



## JOB PERFORMANCE MEASURE (JPM)

**SITE:** MONTICELLO NUCLEAR GENERATING PLANT

**JPM TITLE:** Bulk D/W Temperature Manual Calculation

**JPM NUMBER:** JPM-001 **REV.** 1

**RELATED PRA INFORMATION:** None

**TASK NUMBER(S) / TASK TITLE(S):** CR304.103  
Perform Actions Associated with Primary Containment Control

**K/A NUMBERS:** 2.1.25 **Rating: SRO/RO:** 3.1/2.8

**APPLICABLE METHOD OF TESTING:**

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐

Simulator: ☒ Other: ☐

Lab: ☐

Time for Completion: 15 Minutes Time Critical: No

Alternate Path / Faulted: No

**TASK APPLICABILITY:** SRO: \_\_\_\_\_ SRO/RO: X SRO/RO/NLO: \_\_\_\_\_

Additional signatures may be added as needed.

<b>Developed by:</b>	<b>J. Ruth</b>	
	Instructor	Date
<b>Validated by:</b>	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
<b>Approved by:</b>	Training Supervisor	Date

JPM-001, Bulk D/W Temperature Manual Calculation Rev. 1

**JPM Number:** JPM-001

**JPM Title:** Bulk D/W Temperature Manual Calculation

**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
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(See MTCP-03.32, Figure 6.2)
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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.

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

**INITIAL CONDITIONS:**

- A LOCA is in progress
- EOP-1200 has been entered
- SPDS is OOS
- You are an extra licensed operator in the control room

**INITIATING CUES (IF APPLICABLE):**

- The CRS directs you to manually calculate and report bulk average Drywell temperature.
- **INFORM EVALUATOR WHEN YOU HAVE COMPLETED THE TASK.**

**JPM PERFORMANCE INFORMATION****Required Materials:** Simulator**General References:** Operator Aid for Bulk Drywell Temperature Manual Calculation**Task Standards:** Determine Bulk Drywell Temperature via manual calculation**Start Time:** \_\_\_\_\_

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

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

**Performance Step: 1** Locates Operator Aid for Bulk Drywell Temperature Manual Calculation  
**Critical: N**

**Standard:** Locates Operator Aid

**Evaluator Cue:** None

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**

**Performance Step: 2** From TR23-115 determines Drywell temperature from the following points:  
**Critical: Y**

- East 932' Point 22
- South 951' Point 23
- West 970' Point 21
- North 994' Point 24

**Standard:** Determines the following temperatures:

- East 932' Point 22 = 259.2°F
- South 951' Point 23 = 267.2°F
- West 970' Point 21 = 259.8°F
- North 994' Point 24 = 275.5°F

**Evaluator Cue:** After operator identifies the trend recorder and applicable points, provide the sheet with a printout of the above points and their readings.

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**



## JPM-001, Bulk D/W Temperature Manual Calculation Rev. 1

**Performance Step: 3** Apply Weight Factor to the temperatures from previous step to determine Weight Temperatures.

**Critical: Y**

- East 932' Point 22 X .400
- South 951' Point 23 X .423
- West 970' Point 21 X .093
- North 994' Point 24 X .084

**Standard:**

Apply Weight Factor to the temperatures as follows:

- East 932' Point 22 X .400 =  $(259.2 \times .4 = 103.68)$
- South 951' Point 23 X .423 =  $(267.2 \times .423 = 113.03)$
- West 970' Point 21 X .093 =  $(259.8 \times .093 = 24.16)$
- North 994' Point 24 X .084 =  $(275.5 \times .084 = 23.14)$

**Evaluator Cue:** None

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**

**Performance Step: 4** Add Weight Temperatures to determine Bulk Average Drywell Temperature Total.

**Critical: Y**

**Standard:**

Adds Weight Temperatures to obtain a calculated temperature of 264.01°F + or - 2°F

**Evaluator Cue:** None

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**

**Performance Step: 5** Reports bulk average Drywell temperature calculated above to CRS.

**Critical: N**

**Standard:**

Reports bulk average Drywell temperature calculated above to CRS.

**Evaluator Cue:** Acknowledge report.

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**

<b>Performance Step: 6</b>	<b>INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.</b>
<b>Critical: N</b>	
<b>Standard:</b>	Operator informs evaluator that the task is completed.
<b>Evaluator Cue:</b>	When informed of calculated average drywell bulk temperature, acknowledge the report and state that the JPM is complete.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	

**Terminating Cues:** When informed of calculated average drywell bulk temperature, acknowledge the report and state that the JPM is complete.

**Stop Time:** \_\_\_\_\_

## TURNOVER SHEET

### INITIAL CONDITIONS:

- A LOCA is in progress
- EOP-1200 has been entered
- SPDS is OOS
- You are an extra licensed operator in the control room

### INITIATING CUES (IF APPLICABLE):

- The CRS directs manually calculate and report bulk average Drywell temperature.
- **INFORM EVALUATOR WHEN YOU HAVE COMPLETED THE TASK.**

**SIMULATOR SET UP:**

**INITIAL CONDITIONS:**

Any simulator condition is acceptable as the only requirement for the simulator is access to the calculation instructions on the trend recorder.

**SET UP INSTRUCTIONS:**

- None

**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

\_\_\_\_\_  
 Validation Personnel /Date

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 Validation Personnel/Date

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 Validation Personnel /Date

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 Validation Personnel/Date

Historical Record: (Optional)



## JOB PERFORMANCE MEASURE (JPM)

**SITE:** MONTICELLO NUCLEAR GENERATING PLANT

**JPM TITLE:** CONTROL ROOM SHIFT TURNOVER CHECKLIST

**JPM NUMBER:** JPM-3139-001 **REV.** 0

**RELATED PRA INFORMATION:** None

**TASK NUMBER(S) / TASK TITLE(S):** CR298.103  
Perform the Control Room Shift Turnover Checklist

**K/A NUMBERS:** 2.1.3 **Rating: SRO/RO:** 3.4 /3.0

**APPLICABLE METHOD OF TESTING:**

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐

Simulator: ☒ Other: ☐

Lab: ☐

Time for Completion: 20 Minutes Time Critical: No

Alternate Path / Faulted: Yes

**TASK APPLICABILITY:** SRO: \_\_\_\_\_ SRO/RO: X SRO/RO/NLO: \_\_\_\_\_

Additional signatures may be added as needed.

<b>Developed by:</b>	<b>J Ruth</b>	
	Instructor	Date
<b>Validated by:</b>	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
<b>Approved by:</b>	Training Supervisor	Date

JPM-3139-001 (CONTROL ROOM SHIFT TURNOVER CHECKLIST) Rev.0

**JPM Number:** JPM-3139-001

**JPM Title:** Control Room Shift Turnover Checklist

**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
(See MTCP-03.32, Figure 6.2)

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.

