OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:

STATION: SALEM

SYSTEM: Reactivity Control (SF-1) – CVCS

TASK: Locally Borate the RCS

TASK NUMBER: N1130140504

JPM NUMBER: 17-01 NRC IP-i

ALTERNATE PATH: [ ] **K/A NUMBER:** 004 A4.18

IMPORTANCE FACTOR: 4.3 (RO) 4.1 (SRO)

APPLICABILITY:
EO [ ] RO [X] STA [ ] SRO [X]

EVALUATION SETTING/METHOD: In-Plant / Simulate

REFERENCES: S1.OP-AB.CR-0001, Rev. 18 (checked 8-23-18)

TOOLS AND EQUIPMENT: JAM Key

VALIDATED JPM COMPLETION TIME: 10 minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: Rudolph Chan **R. Chan** **Instructor** **Date: 12-5-18**

Validated By: **Maxey / Thomas (Rev. 0)** **SME or Instructor** **Date: 5-22-18**

Approved By: **Training Department** **Date: 12/11/18**

Approved By: MYERS **Operations Department** **Date: 12/7/18**

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: **DATE:**

REVISION HISTORY

JPM NUMBER: 2018 Annual IP-10

Rev #	Date	Description	Validation Required
00	5-22-18	Added revision history and simulator setup pages. Editorial comments from IP 71111.11 FASA.	Yes
NA	8-23-18	Previously validated during 2018 Annual exam development. See 2018 Annual IP-10 for validation documentation.	No
01	12-5-18	Incorporated NRC Prep week comments. Identified steps 10.2, 10.3, 10.5 and 10.6 as Critical Steps to ensure that 11 and 12 CV160 recirc valves are closed to prevent bypass flow. These changes are minor and re-validation is not required.	No

SIMULATOR SETUP INSTRUCTIONS

SYSTEM: Reactivity Control (SF-1) – CVCS

TASK: Locally Borate the RCS

TASK NUMBER: N1130140504

SIMULATOR IC: N/A

MALFUNCTIONS / REMOTES: N/A

OVERRIDES: N/A

SPECIAL INSTRUCTIONS:

- **This JPM is in the RCA.**
- **Ensure you have a JAM Key before going into RCA.**

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:

NAME: _____

DATE: _____

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TASK: Locally Borate the RCS

TASK NUMBER: N1130140504

INITIAL CONDITIONS:

- Unit 1 control room was evacuated due to a security event.
- The immediate actions of 1-EOP-TRIP-1 were completed.
- 3 control rods remain withdrawn following the Rx trip.
- CRS is performing actions of S1.OP.AB-CR-0001, Control Room Evacuation.
- Attachment 5, Steps 1 thru 9 of S1.OP-AB.CR-0001 are complete with 1CV55 maintaining Charging flow at **90 gpm** and RCP seal injection flows being maintained at **6 gpm to each seal**.

INITIATING CUE:

- You are the Reactor Operator.
- Perform **Emergency Boration** for the stuck control rods IAW Attachment 5, Step 10, of S1.OP-AB.CR-0001.

Successful Completion Criteria:
1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Task Standard for Successful Completion:
1. **Perform steps to close 11 and 12 CV160 recirc valves.**
2. **Simulate locally opening 1CV175 Rapid Boration valve.**
3. **Simulate adjusting charging flow to ≥ 99 gpm.**

NAME: _____

DATE: _____

SYSTEM: Reactivity Control (SF-1) – CVCS

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*	STEP NO.	STEP (*Denotes a Critical Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	CUE:	Provide copy of S1.OP-AB.CR-0001, Attachment 5.			
	CUE:	Fill in the JPM Start Time when the student acknowledges the Initiating Cue. **START TIME:**_____			
	10.0	WHEN directed by the CRS, THEN:			
	10.1	**PROCEED** to Unit 1 Cont Air Redundant Air Supply Wall Mntd Pnl 701-1A, El 122', near the Boric Acid Storage Tanks.	Locates Unit 1 Cont Air Redundant Air Supply Wall Mntd Pnl 701-1A		
*	10.2	**CLOSE** the Air Supply Isolation Valve, 11CV160 A/S, AIR SUPPLY FOR 11CV160.	Locates and simulates closing the Supply Isolation Valve, 11CV160 A/S, AIR SUPPLY FOR 11CV160. **CUE**: air supply isolation valve for 11CV160 is closed		
*	10.3	**OPEN** draincock for control air regulator for 11CV160.	Simulates opening draincock for control air regulator for 11CV160. **CUE**: draincock for 11CV160 is open.		

