JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Failure of ICS to Automatically Initiate.

JPM NUMBER: RO-E00-JP012 **REV.** B

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): E000010501 Respond to a Reactor Trip with Safety Injection

K/A NUMBERS: 011EA1.04 – Ability to operate and monitor the following as they apply to Large Break LOCA: ESF actuation system in manual IMP 4.4 / 4.4

APPLICABLE METHOD OF TESTING:

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

EVALUATION LOCATION:

In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: Classroom [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: No

Alternate Path / Faulted: YES

TASK APPLICABILITY: RO/SRO

Additional signatures may be added as needed.

Developed by:	Andy Fahrenkrug	/s	04/26/2010
	Instructor		Date
Validated by:	Jeffrey A. Hinze	**/s**	09/02/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	**/s**	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	**/s**	11/10/2010
	Facility Representative		Date

JPM Number: RO-E00-JP012

JPM Title: Failure of ICS to Automatically Initiate

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. *Human Performance attributes should be visible. The student may use 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.*

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:

- The Reactor was initially operating at 100% Rated Thermal Power.
- Steam Generator 'A' is Faulted Inside of Containment.
- The Reactor Tripped and SI initiated.
- Feed Flow to A S/G is isolated.
- The immediate actions of E-0 have been completed.

THE STEPS IN THIS JPM SHOULD BE: PERFORMED
THIS TASK IS NOT TIME CRITICAL

INITIATING CUES (IF APPLICABLE): You are the Reactor Operator and the Unit Supervisor directs you to perform E-0 Attachment A. Other actions are being performed by the crew.

EVALUATOR – Hand the performer Attachment A of E-0

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

Direct the booth operator to go to run on the simulator. – Lets Begin.

JPM PERFORMANCE INFORMATION

Required Materials: Attachment A of E-0 Reactor Trip or Safety Injection

General References: E-0, Reactor Trip or Safety Injection, Rev 41

Task Standards: ICS equipment aligned and operating per E-O Attachment A

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

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

NOTE: The examinee may pull forward the step to start the ICS pumps. This is acceptable. The examinee should inform the US of their actions.

Performance Step: 1 **Critical: <u>No</u>**	E-0 Attachment A, A.1 Notify Plant Personnel Using Gaitronics a. Announce the following: "Attention in the Plant. Attention in the plant. Safety Injection has occurred. Safety Injection has occurred."
Standard:	Use the Gaitronics to announce the following: "Attention in the Plant. Attention in the plant. Safety Injection has occurred. Safety Injection has occurred."
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 E-0 Attachment A, A.2
Critical: No CHECK Feedwater Isolation

a. ENSURE Main Feedwater Flow Control Valves – BOTH CLOSED
- FW-7A for SG A
- FW-7B for SG B

Standard: Ensure Main Feedwater Flow Control Valves – BOTH CLOSED
- FW-7A for SG A
- FW-7B for SG B

Performance: SATISFACTORY ☐ UNSATISFACTORY ☐

Comments: _____

Performance Step: 3 E-0 Attachment A, A.2
Critical: No CHECK Feedwater Isolation

b. ENSURE Main Feedwater Bypass Flow Control Valves – BOTH CLOSED
- FW-10A for SG A
- FW-10B for SG B

Standard: Ensure Main Feedwater Bypass Flow Control Valves – BOTH CLOSED
- FW-10A for SG A
- FW-10B for SG B

Performance: SATISFACTORY ☐ UNSATISFACTORY ☐

Comments: _____

Performance Step: 4 E-0 Attachment A, A.2
Critical: No CHECK Feedwater Isolation

c. ENSURE Feedwater Isolation Valves – BOTH CLOSED
- FW-12A for SG A
- FW-12B for SG B

Standard: Ensure Feedwater Isolation Valves – BOTH CLOSED
- FW-12A for SG A
- FW-12B for SG B

Performance: SATISFACTORY ☐ UNSATISFACTORY ☐

Comments: _____

Performance Step: 5 **Critical: No**	E-0 Attachment A, A.2 CHECK Feedwater Isolation d. ENSURE Main Feedwater Pumps – BOTH OFF • FW Pump A • FW Pump B
Standard:	Ensure Main Feedwater Pumps – BOTH OFF • FW Pump A • FW Pump B
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical: No**	E-0 Attachment A, A.3 CHECK SI Pumps – BOTH RUNNING • SI Pump A • SI Pump B
Standard:	Check Both SI pumps running by verifying the following for Both SI Pumps: • Red Light ON • Motor Amps Indicated
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 7 **Critical: No**	E-0 Attachment A, A.4 CHECK RHR Pumps – BOTH RUNNING • RHR Pump A • RHR Pump B
Standard:	Check Both RHR pumps running by verifying the following for Both RHR Pumps: • Red Light ON • RHR Flow • Motor Amps
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 8 **Critical: No**	E-0 Attachment A, A.5 CHECK CC Pumps – BOTH RUNNING • CC Pump A • CC Pump B
Standard:	Check Both CC pumps running by verifying the following for Both CC Pumps: • Red Light ON • Pressure
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 9 **Critical: No**	E-0 Attachment A, A.6 CHECK Containment and Containment Ventilation Isolation: a. Check CI Active Status Panel Lights – ALL LIT
Standard:	Check CI Active Status Panel Lights – ALL LIT
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 10 **Critical: No**	E-0 Attachment A, A.6 CHECK Containment and Containment Vent Isolation: b. PLACE Control Switches for Letdown Orifice Isolation valves to CLOSE • LD-4A • LD-4B • LD-4C
Standard:	Place Control Switch for LD-4A to CLOSE
Evaluator Note:	**LD-4B & LD-4C control switches are already in CLOSE**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 11 **Critical: No**	E-0 Attachment A, A.7 CHECK if Main Steam Lines Can Remain Open: a. CHECK main steam isolation and bypass valves – ANY OPEN • MS-1A for SG A • MS-2A for SG A • MS-1B for SG B • MS-2B for SG B
Standard:	Determine NO main steam isolation or bypass valves OPEN and GO TO Step A.8 per RNO A.7
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 12 **Critical: No**	E-0 Attachment A, A.8 (CAS) CHECK Containment Spray NOT Required: a. CHECK containment pressure – HAS REMAINED BELOW 23 PSIG
Standard:	Determine that containment pressure exceeded 23 psig using pen trend recorders 42597 or 42598, or PPCS.
Evaluator Note:	**If the performer does not proceed to the RNO to establish containment spray at this time then allow the individual to continue through Attachment A until they inform the Unit Supervisor that Attachment A is Complete.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 13 **Critical: No**	E-0 Attachment A, A.8 RNO ESTABLISH containment spray: 1. CHECK containment spray actuated: a. Annunciator CONTAINMENT SPRAY ACTUATED lit. • 47021-F
Standard:	Identify that Containment Spray Has NOT actuated.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 14 **Critical: No**	E-0 Attachment A, A.8 RNO ESTABLISH containment spray: 2. IF containment spray has NOT actuated, THEN manually ACTUATE containment spray
Standard:	Depress BOTH TRAINS of containment spray manual actuation Push Buttons at the same time.
Evaluator Note:	**ICS pushbuttons will fail to actuate ICS**
Evaluator Cue:	**If the performer informs the Unit supervisor of the component manipulation then acknowledge with three part communication**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 15 **Critical: <u>Yes</u>**	E-0 Attachment A, A.8 RNO ESTABLISH containment spray: 3. ENSURE all Containment Spray Pump Discharge valves open. • ICS-5A for Pump A • ICS-6A for Pump A • ICS-5B for Pump B • ICS-6B for Pump B
Standard: All actions in this step Critical	• Position Control Switch for ICS-5A to OPEN and VERIFY ICS-5A OPEN by RED Light LIT and GREEN Light OUT. • Position Control Switch for ICS-6A to OPEN and VERIFY ICS-6A OPEN by RED Light LIT and GREEN Light OUT. • Position Control Switch for ICS-5B to OPEN and VERIFY ICS-5B OPEN by RED Light LIT and GREEN Light OUT. • Position Control Switch for ICS-6B to OPEN and VERIFY ICS-6B OPEN by RED Light LIT and GREEN Light OUT.
Evaluator Cue:	**If the performer informs the Unit supervisor of the component manipulation then acknowledge with three part communication**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 16 **Critical: Yes**		E-0 Attachment A, A.8 RNO ESTABLISH containment spray: 4. WHEN SI sequencer is complete, THEN VERIFY ICS pumps running • ICS Pump A • ICS Pump B
Standard:		• Verify SI Sequencer Complete based on time since SI initiation. • Inform US starting ICS pumps
	(C)	• Position ICS Pump A control switch to start and ensure ICS Pump A RED Light LIT and GREEN Light OFF. • Ensure ICS Pump A Motor Amps indicate ICS Pump A is running
	(C)	• Position ICS Pump B control switch to start and ensure ICS Pump B RED Light LIT and GREEN Light OFF. • Ensure ICS Pump B Motor Amps indicate ICS Pump A is running
Evaluator Cue:		**Acknowledge starting of ICS pumps**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 17 **Critical: Yes**	E-0 Attachment A, A.8 RNO ESTABLISH containment spray: 5. ENSURE both Caustic Additive To Containment Spray Valves OPEN. • CI-1001A • CI-1001B
Standard:	• Position Control Switch for CI-1001A to OPEN and ensure CI-1001A OPEN by RED Light LIT and GREEN Light OUT. • Position Control Switch for CI-1001B to OPEN and ensure CI-1001B OPEN by RED Light LIT and GREEN Light OUT.
Evaluator Note:	**If the performer does not establish containment spray at this time then allow the individual to continue through Attachment A until they inform the Unit Supervisor that Attachment A is Complete, otherwise completion of this step completes the JPM.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **When the performer has aligned ICS per E-O Attachment then State " This Completes the JPM"**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

SIMULATOR SET UP:

- Reset the simulator to any Full power IC
- Go to RUN
- Run CAEP file RO-E00-JP012.
- Insert Trigger 1.
- Perform Immediate actions of E-0
- Isolate AFW flow to A S/G
- Establish 210-250 gpm AFW flow
- Go to Freeze
- Snap the IC if desired

RO-E00-JP012.cae

Codes for malfunctions in CAEP File.

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MALFUNCTIONS						
47034-O SER1670 Source Range High Flux At Shutdown Alarm Blocked	00:00:00	00:00:00	Preload	Block	Block	*

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MS02A Main Steam Line Rupture Inside Containment (1A)	00:00:00	00:00:00	1	0	20	1
SER0172 47021-F Containment Spray Actuated	00:00:00	00:00:00	N/A	Block	Block	Preload
CS03A Failure to Auto Start, ICS Pump 1A	00:00:00	00:00:00	N/A	False	True	Preload
CS03B Failure to Auto Start, ICS Pump 1B	00:00:00	00:00:00	N/A	False	True	Preload
FW16B Failure to Auto Start, AFW Pump 1B	00:00:00	00:00:00	N/A	False	True	Preload
* Denotes Malfunctions that preload with ALL IC loads						
REMOTE FUNCTIONS						
IA101 AIR COMPRESSOR 1C LOCAL CONTROL AUTO/OFF/ON	00:00:00	00:00:00	N/A	Auto	Off	Preload
OVERRIDES						
MCC DI-46351-Close ICS-5A	00:00:00	00:00:00	N/A	Off	On	Preload
MCC DO-46351-R ISC-5A	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC DO-46351-G ISC-5A	00:00:00	00:00:00	N/A	Off	On	Preload
MCC DI-46352-Close ICS-6A	00:00:00	00:00:00	N/A	Off	On	Preload
MCC-DO-46352-R ICS-6A	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC DO-46352-G ICS-6A	00:00:00	00:00:00	N/A	Off	On	Preload
MCC DI-46353-Close ICS-5B	00:00:00	00:00:00	N/A	Off	On	Preload
MCC DO-46353-R ICS-5B	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC DO-46353-G ICS-5B	00:00:00	00:00:00	N/A	Off	On	Preload

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MCC-DI-46354-Close ICS-6B	00:00:00	00:00:00	N/A	Off	On	Preload
MCC-DO-46354-R ICS-6B	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC-DO-46354-G ICS-6B	00:00:00	00:00:00	N/A	Off	On	Preload
MCC DI-467471-01-Initiate Cntmt Spray Train A Start	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC DI-467474-01-Initiate Cntmt Spray Train B Start	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC DO-46401-G CI-1001A	00:00:00	00:00:00	N/A	Off	On	Preload
MCC DO-46401-R CI-1001A	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC-DI-46401-Close CI-1001A	00:00:00	00:00:00	N/A	Norm	Norm	Preload
MCC DO-46402-G CI-1001B	00:00:00	00:00:00	N/A	Off	On	Preload
MCC DO-46402-R CI-1001B	00:00:00	00:00:00	N/A	Off	Off	Preload
MCC DI-46402-Close CI-1001B	00:00:00	00:00:00	N/A	Norm	Norm	Preload
BLIND TRIGGERS (GUN SYMBOL)						
Event# 12 Event Action: hwzcst6401(2)==1.0 Command: DOR DI-46402-Close *Trigger activates on CI-1001A switch operation providing indication of valve opening*						
Event# 13 Event Action: hwzcst6401(2)==1.0 Command: DOR DO-46402-R *Trigger activates on CI-1001A switch operation providing indication of valve opening*						
Event# 14 Event Action: hwzcst6401(2)==1.0 Command: DOR DO-46402-G *Trigger activates on CI-1001A switch operation providing indication of valve opening*						

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMA-L-RO/SRO-S-11032010-065
Retain in: Training Program File

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
Event# 15 Event Action: hwzcst6401(1)==1.0 Command: DOR DI-46401-Close *Trigger activates on CI-1001B switch operation providing indication of valve opening*						
Event# 16 Event Action: hwzcst6401(1)==1.0 Command: DOR DO-46401-R *Trigger activates on CI-1001B switch operation providing indication of valve opening*						
Event# 17 Event Action: hwzcst6401(1)==1.0 Command: DOR DO-46401-G *Trigger activates on CI-1001B switch operation providing indication of valve opening*						
Event# 18 Event Action: hwzcst5254(2)==1.0 Command: DOR DO-46354-G *Trigger activates on ICS-6B switch operation providing indication of valve opening*						
Event# 19 Event Action: hwzcst5254(2)==1.0 Command: DOR DO-46354-R *Trigger activates on ICS-6B switch operation providing indication of valve opening*						
Event# 20 Event Action: hwzcst5254(2)==1.0 Command: DOR DI-46354-Close *Trigger activates on ICS-6B switch operation providing indication of valve opening*						
Event# 21 Event Action: hwzcst5254(1)==1.0 Command: DOR DO-46352-G *Trigger activates on ICS-6A switch operation providing indication of valve opening*						
Event# 22 Event Action: hwzcst5254(1)==1.0 Command: DOR DO-46352-R *Trigger activates on ICS-6A switch operation providing indication of valve opening*						
Event# 23 Event Action: hwzcst5254(1)==1.0 Command: DOR DI-46352-Close *Trigger activates on ICS-6A switch operation providing indication of valve opening*						

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
Event# 24 Event Action: hwzcst5153(2)==1.0 Command: DOR DO-46353-G *Trigger activates on ICS-5B switch operation providing indication of valve opening*						
Event# 25 Event Action: hwzcst5153(2)==1.0 Command: DOR DO-46353-R *Trigger activates on ICS-5B switch operation providing indication of valve opening*						
Event# 26 Event Action: hwzcst5153(2)==1.0 Command: DOR DI-46353-Close *Trigger activates on ICS-5B switch operation providing indication of valve opening*						
Event# 27 Event Action: hwzcst5153(1)==1.0 Command: DOR DO-46351-G *Trigger activates on ICS-5A switch operation providing indication of valve opening*						
Event# 28 Event Action: hwzcst5153(1)==1.0 Command: DOR DO-46351-R *Trigger activates on ICS-5A switch operation providing indication of valve opening*						
Event# 29 Event Action: hwzcst5153(1)==1.0 Command: DOR DI-46351-Close *Trigger activates on ICS-5A switch operation providing indication of valve opening*						

TURNOVER SHEET

INITIAL CONDITIONS:

- The Reactor was initially operating at 100% Rated Thermal Power.
- Steam Generator 'A' is Faulted Inside of Containment.
- The Reactor Tripped and SI initiated.
- Feed Flow has been isolated to A S/G.
- The immediate actions of E-0 have been completed.