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

**INITIAL CONDITIONS:**

- The reactor is operating at power
- You are the LPEO on the 19-07 shift
- The Shift Manager is "Smith"

**INITIATING CUES (IF APPLICABLE):**

- Perform the front page of 3139, Control Room Shift Turnover Checklist



**JPM PERFORMANCE INFORMATION****Required Materials:** Checklist 3139**General References:** OWI-02.01, Operations Shift Turnover**Task Standards:** Complete front page of Control Room Shift Turnover Checklist**Start Time:** \_\_\_\_\_

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

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

**Performance Step: 1** Complete the shift complement section of the checklist.**Critical: N****Standard:** Fills in Shift Manager, Date, Shift.**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 2** Record Mode Switch position**Critical: N****Standard:** Checks Run box**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_

**Performance Step: 3** Record Core thermal Power**Critical: N****Standard:** Records 1765 - 1775 MWT**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 4** Record Core Flow**Critical: N****Standard:** Records  $51 \times 10^6$  Lb/Hr  $\pm 0.5$ **Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 5** Record Core/Rx dP**Critical: N****Standard:** Records 14.2 / 22 Psid  $\pm 0.5$ **Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 6** Record Rx Pressure**Critical: N****Standard:** Records 1000 Psig  $\pm 5$ **Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_

**Performance Step: 7** Record Rx Level**Critical: N****Standard:** Records 35 inches  $\pm$  1**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 8** Record Torus Level**Critical: N****Standard:** Records 0 inches  $\pm$  .5**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 9** Record RCP dP**Critical: N****Standard:** Records 117 / 116 psid  $\pm$  2**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 10** Record Steam Flow**Critical: N****Standard:** Records  $7.25 \times 10^6$  Lb/Hr  $\pm$  .25**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_

**Performance Step: 11** Record FW Flow**Critical: N****Standard:** Records  $7.25 \times 10^6$  Lb/Hr  $\pm .25$ **Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 12** Records status of Nuclear Instruments**Critical: N****Standard:** Records APRMs 2 and 5 bypassed with none above normal**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 13** Records status of Rad Monitors**Critical: N****Standard:** Records none are bypassed and none above normal**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_**Performance Step: 14** Record Rx Level Mode / Controllers**Critical: N****Standard:** Records 3 element, MSTR-AUTO, and Lo Flow Reg Va is in MAN.**Evaluator Cue:** None**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:** \_\_\_\_\_

<b>Performance Step: 15</b>	Record RFP Level Trip
<b>Critical: N</b>	
<b>Standard:</b>	Records position of RFP Level Trip in NORMAL
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 16</b>	Record Press Contr
<b>Critical: N</b>	
<b>Standard:</b>	Records MPR # $910 \pm 5$ and EPR# $903 \pm 1$
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 17</b>	Record Switch position and Alarms for 11 & 12 D Gen
<b>Critical: N</b>	
<b>Standard:</b>	Records AUTO for switch positions and None for alarms
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 18</b>	Record ADS "A", "C", "D" switch positions and alarms
<b>Critical: N</b>	
<b>Standard:</b>	Records ADS switch positions in AUTO and None for alarms
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 19</b>	Record SRV Low-Low Set C-03 "E", "G", "H" switch positions and alarms
<b>Critical: N</b>	
<b>Standard:</b>	Records Low-Low Set switch positions in AUTO and None for alarms
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 20</b>	Record DIV II Low-Low Set Logic switch position and alarms
<b>Critical: N</b>	
<b>Standard:</b>	Records switch in Auto and None for alarms
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 21</b>	Record "A" RHR switch position, alarms, and valve line-up
<b>Critical: Y</b>	
<b>Standard:</b>	Records switch position in Auto, None for alarms, and notes MO-2002 (RHR DIV 1 HX BYPASS) valve is in the CLOSED position. Reports to CRS and takes keylock switch to OPEN when directed by CRS.
<b>Evaluator Cue:</b>	Acknowledge report of MO-2002 (RHR DIV 1 HX BYPASS) valve is in the CLOSED position. Directs valve be opened.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 22</b>	Record "A" RHRSW switch position, alarms, and valve line-up
<b>Critical: N</b>	
<b>Standard:</b>	Records switch position in Auto, None for alarms, and valve line-up sat
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 23</b>	Record "A" Core Spray switch position, alarms, and valve line-up
<b>Critical: N</b>	
<b>Standard:</b>	Records switch position in Auto, None for alarms, and valve line-up sat
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 24</b>	Record HPCI switch position, alarms, and valve line-up. Notes and reports to the CRS that the HPCI Flow Controller is in MANUAL control.
<b>Critical: Y</b>	
<b>Standard:</b>	Recognizes that the HPCI Flow Controller is in MANUAL control and reports to the CRS the discrepancy. Selects AUTO control when directed.
<b>Evaluator Cue:</b>	Acknowledge the report and direct that the HPCI Flow Controller be placed in AUTO.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

**Terminating Cues:** When the HPCI check has been completed, state that the JPM is completed

**Stop Time:** \_\_\_\_\_

**Critical Time**   N/A

## TURNOVER SHEET

### INITIAL CONDITIONS:

- The reactor is operating at power
- You are the LPEO on the 19-07 shift
- The Shift Manager is "Smith"

### INITIATING CUES (IF APPLICABLE):

- Perform the front page of 3139, Control Room Shift Turnover Checklist



## SIMULATOR SET UP:

- IC-15 or other 100% power IC.
- Place the HPCI flow controller in Manual
- Place the key lock switch for MO-2002 (RHR DIV 1 HX BYPASS) in the CLOSED position.

## SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

## SIMULATOR - OVERRIDES:

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

## SIMULATOR - REMOTE FUNCTIONS:

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

\_\_\_\_\_  
Validation Personnel /Date

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Validation Personnel/Date

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Validation Personnel /Date

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Validation Personnel /Date

\_\_\_\_\_  
Validation Personnel/Date

Historical Record: (Optional)



# JOB PERFORMANCE MEASURE (JPM)

**SITE:** MONTICELLO NUCLEAR GENERATING PLANT

**JPM TITLE:** DETERMINE SHIFT STAFFING

**JPM NUMBER:** JPM OWI-01.06-003 **REV.** 0

**RELATED PRA INFORMATION:** None

**TASK NUMBER(S) / TASK TITLE(S):** SS299.289  
Implement the Operations Group Organization and Responsibilities Assignments

**K/A NUMBERS:** 2.1.4 **Rating: SRO/RO:** 3.4 / 2.3

## APPLICABLE METHOD OF TESTING:

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐

Simulator: ☐ Other: ☒

Lab: ☐

Time for Completion: 15 Minutes Time Critical: No

Alternate Path / Faulted: No

**TASK APPLICABILITY:** SRO: X SRO/RO: \_\_\_\_\_ SRO/RO/NLO: \_\_\_\_\_

Additional signatures may be added as needed.

<b>Developed by:</b>	<b>J Ruth</b>	
	Instructor	Date
<b>Validated by:</b>	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
<b>Approved by:</b>	Training Supervisor	Date

**JPM Number:** JPM-OWI-01.06-003

**JPM Title:** Determine Shift Staffing

**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
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(See MTCP-03.32, Figure 6.2)
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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.