NAME: _____

DATE: _____

SYSTEM: Reactivity Control (SF-1) – CVCS

TASK: Locally borate the RCS

*	STEP NO.	STEP (*Denotes a Critical Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	10.4	**PROCEED** to Unit 1 Cont Air Redundant Air Supply Wall Mntd Pnl 701-1B, El 122", near the Boric Acid Storage Tanks.	Locates Unit 1 Cont Air Redundant Air Supply Wall Mntd Pnl 701-1B		
*	10.5	**CLOSE** the Air Supply Isolation Valve, 12CV160 A/S, AIR SUPPLY FOR 12CV160.	Locates and simulates closing the Supply Isolation Valve, 12CV160 A/S, AIR SUPPLY FOR 12CV160. **CUE**: air supply isolation valve for 12CV160 is closed.		
*	10.6	**OPEN** draincock for control air regulator for 12CV160.	Simulates opening draincock for control air regulator for 12CV160. **CUE**: draincock for 12CV160 is open.		
*	10.7	**OPEN** 1CV175, Rapid Borate Stop Valve.	**Locates and discusses opening 1CV175, Rapid Borate Stop Valve by disengaging clutch and rotating handwheel (counterclockwise).** **CUE**: 1CV175 is open		

NAME: _____

DATE: _____

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*	STEP NO.	STEP (*Denotes a Critical Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Evaluator's Note: The control room will receive an OHA alarm when the 216-1 Panel door is opened for the operator to adjust the hand sender and read charging flow on 1FI-128A.. Verify that the alarm clears when the operator exits the Panel.	Operator is expected to contact the control before and after the 216-1 Panel door is opened and closed.		
*	10.8	**PROCEED** to 1CV55 and ADJUST the flow for 75 gpm above existing total flow for all RCP seal flows.	Operator refers back to Step 8 of Attachment 5 (provided to Operator) and observes that Charging flow is being controlled locally in MANUAL at 90 gpm. **Determines charging flow must be raised to <u>99 gpm</u> (75 gpm + 24 gpm for seals).** **At the 216-1 Panel, Operator adjusts the MANUAL hand sender in the direction to lower the air signal to open 1CV55 and raise charging to desired flow.** **CUE:** Charging flow is 100 gpm. **JPM is complete.**		

