
EOP Emergency Operating Procedures
EOP35 EOP-5 ENCL35 (SPC OPERATION)
Jumprd
Insert

RBS JOB PERFORMANCE MEASURE

DATA SHEET

References for Development: EOP-0005, Enclosure 35

Required Materials: EOP-0005, Enclosure 35

Required Plant Condition: N/A

Applicable Objectives:

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

Control Manipulations: None

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

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

RBS JOB PERFORMANCE MEASURE

If In-Plant or In the Control Room:

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

Read to the Operator:

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

Initial Conditions: The reactor has been shutdown and depressurized, failure of several systems has necessitated the use of SPC/ADHR for RPV injection, the 1BRHSA30 RHR-SPC ISOLATION VALVE LOGIC BYPASS, and 1ARHSB30 RHR-SPC ISOLATION VALVE LOGIC BYPASS have already been bypassed.

Initiating Cue: The CRS has directed you to inject water into the RPV using the "A" SPC pump in accordance with EOP-0005, Enclosure 35.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___1. VERIFY RHR PUMP C is not available AND secured.	RHR PUMP C is tagged out, all 4 lights are extinguished.	____	
*__2. OPEN SPC-V3A, SPC PUMP A DISCHARGE VALVE.	Candidate indicates they would have an Equipment/Building operator open this valve.	____	**Note to evaluator:** This valve is located in the Aux Building, 70 ft. el. "Racquetball Room". **CUE: The SPC PUMP A DISCHARGE VALVE is open.**

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___3. VERIFY SPC-V3B, SPC PUMP B DISCHARGE VALVE is closed.	Candidate indicates they would have an Equipment/Building operator verify this valve closed.	_____	**Note to evaluator:** This valve is located in the Aux Building, 70 ft. el. "Racquetball Room". **CUE: The SPC PUMP B DISCHARGE VALVE is closed.**
__*_4. OPEN RHS-V3022, RHR C TEST RETURN TO SP MANUAL ISOL VLV	Candidate indicates they would have an Equipment/Building operator open this valve.	_____	**Note to evaluator:** This valve is located in the Aux Building, 95 ft. Crescent Area. When contacted, the Simulator Instructor will perform this as the Aux Building Operator and then inform the candidate.
___5. Verify CLOSE E12 F021, RHR PUMP C TEST RTN TO SUP PL.	E12 F021, RHR PUMP C TEST RTN TO SUP PL. green light only.	_____	
__*_6. CLOSE E12 F064C, RHR PUMP C MIN FLOW TO SUP PL.	E12 F064C, RHR PUMP C MIN FLOW TO SUP PL green light only.	_____	
___7. VERIFY E12 F105, RHR PUMP C SUP PL SUCTION VALVE is open.	E12 F105, RHR PUMP C SUP PL SUCTION VALVE red light only.	_____	
__*_8. Open RHS-AOV62, SPC SUCTION VALVE	RHS-AOV62, SPC SUCTION VALVE red light only.	_____	
__*_9. Open RHS-AOV63, SPC SUCTION VALVE	RHS-AOV63, SPC SUCTION VALVE red light only.	_____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
__*__10. Open RHS-AOV64, SPC DISCH VALVE	RHS-AOV64, SPC DISCH VALVE red light only.	_____	
__*__11. Open E12 F042C, RHR PUMP C LPCI INJECT ISOL VALVE	E12 F042C, RHR PUMP C LPCI INJECT ISOL VALVE red light only	_____	
__*__12. START SPC-P1A	SPC-P1A red and whight lights.	_____	
___13. CHECK open SPC-AOV25, SPC PUMP MINIMUM FLOW VALVE, as indicated by flow indication on SPC-FI 32, SPC TOTAL FLOW.	Flow indicated on on SPC-FI 32, SPC TOTAL FLOW	_____	
__*__14. THROTTLE open SPC-AOV20, SPC F-D BYP VALVE to achieve injection.	greater than 1500 gpm and less than or equal to 2250 gpm as indicated on SPC-FI 32, SPC TOTAL FLOW.	_____	

Termination Criteria: SPC pump "A" injecting into the RPV at >1500 gpm.

RBS JOB PERFORMANCE MEASURE

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____ KCN: _____

Evaluator: _____

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 reactor has been shutdown and depressurized, failure of several systems has necessitated the use of SPC/ADHR for RPV injection.

Initiating Cues: The CRS has directed you to inject water into the RPV using the "A" SPC pump in accordance with EOP-0005, Enclosure 35.

Termination Criteria: SPC pump "A" injecting into the RPV at >1500 gpm.