JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Start And Load The Diesel Generator**

JPM NUMBER: **RO-010-JP041** **REV.** **B**

RELATED PRA INFORMATION: **Diesel Generator is ranked number 1 system in PRA Importance.**

TASK NUMBER(S) / TASK TITLE(S): **0100040101**
Startup Diesel Generator A(B)

K/A NUMBERS: **064A4.06 RO value 3.9 / SRO value 3.9**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 25 Minutes Time Critical: No

Alternate Path / Faulted: Yes

TASK APPLICABILITY: RO, SRO

Additional signatures may be added as needed.		
Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: RO-010-JP041

JPM Title: Start and Load the Diesel Generator

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

Read to Examinee:

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are the Balance Of Plant Operator.
2. Diesel Generator A is OPERABLE.
3. Diesel Generator B is INOPERABLE, and is being started for an hour run at-load in accordance with N-DGM-10B, Diesel Generator B Manual Operation.
4. N-DGM-10B has been completed up through step 4.1.10, just prior to starting.
5. An EO is standing by at DG B.

INITIATING CUES (IF APPLICABLE):
The CRS directs you to start and load Diesel Generator B to 2600 KW beginning at step 4.1.11 of N-DGM-10B.

JPM PERFORMANCE INFORMATION

Required Materials: N-DGM-10B, Rev. O

General References:

Task Standards:

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	Refer to N-DGM-10B, **Diesel Generator B Manual Operation**
Standard:	Refer to N-DGM-10B, Diesel Generator B Manual Operation.
Evaluator Note:	**The operator may choose to review the initial conditions, precautions and limitations and performed steps of the procedure prior to proceeding.**
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 2 **Critical: No**	4.1.11.a Announce start of Diesel Generator B.
Standard:	Plant announcement of DG B start made using Gaitronics.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 3 **Critical: Yes**	4.1.11.b Start Diesel Generator B.
Standard:	Diesel Generator B running with Diesel Engine B control switch RED light ON, GREEN light OFF.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 4 **Critical: No**	4.1.11.b.1 Record time Diesel Generator B started.
Standard:	Current time listed in space provided at step 4.1.11.b.1 in N-DGM-10B.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 5 **Critical: No**	4.1.12. Locally verify SW-301B, Service Water from D/G B Heat Exchanger, open.

Standard: Direct EO to verify SW-301B is open.

Evaluator Cue: SW-301B is open.

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 6 4.1.13.a
Critical: No Verify Diesel Engine red indicating light ON.

Standard: Diesel Engine B control switch RED light ON.

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 7 4.1.13.b
Critical: No Verify Diesel Generator B Speed of 450-500 rpm.

Standard: Diesel Generator B Speed (4462004) indication between 450 and 500 rpm.

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 8 4.1.13.c
Critical: No Verify Status Light, DIESEL B ON, ON.

Standard: Status Light, DIESEL B ON, (44910-0105) ON.

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 9 4.1.13.d
Critical: No Verify Status Light, DG B ROOM VENT FAN ON, ON.

Standard: Status Light, DG B ROOM VENT FAN ON, (44910-0106) ON.

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 10	4.1.13.e
Critical: No	Verify Status Light, DG ROOM B DAMPER OPEN, ON.
Standard:	Status Light, DG ROOM B DAMPER OPEN, (44910-0107) ON.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 11	4.1.14
Critical: No	Inspect Diesel Generator B for any abnormal conditions.
Standard:	Direct EO to inspect DG B for abnormal conditions.
Evaluator Cue:	**Conditions are normal.**
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	

Performance Step: 12	4.1.15
Critical: No	Run Diesel Generator at low idle speed for ≥ 3 minutes.
Standard:	Diesel Generator B has run at low idle speed for at least 3 minutes.
Evaluator Cue:	**DG has run for 3 minutes.**
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 13	4.1.16
Critical: No	Adjust Diesel Generator B speed to 900 rpm with Speed Control switch.
Standard:	Diesel Generator B Speed (4462004) indicates between 890 and 950 rpm.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 14 4.1.17
Critical: Yes Position Diesel Generator B Governor Mode Selector switch to AUTO.

Standard: Diesel Generator B Governor Mode Selector is in AUTO position.

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 15 4.1.18
Critical: No Verify annunciator DIESEL GEN B GOV IN MAN (47093-E) OFF.

Standard: Annunciator 47093-E is reset .

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 16 4.1.19.a
Critical: No Notify Energy Supply and Control Diesel Generator will be paralleled to grid.

Standard: Telephone call made to ES&C informing of paralleling DG.

Evaluator Cue: **Energy Supply and Control acknowledges message.**

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 17 4.1.19.b
Critical: Yes Position Bkr 1-603, DG B to Bus 6 43 switch to MAN.

Standard: Bkr 1-603 is in MAN position.

Performance: **SATISFACTORY** □ **UNSATISFACTORY** □

Comments: _____

Performance Step: 18	4.1.19.c
Critical: No	Verify annunciator BUS 6 SOURCE BKR 43 SW IN MAN (47093-K) is ON.
Standard:	Acknowledge annunciator 47093-K.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 19	4.1.19.d
Critical: Yes	Locally perform: 1. Position Parallel-Unit switch to PARALLEL. 2. Set Governor Speed Droop to 30.

Standard:	Contact EO to perform steps 4.1.19.d.1 and 4.1.19.d.2.
Evaluator Note:	The **Booth Operator** will actuate **Trigger 1** to set switch and droop knob to proper position.
Evaluator Cue:	Parallel-Unit switch is in PARALLEL and Speed Droop is set to 30.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 20	4.1.19.e
Critical: Yes	Position Bkr 1-603 Sync switch to ON.
Standard:	Bkr 1-603 Sync switch is in ON position.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 21	4.1.19.f
Critical: No	Adjust Diesel Generator voltage with Voltage Control switch until Incoming A-C Volts matches Running A-C Volts.
Standard:	Incoming Volts reads within ± 2 volts of Running Volts.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 22	4.1.19.g
Critical: No	Adjust Diesel Generator speed with Speed Control switch until synchroscope rotates slowly in the FAST direction.
Standard:	Synchroscope pointer is rotating in the clockwise direction at 4 to 6 rpm.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 23	4.1.19.h
Critical: No	Repeat steps 4.1.19.f and 4.1.19.g to ensure Incoming A-C Volts is matched with Running A-C Volts and diesel is slightly higher in frequency.
Standard:	a. Incoming Volts reads within ± 2 volts of Running Volts. b. Synchroscope pointer is rotating in the clockwise direction at 4 to 6 rpm.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 24	4.1.19.i.1
Critical: Yes	With synchroscope rotating in clockwise direction, parallel Diesel Generator with Bus 1-6. At 9 o'clock close and hold Bkr control switch.
Standard:	Bkr 1-603 closed.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 25	4.1.19.i.1.A
Critical: No	When breaker closes OR synchroscope pointer passes 12 o'clock, THEN RELEASE Bkr 1-603 control switch.
Standard:	**Bkr 1-603 control switch released.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 26	4.1.19.i.1.B
Critical: No	Record time Bkr 1-603 closed.
Standard:	Current time listed in space provided at step 4.1.19.i.1.B in N-DGM-10B.
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 27	4.1.19.i.2
Critical: No	Verify only red indicating light ON and release Bkr 1-603 control switch.
Standard:	Bkr 1-603 is in Normal After-Close position with RED light only lit.
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 28	4.1.20
Critical: Yes	Increase Diesel Generator Kilowatts incrementally with Speed Control switch until required load is reached.
Standard:	Diesel Generator Kilowatts (4462103) increasing toward 1000 KW.
Evaluator Note:	**The DG will trip on entered Malfunction, triggered to actuate when DG B load exceeds 1000 KW.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 29	4.1.21

Standard:	KVARs (4462104) maintained out of TEST and AVIOD REGION on N-DGM-10B, Figure 1.
Evaluator Note:	**Figure 1 attached page 14.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 30 **Critical: No**	4.1.22 Position Bkr 1-603 Sync switch to OFF.
Standard:	Bkr 1-603 Sync switch in OFF.
Evaluator Note:	**This step may NOT be performed if DG B KW reaches or exceeds 1000 KW. Step 4.1.22.a provides for Independent Verification that synch switch for Bkr 1-603 is OFF. IF conditions allow or require the CUE is provided below.**
Evaluator Cue:	**Second Operator has provided Independent verification Bkr 1-603 Synch switch is OFF.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 31 **Critical: No**	Respond to actuated annunciators: 1. DIESEL GEN B MECH LOCKOUT (47091-E) 2. DIESEL GEN B ABNORMAL (47091-F)

Standard:	Refer to Alarm Response Sheets for 47091-E and 47091-F.
Evaluator Note:	**The DG B trip malfunction will automatically actuate when DG B load goes above 1000 KW.**
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Performance Step: 32 **Critical: Yes**	Alarm Response Sheet 47091-E, Recommended Action 1 1. Open Bkr 1-603 DG B to Bus 6.
Standard:	Bkr 1-603 open. (May be taken to PULLOUT position.)
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