THE STEPS IN THIS JPM SHOULD BE: PERFORMED

THIS TASK IS NOT TIME CRITICAL

INITIATING CUES (IF APPLICABLE): You are the Reactor Operator and the Unit Supervisor directs you to perform E-0 Attachment A. Other Actions are being performed by the crew.

INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK

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 "N/A" 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.

Jeff Hinze 09/02/2010 _____
Validation Personnel /Date

_____
Validation Personnel/Date

_____
Validation Personnel /Date

_____
Validation Personnel/Date

_____
Validation Personnel /Date

_____
Validation Personnel/Date

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Validation Personnel /Date

_____
Validation Personnel/Date

Historical Record:
Rev A
- New.

Rev B
- Converted to Job Aid Format.

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Perform Control Rod Exercise

JPM NUMBER: RO-049-JP01D **REV.** A

RELATED PRA INFORMATION: N/A

TASK NUMBER(S) / TASK TITLE(S): 0490010201 / Perform Control Rod Exercise

K/A NUMBERS: 001A4.03 RO/SRO Imp 4.2 / 4.1
2.1.13 RO/SRO Imp 4.3 / 4.4

APPLICABLE METHOD OF TESTING:

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

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

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 20 Minutes Time Critical: No

Alternate Path / Faulted: No

TASK APPLICABILITY: RO / SRO

Additional signatures may be added as needed.

Developed by:	Stephen Johnson	/s	9/17/10
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	10/30/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

JPM Number: RO-049-JP01D

JPM Title: Perform Control Rod Exercise

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. Human Performance attributes should be visible. The student may use 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.

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:

- The Unit is operating at 100% power.
- SP-49-075, Control Rod Exercise, is being performed to meet Technical Specification surveillance requirements.
- Plant Initial Conditions have been verified and are currently being met.
- Limiting Conditions for Operation are being tracked.
- I&C is stationed at the Rod Control Cabinets (Logic Cabinet) to observe operation.
- Control Bank D is at the ARO position, 229 steps withdrawn.
- A second operator is available in the Control Room to provide peer checking.

INITIATING CUES (IF APPLICABLE):

- The Unit Supervisor directs you to perform SP-49-075, section 6.6 for Shutdown Bank A.

JPM PERFORMANCE INFORMATION

Required Materials: Marked up copy of SP-49-075 (to section 6.6)

General References: SP-49-075, Control Rod Exercise, Rev. 33
OP-AP-300, Reactivity Management, Rev. 10

Task Standards: Shutdown Bank A control rods inserted at least 10 steps and returned to the 229 step position IAW SP-49-075.

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

NOTE: Critical steps are marked with a "Yes" 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 Yes**	SP-49-075, Step 6.6.1 RECORD initial Individual Rod Position indication and Group Step Position.
Standard:	Value of '222 to 231' recorded in INITIAL column of Individual Rod Position Indication blocks of the table for each rod in SBA-1 and SBA-2. AND Value of '229' recorded in INITIAL column of Group Step Position blocks of the table for each Bank & Group SBA-1 and SBA-2.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical Yes**	SP-49-075, Step 6.6.2 POSITION Control Rod Bank Selector to SBA.
Standard:	PLACE Control Bank Selector switch to SBA position.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 3 **Critical No**	SP-49-075, Step 6.6.2.a. VERIFY Rod Speed indicator at 66 steps per minute.
Standard:	Using Rod Speed meter SI-401 41210, VERIFY 66 steps per minute. Meter located on Mechanical Consol B.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 4 **Critical Yes**	SP-49-075, Step 6.6.3 (CAS) IF Shutdown Bank A is withdrawn past the position recorded in Step 6.6.1 at any time, THEN PERFORM ATTACHMENT B.
Standard:	If Shutdown Bank A, Group 1 or Group 2 is withdrawn beyond 229 steps as indicated on their associated Group Step Counter, the perform Attachment B of the procedure.
Evaluator Note:	**"(CAS)" indicates this is a Continuous Action Step and applies anytime during performance of this section of the procedure.** **This is a conditional Critical Step which must be performed only if Shutdown Bank A rods are WITHDRAWN past step 229.** **These steps are at the end of this JPM.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5 **Critical No**	SP-49-075, Step 6.6.4 CYCLE Shutdown Bank A per ATTACHMENT A as follows to displace any loose crud prior to larger rod movements: a. INSERT Shutdown Bank A one step.
Standard:	1. POSITION Rod Motion IN-HOLD-OUT switch to IN until rod position reads 228 steps on Shutdown Bank A Group 1 Step Position AND Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • Appropriate Rod Control Rods In/Out light, ON • Affected Control Bank(s) Individual Rod Position Indication, maintaining alignment • Control Bank Group Step counter(s), RISING or LOWERING as appropriate 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Evaluator Note:	**Attachment A provides general instructions for making the manual control rod position change. The STANDARD above summarizes these action specific items being performed.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical No**	SP-49-075, Step 6.6.4 CYCLE Shutdown Bank A per ATTACHMENT A as follows to displace any loose crud prior to larger rod movements: b. WITHDRAW Shutdown Bank A one step.
Standard:	1. POSITION Rod Motion IN-HOLD-OUT switch to OUT until rod position reads 229 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • Appropriate Rod Control Rods In/Out light, ON • Affected Control Bank(s) Individual Rod Position Indication, maintaining alignment • Control Bank Group Step counter(s), RISING or LOWERING as appropriate • 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Evaluator Note:	**If the performer has withdrawn Shutdown Bank A above 229 steps, Attachment B should be performed at this time. Attachment B is contained in Performance Steps 16-18.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 7 **Critical No**	SP-49-075, Step 6.6.4 CYCLE Shutdown Bank A per ATTACHMENT A as follows to displace any loose crud prior to larger rod movements: c. INSERT Shutdown Bank A one step.
Standard:	1. POSITION Rod Motion IN-HOLD-OUT switch to IN until rod position reads 228 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • Appropriate Rod Control Rods In/Out light, ON • Affected Control Bank(s) Individual Rod Position Indication, maintaining alignment • Control Bank Group Step counter(s), RISING or LOWERING as appropriate 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 8 **Critical No**	SP-49-075, Step 6.6.4 CYCLE Shutdown Bank A per ATTACHMENT A as follows to displace any loose crud prior to larger rod movements: d. WITHDRAW Shutdown Bank A one step.
Standard:	1. POSITION Rod Motion IN-HOLD-OUT switch to OUT until rod position reads 229 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • Appropriate Rod Control Rods In/Out light, ON • Affected Control Bank(s) Individual Rod Position Indication, maintaining alignment • Control Bank Group Step counter(s), RISING or LOWERING as appropriate 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Evaluator Note:	**If the performer has withdrawn Shutdown Bank A above 229 steps, Attachment B should be performed at this time. Attachment B is contained in Performance Steps 16-18.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 9 **Critical No**	SP-49-075, Step 6.6.4 CYCLE Shutdown Bank A per ATTACHMENT A as follows to displace any loose crud prior to larger rod movements: e. INSERT Shutdown Bank A one step.
Standard:	1. POSITION Rod Motion IN-HOLD-OUT switch to IN until rod position reads 228 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • Appropriate Rod Control Rods In/Out light, ON • Affected Control Bank(s) Individual Rod Position Indication, maintaining alignment • Control Bank Group Step counter(s), RISING or LOWERING as appropriate 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 10 **Critical No**	SP-49-075, Step 6.6.4 CYCLE Shutdown Bank A per ATTACHMENT A as follows to displace any loose crud prior to larger rod movements: f. WITHDRAW Shutdown Bank A one step.
Standard:	1. POSITION Rod Motion IN-HOLD-OUT switch to OUT until rod position reads 229 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • Appropriate Rod Control Rods In/Out light, ON • Affected Control Bank(s) Individual Rod Position Indication, maintaining alignment • Control Bank Group Step counter(s), RISING or LOWERING as appropriate 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Evaluator Note:	**If the performer has withdrawn Shutdown Bank A above 229 steps, Attachment B should be performed at this time. Attachment B is contained in Performance Steps 16-18.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 11 **Critical Yes**		SP-49-075, Step 6.6.5 INSERT Shutdown Bank A Rods 10 to 16 steps and VERIFY the following: a. All rods being tested stepping simultaneously b. Rod Control Rods In light, ON c. Shutdown Bank A Group 1 and 2 Step Position indicators, STEPPING in the correct sequence. d. TLA-1 ROD SUPERVISION ALARM (47033-11), ON
Standard:	(C)	1. POSITION Rod Motion IN-HOLD-OUT switch to IN until rod position reads between 219 steps and 213 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • All rods being tested stepping simultaneously • Rod Control Rods In light, ON • Shutdown Bank A Group 1 and 2 Step Position indicators, STEPPING in the correct sequence. • TLA-1 ROD SUPERVISION ALARM (47033-11), ON 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Evaluator Note:		**The portions of this standard that are critical actions are marked with a (C)**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 12 **Critical Yes**	SP-49-075, Step 6.6.6 WHEN Shutdown Bank A is at test position, THEN RECORD the following: a. Shutdown Bank A Individual Rod Position Indication b. Shutdown Bank A Group 1 and 2 Step Position
Standard:	Value of current rod RPI position recorded in TEST column of Individual Rod Position Indication blocks of the table for each rod in SBA-1 and SBA-2. AND Value of current rod demand position recorded in TEST column of Group Step Position blocks of the table for each Bank & Group SBA-1 and SBA-2.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 13 **Critical Yes**		SP-49-075, Step 6.6.7 WITHDRAW Shutdown Bank A to initial position recorded in Step 6.6.1 and VERIFY the following: a. All rods being tested stepping simultaneously b. Shutdown Bank A Group 1 and 2 Step Position indicators, STEPPING in the correct sequence. c. Rod Control Rods Out light, ON d. TLA-1 ROD SUPERVISION ALARM (47033-11), OFF
Standard:	(C)	1. POSITION Rod Motion IN-HOLD-OUT switch to OUT until rod position reads 229 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 2. While rods are in motion, VERIFY the following: • All rods being tested stepping simultaneously • Shutdown Bank A Group 1 and 2 Step Position indicators, STEPPING in the correct sequence. • Rod Control Rods Out light, ON • TLA-1 ROD SUPERVISION ALARM (47033-11), OFF 3. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position 4. MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Evaluator Note:		**The portions of this standard that are critical actions are marked with a (C).** **If the performer has withdrawn Shutdown Bank A above 229 steps, Attachment B should be performed at this time. Attachment B is contained in Performance Steps 16-18.**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 14 **Critical Yes**	SP-49-075, Step 6.6.8 WHEN Shutdown Bank A has been withdrawn to initial position recorded in Step 6.6.1, THEN RECORD the following: a. Shutdown Bank A Individual Rod Position Indication b. Shutdown Bank A Group 1 and 2 Step Position
Standard:	Value of '222 to 231' recorded in FINAL column of Individual Rod Position Indication blocks of the table for each rod in SBA-1 and SBA-2. AND Value of '229' recorded in FINAL column of Group Step Position blocks of the table for each Bank & Group SBA-1 and SBA-2.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 15 **Critical No**	SP-49-075, Step 6.6.9 Independent Verification: Shutdown Bank A at INITIAL POSITION
Standard:	Value of '222 to 231' recorded in FINAL column of Individual Rod Position Indication blocks of the table for each rod in SBA-1 and SBA-2. AND Value of '229' recorded in FINAL column of Group Step Position blocks of the table for each Bank & Group SBA-1 and SBA-2.
Evaluator Note:	**Independent Verification is required by the procedure for this step. IF the performer has not exceeded 229 steps withdrawn during the manipulations, proceed to JPM termination.**
Evaluator Cue:	**"Independent Verification Provided"**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 16 **Critical Yes**	SP-49-075, ATTACHMENT B B.1 IF Shutdown Bank A OR Shutdown Bank B is withdrawn past the ARO position, THEN PERFORM the following: 1. INFORM the Unit Supervisor.
Standard:	Unit Supervisor informed of Control Bank position exceeding 229.
Evaluator Note:	**These are the conditional actions from Attachment B which are required if Shutdown Bank A is withdrawn above 229 steps.**
Evaluator Cue:	**AS Unit Supervisor acknowledge report and direct performer to continue with Attachment B.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 17 **Critical Yes**		SP-49-075, ATTACHMENT B B.1 IF Shutdown Bank A OR Shutdown Bank B is withdrawn past the ARO position, THEN PERFORM the following: 2. WHEN directed, THEN RETURN the affected bank to the ARO position.
Standard:	(C)	POSITION Rod Motion IN-HOLD-OUT switch to IN until rod position reads 229 steps on Shutdown Bank A Group 1 Step Position and Shutdown Bank A Group 2 Step Position. RELEASE IN-HOLD-OUT switch to HOLD position. 1. While rods are in motion, VERIFY the following: • Appropriate Rod Control Rods In/Out light, ON • Affected Control Bank(s) Individual Rod Position Indication, maintaining alignment • Control Bank Group Step counter(s), RISING or LOWERING as appropriate 2. WHEN Rod Motion IN-HOLD-OUT switch is released, THEN VERIFY the following: • Rod motion, STOPPED • Appropriate Rod Control Rods In/Out light, OFF • Control Rods, at desired position MONITOR Reactor Power, Average Coolant Temperature, and Axial Power Offset for expected effects of reactivity change.
Evaluator Note:		**These are the conditional actions from Attachment B which are required if Shutdown Bank A is withdrawn above 229 steps.**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 18 **Critical Yes**	SP-49-075, ATTACHMENT B B.1 IF Shutdown Bank A OR Shutdown Bank B is withdrawn past the ARO position, THEN PERFORM the following: UPDATE PPCS rod bank position as follows: 1. SELECT PPCS functions. 2. SELECT Operator Entry. 3. SELECT Rod Bank Position Update. 4. VERIFY the affected shutdown bank computer point ID indicates ARO position. • C3005G for Shutdown Bank A • C3006G for Shutdown Bank B
Standard:	1. SELECT PPCS functions. 2. SELECT Operator Entry. 3. SELECT Rod Bank Position Update. 4. VERIFY the affected shutdown bank computer point ID indicates 229. • C3005G for Shutdown Bank A • C3006G for Shutdown Bank B
Evaluator Note:	**These are the conditional actions from Attachment B which are required if Shutdown Bank A is withdrawn above 229 steps.** **THIS is the last step of Attachment B, return to appropriate Performance Step where Attachment B was entered.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **When rods have been returned to their original position and position verification addressed: "This completes this JPM."**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