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

**INITIAL CONDITIONS:**

- You are a fully qualified CRS at the beginning of a shift change
- The reactor is operating in MODE 1
- Shift 4 is the duty shift
- Noland is filling the vacant NPE&RO position
- The Shift Chemist (Beaker) and Shift Rad. Prot. Specialist (Marx) are available and are fire brigade qualified
- All operations personnel are respirator qualified unless noted otherwise

**INITIATING CUES (IF APPLICABLE):**

- Determine if the staffing requirements are met for the following On-shift collateral duties by filling out the provided roster with the appropriate names:
  - Fire Brigade
  - Toxic Gas
  - S/D Outside the Control Room
- Provide MNGP Operations Department Organization/Qualification chart
- Provide Respirator qualification memo from RP/Chem
- Provide blank roster form

**JPM PERFORMANCE INFORMATION**

**Required Materials:** MTF-7600-002, Monticello Fire Brigade Training Summary, Monticello Nuclear Generating Plant Operations Department Organization/Qualification

**General References:** OWI-01.06 Rev. 28

**Task Standards:** Determine Staffing Requirements

**Start Time:** \_\_\_\_\_

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

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

<b>Performance Step: 1</b>	Refers to OWI-01.06, DUTY OPERATIONS PERSONNEL REQUIREMENTS AND RESPONSIBILITIES
<b>Critical: N</b>	
<b>Standard:</b>	Refers to OWI for guidance
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 2</b>	On-shift collateral duties require the following staffing:
<b>Critical: Y</b>	1. Fire Brigade: Five duty crew members normally filled by the following individuals: BOP, two NAPEOs, Shift Chemist, Shift Rad Prot Spec. These individuals are required to be respirator qualified.
<b>Standard:</b>	Assigned White, Thompson, Williams, Shift Chemist and Shift Rad Prot Spec to Fire Brigade.
<b>Evaluator Cue:</b>	If asked, inform the candidate that all non-operations required individuals are available and respirator qualified.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

## JPM-OWI-01.06-003 (DETERMINE SHIFT STAFFING) Rev. 0

<b>Performance Step: 3</b>	On-shift collateral duties require the following staffing:
<b>Critical: Y</b>	2. Toxic Gas Event: Technical specifications requires two active SROs and two active ROs while in Startup or Run mode. The Shift Mgr, Control Room Supv, and two of the three Control Room Operators satisfy this requirement. These individuals are required by A.4 (HAZARDOUS MATERIALS PROCEDURES) to be respirator qualified.
<b>Standard:</b>	Determines that any 2 of the 3 ROs will satisfy the requirement. Determines that this requirement cannot be satisfied due to Smith not being respirator qualified.
<b>Evaluator Cue:</b>	Acknowledges report
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 4</b>	On-shift collateral duties require the following staffing:
<b>Critical: Y</b>	3. S/D Outside the Control Room: Three duty crew members are required to effectively implement C.4-C (SHUTDOWN OUTSIDE CONTROL ROOM). Normally four individuals are available to implement this procedure. These individuals cannot simultaneously have fire Brigade duties. (Fire in the Control room or Cable spreading Room requires both Fire Brigade and C.4-C implementation). The Shift Mgr, NLPE&RO, NPE&RO, and NAPEO normally satisfies this requirement. There are no respirator qualifications associated with this requirement.
<b>Standard:</b>	Determines this requirement can be met by assigning any combination of Smith, Jones, Nolan, or Black.
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 5</b>	<b>INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.</b>
<b>Critical: N</b>	
<b>Standard:</b>	Operator informs evaluator that the task is completed.
<b>Evaluator Cue:</b>	When the operator informs evaluator that the task is completed state that the JPM is complete.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

**Terminating Cues:** When the operator informs evaluator that the task is completed state that the JPM is complete.

**Stop Time:** \_\_\_\_\_

**Critical Time**   N/A



## TURNOVER SHEET

### INITIAL CONDITIONS:

- You are a fully qualified CRS at the beginning of a shift change
- The reactor is operating in MODE 1
- Shift 4 is the duty shift
- Noland is filling the vacant NPE&RO position
- The Shift Chemist (Beaker) and Shift Rad. Prot. Specialist ( Marx) are available and are fire brigade qualified
- All operations personnel are respirator qualified unless noted otherwise

### INITIATING CUES (IF APPLICABLE):

- Determine if the staffing requirements are met for the following On-shift collateral duties by filling out the provided roster with the appropriate names:
  - Fire Brigade
  - Toxic Gas
  - S/D Outside the Control Room
- Provide MNGP Operations Department Organization/Qualification chart
- Provide Respirator qualification memo from RP/Chem
- Provide blank roster form

## SIMULATOR SET UP:

Admin JPM; no simulator setup required.

## SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

## SIMULATOR - OVERRIDES:

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

## SIMULATOR - REMOTE FUNCTIONS:

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

\_\_\_\_\_  
Validation Personnel /Date

\_\_\_\_\_  
Validation Personnel/Date

\_\_\_\_\_  
Validation Personnel /Date

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Validation Personnel/Date

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Validation Personnel /Date

\_\_\_\_\_  
Validation Personnel/Date

\_\_\_\_\_  
Validation Personnel /Date

\_\_\_\_\_  
Validation Personnel/Date

Historical Record: (Optional)



## JOB PERFORMANCE MEASURE (JPM)

**SITE:** MONTICELLO NUCLEAR GENERATING PLANT

**JPM TITLE:** DAILY JET PUMP OPERABILITY CHECK TEST 0133

**JPM NUMBER:** JPM-0133-001 **REV.** 0

**RELATED PRA INFORMATION:** None

**TASK NUMBER(S) / TASK TITLE(S):** CR299.349  
Perform Operations Daily Log – Parts A, B, D, E, G, H, & J

**K/A NUMBERS:** 2.2.12 **Rating: SRO/RO:** 3.4/3.0

**APPLICABLE METHOD OF TESTING:**

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐

Simulator: ☒ Other: ☐

Lab: ☐

Time for Completion: 25 Minutes Time Critical: No

Alternate Path / Faulted: No

**TASK APPLICABILITY:** SRO: \_\_\_\_\_ SRO/RO: X SRO/RO/NLO: \_\_\_\_\_

Additional signatures may be added as needed.

<b>Developed by:</b>	<b>J Ruth</b>	
	Instructor	Date
<b>Validated by:</b>	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
<b>Approved by:</b>	Training Supervisor	Date

**JPM Number:** JPM-0133-001

**JPM Title:** Daily Jet Pump Operability Check Test 0133

**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
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(See MTCP-03.32, Figure 6.2)
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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.

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

**INITIAL CONDITIONS:**

- The reactor is operating at power
- You are the BOP operator

**INITIATING CUES (IF APPLICABLE):**

- The CRS directs you to perform Test 0133, Daily Jet Pump Operability Check per Operations Daily Log – Part B

**JPM PERFORMANCE INFORMATION**

**Required Materials:** Individual Jet Pump dP readings, B.01.04-06 Figures 15, 16 & 17.

**General References:** Simulator IC at 100% power. (IC-15)

**Task Standards:** Complete Test 0133 (Expected readings are provided in red.)

**Start Time:** \_\_\_\_\_

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

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

**Performance Step: 1**

**Critical: Y**

**NOTE:** STEP 3.b. and 3.c. not required to be performed until 4 hours after associated recirculation loop is in operation and until 24 hours after THERMAL POWER >25% RTP.