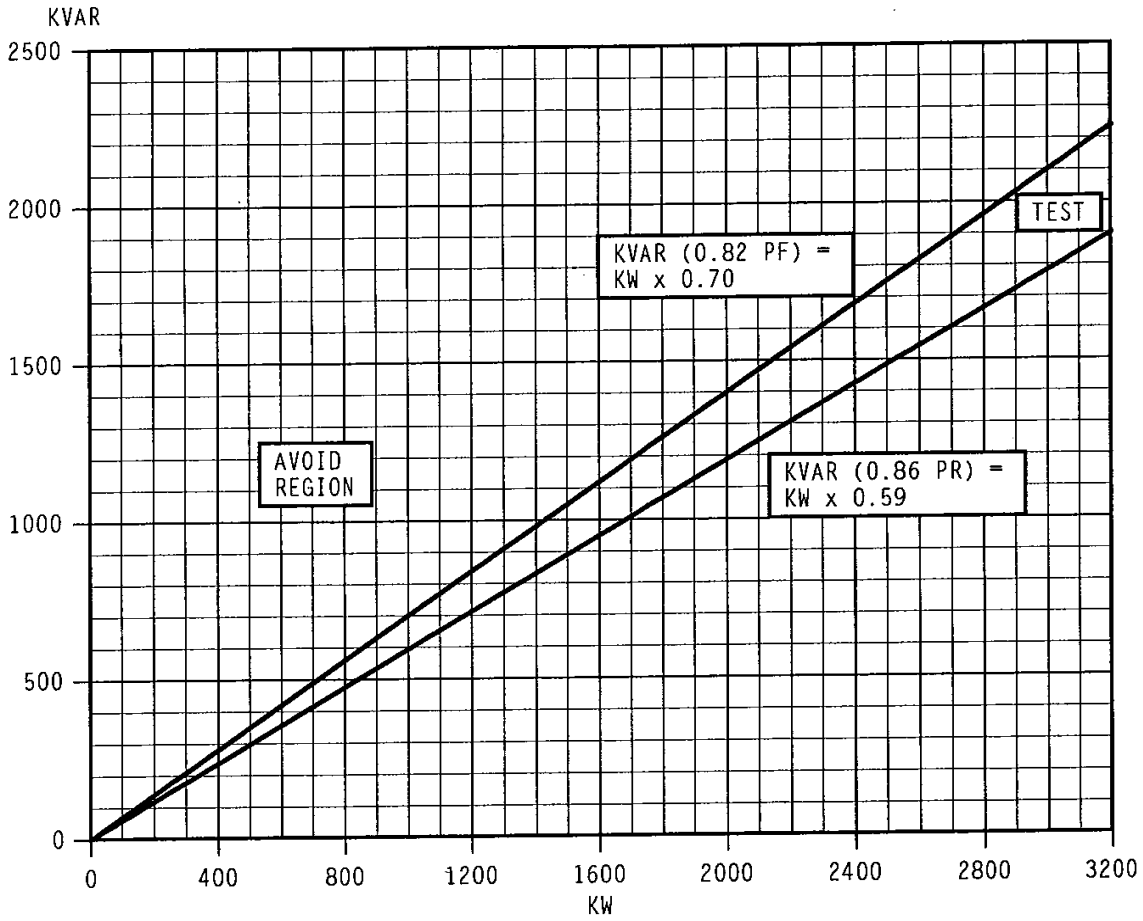
Performance Step: 33 **Critical: No**	Alarm Response Sheet 47091-E, Recommended Action 2 2. Refer to Tech Spec 3.7. Alarm Response Sheet 47091-F, Recommended Action 1 1. Notify NAO of alarming condition.
Standard:	Inform CRS/Crew of Diesel Generator B trip and need to address Tech Spec 3.7.
Performance:	**SATISFACTORY** □ **UNSATISFACTORY** □
Comments:	_____

Terminating Cues: After Operator informs CRS/Crew of DG B trip: This completes this JPM.

Stop Time: _____

WISCONSIN PUBLIC SERVICE CORPORATION	NO. N-DGM-10B	
KEWAUNEE NUCLEAR POWER PLANT	TITLE Diesel Generator B Manual Operation	
OPERATING PROCEDURE	DATE SEP 23 2004	PAGE 14 of 15

Figure 1



KVAR vs KW

CONTINUOUS USE

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to any At-Power Power IC, then perform the following:

2. **Go to RUN.**
3. **Ensure the malfunction is listed for loss of Diesel Generator B on Event Trigger 5.**
4. **Ensure EVENT is listed for Event Trigger 5.**
5. **Place DG B Governor Mode Selector to MAN.**
6. **Acknowledge annunciator 47093-E.**
7. **HOLD DG B Speed Control switch to LOWER for at least 3 minutes. Ensure a copy of N-DGM-10B, Diesel Generator B Manual Operation, is stamped/dated, and marked up through step 4.1.10. (Position DG B SPEED CONTROL switch to LOWER…)**
8. **(If required) When directed (at step 4.1.12) to check SW-301B, Service Water from D/G B Heat Exchanger, open, REPORT valve is open.**
9. **(If required) When directed (at step 4.1.14) to inspect D/G B for abnormal conditions, REPORT all conditions normal.**
10. **When directed (at Step 4.1.19.d) to locally position Parallel-Unit switch to PARALLEL and set Governor Speed Droop to 30, Actuate TRIGGER 1 to actuate Remote Function EG106 for Diesel B Droop & Parallel Setting to 30 & PAR.**

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
1 (TRIGGER 1) [Performance Step 19]	N/A	N/A	Remote Function EG106 places local controls in PAR and droop set to 30.
2 (TRIGGER 5) [Performance Step 28-30] AUTOMATIC	N/A	EGE0352A >= 1000	Actuates when D/G B load reaches 1000 KW. Will enter malfunction EG05B Loss of EDG 1B

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
Step (Trigger 5 AUTOMATIC)	EG05B	Loss of Emergency DG (1B)	5	0	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
Step (TRIGGER 1)	**EG106**	**Diesel B Droop & Parallel Setting**	**30&PAR**	**N/A**

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Balance Of Plant Operator.
2. Diesel Generator A is OPERABLE.
3. Diesel Generator B is INOPERABLE, and is being started for an hour run at-load in accordance with N-DGM-10B, Diesel Generator B Manual Operation.
4. N-DGM-10B has been completed up through step 4.1.10, just prior to starting.
5. An EO is standing by at DG B.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to start and load Diesel Generator B to 2600 KW beginning at step 4.1.11 of N-DGM-10B

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

	Exam Use - Takes you to the position to delete the 'Not For Exam Use' stamp. Select the Word Art text and delete. Press the 'Close' button on the 'header/footer' toolbar.

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Operate the RHR System in Split Train Mode**

JPM NUMBER: **RO-034-JP01A** **REV.** **B**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0340010401**
Operate the RHR System in Split Train Mode

K/A NUMBERS: **E03EA1.3 RO Value 3.7 / SRO Value 4.1**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 25 Minutes Time Critical: No

Alternate Path / Faulted: No

TASK APPLICABILITY: RO, SRO

Additional signatures may be added as needed.		
Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: RO-034-JP01A

JPM Title: Operate the RHR System in Split Train Mode

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are the Reactor Operator.
2. The plant is recovering from a Small Break LOCA.
3. The crew is performing the steps of ES-1.2, Post-LOCA Cooldown and Depressurization and are placing RHR in service per A-RHR-34B, Residual Heat Removal Split-Train Mode.
4. Steps 4.1 through 4.4 of A-RHR-34B have been completed.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to continue alignment of RHR for Split-Train operation starting at step 4.5 and place Train A of RHR in service for cooldown.

JPM PERFORMANCE INFORMATION

Required Materials: A-RHR-34B, Rev. H

General References:

Task Standards: RHR Suction and Hx Outlet Temperature trending up for RHR warmup.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to A-RHR-34B**
Standard:	**Refer to A-RHR-34B**
Evaluator Note:	
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 2 **Critical: Yes**	**A-RHR-34B Step 4.5** **Stop RHR Pump A**
Standard:	**RHR Pump "A" C/S placed in the Normal After Stop position. Verify:** **Green light ON** **Red light OFF**

Evaluator Cue:	
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 3 **Critical: Yes**	**A-RHR-34B Step 4.6.1** **Align Local Manual Valves:** **RHR-4B, RHR Pump 1B Inlet Isolation, CLOSED** **RHR-10A, Cross-Connect Valve, OPEN** **RHR-100A, Heat Exchanger Bypass Line, OPEN**
Standard:	**Directs NAO to position Local Manual Valves to the following positions:** **RHR-4B CLOSED** **RHR-10A OPEN** **RHR-100A OPEN**
Evaluator Note:	**The BOOTH OPERATOR will actuate TRIGGER 2 for the Remote Functions that align the valves in this step.**
Evaluator Cue:	**As AO when contacted, perform actions as directed (Actuate Trigger 2 to enter Remote Functions). Report back:** **RHR-4B is closed** **RHR-10A is open** **RHR-100A is open**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 4 **Critical: Yes**	**A-RHR-34B Step 4.6.2** **Align Control Room Valves:** **RHR-8A, RHR Flow Control HX A Outlet, CLOSED** **RHR-101, RHR Flow Control Bypass, OPEN/MANUAL** **SI-300A, RWST Supply To RHR Pump A, CLOSED** **SI-302A, RHR Pump A Injection To Reactor Vessel, CLOSED** **SI-302B, RHR Pump B Injection To Reactor Vessel, OPEN**