SP-49-075 Marked Up.pdf

SIMULATOR SETUP:

Simulator Setup Instructions:

Reset the Simulator to any 100% power IC

Ensure Shutdown Bank Step Positions read 229.

Insert Remote RD115 “Master Cycler Reset to 4 Count” to a valve of RST TO 4.
Insert Remote RD115 “Master Cycler Reset to 4 Count” to a valve of NORM.
Delete Remote RD115 “Master Cycler Reset to 4 Count”.

Provide a copy of SP-49-075 marked up through and including step 6.5.5.

TURNOVER SHEET

INITIAL CONDITIONS:

- The Unit is operating at 100% power.
- SP-49-075, Control Rod Exercise, is being performed to meet Technical Specification surveillance requirements.
- Plant Initial Conditions have been verified and are currently being met.
- Limiting Conditions for Operation are being tracked.
- I&C is stationed at the Rod Control Cabinets (Logic Cabinet) to observe operation.
- Control Bank D is at the ARO position, 229 steps withdrawn.
- A second operator is available in the Control Room to provide peer checking.

INITIATING CUES (IF APPLICABLE):

- The Unit Supervisor directs you to perform SP-49-075, section 6.6 for Shutdown Bank A.

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.

Andrew Fahrenkrug 10/30/2010 _____
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:

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Pressurizer Pressure Control Malfunction

JPM NUMBER: RO-E00-JP011 **REV.** B

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): E000010501 - Respond to a Reactor Trip Condition with Safety Injection

K/A NUMBERS: 007EA1.03 RO/SRO Imp 4.2 / 4.1

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: YES

TASK APPLICABILITY: RO/SRO

Additional signatures may be added as needed.

Developed by:	Stephen Johnson	/s	09/02/10
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	11/05/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMC-L-RO/SRO-S-11052010-067
Retain in: Training Program File

JPM Number: RO-E00-JP011

JPM Title: Pressurizer Pressure Control Malfunction

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

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.

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.

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..

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:

- You are the Reactor Operator.
- The reactor is tripped.
- SI is actuated.
- E-0, Reactor Trip or Safety Injection, is being performed with steps complete through step 10.

THIS JPM IS NOT TIME CRITICAL.

INITIATING CUES (IF APPLICABLE):

You are directed by the US to perform steps 11 and 12 of E-0.

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

JPM PERFORMANCE INFORMATION

Required Materials: E-O, steps 11 – 12.

General References: E-O, Reactor Trip or Safety Injection, Rev. 41
47012-K, RXCP B BREAKER OPEN, Rev. 0

Task Standards: Steps 11 and 12 completed, RXCP B stopped and CVC-15 closed.

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 "Yes" 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**	E-0, Step 11 Check PRZR PORVs both CLOSED. • PR-2A • PR-2B
Standard:	Determine PR-2A/CV-31110 PRZR PORV AND PR-2B/CV-31109 PRZR PORV closed.
Evaluator Note:	**Check PR-2A/CV-31110 PRZR PORV green light ON, red light OFF.** **Check PR-2B/CV-31109 PRZR PORV green light ON, red light OFF.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical No**	E-0, Step 12.a CHECK normal PRZR spray valves BOTH CLOSED • PS-1A • PS-1B
Standard:	Determine PS-1A closed AND PS-1B open.
Evaluator Note:	**Check PS-1A auto demands read 0% output (fully CLOSED) and associated green light ON, red light OFF.** **Check PS-1B auto demands read 100% output (fully OPEN) and associated red light ON, green light OFF.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 3 **Critical No**	E-0 Step 12. RNO **IF** PRZR pressure less than 2260 psig, **THEN** STOP spray flow:
Standard:	DETERMINE PRZR pressure channels PI-429, 430, 431 and/or 449A read less than 2260 psig.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 4 **Critical No**	Step 12.a.1 RNO **IF** PRZR pressure less than 2260 psig, **THEN** STOP spray flow: Manually **CLOSE** valve(s).
Standard:	1. POSITION PS-1B/ CV-31111 - 4330402/HC-431H, PRZR Spray Control Loop B, AUTO-BAL-MAN switch to MAN. 2. ROTATE manual control until PS-1B to attempt to drive demand reading 0% output (fully CLOSED). DETERMINE PS-1B NOT closed by OBSERVING red light remains ON and green light remains OFF.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 5 **Critical Yes**	Step 12.a.2 RNO **IF** PRZR pressure less than 2260 psig, **THEN** STOP spray flow: If valve(s) will **NOT** close, **THEN STOP** RXCP(s) supplying failed spray valve(s) and place in PULLOUT. • RXCP A for PS-1A • RXCP B for PS-1B
Standard:	RXCP Pump B stopped with its control switch in PULLOUT.
Evaluator Note:	**When RXCP control switch taken to STOP, the operator should verify 1) RXCP Pump B red light OFF, 2) RXCP Motor B Current meter 41334 indicates 0 amps, OR 3) annunciator 47012-K, RXCP B BREAKER OPEN (SER PT 790), is alarmed.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 6 **Critical No**	Step 12.a.3 RNO **IF** PRZR pressure less than 2260 psig, **THEN** STOP spray flow: **IF** pressure continues to decrease, **THEN STOP** the other RXCP and **PLACE** in PULLOUT.
Standard:	Check Pressurizer pressure stabilizes or rises on pressure channels PI-429, 430, 431 and/or 449A.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 7 **Critical No**	Step 12.b **CHECK** Auxiliary Spray Valve, CLOSED • CVC-15
Standard:	Determine CVC-15 is closed.
Evaluator Note:	**VERIFY CVC-15/CV-31230 PRZR Auxiliary Spray Valve green light ON, red light OFF.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Terminating Cues: **When E-0 steps 11 and 12 are complete: This completes this JPM.**

Stop Time: _____

During the evaluation, the trainee:	**Evaluation**	
• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ PASS	☐ FAIL
• Never put anyone's safety at risk.	☐ PASS	☐ FAIL
• Never put equipment reliability at risk.	☐ PASS	☐ FAIL
• Never violated radiological work practices.	☐ PASS	☐ FAIL
• Demonstrated effective use of event-free human performance tools.	☐ PASS	☐ FAIL

SIMULATOR SETUP:

Simulator Setup Instructions:

1. Reset the Simulator to any at-power IC

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MALFUNCTIONS						
REMOTE FUNCTIONS						
OVERRIDES						
AI-43304-02-R2 PS-1B BAL ADJ	00:00:00	00:00:00	1	0	0	1
DI-43304-02-AUTO PS-1B	00:00:00	00:00:00	1	ON	OFF	1
DI-43304-02-MAN-BAL PS-1B	00:00:00	00:00:00	1	OFF	ON	1
TRIGGERS						

2. Go to RUN
3. Enter Malfunction on TRIGGER 1 to fail open PRZR Spray Valve PS-1B.
4. Trip the reactor.
5. Verify SI automatically actuates. Open the second spray valve PS-1A in manual if required.
6. Throttle AFW-2A and AFW-2B to maintain total 210 gpm flow and greater than 1000 psig discharge pressure in both AFW headers.
7. Place T/D AFW Pump to PULLOUT (MS-102)
8. Verify PRZR Spray Valve **PS-1A** closed and in AUTO.
9. Place the Simulator in FREEZE
10. IF desired, the IC in this condition may be snapped (IC - _____) and maintained for use.
11. When directed by the JPM Evaluator, place the SIMULATOR in RUN.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are the Reactor Operator.
- The reactor is tripped.
- SI is actuated.
- E-0, Reactor Trip or Safety Injection, is being performed with steps complete through step 10.

THIS JPM IS NOT TIME CRITICAL.

INITIATING CUES (IF APPLICABLE):

You are directed by the US to perform steps 11 and 12 of E-0.

Inform Evaluator when you are ready to begin.

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.

Andrew Fahrenkrug 11/05/2010 _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMC-L-RO/SRO-S-11052010-067
Retain in: Training Program File

Historical Record:
Rev A
1. Changed JPM ID from RO-E01-JP01B to RO-E00-JP011 both to reflect actual task ID and to reflect "Alternate Path" JPM.
2. Updated to latest procedure direction.
3. Added direction in Simulator Setup to open second spray Valve if necessary to get SI actuation, and restore to AUTO.
4. No major changes to actions so SME review not required.

Rev B:
Update JPM to match rev 41 of E-0

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Rapid Power Reduction to Approximately 570 MWe

JPM NUMBER: RO-054-JP061 REV. F

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): 0540060101 / Change Turbine and Generator Load

K/A NUMBERS: 045 2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation. 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: NO

Alternate Path / Faulted: YES

TASK APPLICABILITY: RO/SRO

Additional signatures may be added as needed.

Developed by:	Andy Fahrenkrug	/s	10/01/2010
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	09/03/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMD-RO/SRO-S-11052010-068
Retain in: Training Program File

JPM Number: RO-054-JP06

JPM Title: Rapid Power Reduction to Approximately 570 MWe

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.

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMD-RO/SRO-S-11052010-068
Retain in: Training Program File

JPM BRIEFING/TURNOVER

Read to Examinee:

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

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.

AOP and 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.

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.

Off-board annunciators will be addressed by an individual assigned to that task.

1. Human Performance attributes should be visible. The student may use 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.

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 BOP Operator
2. The turbine is selected to TURBINE MANUAL due to cycling noted on the turbine control valves when in OPER AUTO.
3. The Unit Supervisor has directed a load backdown to LESS THAN OR EQUALTO 570 MWe at 1% per minute.
4. Actions of OP-KW-AOP-GEN-002, Rapid Power Reduction, are in progress.
5. AOP-GEN-002 Steps 1 through 6 have been completed.
6. A normal boration using AOP-GEN-002 Attachment F has been completed and Tave is being monitored by the RO.
7. Initial Tave was 571.7ºF.

THIS JPM IS NOT TIME CRITICAL.

INITIATING CUES:

You have been directed to complete the load reduction to LESS THAN OR EQUALTO 570 MWe beginning at Step 7 of AOP-GEN-002.

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

JPM PERFORMANCE INFORMATION

Required Materials: AOP-GEN-002 marked up through step 6 (including Attachments A and F).

General References: OP-KW-AOP-GEN-002, Rapid Power Reduction, Rev 8

Task Standards: Reduce turbine load to at or below 570 MWe using the CV DOWN pushbutton in accordance with OP-KW-AOP-GEN-002, Rapid Power Reduction.

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 "Yes" 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: <u>No</u>**	AOP-GEN-002, Step 7.a (CAS) PERFORM Turbine Load Reduction: CHECK load reduction desired.
Standard:	Determine turbine load reduction is desired.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical: No**	AOP-GEN-002, Step 7.b (CAS) PERFORM Turbine Load Reduction: CHECK Turbine MODE – OPER AUTO.
Standard:	Determine turbine control is in TURBINE MANUAL.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 3 **Critical: Yes**	AOP-GEN-002, Step 7.b (RNO) REDUCE load by alternate means: Intermittently PRESS CV DOWN pushbutton at rate determined in Step 3 until at desired load while CONTINUING with this procedure. GO TO Step 8.
Standard:	Load decrease using CV DOWN pushbutton until load is equal to or less than 570 MWe with the following constraints: • Load reduction is performed in discrete steps of at least 3 steps. • Periodic pressing of the CV DOWN pushbutton is used.
Evaluator Note:	**The CV DOWN pushbutton is located in the TURBINE CV MANUAL CONTROL section of the turbine control panel.**  **The operator may remain at this step (7) until load reduction is completed. The procedure is NOT normally performed by a single individual and the Unit Supervisor would follow to ensure all appropriate steps performed.** **The rate of 1%/minute is equivalent to 6 MWe/minute.**
Evaluator Cue:	**As Unit Supervisor, Maintain approximately 1% per minute load rate.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 4 **Critical: No**	AOP-GEN-002, Step 8 (CAS) MAINTAIN MVAR out loading during power reduction between 0-150 MVAR.
Standard:	MVAR loading maintained between 0 MVAR and 150 MVAR during load reduction.
Evaluator Note:	**MVAR loading is maintained by adjusting the GENERATOR #1 VOLTAGE ADJUSTER.** **The operator may remain at this step (8) until load reduction is completed. The procedure is NOT normally performed by a single individual and the Unit Supervisor would follow to ensure all appropriate steps performed.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5 **Critical No**	AOP-GEN-002, Step 9 (CAS) CONTROL boration flow and power reduction rate as necessary to maintain plant requirements: • ΔI • Rod Insertion Limits • Tave/Tref deviation
Standard:	Monitors load rate to maintain Tave within 4ºF of Tref.
Evaluator Note:	**The RO is responsible for monitoring ΔI and RIL. With rods in AUTO, the stated limit for temperature difference will Not be exceeded if load is reduced in as described in Performance Step 3.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: When Operator reports turbine load adjustment complete: **THIS JPM IS COMPLETE.**

Stop Time: _____

During the evaluation, the trainee:		**Evaluation**
• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ PASS	☐ FAIL
• Never put anyone's safety at risk.	☐ PASS	☐ FAIL
• Never put equipment reliability at risk.	☐ PASS	☐ FAIL
• Never violated radiological work practices.	☐ PASS	☐ FAIL
• Demonstrated effective use of event-free human performance tools.	☐ PASS	☐ FAIL

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SIMULATOR SET UP:

The JPM Evaluator will need a copy of OP-KW-AOP-GEN-002, marked as performed Steps 1 through 6, including marked up Attachments A, and F.