IF the Reactor is in MODE 1 or 2,  
AND recirculation loop(s) is in operation,  
THEN obtain and record the values for the operating loop(s) described in the matrices below and perform the following:

Variable	Panel	Item Description	Value	Unit
	CRT	RPV501, Core Thermal Power %	99.5 - 100	%
A	C-04	SI-2-184-16A, Recirc Pump 11 %Speed	85-87	%
B	C-04	SI-2-184-16B, Recirc Pump 12 %Speed	85-87	%
C	C-04	FI-2-159A, Recirc Loop 11 Flow	26.5-27.5 x 10 <sup>3</sup>	gpm
D	C-04	FI-2-159B, Recirc Loop 12 Flow	26.5-27.5 x 10 <sup>3</sup>	gpm

**Standard:** Obtains and records the above data.

**Evaluator Cue:** None

**Performance:** SATISFACTORY ☐ UNSATISFACTORY ☐

**Comments:** \_\_\_\_\_

**Performance Step: 2****Critical: Y**

On Figure 17, Recirculation Pump Flow vs Speed, of Ops Man B.01.04-06 (REACTOR RECIRCULATION SYSTEM – FIGURES) plot points for values of variables A vs C and variables B vs D.

1) Does point A vs C fall in ACCEPTABLE RANGE?

Yes ☐ No ☐

2) Does point B vs D fall in ACCEPTABLE RANGE?

Yes ☐ No ☐

**Standard:**

Plots points and determines values are in the acceptable range.

**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:****Performance Step: 3****Critical: Y**

Variable	Panel	Item Description	Value	Unit
E	C-04	FI-2-3-92B, Jet Pump Loop A Flow	25-26 x 10 <sup>6</sup>	lb/hr
F	C-04	FI-2-3-92A, Jet Pump Loop B Flow	25-26 x 10 <sup>6</sup>	lb/hr
G	calc	(E ÷ L) X 100, % Loop A Flow	86.8-90.3	%
H	calc	(F ÷ L) X 100, % Loop B Flow	86.8-90.3	%
J	calc	(G ÷ A) % Loop Flow / % Pump Speed	0.99 – 1.06	ratio
K	calc	(H ÷ B) % Loop Flow / % Pump Speed	0.99 – 1.06	ratio
L=Constant		Half of rated Core Flow	28.8 x 10 <sup>6</sup>	lb/hr
M	calc	(E ÷ (L x 2)) x 100%, % Core Flow	43.4-45.2	%
N	calc	(F ÷ (L x 2)) x 100%, % Core Flow	43.4-45.2	%

**Standard:**

Obtains and records the above data.

**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:**



**Performance Step: 4** IF THERMAL POWER IS >25% RTP,  
**Critical: Y** THEN on Figure 15, Loop A: Jet Pump Loop Flow/Pump Speed, of Ops Man B.01.04-06 plot points for values of variables J vs A.

1) Does point J vs A fall in ACCEPTABLE RANGE?

Yes ☐ No ☐ N/A ☐

**Standard:** Plots points and determines values are in the acceptable range.

**Evaluator Cue:** None

**Performance:** SATISFACTORY ☐ UNSATISFACTORY ☐

**Comments:** \_\_\_\_\_

**Performance Step: 5** IF THERMAL POWER IS >25% RTP,  
**Critical: Y** THEN on Figure 16, Loop B: Jet Pump Loop Flow/Pump Speed, of Ops Man B.01.04-06 plot points for values of variables K vs B.

1) Does point K vs B fall in ACCEPTABLE RANGE?

Yes ☐ No ☐ N/A ☐

**Standard:** Plots points and determines values are in the acceptable range.

**Evaluator Cue:** None

**Performance:** SATISFACTORY ☐ UNSATISFACTORY ☐

**Comments:** \_\_\_\_\_

**Performance Step: 6** IF any question in STEPs 3.a. through 3.c. is checked "No",  
**Critical: N** THEN notify Control Room Supervisor,  
AND perform procedure 0442 (SPECIAL JET PUMP OPERABILITY TEST).

**Standard:** Determines no step is "No".

**Evaluator Cue:** None

**Performance:** SATISFACTORY ☐ UNSATISFACTORY ☐

**Comments:** \_\_\_\_\_

**Performance Step: 7****Critical: Y**IF in MODE 1 or 2,

AND both recirculation loops are in operation,

THEN :

- 1) Calculate percent of total rated core flow (M + N) **86.8-90.4%**

**Standard:**

Calculates percent of total rated core flow.

**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:****Performance Step: 8****Critical: Y**IF in MODE 1 or 2,

AND both recirculation loops are in operation,

THEN :

- 2) Calculate absolute value (M - N), Jet Pump Flow Mismatch **0-1.8** %

**Standard:**

Calculates absolute value.

**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:****Performance Step: 9****Critical: N**IF in MODE 1 or 2,

AND both recirculation loops are in operation,

THEN :

- 3) IF percent of total rated core flow from STEP 3.e.1) is <70%,  
THEN is the Jet Pump Flow Mismatch from STEP 3.e.2)  $\leq 10\%$ ?

Yes ☐No ☐N/A ☐**Standard:**

Determines this step is N/A.

**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:**

**Performance Step: 10****Critical: Y**IF in MODE 1 or 2,AND both recirculation loops are in operation,THEN :

- 4) IF percent of total rated core flow from STEP 3.e.1) is  $\geq 70\%$ ,  
THEN is the Jet Pump Flow Mismatch from STEP 3.e.2)  $\leq 5\%$ ?

Yes ☐ No ☐ N/A ☐**Standard:**Determines Jet Pump Flow Mismatch is  $\leq 5\%$ .**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:****Performance Step: 11****Critical: N**IF any question in STEP 3.e. is checked "No",THEN notify Control Room Supervisor,AND evaluate Tech Spec 3.4.1 and enter appropriate Condition.**Standard:**

Determines no step is "No".

**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:****Performance Step: 12****Critical: Y**IF the Reactor is in MODE 1,AND there is recirculation flow,THEN perform the following:

- From FPR-2-3-95 (C-04), Core dP Red Pen, record dP: (14-14.5)
- Record the square root of Core dP (from a. above): (3.7-3.81)
- From CRT mimic obtain and record Core Flow: (50.5-51.5 X 10<sup>6</sup>)
- Calculate and record 100 x (c.  $\div$  57.6 x 10<sup>6</sup> lb/hr): (87.5-89.5)
- On Figure 20 Core Plate dP vs Core Flow, of Ops Man B.01.04-06 plot point for value of b. vs d. above.

**Standard:**

Obtains and records the above data.

**Evaluator Cue:**

None

**Performance:****SATISFACTORY** ☐ **UNSATISFACTORY** ☐**Comments:**

**Performance Step: 13**  
**Critical: Y**

On figure 20 Core Plate dP vs. Core Flow, of Ops Man B.01.04-06 plot point for value b. vs. d. above.

1) Does point for b. vs. d fall in ACCEPTABLE RANGE?

Yes ☐ No ☐

2) IF No,  
THEN notify Shift Supervision to determine actions and notifications.

**Standard:**

Plots points and determines values are in the acceptable range.

**Evaluator Cue:**

None

**Performance:**

**SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:****Performance Step: 14**  
**Critical: N**

IF the Reactor is in MODE 1,  
AND THERMAL POWER >25% RTP with a recirculation loop in operation,  
THEN from FR-7288, JET PUMP FLOW RECORDER (Panel C-38), record individual Jet Pump and loop average dPs in the matrix below and perform the following:

Loop A		
Jet Pump	Raw dP	DP/Loop Avg
11	8.8	1
12	8.8	1
13	8.7	0.96
14	8.8	1
15	8.6	0.93
16	8.9	1.03
17	8.8	1
18	8.7	0.96
19	8.8	1
20	8.6	0.93
Loop Avg dP	8.8	

Loop B		
Jet Pump	Raw dP	DP/Loop Avg
1	8.8	1
2	8.6	0.93
3	8.7	0.96
4	8.9	1.03
5	8.7	0.96
6	8.8	1
7	8.7	0.96
8	8.6	0.93
9	8.7	0.96
10	8.7	0.96
Loop Avg dP	8.8	

**Standard:**

Records data provided.