Standard:	**Control Room Valves aligned as follows:** **RHR-8A Closed by taking dial fully counter-clockwise position to indicate 100%.** **RHR-101 Open/Manual by taking the pot to the fully clockwise position and lower gauge to indicate 100%.** **SI-300A Closed with Green light ON and Red light OFF.** **SI-302A Closed with Green light ON and Red light OFF.** **SI-302B Open with Red light ON and Green light OFF**
Evaluator Note:	**SI-302B is NOT operated; and therefore, is NOT part of the critical actions of this step.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 5 **Critical: No**	**A-RHR-34B Step 4.7.1** **Verify RCS pressure < 400 psig**
Standard:	**RCS pressure less than 400 psig on Wide Range RCS pressure on WR pressure recorder 42556 or NR pressure indication PI-420 (413013).**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 6 **Critical: No**	**A-RHR-34B Step 4.7.2** **Verify charging and letdown in service.**
Standard:	**Charging and letdown in service:** **Letdown alignment checked.** **Charging alignment checked with Charging Pumps running.**

Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 7	**A-RHR-34B Step 4.7.3**
Critical: No	**Verify RHR Suct and Outl Temperature Recorder, Energized.**
Standard:	**RHR Suction and Outlet Temperature Recorder is energized.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 8	**A-RHR-34B Step 4.7.4**
Critical: Yes	**OPEN CC-400A, Component Cooling To RHR Hx A**
Standard:	**CC-400A Open with Red light ON and Green light OFF.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 9	**A-RHR-34B Step 4.7.5**
Critical: No	**OPEN LD-60, RHR to CVCS Letdown Line.**
Standard:	**LD-60 Open with Red light ON and Green light OFF.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 10	**A-RHR-34B Step 4.7.5**
Critical: No	**VERIFY RHR Pump A Disch Press (PI-629) increases to equal Letdown Hx Outlet Pressure (PI-135)**
Standard:	**RHR Pump A discharge pressure PI-629 and Letdown HX Outlet pressure PI-135 approximately equal.**
Evaluator Note:	**PI-135 pressure may read up to 100 psig less than PI-629. If LD-10 is taken fully closed and PI-135 reads below PI-629, the operator may raise question about continuing. If so the CUE below should be**

Evaluator Cue:	**Pressure readings are noted, Continue with actions.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 11 **Critical: No**	**A-RHR-34B Step 4.7.6** **ADJUST LD-10, Letdown Cont Pressure Controller, to increase Letdown Hx Outlet Pressure (PI-135) to match RCS NR Pressure (PI-420).**
Standard:	**Adjust LD-10 controller until pressures indicated on PI-135 and PI-420 are approximately equal.**
Evaluator Note:	**PI-135 pressure may read up to 100 psig less than PI-629. If LD-10 is taken fully closed and PI-135 reads below PI-629, the operator may raise question about continuing. If so the CUE below should be used.**
Evaluator Cue:	**Pressure readings are noted, Continue with actions.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 12 **Critical: Yes**	**A-RHR-34B Step 4.7.7.1 – 4.7.7.4** **OPEN following:** **RHR-1A, RCS Loop A Supply to RHR Pumps** **RHR-2A, RCS Loop A Supply to RHR Pumps** **RHR-1B, RCS Loop B Supply to RHR Pumps** **RHR-2B, RCS Loop B Supply to RHR Pumps**
Standard:	**RHR-1A Open with Red light ON and Green light OFF.** **RHR-2A Open with Red light ON and Green light OFF.** **RHR-1B Open with Red light ON and Green light OFF.** **RHR-2B Open with Red light ON and Green light OFF.**

Evaluator Note:	**At least one set of these valves (RHR-1A and RHR-2A OR RHR-1B and RHR-2B) must be open to provide and adequate suction path to RHR Pump A.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 13 **Critical: No**	**A-RHR-34B Step 4.7.8** **POSITION RHR-101/CV-31116, RHR Flow Bypass, to 10% OPEN.**
Standard:	**RHR-101 Potentiometer adjusted to approximately 10% (open).**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 14 **Critical: No**	**A-RHR-34B Step 4.7.9** **POSITION LD-10 Controller to MAN in preparation for pressure increase due to starting RHR Pump A**
Standard:	**LD-10 positioned to the MAN position.**
Evaluator Note:	**LD-10 will already be in MANUAL controlling letdown pressure.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 15 **Critical: No**	**A-RHR-34B Step 4.7.10 CAUTION** **Do <u>NOT</u> exceed 600 psig at RHR pump discharge as indicated on RHR Pump A Disch Press (PI-629). <u>WHEN</u> RHR pumps are running, this corresponds to approximately 425 psig RCS pressure.**
Standard:	**CAUTION is read and examinee notes pressure indications to observe – PI-629 and wide range RCS pressure indicators.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 16 **Critical: Yes**	**A-RHR-34B Step 4.7.10** **START RHR Pump A**
Standard:	**RHR Pump A running with Red light ON and Green light OFF. (Pump amps may also be checked.)**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 17 **Critical: No**	**VERIFY RHR Pump Pit Fan Coil Unit A, ON.**
Standard:	**RHR Pump Pit Fan Coil Unit A verified running with Red light lit.** (Status light lit on SI ACTIVE Status Panel (44910-0303) may also be checked.)
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 18 **Critical: Yes**	**A-RHR-34B Step 4.7.11** **ADJUST LD-10 to establish approximately 80 gpm Letdown Hx Outlet Flow.**
Standard:	**LD-10 adjusted to establish approximately 80 gpm Letdown Hx outlet flow.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 19 **Critical: Yes**	**A-RHR-34B Step 4.7.12** **THROTTLE OPEN RHR-101 to gradually increase RHR Heat Exchanger Outlet Temp (green pen) to within 50 F of RHR Pumps' Suction Temperature (red pen) on RHR Suct & Outl Temperature Recorder.**
Standard:	**RHR-101 throttled open above 10%.** **RHR Heat Exchanger Outlet temperature rising toward RHR Suction temperature on RHR Suct & Outl Temperature Recorder.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When RHR Suction and Hx Outlet Temperature trending up for RHR warmup, **CUE: THIS JPM IS COMPLETE**

Stop Time: _____

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator IC-18, Ready to enter RHR, then perform the following:

1. **Enter Remote Functions**
2. **Go to RUN.**
3. **Align electrical Buses to RAT (except Bus 5 aligned to TAT)**
4. **Close Containment Vent valves.**
5. **Place SI Pump control switches in After Stop (from PULLOUT).**
6. **Open the SI Injection valves, SI-11A/B** and **SI-9A/B**.
7. Open the RHR Injection valves, **SI-302A/B**.
8. Open RWST Supply to RHR Pump A(B) valves, **SI-300A/B**.
9. Throttle AFW-2A and AFW-2B to 70%.

10. Actuate SI.
11. Enter RCS LOCA (Malfunction **RC04**)

NOTE: The values for RC04 may be raised to SEVERITY LEVEL = 4 temporarily to allow Containment pressure to reach 4 psig.

When sequencing is complete:
12. Reset SI.
13. Reset Containment Isolation.
14. Place T/D AFW Pump control switch to PULLOUT.
15. Close SI Accumulator Isolation Valves SI-20A & B.
16. Place both RXCP Control Switches in PULLOUT.
17. Place both Przr Spray valves in MAN and CLOSE.
18. Stop both Diesel Generators and place control switches in AUTO.
19. Start two charging pumps with suction aligned to RWST.
20. Establish charging flow with Charging Pump demand between 75% and 90%.

NOTE: When containment pressure reaches 4 psig AND PRZR level is offscale low, then reduce malfunction RC04 to Severity Value=0 to allow RCS level and pressure recovery.

When Przr level is recovered to between 40 and 60%:
21. Place SI Pump A in PULLOUT and **DANGER TAG** control switch. (Out of Service)
22. Modify malfunction **RC04** to Severity Value= 0.23 to 0.275 stabilize Przr level.
23. Establish letdown with LD-4A/B/C open.
24. Open CVC-211 and CVC-212 to establish seal return flow
25. When VCT level is between 40% and 70%, OPEN CVC-1 and CLOSE CVC-301
26. Stabilize conditions with RCS pressure between 150 and 300 psig, and RCS loop temperatures (Cold Leg) less than 320ºF.

After JPM has begun:

NOTE: The Remote Functions for operation of RHR-4A and RHR-4B are reversed in the Simulator code. An SFR exist to document this. The Remote Function RH112 will close valve RHR-4B.