Simulator Information:

Setup:

Any 100% power Steady State condition

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MALFUNCTIONS						
TC05 Turbine Control System Cycling	00:00:00	00:00:00	1	-	-	1
REMOTE FUNCTIONS						
OVERRIDES						
TRIGGERS						

1. Reset to IC and place Simulator in RUN.
2. If “snapped” IC is used, verify initial conditions and place the Simulator in Freeze.
3. Place Turbine control in TURBINE MANUAL.
4. Enter TRIGGER 1 to activate malfunction for turbine control cycling in OPER AUTO.
5. Balance Heater Drain Pump speeds (amps).
6. If a standard IC is used, ensure the following actions of OP-KW-AOP-GEN-002 are performed:
   a. Ensure Control Rod Bank Selector is in AUTO. (Step 4)
   b. Determine the required boration using the Standard Reactivity Plan. (Step 5)
   c. Initiate boration using Attachment F. (Step 5)
   d. Place all PRZR heaters ON. (Step 6)
7. Acknowledge and reset all annunciators and alarms, as appropriate.
8. When Tave has lowered by approximately 1.0ºF (0.8ºF to 1.0ºF), place the Simulator in FREEZE.
9. IF desired, the IC in this condition may be snapped (IC - _____) and maintained for use.
10. When directed by the JPM Evaluator, place the SIMULATOR in RUN.

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the BOP Operator.
2. The turbine is selected to TURBINE MANUAL due to cycling noted on the turbine control valves when in OPER AUTO.
3. The Unit Supervisor has directed a load backdown to LESS THAN OR EQUALTO 570 MWe at 1% per minute.
4. Actions of OP-KW-AOP-GEN-002, Rapid Power Reduction, are in progress.
5. AOP-GEN-002, Steps 1 through 6 are completed.
6. A normal boration using AOP-GEN-002 Attachment F has been completed and Tave is being monitored by the RO.
7. Initial Tave was 571.7ºF.

THIS JPM IS NOT TIME CRITICAL.

INITIATING CUES:

You have been directed to complete the load reduction to LESS THAN OR EQUALTO 570 MWe beginning at Step 7 of AOP-GEN-002.

Inform Evaluator when you are ready to begin.

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.

Andrew Fahrenkrug 09/03/2010 _____
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:
Rev. B:

- Changed Initial Conditions and Initiating Cue to have Step 10 – Turbine on VPL, removed since changes in plant practices now have returned normal steady-state operations to operating on VPL. This action is not germane to performance of task.
- Deleted Performance Step 1 as result of having AOP-GEN-002 Step 10 already performed.
- Performance Step 6 – Changed STANDARD to remove specific rate control from standard. Added specific actions to meet intent that the load decrease be controlled:
  - "Load reduction is performed in discrete steps of at least 4 steps." This ensures that a controllable rate less than 5%/minute is maintained as specified by procedure.
  - "Periodic pressing of the CV DOWN pushbutton is used." Ensures the load reduction is performed over a period of time relative to the rate of power decrease.
- Performance Step 12 – Changed to show proper procedural flowpath with status light NOT lit. Operator will not perform AOP-GEN-002, Step 15.c, but will go to RNO for Step 15.b and proceed to Step 15.d.
- Performance Step 14 (old revision) – Deleted performance step for AOP-GEN-002, step 15.c. Operator will not perform AOP-GEN-002, Step 15.c, since he/she will go to RNO for Step 15.b and proceed to Step 15.d.
- Performance Step 22 – A NOTE was added to explain that this explicit step, AOP-GEN-002, Step 45 Check Turbine Load LESS THAN OR EQUAL TO DESIRED FINAL VALUE, does not have to be performed by the Operator. The intent is to ascertain that the task has been met with turbine load at or less than 560 MWe. This may be done at any step in the procedure. The STANDARD is tied to this step since this is the logical procedural step that represents completion of the task. Also performance of this particular step cannot be CRITICAL since the action is "CHECK" which cannot be successfully measured.

Rev. C

- Shortened number of steps of procedure covered based on feedback from validation. Action to reduce load is directed in, and can be completed in, Step 12 of AOP-GEN-002. Deleted Performance steps 9 through 22.
- Restored Performance Step 1 to have the operator check if turbine is on VPL. This is the first action appropriate for the BOP operator in performing tasks and should key the operator into MANUAL operation.

Rev. D

Incorporate NRC comments from ILT examination validation:

1. Transposed position of INITIAL CONDITION 2 and 3 to eliminate confusion that the load reduction is due to the cycling of turbine control valves.
2. Added information to Evaluator Note for Performance Step 7 that 1%/min rate is equivalent to 6 MWe/min.
3. Combined information from Performance Step 9 into Performance Step 8 (last step).

Rev. E

- Revised to incorporate procedure changes to Gen-002 to start at step 7.

Rev. F

- Revised to incorporate procedure changes to Gen-002.

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Respond to Containment Fan Coil Unit Emergency Discharge Damper Open

JPM NUMBER: RO-018-JP011 **REV**. A

RELATED PRA INFORMATION: N/A

TASK NUMBER(S) / TASK TITLE(S): 0180010401 / Respond to Containment Fan Coil Unit Emergency Discharge Damper(s) OPEN

K/A NUMBERS: 022A4.03 – Ability to manually operate and/or monitor in the control room: Dampers in the CCS IMP 3.2 / 3.2
022 2.4.50 – Ability to verify system alarm setpoints and operate controls identified in the alarm response manual IMP 3.3 / 3.3

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: Yes

TASK APPLICABILITY: RO/SRO

Additional signatures may be added as needed.

Developed by:	Stephen Johnson	/s	6/22/2010
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	09/03/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

Retention: Life of plant insurance policy + 10 years KPS-SystemJPME-L-RO/SRO-S-11052010-069
Retain in: Training Program File

JPM Number: **RO-018-JP011**

JPM Title: **Respond to Containment Fan Coil Unit Emergency Discharge Damper Open**

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. Human Performance attributes should be visible. The student may use 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.

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:

- You are the Operator At The Controls (RO)
- Annunciator 47052-C, CNTMT EMERG DISCH DMPRS ABNORMAL, has just alarmed.

INITIATING CUES (IF APPLICABLE):

- The Unit Supervisor directs you to perform the actions of the Alarm Response Procedure, OP-KW-ARP-47052-C.

JPM PERFORMANCE INFORMATION

Required Materials: ARP-47052-C

General References: OP-KW-ARP-47052-C, CNTMT EMERG DISCH DMPRS ABNORMAL, Rev. 0

Task Standards: All Containment Fan Coil Units running and RXCP motor temperatures displayed on PPCS.

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

NOTE: Critical steps are marked with a "Yes" 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 <u>No</u>**	ARP-47052-C, Step 1. CHECK Safety Injection NOT Initiated
Standard:	Determine Safety Injection NOT actuated by checking either of the following: • Status Light window 44905-1201, SI SIGNAL ACTUATED, NOT LIT. • Annunciator windows 47021-A, SI TRAIN A ACTUATED, and 47021-B, SI TRAIN B ACTUATED, NOT LIT.
Evaluator Note:	**The performer may also check one or more of the following:** • **Status Light window 44905-1201, AUTOMATIC SI DISABLED, NOT LIT.** • **Reactor NOT tripped.** • **Any other SI related Annunciators NOT lit: 47052-Q, 47051-A, 47061-I, 47061-J, 47041-D, 47023-D.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical No**	ARP-47052-C, Step 2. DEPRESS Both SI Manual Reset Pushbuttons • 4647202 • 4647502
Standard:	• Depress SAFETY INJECTION TRAIN A RESET pushbutton. • Depress SAFETY INJECTION TRAIN B RESET pushbutton.
Evaluator Note:	**This action has no effect since the SI signal is NOT active.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 3 **Critical Yes**	ARP-47052-C, Step 3. CLOSE Containment Fan Coil Unit IF any Containment Fan Coil Unit Emergency Discharge Dampers: • RBV-150A • RBV-150B • RBV-150C • RBV-150D
Standard:	1. Identify RBV-150B/CD-34131 CNTMT FAN COIL UNIT B EMERGENCY DISCH DMPR open. (C) Take control switch for RBV-150B/CD-34131 to the CLOSE position and report the damper closes. 2. Identify RBV-150D/CD-34133 CNTMT FAN COIL UNIT D EMERGENCY DISCH DMPR open. Take control switch for RBV-150D/CD-34133 to the CLOSE position and report RBV-150D position does NOT change.
Evaluator Note:	**The critical action is to CLOSE RBV-150B since this is the only one of the two affected dampers that will close. With RBV-150D remaining open, the performer will proceed with actions from the RESPONSE NOT OBTAINED (RNO) column.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 4 **Critical Yes**		ARP-47052-C, Step 3. (RNO) **IF** any Containment Fan Coil Unit Emergency Discharge Damper(s) will **NOT** close, **THEN PERFORM** following: a. **START** all Containment Fan Coil Units. • CFCU 1A • CFCU 1B • CFCU 1C • CFCU 1D
Standard:		Verify CFCUs 1A, 1B and 1D are running.
	(C)	Start CFCU 1C by taking its control switch to START and releasing. Verify red light LIT and green light OFF.
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 5 **Critical No**	ARP-47052-C, Step 3. (RNO) **IF** any Containment Fan Coil Unit Emergency Discharge Damper(s) will **NOT** close, **THEN PERFORM** following: b. **IF** RBV-150A open, **THEN VERIFY** RBV-100A-B CLOSED.
Standard:	Determine RBV-150A is NOT open and NO action required.
Evaluator Note:	**RBV-100A-B/MD-32348 position indication (green / red) is located in CFCU section at upper right on MVA.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical No**	ARP-47052-C, Step 3. (RNO) **IF** any Containment Fan Coil Unit Emergency Discharge Damper(s) will **NOT** close, **THEN PERFORM** following: c. **IF** RBV-150D open, **THEN** VERIFY RBV-100C-D CLOSED.
Standard:	Determine RBV-150D is OPEN. Check RBV-100C-D/MD-32348 CLOSE with green light LIT and red light OFF.
Evaluator Note:	**This step is NOT critical since the damper will be shut with RBV-150D OPEN.** **RBV-100C-D/MD-32349, CNTMT FCU C & D DISCH TO RFLG FLOOR, position indication (green / red) is located in CFCU section at upper right on MVA.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 7 **Critical No**	ARP-47052-C, Step 3. (RNO) **IF** any Containment Fan Coil Unit Emergency Discharge Damper(s) will **NOT** close, **THEN PERFORM** following: d. **MONITOR** RXCP motor stator temperatures.
Standard:	On PPCS go to one of the following screens to monitor RXCP motor stator temperatures: • Operations Protected Area 1, Group 15, Reactor Coolant Pumps • Graphical Displays, Reactor Coolant Pumps • PPCS Points/Trends T0417A, RCPA MOTOR STATOR TEMP and T0437A, RCPB MOTOR STATOR TEMP
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **When performer has reported that RXCP motor stator temperatures are being monitored, "This completes this JPM."**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

SIMULATOR SETUP

Any At-Power IC

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MALFUNCTIONS						
REMOTE FUNCTIONS						
OVERRIDES						
DI-40016-CLOSE RBV-150D			1	OFF	OFF	1
DI-40016-OPEN RBV-150D			1	OFF	ON	1
TRIGGERS						

1. Reset to IC and place Simulator in RUN.
2. If “snapped” IC is used, verify initial conditions and place the Simulator in Freeze.
3. TAKE CFCU 1C control switch to STOP and release. ENSURE CFCU 1C stopped.
4. TAKE control switch for RBV-150B to OPEN and ENSURE RBV-150B is open.
5. ENTER and activate OVERRIDES (TRIGGER 1) to cause RBV-150D to OPEN and fail open, and ENSURE RBV-150D is open.
6. Place control switch for RBV-150B to AUTO.
7. ENSURE RBV-100C-D indicates closed.
8. PLACE the Simulator in FREEZE.
9. IF desired, the IC in this condition may be snapped (IC - _____) and maintained for use.
10. When directed by the JPM Evaluator, place the SIMULATOR in RUN.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are the Operator At The Controls (RO).
- Annunciator 47052-C, CNTMT EMERG DISCH DMPRS ABNORMAL, has just alarmed.

INITIATING CUES (IF APPLICABLE):

- The Unit Supervisor directs you to perform the actions of the Alarm Response Procedure, OP-KW-ARP-47052-C.

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.

Andrew Fahrenkrug 09/03/2010 _____
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:
Rev. A – New JPM

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Transfer 4160 V AC Bus 1 From RAT To MAT

JPM NUMBER: RO-039-JP02A **REV**. A

RELATED PRA INFORMATION: 4160 V Electrical Distribution is ranked 5th for CDF = 3.6E-05/yr
Control Rod Drive is ranked 7th for LERF = 1.6E-065/yr

TASK NUMBER(S) / TASK TITLE(S): 0390020101 / Operate the 4160V AC Supply and Distribution System during Steady State Conditions

K/A NUMBERS: 062A4.07 – Ability to manually operate and/or monitor in the control room: Synchronizing and paralleling of different ac supplies IMP 3.1 / 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:	Andy Fahrenkrug	/s	06/23/2010
	Instructor		Date
Validated by:	Jeffrey A. Hinze	/s	09/03/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/10/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

JPM Number: **RO-039-JP02A**

JPM Title: **Transfer 4160 V AC Bus 1 From RAT To MAT**

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. Human Performance attributes should be visible. The student may use 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.