NAME: _____

DATE: _____

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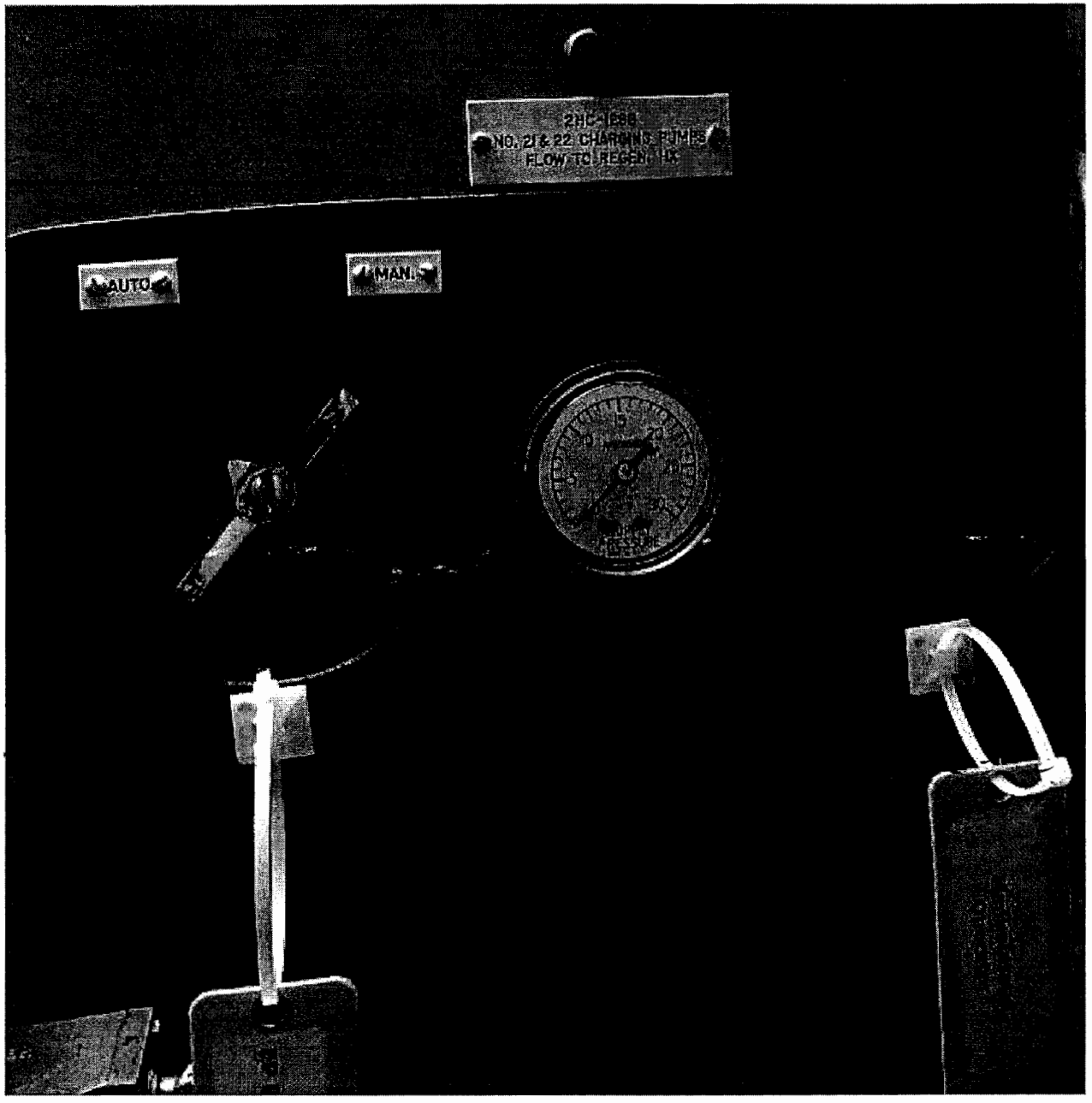
*	STEP NO.	STEP (*Denotes a Critical Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	CUE:	WHEN operator informs you the task is complete, OR the JPM has been terminated for other reasons, THEN **RECORD** the STOP TIME. **STOP TIME:**_____	**Terminate JPM once charging flow has been adjusted.**		



ATTACHMENT 5
(Page 1 of 4)

REACTOR OPERATOR

✓ 1.0 **OBTAIN** the following:

- One copy of this procedure.
- One radio (located in Appendix "R" Cabinet)
- Key ring set and tools (JA Master, Breaker Keyswitch, screwdriver and adjustable wrench).
- A Security Master Key from the Unit 1 CRS (located on the Unit 1 Security Key Ring) **[C0363]**

✓ 2.0 **PROCEED** to Rod Drive MG Set Control Panel (460V Vital Bus Room-El 84'), AND **OPEN** the following breakers:

✓ 2.1 Reactor Trip Breaker A

✓ 2.2 Reactor Trip Breaker B

NA 2.3 Reactor Trip Bypass Breaker A

NA 2.4 Reactor Trip Bypass Breaker B.

✓ 3.0 **CONFIRM** with the Hot Shutdown Panel Operator (PO) that 11 or 12 Charging Pump is operating.

✓ 4.0 **PROCEED** to 1AX1AX7X, #13 Charging Pump breaker AND **OPEN** the breaker.

✓ 5.0 **PROCEED** to 1C West Valve & Misc 230V Control Center-El 84', AND **OPEN** Breaker 1CY2AX4I, 1CV175-Rapid Borate Stop Valve.