**Evaluator Cue:**

Individual Jet Pump Raw dP data has been provided.

**Performance:**

**SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**

<b>Performance Step: 15</b>	For each loop divide each individual Jet Pump raw dP by its Loop Average dP and record in matrix.
<b>Critical: N</b>	
<b>Standard:</b>	Divides and records in matrix.
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 16</b>	<u>IF</u> the Reactor is in MODE 1,
<b>Critical: Y</b>	<u>AND</u> Recirc Pump speed (SI-2-184-16A&B on C04) >50%,
	<u>THEN</u> perform the following:
	<ul style="list-style-type: none"> <li>a. Record 2-184-23A (C04), A Pump Volts, indication: (3050-3150Volts)</li> <li>b. Record 2-184-23B (C04), B Pump Volts, indication: (3100-3200 Volts)</li> <li>c. Record SI-2-184-16A, Recirc Pump 11 %Speed, indication: (85-87)</li> <li>d. Record SI-2-184-16B, Recirc Pump 12 %Speed, indication: (85-87)</li> <li>e. Record result of a. ÷ c.: (35.0-37.1) Volts/% Speed for 11(35.5 – 40.5)</li> <li>f. Record result of b. ÷ d.: (35.6-37.7) Volts/% Speed for 12 (35.5 – 40.5)</li> </ul>
<b>Standard:</b>	Obtains and records above parameters.
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 17</b>	<u>IF</u> either acceptance criteria is not met,
<b>Critical: N*</b>	<u>THEN</u> on Panel C-21from TR-2-184-26, RECIRC MG SET WINDING TEMP, and TR-2-2-31, RECIRC PUMP AND MTR TEMP, verify MG set generator and Recirc pump motor winding temperatures are normal and not unexpectedly trending up,
	<u>AND</u> notify Shift Supervision to determine actions and notifications.
<b>Standard:</b>	Determines acceptance criteria is met. *(This step is critical if step 16e above is calculated to not meet acceptance criteria).
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

**Performance Step: 18**      **INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**

**Critical: N**

**Standard:**                      Operator informs evaluator that the task is completed.

**Evaluator Cue:**              Acknowledge report of task completion.

**Performance:**              **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**                      \_\_\_\_\_

**Terminating Cues:**      **AFTER TASK COMPLETION REPORT IS MADE, STATE THAT THE JPM IS COMPLETE.**

**Stop Time:**      \_\_\_\_\_

**Critical Time**        N/A

## **TURNOVER SHEET**

### **INITIAL CONDITIONS:**

- The reactor is operating at power
- You are the BOP operator

### **INITIATING CUES (IF APPLICABLE):**

- The CRS directs you to perform Test 0133, Daily Jet Pump Operability Check per Operations Daily Log – Part B

**SIMULATOR SET UP:**

- IC-15 or other 100% power IC.

**SIMULATOR - MALFUNCTIONS:**

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

**SIMULATOR - OVERRIDES:**

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

**SIMULATOR - REMOTE FUNCTIONS:**

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							



**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

\_\_\_\_\_  
 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

\_\_\_\_\_  
 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

\_\_\_\_\_  
 Validation Personnel /Date

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 Validation Personnel/Date

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 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

Historical Record: (Optional)

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0463 CONTROL ROOM TEMPERATURE VERIFICATION  
0082 CRD ACCUMULATOR ALARM CHECK  
0508 ONE INOPERABLE CONTROL ROD  
0509 TWO OR MORE INOPERABLE CONTROL RODS  
0133 DAILY JET PUMP OPERABILITY CHECK  
0445 REACTOR VESSEL SHELL FLANGE TEMPERATURE RECORDER CHECK  
1365 REACTOR VESSEL VENTING CHECK  
1472 CONTROL ROOM FRESH AIR SUPPLY RUN TIME CHECK

Approval: PCR 01063970

REVIEW AND APPROVAL OF ACTIVITIES		DATE
Shift Supv Approval to Commence: NA		Time: NA
Completed By	(1900-2200) Shift Oper:	
	(0700-1000) Shift Oper:	
Completion Reviewed By	Shift Supervision:	
	Shift Manager:	
	CRV/EFT System Engineer:	
	CRD System Engineer:	
	RECIRC System Engineer:	

## COMMENTS

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page.

WO(S) ISSUED YES\_\_\_ NO\_\_\_ NUMBER(S)\_\_\_\_\_

l/jao

# SIMULATOR USE ONLY

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## **PURPOSE**

The purpose of this procedure is to monitor equipment or record values considered important to Plant operation or required by Technical Specifications. This procedure monitors, records, assesses or verifies the:

1. Control Room temperature in order to satisfy Commitment M91187A.
2. CRD's Accumulator pressure in order to satisfy Tech Spec SR 3.1.5.1 and SR 3.9.5.2.
3. CRD's Accumulator level alarms.
4. Reactor Jet pumps in order to satisfy Tech Spec SR 3.4.2.1.a and SR 3.4.2.1.b.
5. Recirculation Pump motor's volts/%speed.
6. Reactor vessel shell flange temperature in order to satisfy Tech Spec SR 3.4.9.5 and SR 3.4.9.6.
7. Jet pump loop flow mismatch in order to satisfy Tech Spec SR 3.4.1.1.
8. Plant operating region of the power to flow map in order to satisfy Tech Spec SR 3.4.1.2.
9. Control rod position determination in order to satisfy Tech Spec SR 3.1.3.1 and SR 3.1.6.1.
10. Operation of the RHR Shutdown Cooling subsystems in order to satisfy Tech Spec SR 3.4.7.1, SR 3.4.8.1, SR 3.9.7.1, and SR 3.9.8.1.
11. Suppression pool and condensate storage tank level in order to satisfy Tech Spec SR 3.5.2.1.
12. Reactor vessel is vented during periods of reactor shutdown.
13. V-ERF-11 and V-ERF-12 run hours to ensure that system operating limits in Tech Spec 5.5.6.c are not exceeded.
14. Intake Structure Level in order to satisfy Tech Spec SR 3.7.2.1.
15. Average Temperature of the Ultimate Heat Sink in order to satisfy Tech Spec SR 3.7.2.2.

## **REFERENCES**

See BASES.

I/jao

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**PERSONNEL**

Operator(s)

**EQUIPMENT**

Calculator

**PRECAUTIONS**

1. Procedure steps identified with an asterisk (\*) **SHALL** be completed satisfactorily to meet Technical Specification requirements. If any one of these steps or substeps cannot be satisfactorily completed, then notify the Control Room Supervisor immediately.
2. Regardless of the steps initiating conditional IF statements, steps identified with an (S) **SHALL** be performed within 24 hours before (based on expectation) establishing Plant conditions requiring operability of the associated system or component in order to satisfy Tech Spec SR 3.0.2.