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:

- Bus 1 has been aligned to the RAT to allow troubleshooting of the MAT Supply Beaker, BKR 1-104.
- Maintenance has completed all work and the breaker is now available for operation.
- OP-KW-NOP-EHV-001, 4160V AC Supply And Distribution System Operation, will be used to restore Bus 1 to its normal at-power alignment.
- All Prerequisites and Precautions and Limitation for OP-KW-NOP-EHV-001 have been met.
- BKR 1-104 has been racked in and the AO is standing by at Bus 1.

INITIATING CUES (IF APPLICABLE):

- The Unit Supervisor directs aligning Bus 1 to the MAT using OP-KW-NOP-EHV-001, section 5.2 Transfer Bus 1 From RAT To MAT.

JPM PERFORMANCE INFORMATION

Required Materials: Marked up copy of NOP-EHV-001.

General References: OP-KW-NOP-EHV-001, 4160V AC Supply And Distribution System Operation, Rev. 4
AD-AA-102, Procedure Use and Adherence, Rev. 2

Task Standards: Bus 1 energized from the MAT with BKR1-104 closed and BKR 1-101 open.

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

NOTE: Critical steps are marked with a "Yes" 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**	NOP-EHV-001, Step 5.2.1 **CHECK** power available from MAT.
Standard:	Check any of the following: • White light from MAT "Y" windings LIT on ECA Panel. • Main Aux XFMR Winding X power and current meters indicating above 0 KW and 0 KAMPS, respectively. • PPCS MAT voltage, current and power indications.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical No**	NOP-EHV-001, Step 5.2.2 Locally **CHECK** Bkr 1-104, MAT To Bus 1 RACKED IN.
Standard:	Determine BKR 1-104 is racked in as given by Initial Conditions OR Contact AO to check BRK 1-104 is racked in.
Evaluator Cue:	**As AO (if contacted): "Breaker 1-104 is racked in."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 3 **Critical No**	NOP-EHV-001, Step 5.2.3 **IF** Bkr 1-104 is **NOT** racked in, **THEN REQUEST** Electrical Maintenance RACK IN Bkr 1-104, MAT to Bus 1.
Standard:	Determine BKR 1-104 is racked in and mark the step "N/A"
Evaluator Note:	**AD-AA-102, Procedure Use and Adherence, step 3.10.2 identifies that for conditional steps ("IF – THEN"), "IF the conditions does NOT exist, THEN MARK the conditional step N/A." The operator may request concurrence from cognizant supervision, but this is not required.**
Evaluator Cue:	**Unit Supervisor (if contacted): "I authorize "N/A" for Step 5.2.3."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 4	NOP-EHV-001, Step 5.2.4
Critical No	**ANNOUNCE** the following via Gaitronics: "Attention all personnel, shifting Bus 1 power supplies. Stand clear of Bus 1. Attention all personnel, shifting Bus 1 power supplies. Stand clear of Bus 1."
Standard:	Announcement made using gaitronics.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5	NOP-EHV-001, Step 5.2.5
Critical Yes	**POSITION** Bkr 1-104 Sync Switch to ON
Standard:	Synch Switch controller retrieved from BKR G-1 SYNCH SWITCH. Bkr 1-104 Sync Switch is placed to ON.
Evaluator Note:	**Concurrent Verification is required by the procedure for this step.**
Evaluator Cue:	**"Concurrent Verification is provided."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical No**	NOP-EHV-001, Step 5.2.6 **CHECK** Incoming and Running voltmeter indications within 8 volts. a. **IF** Incoming and Running voltmeter indications are **NOT** within 8 volts, **THEN ADJUST** Main Generator MVARS out per ATTACHMENT A until within 8 volts.
Standard:	Check Incoming and Running voltmeter indications within 8 volts.
Evaluator Note:	**It is not expected that adjustment would be required under the given conditions. The INCOMING and RUNING VOLTMETERS are the large analog meters on the upper part of the EVA panel.**
Evaluator Cue:	**Unit Supervisor (if contacted): "I authorize "N/A" for Step 5.2.6.a."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 7 **Critical No**	NOP-EHV-001, Step 5.2.7 **CHECK** synchroscope indicator within 3.33 minutes (20º) of 12:00.
Standard:	Check synchroscope needle within 3.33 minutes of 12:00 (Straight up).
Evaluator Note:	**The Synchroscope Indicator is the large analog meter on the upper part of the EVA panel, above and between the INCOMING and RUNING VOLTMETERS. It is expected to indicate to 12:00 under the given conditions.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 8 **Critical Yes (SEQ - 1)**	NOP-EHV-001, Step 5.2.8 **CRITICAL STEP: WHEN** sources are in sync, **THEN CLOSE** Bkr 1-104, MAT To Bus 1.
Standard:	BKR 1-104 control switch taken to CLOSE and released with red light LIT and green light OFF.
Evaluator Note:	**Concurrent Verification is required by the procedure for this step.**
Evaluator Cue:	**"Concurrent Verification is provided."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 9 **Critical No (SEQ - 2)**	NOP-EHV-001, Step 5.2.9 **CHECK** the following: • Bkr 1-104 red light is ON. • Indication of load shift between incoming and running sources.
Standard:	Check any of the following: • Reserve Aux Transformer Winding B power and current meters. • Main Aux XFMR Winding X power and current meters. • PPCS RAT and MAT voltage, current and power indications. AND Determines that indications lower for RAT and rise for MAT.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 10 **Critical Yes (SEQ - 3)**	NOP-EHV-001, Step 5.2.10 **CRITICAL STEP: POSITION** Bkr 1-101, RAT To Bus 1, control switch to TRIP.
Standard:	BKR 1-101 control switch taken to TRIP and released with red light OFF and green light LIT.
Evaluator Note:	**Concurrent Verification is required by the procedure for this step.**
Evaluator Cue:	**"Concurrent Verification is provided."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 11 **Critical No (SEQ - 4)**	NOP-EHV-001, Step 5.2.11 **CHECK** the following: • Bkr 1-101 green light is ON. • Indication of load shift between incoming and running sources.
Standard:	Check any of the following: • Reserve Aux Transformer Winding B power and current meters. • Main Aux XFMR Winding X power and current meters. • PPCS RAT and MAT voltage, current and power indications. AND Determines that indications lower for RAT and rise for MAT.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 12 **Critical No**	NOP-EHV-001, Step 5.2.12 **IF** required to prevent breaker operation, **THEN POSITION** Bkr 1-101, RAT To Bus 1 control switch to PULLOUT.
Standard:	Determine BKR 1-101 is to remain in "Normal-After –Trip" position and mark the step "N/A"
Evaluator Cue:	**As Unit Supervisor: "The breaker will be aligned for normal operation." If required, "I authorize "N/A" for Step 5.2.12."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 13 **Critical No**	NOP-EHV-001, Step 5.2.13 **POSITION** Bkr 1-104 Sync Switch to OFF.
Standard:	PLACE Bkr 1-104 Sync Switch to OFF.
Evaluator Note:	**Concurrent Verification is required by the procedure for this step.**
Evaluator Cue:	**"Concurrent Verification is provided."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **When action has been taken to address BKR 1-104 Synch Switch position, "This completes this JPM."**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

MARKED UO COPY
OF NOP-EHV-001.pdf

SIMULATOR SETUP

Any At-Power IC > 20%

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MALFUNCTIONS						
REMOTE FUNCTIONS						
OVERRIDES						
TRIGGERS						

1. Reset to IC and place Simulator in RUN.
2. If “snapped” IC is used, verify initial conditions and place the Simulator in Freeze.
3. Transfer Bus 1 to the RAT.
   a. **POSITION** Bkr 1-101 Sync Switch to ON.
   b. **WHEN** sources are in sync, **THEN CLOSE** Bkr 1-101, RAT To Bus 1.
   c. **POSITION** Bkr 1-104, MAT To Bus 1, control switch to TRIP.
   d. **POSITION** Bkr 1-101 Sync Switch to OFF.
   e. **PLACE** Sync Switch Control in BKR G-1 SYNCH SWITCH.
4. PLACE the Simulator in FREEZE
5. IF desired, the IC in this condition may be snapped (IC - _____) and maintained for use.
6. When directed by the JPM Evaluator, place the SIMULATOR in RUN.

TURNOVER SHEET

INITIAL CONDITIONS:

- Bus 1 has been aligned to the RAT to allow troubleshooting of the MAT Supply Beaker, BKR 1-104.
- Maintenance has completed all work and the breaker is now available for operation.
- OP-KW-NOP-EHV-001, 4160V AC Supply And Distribution System Operation, will be used to restore Bus 1 to its normal at-power alignment.
- All Prerequisites and Precautions and Limitation for OP-KW-NOP-EHV-001 have been met.
- BKR 1-104 has been racked in and the AO is standing by at Bus 1.

INITIATING CUES (IF APPLICABLE):

- The Unit Supervisor directs aligning Bus 1 to the MAT using OP-KW-NOP-EHV-001, section 5.2 Transfer Bus 1 From RAT To MAT.

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.

Jeff Hinze 09/03/2010 _____
Validation Personnel /Date

_____
Validation Personnel/Date

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Validation Personnel /Date

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Validation Personnel /Date

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Validation Personnel/Date

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Validation Personnel /Date

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Validation Personnel/Date

Historical Record:
Rev A – New JPM

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Respond to a Shutdown Loss of Coolant Accident

JPM NUMBER: RO-034-JP04A **REV.** A

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): 0340040401 / Respond to Abnormal RHR System Operation given decreasing RCS Level or Pressure

K/A NUMBERS: 025AA1.02 Ability to operate and/or monitor the following as they apply to the Loss of Residual Heat Removal System: RCS inventory IMP 3.8 / 3.9

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:	Stephen Johnson	/s	06/30/2010
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	09/03/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/08/2010
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMG-L-RO/SRO-S-11052010-071
Retain in: Training Program File

JPM Number: RO-034-JP04A

JPM Title: Respond to a Shutdown Loss of Coolant Accident

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. Human Performance attributes should be visible. The student may use 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.

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:

- You are the Reactor Operator
- The plant is in MODE 4 with a cooldown to MODE 5 in progress.
- RHR Train A is aligned for Shutdown Cooling.
- RHR Train B is aligned for Split Train Operation in Injection Mode .
- Indications of an increase in RCS leakage were noted.
- The Unit Supervisor has entered AOP-RHR-002, Shutdown Loss Of Coolant Accident, in response to the reported conditions.

INITIATING CUES (IF APPLICABLE):

- Perform the actions of AOP-RHR-002, in response to the existing conditions.

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

JPM PERFORMANCE INFORMATION

Required Materials: AOP-RHR-002

General References: GOP-202,Shutdown From RHR To MODE 5, Rev. 10
N-SI-33-CL, Safety Injection System Prestartup Checklist, Rev. 41, Attachment B
NOP-RHR-001, Residual Heat Removal System Operation, Rev. 9
AOP-RHR-002, Shutdown Loss Of Coolant Accident, Rev. 5

Task Standards: CVCS letdown isolated for RCS and makeup flow to RCS established from an SI Pump through at least one Cold Leg injection path.