✓ 6.0 **NOTIFY** the CRS of the following:

✓ 6.1 The Reactor Trip and Bypass breakers are OPEN

✓ 6.2 #13 Charging Pump Breaker is OPEN.

✓ 7.0 **CONFIRM** with NEO #1 that 1CV71, Chr Hdr PCV, is isolated (1CV70) and bypassed (1CV73) and that flow is being maintained to RCP seals at flowrate of 6 to 10 gpm to each seal.

ATTACHMENT 5
(Page 2 of 4)

REACTOR OPERATOR

NOTE

The following indications and controls are available for local operation at Unit 1 CVC Chg Pmps FL & PR Inst Pnl, Panel 216-1:

- 1CV55 AUTO/MANUAL Selector Switch (1HC-128G No. 11 & 12 Charging Pumps Flow to Regen HX)
- 1CV55 Manual HAND/AIR Regulator Control
- Charging Pump Flow Indication, 1FI-128A
- 11 and 12 Charging Pump Pressure Indication, 1PI-142B
- VCT Level Indication 1LT-114.

✓ 8.0 **TAKE** control of 1CV55, Cent Chg Pmp Flow Cont Valve, by performing the following:

✓ 8.1 **RECORD** the charging flow as indicated on 1FI-128A.

90 gpm indicated on 1FI-128A

✓ 8.2 **PLACE** local E/P Bypass Line Selector Valve in Manual.

✓ 8.3 Using the MANUAL hand air operator, **ENSURE** that the flow rate as noted in Step 8.1 is being maintained with 1CV55.

✓ 8.4 **OBSERVE** local air pressure indicator to verify local control.

✓ 9.0 **NOTIFY** the STA and CRS that Steps 1 through 8 of Attachment 5 are completed.

ATTACHMENT 5
(Page 3 of 4)

REACTOR OPERATOR

NOTE
Step 10.0 through Step 15.0 will only be performed if an Emergency Boration is required for stuck rod.

___ 10.0 WHEN directed by the CRS,
THEN:

___ 10.1 **PROCEED** to Unit 1 Cont Air Redundant Air Supply Wall Mntd Pnl 701-1A, El 122', near the Boric Acid Storage Tanks.

___ 10.2 **CLOSE** the Air Supply Isolation Valve, 11CV160 A/S, AIR SUPPLY FOR 11CV160.

___ 10.3 **OPEN** draincock for control air regulator for 11CV160.

___ 10.4 **PROCEED** to Unit 1 Cont Air Redundant Air Supply Wall Mntd Pnl 701-1B, El 122", near the Boric Acid Storage Tanks.

___ 10.5 **CLOSE** the Air Supply Isolation Valve, 12CV160 A/S, AIR SUPPLY FOR 12CV160.

___ 10.6 **OPEN** draincock for control air regulator for 12CV160.

___ 10.7 **OPEN** 1CV175, Rapid Borate Stop Valve.

___ 10.8 **PROCEED** to 1CV55 and ADJUST the flow for 75 gpm above existing total flow for all RCP seal flows.

___ 11.0 **REQUEST** NEO #1 to adjust 1CV73 to maintain flow to RCP seals between 6 and 10 gpm.

___ 12.0 **NOTIFY** the CRS that Rapid Boration has commenced.

___ 13.0 **REMAIN** in the area of the Charging Pumps.

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 and 11 below.

R 12-5-18

NA 1. Task description and number, JPM description and number are identified.

2. Knowledge and Abilities (K/A) references are included.

3. Performance location specified. (in-plant, control room, or simulator)

4. Initial setup conditions are identified.

5. Initiating and terminating Cues are properly identified.

6. Task standards identified and verified by SME review.

7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

8. Verify the procedure referenced by this JPM matches the most current revision of that procedure: Procedure Rev. _____ Date _____

9. Pilot test the JPM:
   a. verify Cues both verbal and visual are free of conflict, and
   b. ensure performance time is accurate.

10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

NA 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

SME/Instructor: NA R 12-5-18 Date: _____

SME/Instructor: _____ Date: _____

SME/Instructor: _____ Date: _____

JOB PERFORMANCE MEASURE

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S1.OP-AB.CR-0001(Q)

ATTACHMENT 5
(Page 1 of 4)

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