27. Actuate TRIGGER 2 when directed to perform local actions of Step 4.6.1.

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
1 (TRIGGER 1)	N/A	N/A	Actuates malfunction RC04A at initial severity
2 (TRIGGER 2) [Performance Step 3]	N/A	N/A	Actuates Remote Functions for RHR alignment step 4.6.1

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
0:01	RC04A	RCS Loop 1 Cold Leg LOCA	1	N/A	1.0 (Adjust as necessary per directions)	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
Preload	SI115	SI-11A Breaker	ON	N/A
”	SI116	SI-11B Breaker	ON	N/A
“	SI117	SI-20A Breaker	ON	N/A
“	SI118	SI-20B Breaker	ON	N/A
“	SI119	SI-09A Breaker	ON	N/A
“	SI120	SI-09B Breaker	ON	N/A
“	RH118	RHR-299A Breaker	OFF	N/A
“	RH107	RHR-1A/2A Brkr – Rack Out	IN	N/A
“	RH106	RHR-11 Brkr – Rack Out	IN	N/A
“	RH108	RHR-1B/2B Brkr – Rack Out	IN	N/A
TRIGGER 2	RH112	RHR Pump 1A Suction Valve (RHR-4A) [Actually operates RHR-4B]	CLOSE	N/A
TRIGGER 2	RH104	RHR HX 1A Outlet X-CONN (RHR-10A)	OPEN	N/A
TRIGGER 2	RH102	RHR HX 1A Inlet X-CONN (RHR-100A)	OPEN	

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Reactor Operator.
2. The plant is recovering from a Small Break LOCA.
3. The crew is performing the steps of ES-1.2, Post-LOCA Cooldown and Depressurization and are placing RHR in service per A-RHR-34B, Residual Heat Removal Split-Train Mode.
4. Steps 4.1 through 4.4 of A-RHR-34B have been completed.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to continue alignment of RHR for Split-Train operation starting at step 4.5 and place Train A of RHR in service for cooldown.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date _____ Validation Personnel/Date _____

Validation Personnel /Date _____ Validation Personnel/Date _____

Validation Personnel /Date _____ Validation Personnel/Date _____

Validation Personnel /Date _____ Validation Personnel/Date _____

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Respond to High Reactor Coolant Activity**

JPM NUMBER: **RO-036-JP01A** **REV.** **A**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0360010401 / Respond to High Reactor Coolant Activity**

K/A NUMBERS: **076AA2.02 RO value 2.8 / SRO value 3.4**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 10 Minutes Time Critical: No

Alternate Path / Faulted: No

TASK APPLICABILITY: RO, SRO

Additional signatures may be added as needed.		
Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: **RO-036-JP01A**

JPM Title: **Respond to High Reactor Coolant Activity**

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

Read to Examinee:

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are the Operator At The Controls.
2. Annunciator 47011-B, RADIATION INDICATION HIGH is in alarm.
3. The crew has addressed the annunciator response and completed the actions of A-RM-45, Abnormal Radiation Monitoring System.
4. Radiation Protection has confirmed the R-9, Letdown Monitor, reading is valid.
5. The crew is performing the actions of A-RC-36A, High Reactor Coolant Activity.
6. The CVC cation demineralizer and the deborating demineralizer are not in service.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to perform step 4.3 of A-RC-36A, Operate CVC mixed bed demineralizers at maximum flow rate (80 gpm) per N-CVC-35B, Charging and Volume Control.

JPM PERFORMANCE INFORMATION

Required Materials: **N-CVC-35B, Rev. AN**

General References: **A-RC-36A, Rev. J**

Task Standards: **Charging and letdown flow have been adjusted to 80 gpm.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**REFER to N-CVC-35B, "Charging and Volume Control", to increase Charging and Letdown flow rate to 80 gpm.**
Standard:	**REFER to N-CVC-35B step 4.2.**
Evaluator Note:	**Operator will be provided with copy of A-RC-36A and may refer to the procedure for step direction (Step 4.3).** **This is NOT required since the initiating cue also provided the direction of the step.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 2 **Critical: No**	**Step 4.2.1 (Step 4.1.1.c)** **VERIFY Charging Pumps are capable of providing required flow.**
Standard:	**Red light lit for two Charging Pumps.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 3 **Critical: No**	**Step 4.2.1** **PLACE or VERIFY all Charging Pumps in MANUAL.**
Standard:	**Charging Control Pump Speed controllers in MANUAL.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 4 **Critical: Yes**	**Step 4.2.1 (Step 4.1.2.b)** **ADJUST the Charging Control-Pump Speed controllers until Chg Flow to approximately twice the initial value.**
Standard:	**Charging flow reads between 40 and 60 gpm on FI-128, CHG FLOW to REGEN HX.**
Evaluator Note:	**Total charging flow is the value on FI-128 and the value of seal injection flow minus #1 seal leakoff flow for both RXCPs.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**

Comments: _____

Performance Step: 5 **Critical: Yes**	**Step 4.2.1 (Step 4.1.2.h.1.)** **Establish 80 gpm letdown flow.**
Standard:	**Red light ON, green light OFF for LD-4B.**
Evaluator Note:	**The operator may also select to place the 80-gpm orifice in service alone by closing LD-4A and opening LD-4C ONLY. This is not expected but is also acceptable.** The operator is expected to check letdown flow on MCC meter FI-134, Letdown HX Outlet Flow.
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 6 **Critical: No**	**Step 4.2.1 (Step 4.1.2.h.2)** **ADJUST LD-10 to establish Letdown Hx Outlet Pressure at 245-255 psig.**
Standard:	**Letdown HX Outlet pressure on PI-135 between 245 and 255 psig**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 7 **Critical: No**	**Step 4.2.1 (Step 4.1.2.i)** **ADJUST CC-302 to establish Letdown Hx Outlet Temperature at 105-130ºF.**
Standard:	**Letdown HX Outlet temperature on TI-130 between 105ºF and 130ºF.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Terminating Cues: **None expected. Charging and letdown flow have been adjusted to 80 gpm. If desired, CUE: This completes this JPM.**

Stop Time: _____

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to any at-power IC, then perform the following:

1. **Go to RUN.**
2. **Insert the malfunction to ramp R-9 Letdown Radiation Monitor to ~ 4.0E+2 over 5 minutes.**
3. **When radiation monitor alarms actuate, acknowledge the alarm. (NOTE: High Alarm at 3.0E+2)**
4. **FREEZE (SNAP an IC, if desired).**
5. **Ensure a copy of A-RC-36A is available and has had the stepwise placekeeping marked for steps 4.1 and 4.2.**
6. **Make sure that a copy of N-CVC-35B is available for use. NOTE: The copy will be provided if the operator initiates use of the plastic copy of N-CVC-35B**

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
T=0	RM02I	Area Radiation Monitor Failure (R-9)	N/A	0	58 (3.5E+2)	5:00	49 (8.5E+1)

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Operator At The Controls.
2. Annunciator 47011-B, RADIATION INDICATION HIGH is in alarm.
3. The crew has addressed the annunciator response and completed the actions of A-RM-45, Abnormal Radiation Monitoring System.
4. Radiation Protection has confirmed the R-9, Letdown Monitor, reading is valid.
5. The crew is performing the actions of A-RC-36A, High Reactor Coolant Activity.
6. The CVC cation demineralizer and the deborating demineralizer are not in service.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to perform step 4.3 of A-RC-36A, Operate CVC mixed bed demineralizers at maximum flow rate (80 gpm) per N-CVC-35B, Charging and Volume Control.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Drain the PRT to the CVC HUT**

JPM NUMBER: **RO-036-JP22B** **REV.** **B**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0360220101**
Respond to a High Water Level in the PRT

K/A NUMBERS: **007A1.01 RO value 2.9 / SRO value 3.1**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 10 Minutes Time Critical: No

Alternate Path / Faulted: No

TASK APPLICABILITY: RO, SRO

Additional signatures may be added as needed.		
Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: **RO-036-JP22B**

JPM Title: **Drain the PRT to the CVC HUT**

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

Read to Examinee:

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are the Operator At The Controls.

2. PRT level has risen 78%.

INITIATING CUES (IF APPLICABLE):

Restore PRT level in accordance with N-RC-36B, Section 4.3.

JPM PERFORMANCE INFORMATION

Required Materials: **N-RC-36B, Rev. Q**

General References: **None**

Task Standards: **PRT level is restored to between 71.5 % and 76%.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to N-RC-36B, Pressurizer Relief Tank Operation.**
Standard:	**Refers to N-RC-36B, section 4.3.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 2 **Critical: Yes**	**N-RC-36B, step 4.3.1: OPEN RC-507/CV-31134, Rx Clnt Drain Pump Disch Header Isol.**
Standard:	**RC-507 open with red light lit.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 3 **Critical: Yes**	**N-RC-36B, step 4.3.2: OPEN RC-508/CV-31135, Rx Clnt Drain Pump Disch Header Isol.**
Standard:	**RC-508 open with red light lit.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 4 **Critical: Yes (Item1)**	**N-RC-36B, step 4.3.3: OPEN PR-40/CV-31257, Przr Relief Tank Drain Isolation.**
Standard:	**1. PR-40 open with red light lit.** **2. Checks PRT level lowering on LI-442 OR contacts AO to verify RCDT Pump A running. (Item #2 is NOT Critical)**
Evaluator Note:	**Examinee should read NOTE prior to step, and recognize that RC-503-1, RCDT to Rx Clnt Drain Pumps will close and RCDT Pump A will auto start when PR-40 is opened.**
Evaluator Cue:	**As AO report RCDT Pump A running.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 5 **Critical: No**	**N-RC-36B, step 4.3.4: CYCLE PR-40 as necessary to maintain PRT pressure 1.0-7.0 psig.**
Standard:	**PRT pressure is maintained within 1.0-7.0 psig by operation of PR-40.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 6 **Critical: Yes (3 & 4)**	**N-RC-36B, step 4.3.5.a : WHEN PRT level reaches 72%, THEN PERFORM the following:** **CLOSE PR-40.**
Standard:	**1. PRT level is monitored on LI-442.** **2. PR-40 control switch is taken closed when level is at or below 72%. (STAR)** 3. PR-40 closed with green light lit. 4. PRT level is between 71.5% and 76%. 5. Reset alarm 47043-B.