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

NOTE: Critical steps are marked with a "Yes" 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**	AOP-RHR-002, Step 1 (CAS) **CHECK** If RHR Pumps Should Be Stopped: a. **CHECK** RHR pumps - ANY RUNNING IN DECAY HEAT REMOVAL MODE
Standard:	Check RHR Pump A running and aligned for RCS cooldown (Decay Heat Removal).
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical No**	AOP-RHR-002, Step 1 (CAS) **CHECK** If RHR Pumps Should Be Stopped: b. **CHECK** the following: 1. Pressurizer Level – LESS THAN 3% [15%] **OR** 2. RCS subcooling based on core exit TC's - LESS THAN 15°F [60°F]
Standard:	Check Pressurizer level on LI-426, 427, 428 and/or recorder 42302 Check RCS subcooling on ICCMS display or PPCS. Determine Pressurizer level is LESS THAN 3%
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 3 **Critical Yes**	AOP-RHR-002, Step 1 (CAS) **CHECK** If RHR Pumps Should Be Stopped: c. **STOP** RHR pumps and **PLACE** in PULLOUT.
Standard:	RHR Pump A stopped with its control switch in PULLOUT.
Evaluator Note:	**The procedure does NOT specifically address placing only the running RHR Pump in PULLOUT. The performer may also place RHR Pump B in PULLOUT. This action is NOT required for the CRITICAL action performed by this step.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 4 **Critical No**	AOP-RHR-002, Step 2 **ISOLATE** RCS Letdown: a. **VERIFY** all letdown isolation valves - CLOSED • LD-2 • LD-3 • LD-4A • LD-4B • LD-4C • LD-6
Standard:	Check the valves CLOSED **AND** Take any OPEN valve control switch to CLOSE and check green light only LIT.
Evaluator Note:	**The only expected OPEN valve is LD-6.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5 **Critical No**	AOP-RHR-002, Step 2 **ISOLATE** RCS Letdown: b. **VERIFY** excess letdown isolation valve - CLOSED • LD-300
Standard:	Check LD-300 closed with green light LIT.
Evaluator Note:	**LD-300 is normally closed**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical No**	AOP-RHR-002, Step 2 **ISOLATE** RCS Letdown: c. **VERIFY** RHR To CVCS Letdown Line - CLOSED • LD-60
Standard:	Check LD-60 closed with green light LIT.
Evaluator Note:	**LD-60 is normally closed after RHR is aligned with letdown via the Spectacle Flange.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 7 **Critical Yes**	AOP-RHR-002, Step 2 **ISOLATE** RCS Letdown: d. Locally **VERIFY** RHR/CVC isolation valves – CLOSED • RHR-210 • RHR-211
Standard:	Contacts Auxiliary Operator (AO) and directs the AO locally close RHR-210 and RHR-211. Acknowledges RHR-210 and RHR-211 are closed.
Evaluator Note:	**The BOOTH OPERATOR will enter REMOTE FUNCTIONS RH120A and RH120B to close RHR-210 and RHR-211.**
Evaluator Cue:	**When contacted as AO, acknowledge request with repeat back. After being directed to close valves: "RHR-210 and RHR-211 (or valves directed to operate) are now closed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 8 **Critical No**	AOP-RHR-002, Step 2 **ISOLATE** RCS Letdown: e. **CLOSE** any known drain paths
Standard:	Determine no other drain path exists.
Evaluator Cue:	**If questioned as Unit Supervisor on systems alignment: "No other RCS drain path is in service."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 9 **Critical No**	AOP-RHR-002, Step 3 **CHECK** If Charging Flow Is Adequate: a. **CHECK** Pressurizer Level: 1. GREATER THAN 3% [15%] **AND** 2. STABLE OR INCREASING
Standard:	Check Pressurizer level on LI-426, 427, 428 and/or recorder 42302 Determine Pressurizer level is LESS THAN 3%
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 10 **Critical No**	AOP-RHR-002, Step 3 **CHECK** If Charging Flow Is Adequate: (RNO) a. **PERFORM** the following: a. **INCREASE** charging flow as necessary to maintain Pressurizer level.
Standard:	Using the manual potentiometer for Charging Pumps A and B, increase charging Pumps speed to maximum (100% each).
Evaluator Note:	**This is NOT critical since the leak rate is greater than the capacity of TWO Charging Pumps (~ 120 gpm total)**.
Evaluator Cue:	**If action reported and leakage greater than charging flow rate reported, then acknowledge report and direct to continue with the procedure.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 11 **Critical No**	AOP-RHR-002, Step 3 **CHECK** If Charging Flow Is Adequate: (RNO) b. **IF** Pressurizer level can **NOT** be maintained, **THEN GO TO** Step 5.
Standard:	Determine and report Pressurizer level cannot be brought on-scale or maintained with Charging flow at maximum.
Evaluator Cue:	**If action reported and leakage greater than charging flow rate reported, then acknowledge report and direct to continue actions, if necessary.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 12 **Critical NO**	AOP-RHR-002, Step 5 **START** One SI Pump: a. **SELECT** one SI pump to start • SI pump A • SI pump B
Standard:	SI Pump A selected to be started.
Evaluator Note:	**IF/WHEN performer asks for pump to use OR decides on his own which pump to run, the EVALUATOR will interject the CUE above.**
Evaluator Cue:	**As Unit Supervisor, "Use SI Pump A for operation."**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical No**	AOP-RHR-002, Step 5 **START** One SI Pump: b. **ALIGN** selected SI pump To RWST: 1. **VERIFY** at least one RWST Supply To SI Pumps OPEN • SI-4A • SI-4B 2. **VERIFY** selected SI Pump Suction Isolation OPEN • SI-5A for SI Pump 1A • SI-5B for SI pump 1B 3. **VERIFY** both SI Recirculation To RWST valves OPEN • SI-208 • SI-209
Standard:	For the SI Pump A (B), check the required valves OPEN: • SI-4A (SI-4B) • SI-5A (SI-5B) • SI-208 • SI-209
Evaluator Note:	**It is expected each of the valves will be open in these conditions as normal alignment. The following indications may be used for position determination:** • **SI-4A: control switch green light indication** • **SI-5A: control switch green light indication** • **SI-208 and SI-209: control switch green light indication** **The alternate use of SI Train B equipment is given here as acceptable in the event the EVALUATOR does not have adequate time to direct SI Pump A prior to action be taken by the Performer.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 14 **Critical YES**	AOP-RHR-002, Step 5 **START** One SI Pump: c. **START** selected SI pump • SI Pump A • SI Pump B
Standard:	Starts SI Pump A (SI Pump B) • Pump red light LIT • Checks Pump amps normal on • Checks Pump Discharge Pressure
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 15 **Critical Yes**	AOP-RHR-002, Step 6 **ESTABLISH** SI flow: a. **VERIFY** Safety Injection To Cold Legs OPEN • SI-9A b. **VERIFY** Safety Injection To Loop A(B) Cold Leg OPEN • SI-11A • SI-11B c. **CHECK** SI pump - FLOW INDICATED • FI-925
Standard:	Control switch taken to OPEN and released for the following valves with the red light LIT: • SI-9A • SI-11A • SI-11B CHECK flow of approximately 630 gpm indicated on FI-925
Evaluator Note:	**A flow path for SI to the RCS Loop Cold Leg is established by:** • **SI-9A open and SI-11A open for Cold Leg A** • **SI-9A open and SI-11B open for Cold Leg B** **The procedure directs opening both flow paths; however, to establish adequate flow from an SI Pump only one of the paths is required.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Terminating Cues: **When the 'Establish SI Flow' step has been addressed, "This completes this JPM."**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

Simulator Setup

IC with RHR in service, RCS temperature 300ºF to 330ºF and RCS WR Pressure 320 psig to 350 psig.

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MALFUNCTIONS						
RC08			10	80	80	
REMOTE FUNCTIONS						
SI115 SI-11A Breaker ON/OFF			1	ON	ON	1
SI116 SI-11B Breaker ON/OFF			1	ON	ON	1
SI119 SI-9A Breaker ON/OFF			1	ON	ON	1
RH120A RHR-210 RHR/CVC Inlet Isolation			2	1	1	2
RH120B RHR-211 RHR/CVC Outlet Isolation			2	1	1	2
OVERRIDES						
TRIGGERS						

1. Reset to IC and place Simulator in RUN.
2. If “snapped” IC is used, verify initial conditions and place the Simulator in Freeze.
3. Train A RHR is aligned for cooldown while Train B RHR is in split mode aligned for injection.
4. Ensure Control Room switch alignment in accordance with N-SI-33-CL Appendix B with the following exceptions:
   - SI-302B is OPEN as aligned by NOP-RHR-001 Attachment A
   - SI-300B is OPEN as aligned by NOP-RHR-001 Attachment A
5. Ensure both SI Pumps in PULLOUT. (N-SI-33-CL Appendix B)
6. Ensure Power Source alignment status in accordance with N-SI-33-CL Appendix B. This is accomplished by activating TRIGGER 1 to actuate the REMOTE FUNCTIONs (RFs). These RFs may be deleted after actuation. (SI-20A/B may also need to be powered if OPEN in initial IC. RFs SI117 and SI118 are used for this purpose).

7. Ensure RHR is aligned in accordance with NOP-RHR-001, with major items:
   a. Operation of this valve may affect RCS or RHR inventory' tags on SI-351A/B, RHR-400A/B & RHR-299A/B
   b. Attachment A alignment complete. Exceptions to the positions listed may include the following if action has been taken to place RHR in service or if RHR is in service:
      i. RHR-1A/B open
      ii. RHR-2A/B open
      iii. RHR-8A throttled for cooling
      iv. RHR-101 throttled to maintain total RHR flow
      v. RHR-11 open
      vi. LD-60 open if letdown established prior to placing the spectacle flange in service
      vii. RHR-210 open if letdown established via spectacle flange
      viii. RHR-211 open if letdown established via spectacle flange
   c. CC supplied to both RHR Hxs (CC-400A/B open).
   d. RHR Pump A running
   e. LD-11 open
   f. RHR-210 and RHR-211 open with LD-60 closed
   g. LD-10 established in AUTO with approximately 80 gpm letdown flow
8. Pressurizer level established at ~ 40-50% with Charging Pumps in MAN
9. VCT level >25% with charging and letdown matched
10. Actuate RCS leak/LOCA using TRIGGER 10
11. When Pressurizer level indicates LESS THAN 3%, PLACE the Simulator in FREEZE
12. IF desired, the IC in this condition may be snapped (IC - _____) and maintained for use.
13. When directed by the JPM Evaluator, place the SIMULATOR in RUN.

Actions during JPM Performance

1. Performance Step 7 – Close RHR-201 and RHR-211. When direction is provided, use REMOTE FUNCTION RH120A and RH120B set to "0" to close the valves.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are the Reactor Operator
- The plant is in MODE 4 with a cooldown to MODE 5 in progress.
- RHR Train A is aligned for Shutdown Cooling.
- RHR Train B is aligned for Split Train Operation in Injection Mode.
- Indications of an increase in RCS leakage were noted.
- The Unit Supervisor has entered AOP-RHR-002, Shutdown Loss Of Coolant Accident, in response to the reported conditions.

INITIATING CUES (IF APPLICABLE):

- Perform the actions of AOP-RHR-002, in response to the existing conditions.

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.

Andrew Fahrenkrug 09/03/2010 _____
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:

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMG-L-RO/SRO-S-11052010-071
Retain in: Training Program File

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Operate the Process Radiation Monitors (R-11 Startup)

JPM NUMBER: RO-045-JP01A **REV.** B

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): 0450010101 / Perform a Pre-Startup Checklist of the Radiation Monitoring System

K/A NUMBERS: 073A4.01 Ability to manually operate and/or monitor in the control room: Radiation monitoring system control panel

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:	Stephen Johnson	/s	06/28/2010
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	09/03/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

Retention: Life of plant insurance policy + 10 years KPS-System JPMH-L-RO/SRO-S-11052010-072
Retain in: Training Program File

JPM Number: **RO-045-JP01A**

JPM Title: **Operate the Process Radiation Monitors (R-11 Startup)**

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. Human Performance attributes should be visible. The student may use 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.

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:

- You are the Reactor Operator.
- R-11, CNTMT Air Particulate Monitor, has been shutdown for repairs and is now ready to be restarted for a PMT. I&C has requested the restart and only requires the monitor energized and aligned per the Prestartup checklist.
- All Precautions and Limitations, and Prerequisites are met for:
  - N-RM-45, Radiation Monitoring System
  - N-RM-45-CL, Radiation Monitoring System Prestartup Checklist

INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor directs you to start R-11/12, Cntmt Air Particulate Monitor, per N-RM-45, step 4.1.a, using N-RM-45-CL, step 2.3.1.

JPM PERFORMANCE INFORMATION

Required Materials:	Stamped and marked up copies of N-RM-45 (P&Ls, Initial Conditions) and N-RM-45-CL (Section 1.0 initialed and section/steps 2.1; 2.2; 2.3.2 through 2.3.7; 2.4; 3.1-3.3; 4.2; 5.1,5.3 marked N/A). Section 4.2 Marked and initialed for CONT. Section 5.2 for R-11/12 items initial complete Key #290-294 available for keyswitch operations
General References:	N-RM-45, Radiation Monitoring System. Rev. 59 N-RM-45-CL, Radiation Monitoring System Prestartup Checklist, Rev. 28 47013-A RAD MONITOR SAMPLING FLOW HIGH/LOW, Rev. 0 47013-B, RAD MONITOR FAILURE, Rev. 0
Task Standards:	R-11/R-12 in service with sampling aligned to CNTMT, R-11 Tape Drive in service; R-11/R-12 Sample Pump ON and aligned to CNTMT; R-11 monitor Keyswitch to ON and R-12 monitor Keyswitch to ON

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

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

EVALUATOR NOTE: N-RM-45, STEP 4.1.1.a directs, "ALIGN desired channel using N-RM-45-CL."

Performance Step: 1 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : AS-1/CV-31383 Containment Air Sample Isolation A OPEN/AUTO
Standard:	Check AS-1 AUTO/OPEN by switch position is AUTO and red light LIT and green light OFF.
Evaluator NOTE:	**The control switch for AS-1 is under the "CNTMT AIR SAMPLING" section on the center Vertical Panel MVB. An additional indication for the valve is located on CNTMT ISOL ACTIVE panel Status Light 44911-1105, R-11/R-12 Sample Isol AS-1, LIT.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : AS-32/CV-31385 Containment Air Sample Isolation C OPEN/AUTO
Standard:	Check AS-32 to OPEN/AUTO by switch position in AUTO and red light LIT and green light OFF.
Evaluator NOTE:	**The control switch for AS-32 is under the "CNTMT AIR SAMPLING" section on the center Vertical Panel MVB. An additional indication for the valve is located on CNTMT ISOL ACTIVE panel Status Light 44911-0805, R-11/R-12 Sample Isol AS-32, LIT.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 3 **Critical Yes**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : AS-2/CV-31384 Containment Air Sample Isolation B OPEN/AUTO
Standard:	Check AS-2 to OPEN/AUTO by switch position in AUTO and red light LIT and green light OFF.
Evaluator NOTE:	**The control switch for AS-2 is under the "CNTMT AIR SAMPLING" section on the center Vertical Panel MVB. An additional indication for the valve is located on CNTMT ISOL ACTIVE panel Status Light 44911-1205, R-11/R-12 Sample Isol AS-2, LIT.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 4 **Critical Yes**	N-RM-45-CL, Step 2.3.1 - Control Room Process Radiation Monitoring Panel – Train B. 1R-11/81048 Containment Particulate and R-12/81049 Containment Gas : R-11 Tape Drive Control switch OPERATE
Standard:	Position R-11 Tape Drive Control switch to OPERATE with red OPERATE light LIT.
Evaluator NOTE:	**The control switch and indications for the tape drive are located Under the R-11 and R-12 monitor displays on the left-side vertical board, MVC. Initially the switch will be in the OFF position with the green OFF light LIT.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : Local Control light OFF
Standard:	Check R-11 Tape Drive Control LOCAL CONTROL amber light OFF.
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : Torn Paper light OFF
Standard:	Check R-11 Tape Drive Control TORN PAPER amber light OFF.
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 7 **Critical Yes**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : R-11/12 Sample Control switch CNTMT
Standard:	Check R-11/R-12 Sample Control switch in CNTMT position with red CNTMT light LIT.
Evaluator NOTE:	**The control switch and indications for the R-11/R-12 Sample Alignment are located in the center under the R-11 and R-12 monitor displays on the left-side vertical board, MVC.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 8 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : Sample Press High light OFF
Standard:	Check R-11/R-12 Sample Control SAMPLE PRESS HIGH amber light OFF.
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 9 **Critical Yes**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : R-11/12 Pump Control switch ON
Standard:	Position R-11/R-12 Pump Control switch to ON position with red light LIT.
Evaluator NOTE:	**The control switch and indications for the R-11/R-12 Pump Control are located to the right under the R-11 and R-12 monitor displays on the left-side vertical board, MVC.** **Initially the switch will be in OFF/RESET position with the green light LIT.** **Annunciator 47013-A RAD MONITOR SAMPLING FLOW HIGH/LOW clears.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 10 **Critical Yes**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : R-11 Keyswitch ON
Standard:	Position R-11 Keyswitch to ON position with NORM green light LIT.
Evaluator NOTE:	**The Keyswitch and indications for the R-11 are located on monitor display console on the left-side vertical board, MVC.** **Initially the Keyswitch will be in OFF position.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 11 **Critical Yes**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : R-12 Keyswitch ON
Standard:	Position R-12 Keyswitch to ON position with NORM green light LIT.
Evaluator NOTE:	**The Keyswitch and indications for the R-12 are located on monitor display console on the left-side vertical board, MVC.** **Initially the Keyswitch will be in OFF position.** **Annunciator 47013-B, RAD MONITOR FAILURE clears**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 12 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : Flow High/Low light OFF
Standard:	Check R-11/R-12 Pump Control FLOW HIGH LOW amber light OFF.
Evaluator NOTE:	**The indication is located with the R-11/R-12 Pump Control to the right under the R-11 and R-12 monitor displays on the left-side vertical board, MVC.**
Evaluator Cue:	**After action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 13 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : • R-11 High alarm light OFF • R-11 Alert light OFF • R-11 NORM light ON • R-11 Fail light OFF • R-11 Error Messages displayed NONE
Standard:	Check: • R-11 monitor HIGH red light OFF. • R-11 monitor ALERT amber light OFF. • R-11 monitor Norm green light LIT. • R-11 monitor FAIL amber light OFF. • Check no error message displayed on R-11 monitor.
Evaluator NOTE:	**The indications for the R-11 are located on monitor display console on the left-side vertical board, MVC.**
Evaluator Cue:	**After each action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 14 **Critical No**	N-RM-45-CL, Step 2.3.1 Control Room Process Radiation Monitoring Panel – Train B. R-11/81048 Containment Particulate and R-12/81049 Containment Gas : • R-12 High alarm light OFF • R-12 Alert light OFF • R-12 NORM light ON • R-12 Fail light OFF • R-12 Error Messages displayed NONE
Standard:	Check: • R-12 monitor HIGH red light OFF. • R-12 monitor ALERT amber light OFF. • R-12 monitor Norm green light LIT. • R-12 monitor FAIL amber light OFF. • Check no error message displayed on R-12 monitor.
Evaluator NOTE:	**The indications for the R-12 are located on monitor display console on the left-side vertical board, MVC.**
Evaluator Cue:	**After each action taken: "Second Verification is completed and initialed."**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 15 **Critical No**	Report alignment of R-11/R-12 complete.
Standard:	Inform Unit Supervisor that steps for aligning R11/R-12 (per N-RM-045-CL and N-RM-045) are complete.
Evaluator Cue:	**Acknowledge report.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **When action of N-RM-04-CL are complete, "This completes this JPM."**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.