**REASON FOR PERFORMING PROCEDURE**

Check One

1. Routine daily surveillance to satisfy Technical Specification requirements and monitoring of other important structures systems or components. Complete all steps.
2. Other - Implement requirements for use of "Other" stated in 4 AWI-04.05.07 (PROCEDURE USE AND ADHERENCE (FP-G-DOC-03)).



**PREREQUISITES**

None

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**PROCEDURE**

Shift

**GENERAL NOTE:** Steps may be performed in any order. Substeps should be performed in the order written.

**0463 (CONTROL ROOM TEMPERATURE VERIFICATION)**

**STEP 1** For all modes of operation record TI-4933A-D, Panel Internal and Area Temperature, indication in table below:

Point	Instrument	Panel	Shift Indication (°F)		Acceptance Criteria
			1900-2200	0700-1000	
1	TI-4933D	C-252			≤ 95°F
2	TI-4933A	C-15			≤ 95°F
3	TI-4933B	C-16			≤ 95°F
4	TI-4933C	C-17			≤ 95°F

- a. IF acceptance criteria are not met,  
THEN provide additional cooling per Ops Man  
B.08.13-05 (CONTROL ROOM H&V AND EFT –  
SYSTEM OPERATION),  
AND notify System Engineer and Shift Supervision to  
determine actions and notifications.

(1900-2200)

(0700-1000)

**0082, Tech Spec SR 3.1.5.1 and SR 3.9.5.2 (CRD ACCUMULATOR CHECK)**

**S\* STEP 2** IF in MODE 1, 2 or 5,  
THEN perform the following:

**NOTE:** All Control Rod Accumulators are required to be OPERABLE in MODES 1 and 2. Only those Control Rod Accumulators associated with withdrawn control rods are required to be OPERABLE in MODE 5.

- a. Check the status in the Control Room of the required Operable control rod accumulator pressure and level alarms.

(1900-2200)

(0700-1000)

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- b. IF a required operable control rod accumulator's Alarm cannot be cleared using normal plant procedures, THEN record HCU number(s) below, AND notify Shift Supervision for determination of control rod operability using B.01.03-05 (CRD HYDRAULIC SYSTEM - SYSTEM OPERATION) operational considerations. Alarm(s) for required operable control rod(s) could not be cleared for:

_____	
_____	(1900-2200)
_____	
(Use coversheet COMMENTS section if not room here.)	(0700-1000)

- c. For system performance monitoring, verify all control rod accumulator alarms are listed below including the alarm cause (high level and/or low pressure).

_____	
_____	(1900-0700)
_____	
(Use coversheet COMMENTS section if not room here.)	(0700-1900)

- d. IF it is determined that the actual accumulator pressure is < 940 psig, THEN list the associated control rod and enter the applicable Tech Spec Actions.

_____	
_____	(1900-0700)
_____	
(Use coversheet COMMENTS section if not room here.)	(0700-1900)

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0133, Tech Spec SR 3.4.2.1 (DAILY JET PUMP OPERABILITY CHECKS)

**NOTE:** STEP 3.b. and 3.c. not required to be performed until 4 hours after associated recirculation loop is in operation and until 24 hours after THERMAL POWER > 25% RTP.

**\* STEP 3** IF Reactor is in MODE 1 or 2,  
AND recirculation loop(s) is in operation,  
THEN obtain and record values for the operating loop(s)  
described in the matrices below and perform the following:

Variable	Panel	Item Description	Value	Unit
	CRT	RPV501, Core Thermal Power %		%
A	C-04	SI-2-184-16A, Recirc Pump 11 %Speed		%
B	C-04	SI-2-184-16B, Recirc Pump 12 %Speed		%
C	C-04	FI-2-159A, Recirc Loop 11 Flow		gpm
D	C-04	FI-2-159B, Recirc Loop 12 Flow		gpm

a. On Figure 17, Recirculation Pump Flow vs Speed, of Ops Man B.01.04-06 (REACTOR RECIRCULATION SYSTEM - FIGURES) plot points for values of variables A vs C and variables B vs D.

1) Does point for A vs C fall in ACCEPTABLE RANGE?

Yes ☐ No ☐

2) Does point for B vs D fall in ACCEPTABLE RANGE?

Yes ☐ No ☐

Variable	Panel	Item Description	Value	Unit
E	C-04	FI-2-3-92B, Jet Pump Loop A Flow	$\times 10^6$	lb/hr
F	C-04	FI-2-3-92A, Jet Pump Loop B Flow	$\times 10^6$	lb/hr
G	calc	$(E \div L) \times 100$ , % Loop A Flow	=	%
H	calc	$(F \div L) \times 100$ , % Loop B Flow	=	%
J	calc	$G \div A$ , % Loop Flow / % Pump Speed	=	ratio
K	calc	$H \div B$ , % Loop Flow / % Pump Speed	=	ratio
L = Constant		Half of rated Core Flow	$28.8 \times 10^6$	lb/hr
M	calc	$(E \div (L \times 2)) \times 100\%$ , % Core Flow	=	%
N	calc	$(F \div (L \times 2)) \times 100\%$ , % Core Flow	=	%

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- b. IF THERMAL POWER is  $> 25\%$  RTP,  
THEN on Figure 15 Loop A: Jet Pump Loop Flow/Pump  
Speed, of Ops Man B.01.04-06 plot point for value of  
variables J vs A.

1) Does point for J vs A fall in ACCEPTABLE RANGE?

Yes ☐ No ☐ NA ☐

- c. IF THERMAL POWER is  $> 25\%$  RTP,  
THEN on Figure 16 Loop B: Jet Pump Loop Flow/Pump  
Speed, of Ops Man B.01.04-06 plot point for value of  
variables K vs B.

1) Does point for K vs B fall in ACCEPTABLE RANGE?

Yes ☐ No ☐ NA ☐

- d. IF any question in STEPs 3.a. through 3.c. is checked  
"No",  
THEN notify Control Room Supervisor,  
AND perform Procedure 0442 (SPECIAL JET PUMP  
OPERABILITY TEST).

(1900-2200)

- e. IF in MODE 1 or 2,  
AND both recirculation loops are in operation,  
THEN:

1) Calculate percent of total rated core flow (M+N)  
\_\_\_\_\_ %

2) Calculate absolute value  $(|M-N|)$ , Jet Pump Flow  
Mismatch \_\_\_\_\_ %.

3) IF percent of total rated core flow from STEP 3.e.1)  
is  $< 70\%$ ,  
THEN is the Jet Pump Flow Mismatch from  
STEP 3.e.2)  $\leq 10\%$ ?

Yes ☐ No ☐ NA ☐

4) IF percent of total rated core flow from STEP 3.e.1)  
is  $\geq 70\%$ ,  
THEN is the Jet Pump Flow Mismatch from  
STEP 3.e.2)  $\leq 5\%$ ?

Yes ☐ No ☐ NA ☐

(1900-2200)



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- f. IF any question in STEP 3.e. is checked "No",  
THEN notify Control Room Supervisor,  
AND evaluate Tech Spec 3.4.1 and enter appropriate Condition.