Evaluator Note:	**71.5% is the value for the LOW LEVEL Alarm (47043-B SER 960) and 76% is the value for the HIGH LEVEL Alarm (47043-B SER 595). Any level between these setpoints is within the normal operating band for the PRT. If PRT low level is alarmed and requires re-fill, actions taken in accordance with N-RC-36B that restores level within the above values satisfies the STANDARD.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 7 **Critical: Yes**	**N-RC-36B, step 4.3.5.b: CLOSE RC-507.**
Standard:	**RC-507 closed with green light lit.**
Evaluator Note:	**The step is critical since the valve is a Containment Isolation valve.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 8 **Critical: Yes**	**N-RC-36B, step 4.3.5.c: CLOSE RC-508.**
Standard:	**RC-508 closed with green light lit.**
Evaluator Note:	**The step is critical since the valve is a Containment Isolation valve.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Terminating Cues: **If required, Acknowledge report of completion of N-RC-36B, section 4.3.**

Stop Time: _____

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to any IC as appropriate, then perform the following:

1. **Go to RUN.**
2. **Open MU-1010-1 and MU-1012 to initiate fill of PRT.**
3. **When annunciator 47043-B, PRESSURIZER RELIEF TANK ABNORMAL, actuates on high level, then close MU-1012.**
4. **Close MU-1010-1**

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

RO-036-JP22B Rev. B

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Operator At The Controls.

2. PRT level has risen 78%.

INITIATING CUES (IF APPLICABLE):

Restore PRT level in accordance with N-RC-36B, Section 4.3.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: 10/20/05 – Incorporated second note in step 6, and changed Critical to YES and added NOTE for steps 7 and 8 at request of NRC.

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Transfer from Manual to Automatic Pressure Control**

JPM NUMBER: **RO-036-JP26A** REV. C

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0360260101 / Operate the Pressurizer Pressure Control System to Control Pressure during a Heatup**

K/A NUMBERS: **010A4.01 RO value 3.7 / SRO value 3.5**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [ ]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: **6** Minutes Time Critical: **No**

Alternate Path / Faulted: **No**

TASK APPLICABILITY: **RO, SRO**

Additional signatures may be added as needed.		
Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

RO-036-JP26A, Transfer from Manual to Automatic Pressure Control, Rev. C

JPM Number: RO-036-JP26A

JPM Title: Transfer from Manual to Automatic Pressure Control

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
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Read to Examinee:

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EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are the Operator At The Controls.
2. I&C has just completed work on pressure transmitters and requests that the PRZR pressure master controller be returned to AUTO. No Operations Post Maintenance Testing is required.

INITIATING CUES (IF APPLICABLE):

The Control Room Supervisor directs you to return the Pressurizer pressure control to automatic per N-RC-36C, step 4.3.1.g through l.

RO-036-JP26A, Transfer from Manual to Automatic Pressure Control, Rev. C

JPM PERFORMANCE INFORMATION

Required Materials: N-RC-36C, Rev. AB

General References:

Task Standards: **PRZR Spray Control Master Controller in AUTO and verified working properly.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

RO-036-JP26A, Transfer from Manual to Automatic Pressure Control, Rev. C

Performance Step: 1	**Refer to N-RC-36C, steps 4.3.1.g through l.**
Critical: No	
Standard:	**Refer to N-RC-36C, steps 4.3.1.g through l.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 2	**N-RC-36C, step 4.3.1.g**
Critical: Yes	ADJUST Master controller setpoint dial until the deviation meter nulls.
Standard:	**Deviation meter reading at center (nulled).**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	

Performance Step: 3	**N-RC-36C, step 4.3.1.h**
Critical: No	**VERIFY Master Controller setpoint matches pressurizer pressure channel selected for control.**
Standard:	**Master Controller setpoint is checked to verify it matches the reading on the pressurizer pressure channel selected for control (PI-431).**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	

Performance Step: 4	**N-RC-36C, step 4.3.1.i**
Critical: Yes	**POSITION AUTO-BAL-MAN switch to MAN-BAL.**
Standard:	**AUTO-BAL-MAN switch is placed in the MAN-BAL position.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	

Performance Step: 5	**N-RC-36C, step 4.3.1.j**
Critical: No	**VERIFY deviation meter is centered.**
Standard:	**Deviation meter is checked in the center position.**

Performance: **SATISFACTORY □ UNSATISFACTORY □**

Comments:

Performance Step: 6 **N-RC-36C, step 4.3.1.k**
Critical: Yes **POSITION AUTO-BAL-MAN switch to AUTO.**

Standard: **AUTO-BAL-MAN switch is placed in the AUTO position.**

Performance: **SATISFACTORY □ UNSATISFACTORY □**

Comments:

Performance Step: 7 **N-RC-36C, step 4.3.1.l**
Critical: No **VERIFY pressurizer spray valves and heater control working properly to maintain PRZR pressure.**

Standard: **PRZR pressure is monitored for a short time to verify spray valves and heater control working properly.**

Performance: **SATISFACTORY □ UNSATISFACTORY □**

Comments: _____

Terminating Cues: **None. Condition is PRZR Spray Control Master Controller in AUTO and verified working properly.**
If desired, CUE: This completes this JPM.

Stop Time: _____

RO-036-JP26A, Transfer from Manual to Automatic Pressure Control, Rev. C

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to any At-Power Power IC, then perform the following:

1. **Go to RUN.**
2. **Place PRZR Pressure Master Controller in MAN.**
3. **Adjust the setpoint dial until the upper meter indicates between 70 and 80% of scale (right to left).**

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Operator At The Controls.
2. I&C has just completed work on pressure transmitters and requests that the PRZR pressure master controller be returned to AUTO. No Operations Post Maintenance Testing is required.

INITIATING CUES (IF APPLICABLE):

The Control Room Supervisor directs you to return the Pressurizer pressure control to automatic per N-RC-36C, step 4.3.1.g through l.

RO-036-JP26A, Transfer from Manual to Automatic Pressure Control, Rev. C
ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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REVIEW STATEMENTS	YES	NO	N/A
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4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Loss of Intermediate Range Instrumentation with failure of Reactor Trip Signal**

JPM NUMBER: **RO-048-JP041** **REV.** **A**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0480040401**
Respond to a Failure of Intermediate Range Instrumentation

K/A NUMBERS: **033AA2.07 RO value 3.9 / SRO value 4.2**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 7 Minutes Time Critical: No

Alternate Path / Faulted: Yes

TASK APPLICABILITY: RO, SRO

Additional signatures may be added as needed.		
Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: **RO-048-JP041**

JPM Title: **Loss of Intermediate Range Instrumentation with failure of Reactor Trip Signal**

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

Read to Examinee:

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are the Reactor Operator.
2. Reactor Startup is in progress with in accordance with N-CRD-49B, Reactor Startup.
3. Reactor is critical at approximately 8.6×10^{-4}%.
4. Step 27.d.4 was initiated with the Critical Data being recorded on Data Sheet 1.
5. Intermediate Range Nuclear Instrument channel N-35 has just failed low.
6. A-NI-48, Abnormal Nuclear Instrumentation, has been entered and the actions through Step 4 have been completed.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to perform Step 5 of A-NI-48, Abnormal Nuclear Instrumentation.

JPM PERFORMANCE INFORMATION

Required Materials: **A-NI-48, Rev. X**

General References: **N-CRD-49B, Reactor Startup**

Task Standards: **The reactor is tripped and E-0 is entered.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refers to A-NI-48.**
Standard:	**Goes to Step 5 of A-NI-48**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 2 **Critical: No**	**A-NI-48, Step 5** **Check Intermediate Range Channels – BOTH OPERABLE.**
Standard:	**Determine N-35 has failed.**
Evaluator Note:	**Information that channel N-35 has failed low is provided in Initial Conditions.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 3 **Critical: No**	**A-NI-48, Step 5.a Contingency Action** **On Comparator And Rate drawer Start Up Rate section, position Channel Selector switch to an operable Source OR Intermediate Range channel.**
Standard:	**Channel Selector switch is positioned to N36.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 4 **Critical: No**	**A-NI-48, Step 5.b Contingency Action** **IF a single Intermediate Range channel is inoperable, THEN position Level Trip switch for failed channel to BYPASS.**
Standard:	**LEVEL TRIP switch for N35 is placed in BYPASS.**
Evaluator Note:	**After the operator has placed the LEVEL TRIP switch in BYPASS and acknowledged the associated annunciator (47033-L), the Booth Operator will enter Malfunction NI03B with a Severity Value of 100 to cause N-36 channel to fail high, and generate a reactor trip signal.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 5 **Critical: No**	**Reactor trip should have occurred and did not.**
Standard:	**Report reactor trip signal and failure of reactor trip breakers to open**
Evaluator Note:	**Indications that trip should have occurred but did not:** **IR N36 Drawer 84005 indicator above 100%.** **IR N36 Drawer 84005 HIGH LEVEL TRIP bistable lit.** **MCC panel N-36B % Power meter above 10^2%.** **(First Out) Annunciator 47031-N in alarm.** **Reactor Trip Breakers A and B red CLOSE lights lit.**
Evaluator Cue:	**As CRS, acknowledge report(s) and action(s) to be taken.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 6 **Critical: Yes**	**Manually trip the reactor.**
Standard:	**Reactor tripped. (Reactor Trip pushbutton pressed.)**
Evaluator Note:	**Indications of trip:** **Reactor Trip Breakers A and B green OPEN lights lit.** **Rod Position Indicators at ZERO.** **Rod Bottom Lights lit.** **Source Range flux decreasing.** **Source Range SUR negative.** **The reactor trip will be generated by the action of depressing the REACTOR TRIP pushbutton. The simulator may display a delay in opening the reactor trip breakers due to processing time for removal of the Malfunction overriding the reactor trip breakers closed.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 7 **Critical: No**	**E-0, Step 1** **GO TO E-0 and perform immediate actions for reactor trip:** **Reactor Trip and Bypass Breakers OPEN.** **All Rod Position Indicators less than or equal to 7.5 steps.** **All Rod Bottom Lights LIT.** **Neutron Flux Decreasing.**
Standard:	**Reactor trip is verified.**
Evaluator Note:	**Other Immediate Actions exist for E-0 (Turbine Trip, AC Power, SI Status) but are not part of this JPM. Proceed to TERMINATING CUE below when actions for confirming the reactor trip are complete.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