MARKED UP COPY N-RM-45-CL REV28.p


MARKED UP COPY N-RM-45 REV 59.pdf

Any IC. (NOTE: Technical Specification LCO 3.3.6 will apply for R-11/R-12 out-of-service in MODES 1,2,3,4. This JPM is NOT designed to address the ITS issue.)

INPUT SUMMARY						
Description	Delay Time	Ramp Time	Event Trigger	Severity Or Value	Final Value	Relative Order
MALFUNCTIONS						
REMOTE FUNCTIONS						
OVERRIDES						
TRIGGERS						

1) Reset to IC and place Simulator in RUN.
2) If “snapped” IC is used, verify initial conditions and place the Simulator in Freeze.
3) Remove R-11/R12 from service (N-RM-45, step 4.3.9 & 4.3.10):
   a) Align R-21 to sample containment (N-RM-45, 4.2.13)
      i) POSITION R-11/12 Pump Control switch to OFF/RESET
   b) POSITION R-11 monitor Keyswitch to OFF.
   c) POSITION R-12 monitor Keyswitch to OFF.
4) POSITION R-11 Tape Drive Control switch to OFF.
5) Place AS-31/SV-33622, AS-35/SV-33621 Smpl Rtn to Cntmt
6) PLACE the Simulator in FREEZE
7) IF desired, the IC in this condition may be snapped (IC - _____) and maintained for use.
8) When directed by the JPM Evaluator, place the SIMULATOR in RUN.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are the Reactor Operator.
- R-11, CNTMT Air Particulate Monitor, has been shutdown for repairs and is now ready to be restarted for a PMT. I&C has requested the restart and only requires the monitor energized and aligned per the Prestartup checklist.
- All Precautions and Limitations, and Prerequisites are met for:
  - N-RM-45, Radiation Monitoring System
  - N-RM-45-CL, Radiation Monitoring System Prestartup Checklist

INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor directs you to start R-11/12, Cntmt Air Particulate Monitor, per N-RM-45, step 4.1.a, using N-RM-45-CL, step 2.3.1.

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.

Andrew Fahrenkrug 09/03/2010 _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Retention: Life of plant insurance policy + 10 years KPS-System JPMH-L-RO/SRO-S-11052010-072
Retain in: Training Program File

Historical Record:
Rev. B – Change format to “new” JPM format.

- Changed K/A number from 072A4.01 to 073A4.02. “072” is related to “Area Radiation Monitoring (ARM) System” while “073” is related to the “Process Radiation Monitoring (PRM) System.” R-11 / R-12 are part of the effluent monitoring.
- Updated to current procedures.

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Locally Isolate Dilution Flow Paths

JPM NUMBER: AO-036-JP09A **REV.** B

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): 0360090404 – Respond to inadvertent Boron Dilution while at hot or cold shutdown

K/A NUMBERS: 004 2.1.30 – CVCS: Ability to locate and operate components, including local controls IMP 4.4 / 4.0

APPLICABLE METHOD OF TESTING:

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

EVALUATION LOCATION:

In-Plant: [X] Control Room: [ ]

Simulator: [ ] Other: Classroom [ ]

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:	Andrew Fahrenkrug	/s	04/26/2010
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	09/01/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hasting	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

JPM Number: AO-036-JP09A

JPM Title: Locally Isolate Dilution Flow Paths

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. *Human Performance attributes should be visible. The student may use 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.*

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:

- You are an extra operator on shift.
- The plant is in Hot Shutdown.
- The crew is responding to inadvertent boron dilution.
- OP-KW-AOP-RC-006, Inadvertent Boron Dilution is in progress.
- A boration of the RCS has been initiated per OP-KW-NOP-CVC-001.

The Steps in this JPM SHALL BE SIMULATED
THIS TASK IS NOT TIME CRITICAL

INITIATING CUES (IF APPLICABLE): The Unit supervisor directs you to LOCALLY verify dilution flow path isolation valves closed per Step 2.b of OP-KW-AOP-RC-006, Inadvertent Boron Dilution.

EVALUATOR – Hand the performer OP-KW-AOP-RC-006.

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

Let's Begin

JPM PERFORMANCE INFORMATION

Required Materials: OP-KW-AOP-RC-006, Inadvertent Boron Dilution

General References: OP-KW-AOP-RC-006, Inadvertent Boron Dilution Rev 0

Task Standards: All dilution path valves verified closed.

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

NOTE: Critical steps are marked with a "Yes" 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 AOP-RC-006 Step 2.b
Standard:	Refer to AOP-RC-006 step2.b.
Evaluator Cue:	**When the performer demonstrates how to locate the procedure then hand them a copy of AOP-RC-006.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical: <u>No</u>**	AOP-RC-006, Step 2.b: ISOLATE Dilution Paths: Locally VERIFY the following dilution flow path isolation valves CLOSED: • MU-1025, Makeup Water to Blender
Standard:	VERIFY MU-1025 CLOSED by checking valve hand wheel is rotated fully clockwise and valve stem is down.
Evaluator Note:	**The valve is located at the CVCS blender north side, just south of the SI Pump A motor.**
Evaluator Cue:	**The stem is fully down and the hand wheel is tight when rotated clockwise.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 3 **Critical: <u>Yes</u>**	AOP-RC-006, Step 2.b: ISOLATE Dilution Paths: Locally VERIFY the following dilution flow path isolation valves CLOSED: • MU-1024, Makeup Water to Mixing Tank Isol
Standard:	CLOSE MU-1024 by rotating the valve hand wheel fully clockwise.
Evaluator Note:	**The valve is located at the inlet of the Chem Mixing Tank just south of the SI Pump A motor and along the EAST wall. Normal position is CLOSED, this valve is out of position for this JPM.**
Evaluator Cue:	**Valve stem is out (up).** **As clockwise hand wheel operation is indicated, the hand wheel rotates until NO further motion occurs. The stem is fully down.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 4 **Critical: Yes**	AOP-RC-006, Step 2.b: ISOLATE Dilution Paths: Locally VERIFY the following dilution flow path isolation valves CLOSED: • CVC-423, Mixing Tank to Charging Pump Suct Line Isol
Standard:	CLOSE CVC-423 by rotating the valve hand wheel fully clockwise.
Evaluator Note:	**The valve is located at the inlet of the Chem Mixing Tank just south of the SI Pump A motor and along the EAST wall. Normal position is CLOSED, this valve is out of position for this JPM.**
Evaluator Cue:	**Valve stem is out (up).** **As clockwise hand wheel operation is indicated, the hand wheel rotates until NO further motion occurs. The stem is fully down.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5 **Critical: No**	AOP-RC-006, Step 2.b: ISOLATE Dilution Paths: Locally VERIFY the following dilution flow path isolation valves CLOSED: • MU-1031A, RMW to 1A Boric Acid Transfer Pump
Standard:	VERIFY MU-1031A CLOSED by checking valve hand wheel is rotated fully clockwise.
Evaluator Note:	**The valve is located in the "manifold" above BATP A.**
Evaluator Cue:	**As clockwise handwheel operation is indicated, the handwheel is tight when rotated clockwise.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical: No**	AOP-RC-006, Step 2.b: ISOLATE Dilution Paths: Locally VERIFY the following dilution flow path isolation valves CLOSED • MU-1031B, RMW to 1B Boric Acid Transfer Pump
Standard:	VERIFY MU-1031B CLOSED by checking valve hand wheel is rotated fully clockwise.
Evaluator Note:	**The valve is located in the "manifold" above BATP B.**
Evaluator Cue:	**As clockwise handwheel operation is indicated, the handwheel is tight when rotated clockwise.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 7 **Critical: No**	AOP-RC-006, Step 2.b: Report Step 2.b of OP-KW-AOP-RC-006 complete to the control room.
Standard:	Report Step 2.b of OP-KW-AOP-RC-006 complete to the control room.
Evaluator Cue:	**Acknowledge completion of step 2.b of OP-KW-AOP-RC-006.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **Completion of Step 2.b of OP-KW-AOP-RC-006**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are an extra operator on shift.
- The plant is in Hot Shutdown.
- The crew is responding to inadvertent boron dilution.
- OP-KW-AOP-RC-006, Inadvertent Boron Dilution is in progress.
- A boration of the RCS has been initiated per OP-KW-NOP-CVC-001.

The Steps in this JPM SHALL BE SIMULATED

THIS TASK IS NOT TIME CRITICAL.

INITIATING CUES (IF APPLICABLE): The Unit supervisor directs you to LOCALLY verify dilution flow path isolation valves closed per Step 2.b of OP-KW-AOP-RC-006, Inadvertent Boron Dilution.

INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK

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 "N/A" 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.

Andrew Fahrenkrug 09/01/2010 _____
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:

Rev. A:

- Updated Task number. Replaces JPM AO-FRS-JP01B.
- Updated Task Number.
- Changed procedure to reflect task number.

Rev B

- Update to Job Aid 03-007 form.

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Remove Pressurizer PORV Fuses

JPM NUMBER: RO-E07-JP01H **REV.** B

RELATED PRA INFORMATION: None

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

K/A NUMBERS: 2.4.25 Knowledge of Fire Protection Procedures IMP 3.3 / 3.7

APPLICABLE METHOD OF TESTING:

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

EVALUATION LOCATION:

In-Plant: [X] Control Room: [ ]

Simulator: [ ] Other: Classroom [ ]

Lab: [ ]

Time for Completion: 6 Minutes Time Critical: Yes

Alternate Path / Faulted: No

TASK APPLICABILITY: RO/SRO

Additional signatures may be added as needed.

Developed by:	Andrew Fahrenkrug	/s	04/26/2010
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	09/01/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hasting	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

Retention: Life of plant insurance policy + 10 years
Retain in: Training Program File

JPM Number: RO-E07-JP01H

JPM Title: Remove Pressurizer PORV Fuses

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.

Retention: Life of plant insurance policy + 10 years KPS-SystemJPMJ-L-RO/SRO-S-11052010-074
Retain in: Training Program File

JPM BRIEFING/TURNOVER

Read to Examinee:

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

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.

AOP and 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.

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.

1. *Human Performance attributes should be visible. The student may use 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.*

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.

*****IMPORTANT*****

CONTACT THE SHIFT MANAGER PRIOR TO STARTING THE JPM AND GET PERMISSION TO ENTER THE RELAY ROOM AND OPEN RELAY RACK DOORS 171, 174 AND 176. THERE ARE ONLY FUSES IN THESE PANELS AND YOU WILL <u>NOT</u> BREAK THE PLANE DURING PERFORMANCE OF THE JPM.

INITIAL CONDITIONS:

- There is a fire in a Dedicated Zone.
- The crew is performing OP-KW-AOP-FP-003, Fire In Dedicated Fire Zone.
- The crew entered and completed OP-KW-AOP-FP-003 up to and including Step 4.
- The crew entered OP-KW-AOP-FP-003 one minute ago.

The Steps in this JPM SHALL BE SIMULATED unless directed otherwise.

THIS TASK IS TIME CRITICAL.

INITIATING CUES (IF APPLICABLE): You are Control Operator B and have been dispatched to Perform Attachment B of OP-KW-AOP-FP-003.

EVALUATOR – Hand the performer OP-KW-AOP-FP-003.

INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK

Do you have any questions before we begin? - Answer applicable questions.

Lets Begin

JPM PERFORMANCE INFORMATION

Required Materials: OP-KW-AOP-FP-003, Fire in Dedicated Fire Zone
Fuses pullers, located in the Relay Room by the RR Doors. The operator should get these during the performance of the JPM.

General References: OP-KW-AOP-FP-003, Fire in Dedicated Fire Zone, Rev. 6

Task Standards: Fuses removed per Attachment B Step B1 of OP-KW-AOP-FP-003.