(1900-2200)

**STEP 4** IF the Reactor is in MODE 1,  
AND there is recirculation flow,  
THEN perform the following:

- a. From FPR-2-3-95 (C-04), Core dP Red Pen, record dP:  
\_\_\_\_\_
- b. Record the square root of Core dP (from a. above):  
= \_\_\_\_\_
- c. From CRT mimic obtain and record Core Flow:  
\_\_\_\_\_ x 10<sup>6</sup> lb/hr
- d. Calculate and record 100 x (c. ÷ 57.6 x 10<sup>6</sup> lb/hr):  
= \_\_\_\_\_ % rated Core Flow
- e. On Figure 20 Core Plate dP vs Core Flow, of Ops Man B.01.04-06 plot point for value of b. vs d. above.
  - 1) Does point for b. vs d. fall in ACCEPTABLE RANGE?  
Yes ☐ No ☐
  - 2) IF No,  
THEN notify Shift Supervision to determine actions and notifications.

(1900-2200)

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- \* **STEP 5** IF Reactor is in MODE 1,  
AND THERMAL POWER > 25% RTP with a recirculation  
loop in operation,  
THEN from FR-7288, JET PUMP FLOW RECORDER  
(Panel C-38), record individual Jet Pump and loop average  
dPs in the matrix below and perform the following:

Loop A			Loop B		
Jet Pump	Raw dP	dP/Loop Avg	Jet Pump	Raw dP	dP/Loop Avg
11	8.8	1	1	8.8	1
12	8.8	1	2	8.6	0.93
13	8.7	0.96	3	8.7	0.96
14	8.8	1	4	8.9	1.03
15	8.6	0.93	5	8.7	0.96
16	8.9	1.03	6	8.8	1
17	8.8	1	7	8.7	0.96
18	8.7	0.96	8	8.6	0.93
19	8.8	1	9	8.7	0.96
20	8.6	0.93	10	8.7	0.96
Loop Avg dP	8.8		Loop Avg dP	8.8	

- a. For each loop divide each individual Jet Pump raw dP by its Loop Average dP and record in matrix.

TRN6  
(1900-2200)

- STEP 6** IF Reactor is in MODE 1,  
AND Recirc Pump speed (SI-2-184-16A&B on C-04) > 50%,  
THEN perform the following:

- a. Record 2-184-23A (C-04), A Pump Volts, indication:  
\_\_\_\_\_ Volts
- b. Record 2-184-23B (C-04), B Pump Volts, indication:  
\_\_\_\_\_ Volts
- c. Record SI-2-184-16A, Recirc Pump 11 %Speed,  
indication: \_\_\_\_\_ %
- d. Record SI-2-184-16B, Recirc Pump 12 %Speed,  
indication: \_\_\_\_\_ %

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e. Record result of  $a \div c$ :

$$= \frac{\quad}{(35.5 - 40.5)} \text{ Volts/\% Speed for 11}$$

f. Record result of  $b \div d$ :

$$= \frac{\quad}{(35.5 - 40.5)} \text{ Volts/\% Speed for 12}$$

- g. IF either acceptance criteria is not met,  
THEN on Panel C-21 from TR-2-184-26, RECIRC MG  
SET WINDING TEMP, and TR-2-2-31, RECIRC PUMP  
AND MTR TEMP, verify MG Set generator and Recirc  
pump motor winding temperatures are normal and not  
unexpectedly trending up,  
AND notify Shift Supervision to determine actions and  
notifications.

(1900-2200)

0445 Tech Spec SR 3.4.9.5 and SR 3.4.9.6 (REACTOR VESSEL SHELL FLANGE  
TEMPERATURE CHECK)

**\* STEP 7**

IF in MODE 4,  
THEN record reactor coolant temperature from SPDS.

\_\_\_\_\_ °F

(1900-2200)

\_\_\_\_\_ °F

(0700-1000)

- \* a. IF reactor coolant temperature is  $\leq 100^\circ\text{F}$ ,  
THEN verify vessel flange (TR-2-3-89 pt 1) and head  
flange (TR-2-3-89 pt 10) temperatures are  $\geq 70^\circ\text{F}$   
every 12 hours.

(1900-2200)

(0700-1000)

- \* b. IF reactor coolant temperature is  $\leq 80^\circ\text{F}$ ,  
THEN initiate Procedure 0118 to verify vessel flange  
(TR-2-3-89 pt 1) and head flange (TR-2-3-89 pt 10)  
temperatures are  $\geq 70^\circ\text{F}$  every 30 minutes.

(1900-2200)

(0700-1000)

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1365 (REACTOR VESSEL VENTING CHECK)

**STEP 8** During periods of reactor shutdown with reactor temperature less than 212°F, verify that the reactor is positively vented by one of the four paths listed below and record path used by checking appropriate box.

Check path used:	Shift									
	(1900-2200)					(0700-1000)				
	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	NA <input type="checkbox"/>	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	NA <input type="checkbox"/>

- IF Path A is used,  
AND reactor startup (MODE 2) is in progress,  
THEN it is permissible for the breakers to be in the closed position.
- IF Path B or C is used,  
THEN observe requirements of Ops Man Section C.3.VIII.K, Shutdown and Refueling Mode Requirements - Reactor Vessel Venting.
- IF general entry to Primary containment is not planned,  
THEN it is recommended to use Path C.
- IF preparations for a vessel pressure test or vessel leak test are underway,  
THEN reactor venting is not required.

(1900-2200)

(0700-1000)

**Path A: Steam Line Drains**

- MO-2373, MAIN STEAM LINE DRAIN - INBOARD, OPEN
- B4333, MAIN STEAM LINE DRN INBOARD 480V SUPPLY, OPEN
- MO-2374, MAIN STEAM LINE DRAIN - OUTBOARD, OPEN
- D313-06, MAIN STM LINE DRAIN OUTBD 250VDC SUPPLY, OPEN
- MO-2565, STEAM LINE DRAIN ORIFICE BYPASS, OPEN
- B1104, MST LINE DRN ORIFICE BYPASS 480VAC SUPPLY, OPEN

**Path B: Reactor Head Vent to Drywell Sump or Atmosphere**

- XDV-2, HEAD VENT BYP TO CRW, OPEN
- XDV-3, HEAD VENT BYP TO CRW, OPEN
- Or Reactor Head vent piping removed and reactor head vented to atmosphere

**Path C: Reactor Head Vent to Drywell Sump**

- CV-2371, REACTOR HEAD VENT TO CRW INBD, OPEN
- CV-2372, REACTOR HEAD VENT TO CRW OTBD, OPEN

**Path D: Reactor Head Removed**

I/jao

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1472 (CONTROL ROOM FRESH AIR SUPPLY RUN TIME CHECK)

**STEP 9** For all modes of operation record V-ERF-11 and V-ERF-12 running times from Panels C-263A and C-264B.

KI-4280A \_\_\_\_\_  
(hours)

KI-4280B \_\_\_\_\_  
(hours)

\_\_\_\_\_  
(0700-1000)

- a. IF posted filter testing requirement is exceeded,  
THEN verify affected EFT train is shutdown per Ops  
Man B.08.13-05 (CONTROL ROOM H&V AND EFT -  
SYSTEM OPERATION),  
AND notify CRV-EFT System Engineer and Shift  
Supervision.

\_\_\_\_\_  
(0700-1000)

Tech Spec SR 3.4.1.2 (PLANT OPERATING REGION OF THE POWER FLOW MAP)

**NOTE:** Power to flow map located in COLR.

**S\* STEP 10** IF in MODE 1 or 2,  
THEN perform the following to determine current position on  
the power to flow map:

- a. Obtain THERMAL POWER from Gardel,  
OR contact Nuclear Engineering.