JPM RO-048-JP041, Loss of Intermediate Range Instrumentation with failure of Reactor Trip Signal, Rev. A

Terminating Cues: **When Step 1 of E-0 is complete with reactor trip verified, CUE: This completes this JPM.**

Stop Time: _____

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to Reactor Critical, Power at ~10E-3, BOL (*e.g.*, IC-6), then perform the following:

1. **Place Control Rod Bank Selector to MAN.**
2. **Go to RUN.**
3. **Insert Reactor Trip Breaker Failure to Open malfunction.**
4. **Insert TRIGGER 2 to delete RD11 malfunction when the Reactor Trip pushbutton is pressed.**
5. **Insert the malfunction to fail N-35 Intermediate Range Channel LOW**
6. **Verify N-35 drawer and MCC panel indications at bottom of scale.**
7. **Ensure a copy of N-CRD-49B, Reactor Startup, is stamped/dated, and marked up through step 27.d.3. (ANNOUNCE "Reactor critical" via Gai-tronics.)**
8. **Ensure a copy of N-CRD-49B, Data Sheet 1 is provided with data filled in for page 1 and page 2 up to "Actual Critical Data" section.**
9. **Ensure a copy of A-NI-48 is available and has had the stepwise placekeeping marked through step 4, (all without any Contingency Actions required).**
10. **Enter Malfunction to fail Intermediate Range channel N36 when operator has completed step 5.c CONTINGENCY ACTION of A-NI-48.**

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
1 (TRIGGER 1) [Performance Step 5]	N/A	N/A	Malfunction NI03B fails the IR channel N36 high.
2 (TRIGGER 2) [Performance Step 7] AUTOMATIC	N/A	HWZRPTRSL==1	Actuates when the MCC Reactor Trip pushbutton is pushed. *Command:* DMF RD11 Removes the malfunction preventing the reactor trip breakers from opening.

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
T=0	RD11	Reactor Trip Breakers Fail to Open on Trip Signal	N/A	0	N/A	N/A	N/A
T=0	NI03A	Intermediate Range Channel Failure (N35)	N/A	0	1.1	N/A	N/A
Step 5	NI03B	Intermediate Range Channel Failure (N36)	1	0	100	N/A	50

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Reactor Operator.
2. Reactor Startup is in progress with in accordance with N-CRD-49B, Reactor Startup.
3. Reactor is critical at approximately 8.6×10^{-4}%.
4. Step 27.d.4 was initiated with the Critical Data being recorded on Data Sheet 1.
5. Intermediate Range Nuclear Instrument channel N-35 has just failed low.
6. A-NI-48, Abnormal Nuclear Instrumentation, has been entered and the actions through Step 4 have been completed.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to perform Step 5 of A-NI-48, Abnormal Nuclear Instrumentation.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

JPM RO-048-JP041, Loss of Intermediate Range Instrumentation with failure of Reactor Trip Signal, Rev. A

Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Perform A Dropped Rod Recovery**

JPM NUMBER: **RO049JP03A** **REV.** **A**

RELATED PRA INFORMATION: **Control Rod is ranked number 10 system in PRA Importance.**

TASK NUMBER(S) / TASK TITLE(S): **0490030501 / Respond to a Dropped Rod**

K/A NUMBERS: **003A1.02 RO Value 3.6, SRO Value 3.4**

1APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 45 Minutes Time Critical: No

Alternate Path / Faulted: No

TASK APPLICABILITY: _____

Additional signatures may be added as needed.		
Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: **RO-049-JP03A**

JPM Title: **Perform A Dropped Rod Recovery**

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

Read to Examinee:

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are the Reactor Operator.
2. The plant is at 20% power.
3. Rod K7 has dropped into the core.
4. Repairs have been completed for Rod K7.
5. The actions of A-CRD-49, Abnormal Rod Control System Operations, have been completed through Step 7 Contingency Action 2.a).

INITIATING CUES (IF APPLICABLE):

Reactor Engineering has advised the recovery of rod K7 should be performed by moving the rod in 10 step increments in 30-second intervals.

The Control Room Supervisor directs you to recover and realign Rod K7 to its bank position, by completing Attachment A of A-CRD-49.

A second operator has been assigned to maintain Tave using RCS boron concentration control.

I&C is standing by in the Control Rod Drive Equipment Room and the Relay Rack Room.

You are at Step A.1 of Attachment A of Procedure A-CRD-49.

JPM PERFORMANCE INFORMATION

Required Materials: A-CRD-49, Rev. N {marked up through Step 7 Contingency Action 2.a)}
Key 933

General References:

Task Standards: Rod K7 is withdrawn and aligned within its bank at 139 steps withdrawn.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Step A.1** **Verify cause of rod misalignment has been determined and corrected.**
Standard:	**Determine rod is repaired as given in the initial conditions.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 2 **Critical: No**	**Step A.2** Monitor Power Range nuclear instrumentation.
Standard:	**Monitor NI channels N41 – N44 indication before and during rod withdrawal.**
Evaluator Note:	**Acceptable indications include MCC Panel indicators 4122601 through 4122604, and/or NI Drawer A meters 84002, 84006, 84008, 84014.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 3 **Critical: No**	**Step A.3** **(CAS) IF Quadrant Power Tilt Ratio does NOT respond as expected by Reactor Engineering at any time during realignment actions, THEN STOP control rod motion AND return rod or bank to its original position.**
Standard:	**Monitor QPTR before and during rod withdrawal.**
Evaluator Note:	**There should be no adverse change throughout the recovery.** **Acceptable indications include MCC Panel indicators 4122701 through 4122704, Recorders 42571 through 42574, and/or PPCS Computer alarms.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 4	**Step A.4.1**
Critical: Yes	**Align misaligned rods to their associated Bank Step Position: Position Control Rod Bank Selector to affected bank position.**
Standard:	**Rod Bank Selector Switch is in CBD position.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 5	**Step A.4.2**
Critical: No	**Record affected Group Step Counter: _____ steps**
Standard:	**Record Control Bank D Group 1 Step Position value 139.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 6	**Step A.4.3**
Critical: Yes	**Position Lift Coil Disconnect switches for all rods in affected bank, EXCEPT misaligned rod(s), to ROD DISCONNECTED.**
Standard:	**Lift Coil Disconnect switches for rods G-3, C-7 and G-11 in ROD DISCONNECTED position.**
Evaluator Note:	**The Rod Disconnect Switches are located in the small panel on the north wall just outside the Simulator control room north door. The ROD DISCONNECTED position is in the UP direction.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 7 **Critical: No**	**Step A.4.4** **Record misaligned rod's actual position: _____ steps** **a. Using IRPI system as a guide to determine rod position.** b. IF retrieving a dropped rod, THEN actual position is zero steps.
Standard:	**Record K-7 position value ZERO (0) steps.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 8 **Critical: Yes**	**Step A.4.5** **Change affected Group Step Counter to misaligned rod's actual position as recorded in Step A.4.4 above.**
Standard:	**Control Bank D Group 1 Step Position reads 0.**
Evaluator Note:	**The UP, DOWN or RESET buttons on the Control Bank D Group1 Step Position indicator are used to changed the indication.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 9 **Critical: Yes**	**Step A.4.6** **IF misaligned rod is in a Control Bank, THEN reset associated P/A converter to misaligned rod's actual position recorded in Step A.4.4 above.**
Standard:	**I&C contacted and directed to reset the Control Bank D P/A converter.**
Evaluator Note:	**The Booth Operator will enter Remote Function RD107 Control Bank D P/A Converter with a Remote Value "000" to reset the P/A converter. (The Remote Function will then be DELETED to allow proper operation.)**
Evaluator Cue:	**As I&C, Acknowledge request with repeat back, and then report action completed.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 10 **Critical: No**	**Step A.4.7** **Reset affected Bank Step Position on PPCS as follows:** **a. On Main Menu, click on PPCS Functions.** **b. On PPCS Functions, click on Operator Entry.** c. On Operator Entry Menu, click on Rod Bank Position Update. **d. On Rod Bank Position Update, enter misalign rod's actual position recorded in Step A.4.4 in the New Position for the affected bank.** e. On Rod Bank Position Update, click Apply.
Standard:	**Bank D Position input as 000 on PPCS Rod Bank Position Update screen on PPCS.**
Evaluator Note:	**The PPCS computer will not replace the current value for the bank position. Apply the CUE below.**
Evaluator Cue:	**The value for Bank D reads "000"**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 11 **Critical: Yes**	**Step A.4.8** **Withdraw OR insert misaligned rod(s) to Group Step Counter position recorded in Step A.4.2 above with an appropriate boration/dilution to compensate for Tavg.**
Standard:	**Rod K-7 withdrawn to Control Bank D Group 1 Step Position value 139.**
Evaluator Note:	**As per Initial Cues:** **A second operator will borate to maintain Tave. (The Booth Operator will accomplish this by modifying RCS boron concentration using Remote Function RC119.)** **The directions from Reactor Engineering should be used as a guideline for rod recovery. (Moving the rod in 10 step increments in 30-second intervals.)**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 12 **Critical: No**	**Step A.4.9** **Verify P/A converter equals Group Step Counter position recorded in Step A.4.2 above.**
Standard:	**Check Control Bank D P/A converter reading at 139.**
Evaluator Cue:	**As I&C report, Control Bank D P/A Converter reads 139 (or number of steps rod was withdrawn).**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 13 **Critical: Yes**	**Step A.4.10** **Position Lift Coil Disconnects switches for all rods in affected bank to ROD CONNECTED.**
Standard:	**Lift Coil Disconnect switches for rods G-3, C-7, G-11 and K-7 in ROD CONNECTED position.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 14 **Critical: No**	**Step A.4.11.a.1** **Request I&C to perform the following in the Control Rod Drive Logic Cabinet:** **1. IF affected bank has one group OR both Group Step Counters in affected bank are equal, THEN set Master Cycler to 4 counts.**