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

NOTE: Critical steps are marked with a "Yes" 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: <u>Yes</u>** **Time Critical** ***Step 1 and 3 Must be completed within 6 minutes***		AOP-FP-003, Attachment B, Step B1.a. REMOVE the following Fuses: In RR-171, REMOVE PRZR PORV B normal control fuses • Ckt 13 for PR-2B
Standard:	(C)	1. Locate RR-171. 2. Identify fuses for Ckt 13 for PR-2B. 3. Remove fuses for Ckt 13 for PR-2B in RR-171.
Evaluator Cue:		**<u>WHEN</u> the performer locates RR-171 and indicates that they would open the door for RR-171, <u>THEN</u> INFORM the performer to OPEN the relay rack door <u>AND</u> <u>NOT</u> to break the electrical plane.** **<u>WHEN</u> the performer locates the fuses and indicates removal, <u>THEN</u> state "The fuses are removed."** **<u>AFTER</u> the performer has removed the FUSES, <u>IF</u> they look at the outside of the RR door then indicate that the associated Red indicating light for the circuit is <u>NOT</u> LIT.**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 2 **Critical: <u>Yes</u>**		AOP-FP-003, Attachment B, Step B1.b. REMOVE the following Fuses: In RR-174, REMOVE SI Pump Makeup To Accumulator Fuses • Ckt 27 for SI-101A/B
Standard:	(C)	1. Locate RR-174. 2. Identify fuses for Ckt 27 for SI-101A/B. 3. Remove fuses for Ckt 27 for SI-101A/B in RR-174.
Evaluator Cue:		**<u>WHEN</u> the performer locates RR-174 and indicates that they would open the door for RR-174, <u>THEN</u> INFORM the performer to OPEN the relay rack door <u>AND</u> <u>NOT</u> to break the electrical plane.** **<u>WHEN</u> the performer locates the fuses and indicates removal, <u>THEN</u> state "The fuses are removed."** **<u>AFTER</u> the performer has removed the FUSES, <u>IF</u> they look at the outside of the RR door then indicate that the associated Red indicating light for the circuit is <u>NOT</u> LIT.**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 3 **Critical: Yes** **Time Critical** ***Step 1 and 3 Must be completed within 6 minutes***		AOP-FP-003, Attachment B, Step B1.c. REMOVE the following Fuses: In RR-176, REMOVE PRZR PORV A Fuses • Ckt 12 for PR-2A
Standard:	(C)	1. Locate RR-176. 2. Identify fuses for Ckt 12 for PR-2A. 3. Remove fuses for Ckt 12 for PR-2A in RR-176.
Evaluator Cue:		**WHEN the performer locates RR-176 and indicates that they would open the door for RR-176, THEN INFORM the performer to OPEN the relay rack door AND NOT to break the electrical plane.** **WHEN the performer locates the fuses and indicates removal, THEN state "The fuses are removed."** **AFTER the performer has removed the FUSES, IF they look at the outside of the RR door then indicate that the associated Red indicating light for the circuit is NOT LIT.**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Performance Step: 4 **Critical: Yes**		AOP-FP-003, Attachment B, Step B1.d. REMOVE the following Fuses: In RR-176, REMOVE RX/PRZR Head Vent to Containment Fuses • Ckt 39 for RC-49
Standard:	(C)	1. Locate RR-176. 2. Identify fuses for Ckt 39 for RC-49. 3. Remove fuses for Ckt 39 for RC-49 in RR-176.
Evaluator Cue:		**WHEN the performer locates RR-176 and indicates that they would open the door for RR-176, THEN DO NOT let the performer open the door for RR-176.** **WHEN the performer locates the fuses and indicates removal, THEN state "The fuses are removed."** **AFTER the performer has removed the FUSES, IF they look at the outside of the RR door then indicate that the associated Red indicating light for the circuit is NOT LIT.**
Performance:		SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:		_____

Terminating Cues: **When the performer has removed all the Fuses in step B1 of Attachment B in OP-KW-AOP-FP-003.**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

TURNOVER SHEET

INITIAL CONDITIONS:

- There is a fire in a Dedicated Zone.
- The crew is performing OP-KW-AOP-FP-003, Fire In Dedicated Fire Zone.
- The crew entered and completed OP-KW-AOP-FP-003 up to and including Step 4.
- The crew entered OP-KW-AOP-FP-003 one minute ago.

The Steps in this JPM SHALL BE SIMULATED unless directed otherwise.
THIS TASK IS TIME CRITICAL.

INITIATING CUES (IF APPLICABLE): You are Control Operator B and have been dispatched to Perform Attachment B of OP-KW-AOP-FP-003.

INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK

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 "N/A" 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.

Andrew Fahrenkrug 09/02/2010 _____
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:

Rev A

- New.

Rev B

- Updated to Job Aid Form 03-007

JOB PERFORMANCE MEASURE (JPM)

SITE: Kewaunee Power Station

JPM TITLE: Emergency Shutdown of Diesel Generator B

JPM NUMBER: AO-010-JP021 **REV.** B

RELATED PRA INFORMATION: System ranked 1st in importance to at-power CDF = 3.6E-5/yr
System ranked 4th in importance to at-power LERF = 1.6E-6/yr

TASK NUMBER(S) / TASK TITLE(S): 0100020504 / Perform a Diesel Generator Emergency Shutdown

K/A NUMBERS: 064K1.03 Knowledge of the physical connections and/or cause-effect relationships between the ED/G System and the following systems: Diesel fuel oil supply system. IMP 3.6 / 4.0
2.1.30 Ability to locate and operate components, including local controls. IMP 4.4 / 4.0

APPLICABLE METHOD OF TESTING:

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

EVALUATION LOCATION: In-Plant: [X] Control Room: [ ]
Simulator: [ ] Other: [ ]
Lab: [ ]

Time for Completion: 10 Minutes Time Critical: No

Alternate Path / Faulted: Yes

TASK APPLICABILITY: AO / RO / SRO

Additional signatures may be added as needed.

Developed by:	Stephen Johnson	/s	06/29/2010
	Instructor		Date
Validated by:	Andrew Fahrenkrug	/s	09/02/2010
	Validation Instructor (See JPM Validation Checklist, Attachment 1)		Date
Approved by:	Randy Hastings	/s	11/08/2010
	Training Supervisor		Date
Approved by:	Mark Goolsbey	/s	11/10/2010
	Facility Representative		Date

JPM Number: **AO-010-JP021**

JPM Title: **Emergency Shutdown of Diesel Generator B**

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

Read to Examinee:

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

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.

AOP and 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.

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.

1. Human Performance attributes should be visible. The student may use 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.

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:

- You are an Extra Operator on shift.
- Surveillance OP-KW-OSP-DGE-001B, Diesel Generator B Monthly Availability Test, was in progress.
- When the operator attempted to shutdown Diesel Generator B, it did NOT respond to the Control Room control Diesel Engine B being taken to STOP and then to PULLOUT.
- KW-OP-AOP-DGM-002B, Abnormal Diesel Generator B Operation, was entered.
- An Emergency Shutdown of DG B per AOP-DGM-002B is in progress, Step 29 is complete.

THE STEPS IN THIS JPM SHOULD BE: SIMULATED

INITIATING CUES (IF APPLICABLE):

The US has directed you to continue the Emergency Shutdown of DG B per AOP-DGM-002B starting at step 30.

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

JPM PERFORMANCE INFORMATION

Required Materials: AOP-DGM-002B with Step 1 placekeeping (circle/slash) and Perform Emergency Shutdown block in table circled; Step 29 placekeeping (29.a and 29.b circle/slash); step 30 number circled.

General References: OP-KW-OSP-DGE-001B, Diesel Generator B Monthly Availability Test, Rev. 12
OP-KW-AOP-DGM-002B, Abnormal Diesel Generator B Operation, Rev. 4

Task Standards: Diesel Generator B stopped by local action.

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: Review GNP-05.16.06, ATTACHMENT A for Time Dependent Operator Actions. If the JPM addresses one of these tasks and the JPM is determined to be time critical or contain time critical performance steps, then GNP-05.16.06 will be included in the General References below. [OTH 12765]

NOTE: Critical steps are marked with a "Yes" 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**	AOP-DGM-002B, Step 30: Check Diesel Generator Speed – LESS THAN 980 RPM.
Standard:	Determine Diesel Generator B speed is less than 980 RPM.
Evaluator Note:	**The Operator may either check the engine speed locally or may contact the control room for the engine rpm value.** **DG 1B tachometer is located at bottom right side of panel On Diesel Engine Control Panel D-1B.**
Evaluator Cue:	**Locally if DG 1B Tachometer checked, indicate the value is 880 RPM.** **If contacted as control room operator: DG B speed is about 880 RPM.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 2 **Critical: No**	AOP-DGM-002B, Step 31: CHECK Diesel Generator B SHUTDOWN
Standard:	Determine DG B is NOT shutdown.
Evaluator Cue:	**Provide response that indicates DG B is still running: sound, mechanical movement of components, "running" indicators.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 3 **Critical: No**	AOP-DGM-002B, Step 31.a RNO: Locally PERFORM the following in sequence until Diesel Generator B is SHUTDOWN: At Engine Control Panel, POSITION 1B Diesel Engine Control Switch to STOP.
Standard:	1B Diesel Selector Switch is taken to STOP. Determine DG B is NOT shutdown.
Evaluator Note:	**On Diesel Engine Control Panel D-1B. Switch spring returns to RUN (MANUAL) position when released. .**
Evaluator Cue:	**After operation of switch to STOP: No change in sound or condition of DG.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 4 **Critical: <u>Yes</u>**	AOP-DGM-002B, Step 31.b RNO: Locally PERFORM the following in sequence until Diesel Generator B is SHUTDOWN: In Diesel Day Tank Room, CLOSE Fuel Oil Tank 1B1 and 1B2 to Diesel Gen B valves • FO-100B1 • FO-100B2
Standard:	Both valves CLOSED: • FO-100B1 • FO-100B2
Evaluator Note:	**Valve is normally open. It will not turn in counter-clockwise direction.**
Evaluator Cue:	**For each valve operated:** • **The handwheel turns (clockwise direction) until no further movement occurs.** **20 seconds after last valve is closed: Begin to hear "sputtering" for engine.** **30 seconds after last valve is closed: Room becomes quiet as engine quits.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5 **Critical: No**	AOP-DGM-002B, Step 31.c RNO: Locally PERFORM the following in sequence until Diesel Generator B is SHUTDOWN: POSITION non-porous material (plastic) over DG B air filters to restrict combustion air.
Standard:	Look for plastic material to place over DG B air filter. **[If Fuel Oil valves NOT closed in Performance Step 4, then this step becomes CRITICAL:]** Sufficient material placed over DG B air filter inlet to block all air intake.
Evaluator Note:	**It is expected that this step and Steps 31.d & 31.e RNO actions will NOT be completed since the DG will stop 30 seconds after the fuel oil is isolated. These actions will be provided in the event the operator fails to close the fuel oil valves.**
Evaluator Cue:	**If required, when it is indicated that material is placed over turbo fresh air filters inlet:** **After 10 seconds: Begin to hear "sputtering" for engine.** **After 20 seconds: Room becomes quiet as engine quits.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 **Critical: No**	AOP-DGM-002B, Step 31.d RNO: Locally PERFORM the following in sequence until Diesel Generator B is SHUTDOWN: Evacuate Personnel from 1B Diesel Room.
Standard:	Leaves 1B Diesel Room.
Evaluator Note:	**It is expected that this step and Step 31.e RNO actions will NOT be completed since the DG will stop 30 seconds after the fuel oil is isolated. These actions will be provided in the event the operator fails to close the fuel oil valves and block air intake.** **This is for safety reasons prior to flooding room the CO_2.**
Evaluator Cue:	**You are the only person currently in the room.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	

Performance Step: 7 **Critical: No**	AOP-DGM-002B, Step 31.e RNO: Locally PERFORM the following in sequence until Diesel Generator B is SHUTDOWN: Locally ACTUATE CO_2 to Diesel Generator Room B: 1. OPEN red Cardox To Operate pushbutton cover. 2. PRESS pushbutton and VERIFY neon light goes out.
Standard:	**[If Fuel Oil valves NOT closed in Performance Step 4 and DG B air intake NOT blocked in Performance Step 5 , then this step becomes CRITICAL:]** CO_2 actuated to Diesel Room B.
Evaluator Note:	**It is expected that this step RNO actions will NOT be completed since the DG will stop 30 seconds after the fuel oil is isolated. These actions will be provided in the event the operator fails to close the fuel oil valves and block air intake.**
Evaluator Cue:	**When cover lift indicated: pushbutton is exposed.** **When pushbutton pressed: Neon light extinguishes. A "whooshing" sound is heard from the CO_2 piping.** **After 10 seconds: Noise in Diesel B room decreases as engine quits.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 8 **Critical: No**	AOP-DGM-002B, Step 31.f RNO: CHECK Diesel Generator B SHUTDOWN Observe control board meters for shutdown indication.
Standard:	Contact Control Room to confirm Diesel Generator B shutdown indications.
Evaluator Cue:	**As Control Operator: Acknowledge report related to DG B shutdown and confirm indications show DG B shutdown.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **When control room notified of DG B status: "This JPM is complete."**

Stop Time: _____

During the evaluation, the trainee:

• Performed the task correctly and in accordance with procedure usage and adherence requirements.	☐ Yes	☐ No
• Never put anyone's safety at risk.	☐ Yes	☐ No
• Never put equipment reliability at risk.	☐ Yes	☐ No
• Never violated radiological work practices.	☐ Yes	☐ No
• Demonstrated effective use of event-free human performance tools.	☐ Yes	☐ No

Note: The above information may be used in conjunction with the trainees' performance to determine JPM failure if the trainees' actions would have endangered the health and safety of the public, plant workers, themselves or damage plant equipment even if all critical tasks are met.

MARKED UP COPY
AOP-DGM-002B REV 4

TURNOVER SHEET

INITIAL CONDITIONS:

- You are an Extra Operator on shift.
- Surveillance OP-KW-OSP-DGE-001B, Diesel Generator B Monthly Availability Test, was in progress.
- When the operator attempted to shutdown Diesel Generator B, it did NOT respond to the Control Room control Diesel Engine B being taken to STOP and then to PULLOUT.
- KW-OP-AOP-DGM-002B, Abnormal Diesel Generator B Operation, was entered.
- An Emergency Shutdown of DG B per AOP-DGM-002B is in progress, Step 29 is complete.

THE STEPS IN THIS JPM SHOULD BE: SIMULATED

INITIATING CUES (IF APPLICABLE):

The US has directed you to continue the Emergency Shutdown of DG B per AOP-DGM-002B starting at step 30.

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.

Andrew Fahrenkrug 09/02/2010 _____
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:

Rev. A:

- Original

Rev. B:

- Updated to JPM Template Job Aid 03-007
- Changed revision number for AOP-DGM-002B
- Minor layout changes and typo corrections