Standard:	**I&C contacted and directed to reset the Master Cycler to 4 counts**
Evaluator Note:	**The operator may question why TLA-1 is still lit after rod recovery. This is due to the PPCS not resetting to "000" when the operator inputs the value. The second CUE below covers this condition.**
Evaluator Cue:	**As I&C, Acknowledge request to reset Master Cycler and report Master Cycler reset.** **TLA-1 is reset.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 15	**Step A.4.11.b.3**
Critical: Yes	**Request I&C to perform the following in the Control Rod Drive Logic Cabinet:** **IF Control Bank D rods are NOT fully inserted, THEN set Bank Overlap Unit to counts determined by adding Control Bank D step position and Bank Overlap Setpoint switch S5 steps.**
Standard:	**I&C contacted and directed to reset the Bank Overlap Unit (BOU).**
Evaluator Note:	**The Bank Overlap Setpoint switch S5 setting is normally 378. (Adding expected current Bank D position of 139 gives BOU setting of 517.**
Evaluator Cue:	**As I&C, acknowledge request and report Bank Overlap counts set to 517.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 16	**Step A.5**
Critical: No	**Repeat Step A.4 as necessary to realign all rods.**
Standard:	**Determine all rods are now aligned.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 17	**Step A.6**
Critical: Yes	**Position Control Rod Bank Selector to MAN.**
Standard:	**Control Rod Bank selector switch in MAN position.**
Evaluator Note:	**Tave-Tref meter (412130) and/or Tave-Tref recorder (42544) should be checked to ensure values are within 1.5ºF.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 18	**Step A.7**

Standard:	**Determine NI Rate Trips are reset.**
Evaluator Note:	**Rate Trip condition should be verified by checking bistable lights (Positive and Negative) on each Power Range NI Drawer A NOT lit, and/or checking annunciators 47032-J and 47032-K NOT lit.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 19 **Critical: No**	**Step A.8** **Perform SP-49-075 to verify movement of realigned rod(s).**
Standard:	**Report requirement to perform SP-49-075**
Evaluator Cue:	**As CRS, acknowledge report and report SP-49-075 completed satisfactorily.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 20 **Critical: No**	**Step A.9** **If Reactor Engineering requires verification of power distribution, then request Reactor Engineering perform incore flux map.**
Standard:	**Report requirement to contact Reactor Engineering.**
Evaluator Cue:	**As CRS, Acknowledge and report Reactor Engineering does NOT need to perform flux map.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Terminating Cues: When Attachment A is complete**, CUE: THIS JPM IS COMPLETE.**

Stop Time: _____

SIMULATOR SET UP:

NOTE: On Core 27, insertion of the drop rod does not result in generation of a reactor trip signal; however, this may also be block by inserting Malfunction RD11 to prevent the reactor trip breakers from opening.

Simulator Setup Instructions:
If necessary, reset the simulator to 20% Power, BOL (*e.g.*, IC-9), then perform the following:

1. **Place Control Rod Bank Selector to MAN.**
2. **Record the (Bank Overlap) Ramp Start Value from Remote Function RD114, Bank Overlap Counter: _____.**
3. **Go to RUN.**
4. **Insert the malfunction below to drop rod K7.**
5. **Verify K7 position is ZERO and then DELETE malfunction RD0521.**
6. **Ensure any negative rate trip is RESET on all four power range NI drawers.**
7. **Incrementally reduce RCS boron concentration to approximately 2100 ppm, using the indicated Remote Function.**
8. **Verify that Tave and Tref are approximately equal. (0.5ºF).**
9. **Stabilize the plant, acknowledge and reset all annunciators.**
10. **FREEZE (SNAP an IC, if desired).**
11. **Ensure rod disconnect box is locked and the Evaluator has the key**
12. **Ensure a copy of A-CRD-49 is available and has had the stepwise placekeeping marked through step 7, Contingency Action 2.a).**
13. **During the performance of the JPM the Booth Operator will need to use the following Remote Functions when directed per Performance Step:**
    a. **As AO, RD107, Control Bank D P-A Converter (Step A.4.6). Delete RF after reset.**
    b. **As Extra NCO, RC119, Set RCS, Pzr, VCT Boron To Same Concentration (Step A.4.8) incrementally increase as rod is withdrawn to keep Tave-Tref matched. [Original boron 2116]**
    c. **As I&C, RD115, Master Cycler Reset To 4 Counts (Step A.4.11). Delete RF after entry.**

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
T=0	RD0521	Dropped Rod-K7	N/A	0	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP

N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
T=0	RC119	Set RCS, Pzr, VCT Boron To Same Concentration	2116 (initial value)	Use "MODIFY" after entry
Step A.4.6	RD107	Control Bank D P-A Converter	0.00	DELETE after entry
Step A.4.8	RC119	Set RCS, Pzr, VCT Boron To Same Concentration	INCREASE	Use "MODIFY"
Step A.4.11	RD115	Master Cycler Reset To 4 Counts	RESET, then NORMAL	DELETE after entry

JPM RO-049-JP03A, Perform a Dropped Rod Recovery, Rev. A

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Reactor Operator.
2. The plant is at 20% power.
3. Rod K7 has dropped into the core.
4. Repairs have been completed for Rod K7.
5. The actions of A-CRD-49, Abnormal Rod Control System Operations, have been completed through Step 7 Contingency Action 2.a).

INITIATING CUES (IF APPLICABLE):

Reactor Engineering has advised the recovery of rod K7 should be performed by moving the rod in 10 step increments in 30-second intervals.

The Control Room Supervisor directs you to recover and realign Rod K7 to its bank position, by completing Attachment A of A-CRD-49.

A second operator has been assigned to maintain Tave using RCS boron concentration control.

I&C is standing by in the Control Rod Drive Equipment Room and the Relay Rack Room.

You are at Step A.1 of Attachment A of Procedure A-CRD-49.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: Updated to latest revision of A-CRD-49.

	JOB PERFORMANCE MEASURE (JPM)	

SITE:KNPP **KNPP**

JPM TITLE: **Establish RCS Makeup Control with a Fire in a Dedicated Zone**

JPM NUMBER: **RO-E07-JP011** **REV. B**

RELATED PRA INFORMATION: **N/A**

TASK NUMBERS / TASK TITLE(S): **E070010501 / Respond to a Fire in a Dedicated Zone**

K/A NUMBERS: 067AA2.16 RO 3.3 / SRO 4.0
067A 2.1.23 RO 3.9 / SRO 4.0

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [x]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [x] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: N

Alternate Path / Faulted: Y

TASK APPLICABILITY: RO, SRO

Additional signatures may be added as needed.		
Developed by:	**Stephen Johnson**	**10/13/05**
	Instructor	Date
Validated by:	**Bill Kirkpatrick**	**10/13/05**
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date

Approved by:	Dave Fitzwater	
	Training Supervisor	Date

RO-E07-JP011, Establish RCS Makeup Control with a Fire in a Dedicated Zone, Rev. A

JPM Number: RO-E07-JP011

JPM Title: Establish RCS Makeup Control with a Fire in a Dedicated Zone

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

Read to Examinee:

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

1. You are Control Operator A.
2. A fire has occurred in the TSC area and has affected plant instrumentation.
3. The Shift Manager has directed entry in E-O-07, Fire in Dedicated Zone.
4. All actions of E-O-07 have been completed through step 13, Establish RCS Pressure Control.
5. Buses 1 through 5 are deenergized, and Bus 6 is supplied from DG B.
6. Bus 6 Safeguards control switches are in the positions called out in E-O-07.

INITIATING CUES (IF APPLICABLE):

You are to perform E-O-07, Fire in Dedicated Fire Zone, step 14, Establish RCS Makeup Control.

INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK
Do you have any questions before we begin? - Answer applicable questions
Lets Begin

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JPM PERFORMANCE INFORMATION

Required Materials: **Procedure E-0-07 marked up through step 13.**

General References: **E-0-07 Revision Y**

Task Standards: **Przr level controlled between 20% and 50% using SI Pump B.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM. Verifications within critical step standards marked with (*) are not critical to the JPM step performance completion.

Performance Step: 1 **Critical No**	REFER to E-O-07, Fire in Dedicated Fire Zone.
Standard:	REFER to E-O-07, Fire in Dedicated Fire Zone.
Evaluator Cue:	**Instructor will provide current revision of E-0-07 marked to step 14.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 2 **Critical No**	**14.a. ALIGN Safety Injection Pump B for RCS makeup via SI-15A:** **1) OPEN SI-4B/MV-32110, RWST Supply to SI Pumps**
Standard:	**Verify SI-4B open with green light OFF, red light ON.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 3 **Critical No**	**14.a. ALIGN Safety Injection Pump B for RCS makeup via SI-15A:** **2) OPEN SI-5B/MV-32108, SI Pump B Suction Isolation.**
Standard:	**Verify SI-5B open with green light OFF, red light ON.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 4 **Critical No**	**14.a. ALIGN Safety Injection Pump B for RCS makeup via SI-15A:** **3) OPEN SI-208/MV-32131, SI Recirculation to RWST.**
Standard:	**Verify SI-208 open with green light OFF, red light ON.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 5 **Critical No**	**14.a. ALIGN Safety Injection Pump B for RCS makeup via SI-15A:** **4) OPEN SI-209/MV-32130, SI Recirculation to RWST.**
Standard:	**Verify SI-209 open.**
Evaluator Cue:	**If contacted as AO, report that locally valve shows OPEN position.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 6 **Critical Yes**	**14.a. ALIGN Safety Injection Pump B for RCS makeup via SI-15A:** **5) OPEN SI-15A/MV-32093, Safety Injection to Reactor Vessel.**
Standard:	**SI-15A open with green light OFF, red light ON.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 7 **Critical No**	**14.a. ALIGN Safety Injection Pump B for RCS makeup via SI-15A:** **6) OPEN SI-9B/MV-32095, Safety Injection to Reactor Vessel.**
Standard:	**Verify SI-9B open with green light OFF, red light ON.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 8 **Critical Yes**	**14. b. START Safety Injection Pump B and run pump as necessary to maintain PRZR level 20-50% on LI-427 and LI-428**
Standard:	**SI Pump B running with red light lit. Pump amps and discharge pressure checked.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 9 **Critical Yes**	**14. c. If PRZR level is less than 2% AND PRZR pressure is greater than 2200 psig, then Open PR-2B to initiate SI Rx Vessel Flow as follows:** **1) POSITION PR-2B/CV-31109, PRZR PORV Alternate Control Station control switch to OPEN.**
Standard:	**PR-2B open and red light lit, with PR-2B/CV-31109 in OPEN position.**
Evaluator Note:	**The Operator is expected to check Przr level on LI-427 & LI-428, and determine level is 0% (offscale low).** **The Operator will check PRZR pressure on PI-430, PI-431 and/or PI-419 (RCS wide range pressure) [all Train B instruments], and determine PRZR pressure is above 2200 psig [2250 psig indicated].** **PR-2B/CV-31109, PRZR PORV Alternate Control Station control switch is below the normal PR-2B control switch and has a cover plate that must be removed to operate the switch.**

Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 10 **Critical Yes**	**14. c. If PRZR level is less than 2% AND PRZR pressure is greater than 2200 psig, then Open PR-2B to initiate SI Rx Vessel Flow as follows:** **2) When PRZR level increases to greater than 20%, THEN CLOSE PR-2B by returning control switch to NORMAL**
Standard:	**1. Przr level greater than 20%** **AND** **2. PR-2B closed and green light lit, with PR-2B/CV-31109 in NORMAL position.**
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Performance Step: 11 **Critical Yes**	**14.d Locally CLOSE SI-8B, SI Pump 1B X-Connect to SI Pump 1A.**
Standard:	**NAO contacted to close SI-8B.**
Evaluator Note:	**Closing SI-8B isolates the fill path from SI Pump B via SI Train A.**
Evaluator Cue:	When contacted as AO, acknowledge. Enter RF to close SI-8B, and then report to control room that SI-8B is closed.
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

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Performance Step: 12 **Critical YES**	**14.e MAINTAIN PRZR Level 20-50%.** **1) Verify time interval between level adjustments is less than 30 minutes:** **a) Close SI-15B/MV32098, Safety Injection to Reactor Vessel** **b) On MCC 1-52B, Open SI-15B supply breaker** **c) Cycle SI-15A to maintain PRZR level** **OR** **1) (CA) STOP Safety Injection Pump B and run Pump as necessary to maintain Przr level.** **OR** **1) a) (CA) If SI-15B cannot be closed, Cycle SI-9B to maintain Przr level.**
Standard:	**Flow to RCS secured as necessary to maintain PRZR level between 20% and 50% on LI-427 and LI-428**
Evaluator Note:	**Since this is the first evolution for raising PRZR level, either action step is appropriate for stopping the filling of the RCS. The candidate would need to determine the fill rate by the rate taken for level to drop to 20% after filling.** **Stopping SI Pump B, closing SI-15A or closing SI-9B stops SI flow to the RCS via SI Train B flowpath. The action taken depends on the procedure flowpath. Any of these 3 actions is sufficient to stop SI flow to the RCS, and stop filling of the PRZR.**
Evaluator Cue:	When contacted as AO, acknowledge. Enter RF to close SI-8B, and then report to control room that SI-8B is closed.
Performance:	**SATISFACTORY □ UNSATISFACTORY □**
Comments:	_____

Terminating Cues: **This JPM is complete.**

Stop Time: _____

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator any at power IC, then perform the following:

1. **Go To RUN**
2. **Lower Przr level using letdown and excess letdown to less than 25%.**
3. **Manually trip the Reactor**
4. **Place Turbine Bldg SW Header Selector Switch to ISOL.**
5. **Close SW-3B, SW Header B Isolation.**
6. **Position Bus 6 Voltage Restoring Mode Selector to MAN.**
7. **Position Control Switch to PULLOUT:**
   - **SI Pump B**
   - **ICS Pump B**
   - **RHR Pump B**
   - **AFW Pump B**
   - **Bkr 16111, Bus 51& 61 Tie**
   - **Bkr 16211, Bus 52 & 62 Tie**
   - **Bkr 1-602, Bus 5 & 6 Tie**
   - **Bkr 1-611, TAT to Bus 6**
   - **Bkr 1-601, RAT to Bus 6**
   - **Bkr 1-610 MAT to Bus 6**
11. **Position Air Compressor B control switch to OFF.**
12. **Start DG B.**
13. **Position Bkr 1-603, DG B to Bus 6, 43 switch to MAN.**
14. **Position Bkr 1-603 Synch switch to ON**
15. **Close Bkr 1-603, DG B to Bus 6**
16. **Start SW Pump B1 by the holding control switch to START for 5 seconds.**
17. **Verify CC Pump B running.**
18. **Deenergize Buses 1 through 5 by placing in PULLOUT:**
    - **1A Diesel Engine control switch**
    - **Bkr 1-101, RAT to Bus 1**
    - **Bkr 1-104, MAT to Bus 1**
    - **Bkr 1-201, RAT to Bus 2**
    - **Bkr 1-204, MAT to Bus 2**
    - **Bkr 1-307, RAT to Bus 3**
    - **Bkr 1-301, MAT to Bus 3**
    - **Bkr 1-407, RAT to Bus 4**
    - **Bkr 1-401, MAT to Bus 4**
    - **Bkr 1-509, DG A to Bus 5**
    - **Bkr 1-503, RAT to Bus 5**
    - **Bkr 1-511, MAT to Bus 5**
    - **Bkr 1-501, TAT to Bus 5**
    - **Bkr 1-510, Bus 5 & 6 Tie**
15. **Initiate Train A and Train B Main Steam Isolation (MS-1A and MS-1B closed).**
16. **Close AFW-10B, AFW Train B Crossover.**
17. **Close AFW-2B, AFWP B Flow Control.**
18. **Start AFW Pump B.**
19. **Throttle AFW-2B to maintain SG B level between 4-50% (LI-473).**
20. **Operate SD-3B to maintain Loop B Cold Leg WR Temperature at ~550ºF**

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21. Verify Przr level to less than 2%.

22. Maintain Przr pressure greater than 2200 psig. (See overrides below)

23. When the above conditions are established, then

Close CVC-211, RXCP Seal Return Isol

Close LD-3, Letdown Isol

Close LD-300, Excess Letdown Isol

4. Deenergize all Przr heaters (NOTE: These are expected to be tripped due to low Przr level.)

5. Stabilize the plant, acknowledge and reset all annunciators

6. **FREEZE** (**SNAP** an IC, if desired)

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
1 – 6		HWZRCA6477 == 1	When PR-2B Alternate Control Station switch is taken to OPEN, the associated malfunctions will be deleted. DMF ******** for each of the malfunction below

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
Preload	RX201	PT-429 Prz Press			2250		
Preload	RX202	PT-430 Prz Press			2250		
Preload	RX203	PT-431 Prz Press			2250		
Preload	RC207	PT-419 RCS WR Press			2250		
Preload	RC208	PT-420 RCS WR Press			2250		

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
Step 14.d	SI103B	SI Pumps Disch X-Conn (SI-8B) Open/Close	CLOSE	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are Control Operator A.
2. A fire has occurred in the TSC area and has affected plant instrumentation.
3. The Shift Manager has directed entry in E-O-07, Fire in Dedicated Zone.
4. All actions of E-O-07 have been completed through step 13, Establish RCS Pressure Control.
5. Buses 1 through 5 are deenergized, and Bus 6 is supplied from DG B.
6. Bus 6 Safeguards control switches are in the positions called out in E-O-07.

INITIATING CUES (IF APPLICABLE):

You are to perform E-O-07, Fire in Dedicated Fire Zone, step 14, Establish RCS Makeup Control.

INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	■
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date

	Not For Exam Use - Places a shaded Word Art text box diagonally across the first page. To remove the text, place your cursor near the top right side of the coversheet and select the Word Art text and delete.