- b. Record THERMAL POWER:

\_\_\_\_\_ MWth

- c. Record Core Coolant Flow from the Gardel User  
Interface.

\_\_\_\_\_ MLb/Hr

- d. With the values of THERMAL POWER and Core  
Coolant Flow determine the operating region from the  
Power to Flow map and check the appropriate region  
below:

- ☐ Normal Region  
☐ Stability Buffer Region  
☐ Stability Exclusion Region

\_\_\_\_\_  
(1900-2200)

- e. IF in the Stability Exclusion Region,  
THEN inform Control Room Supervisor,  
AND enter applicable Action of Tech Spec 3.4.1.

\_\_\_\_\_  
(1900-2200)

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- f. IF in the Stability Buffer Region,  
THEN inform Control Room Supervision,  
AND determine whether the power distribution controls  
specified in the COLR are in effect in accordance with  
Ops Man C.2-05 (POWER OPERATION), Section B.1.

Power distribution controls in effect: Yes ☐ No ☐

(1900-2200)

- g. IF in the Stability Buffer Region,  
AND the power distribution controls are not in effect,  
THEN enter the applicable Action of Tech Spec 3.4.1.

(1900-2200)

- h. IF in the Normal Region,  
OR in the Stability Buffer Region with the power  
distribution controls in effect,  
THEN acceptance criteria is met,  
AND no action is required.

(1900-2200)

Tech Spec SR 3.1.3.1 and SR 3.1.6.1 (DAILY CONTROL ROD POSITION DETERMINATION  
AND VERIFICATION OF COMPLIANCE WITH BPWS)

**GENERAL NOTE:** STEPs 11 through 15 are required to be performed in  
MODE 1 and 2.

- S\* STEP 11** IF in MODES 1 or 2,  
THEN document the current position of each control rod by  
performing the following:

- On the Gardel User Interface, verify that the control rod  
withdrawal display fills the upper right portion of the  
window.
- On the Gardel User Interface, click the "File" function  
button.
- On the resulting menu, point to "Document".
- On the resulting menu, click "Monitor Only".
- Print out the resulting Adobe Document.
- Attach the computer printouts to this procedure.

(1900-2200)

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**NOTE:** Control rods at position 48 are indicated by a blank on the Adobe document. For control rod positions not indicated on the Adobe document by a blank, +, or a rod position number, STEPs 12 and 13 are an acceptable method for determining the position of these control rods.

- STEP 12** IF the position of a control rod is not indicated in the Adobe Document as a blank, +, or a rod position number, THEN record the indicated position from the full core or four rod group display in Figure 1 (CONTROL ROD POSITION DETERMINATION). (1900-2200)
- STEP 13** IF the position of a control rod is not indicated in the Adobe Document as a blank, +, or a rod position number, AND it could not be determined in accordance with STEP 12, THEN inform the Control Room Supervisor and determine the position of the control rods by appropriate methods. (1900-2200)
- \* STEP 14** IF the position of the control rod could not be determined, THEN DECLARE the control rod inoperable, and take the applicable Tech Spec ACTION(s). (1900-2200)
- S\* STEP 15** IF in MODES 1 or 2 with THERMAL POWER  $\leq$  10% RTP, THEN:
- a. Review the logs and determine which rods, if any are inoperable. (1900-2200)
  - b. Verify that control rod positions are consistent with Rod Worth Minimizer sequence. (1900-2200)



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**NOTE:** Inoperable control rods must be inserted per Tech Specs. These rods are not to be considered in the following step.

- c. Compare the expected control rod pattern and the actual control rod pattern and document any differences below:

Control Rod	Expected Position	Actual Position	Differences

- d. Inform Shift Supervision if there are any differences, and ENTER the appropriate ACTIONS of Tech Spec 3.1.6, if necessary.

(1900-2200)

Tech Spec SR 3.4.7.1 and SR 3.4.8.1 (RESIDUAL HEAT REMOVAL SHUTDOWN COOLING SYSTEM DURING MODE 3 AND MODE 4)

**STEP 16** IF in MODE 3, with reactor steam dome pressure less than the RHR shutdown cooling supply isolation interlock, OR in MODE 4, THEN perform the following:

- a. Verify there is either one RHR shutdown subsystem in operation or one recirculation loop in operation.

(1900-2200)

(0700-1000)

- b. IF no recirculation loop is in operation, AND no RHR Shutdown Cooling subsystem is in operation, THEN notify Shift Supervision, AND enter the applicable ACTIONS of Tech Spec 3.4.7 or 3.4.8.

(1900-2200)

(0700-1000)

I/jao



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Tech Spec SR 3.9.7.1 and SR 3.9.8.1 (RESIDUAL HEAT REMOVAL SHUTDOWN COOLING SYSTEM DURING MODE 5)

**STEP 17**    IF in MODE 5,  
THEN perform the following:

- a. Is one RHR shutdown cooling subsystem in operation.

Yes ☐    No ☐

(1900-2200)

(0700-1000)

- b. IF no RHR shutdown cooling subsystem is in operation,  
THEN notify Shift Supervision to verify applicable  
ACTIONS of Tech Spec 3.9.7 or Tech Spec 3.9.8 are  
met.

(1900-2200)

(0700-1000)

Tech Spec SR 3.5.2.1 (SUPPRESSION POOL AND CONDENSATE STORAGE TANK WATER LEVEL REQUIREMENTS)

**S\* STEP 18**    IF any of the following are applicable,

- In MODE 4,
- In MODE 5 with spent fuel storage pool gates installed,
- In MODE 5 with spent fuel storage pool gates removed  
and water level < 21 ft 11 inches over the top of the  
reactor pressure vessel flange,

THEN perform the following:

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**NOTE:** Twelve hour frequency Tech Spec Surveillance Requirement.

a. Record the values as indicated below:

Parameter	Values			
	1900-2200		0700-1000	
Suppression Pool Level (From Panel C-03 Recorder PLR-7251A or 7251B) (Tech Spec $\geq -3$ ft)	ft		ft	
Condensate Storage Tank A Level (From Panel C-06 LI-1358) (Tech Spec $\geq 4$ ft for two tank operation and $\geq 7$ ft for one tank operation)	ft		ft	
Condensate Storage Tank B Level (From Panel C-06 LI-1359) (Tech Spec $\geq 4$ ft for two tank operation and $\geq 7$ ft for one tank operation)	ft		ft	
	YES	NO	YES	NO
Are any operations with a potential to drain the vessel (OPDRV) in progress?				

**NOTE:** Tech Spec SR 3.5.2.1 is considered met if either the Suppression Pool water level is  $\geq -3$  ft; or the Condensate Storage Tank(s) water level is  $\geq 7$  ft for one tank operation or  $\geq 4$  ft for two tank operation with no OPDRVs in progress.

- b. IF Condensate Storage Tank Water Level is acceptable, AND an OPDRV is in progress, THEN declare one required ECCS subsystem inoperable, AND enter applicable Actions of Tech Spec LCO 3.5.2.

\_\_\_\_\_  
CRS  
(1900-2200)

\_\_\_\_\_  
CRS  
(0700-1000)

- c. IF Condensate Storage Tank Water Level and Suppression Pool Water Level are not acceptable, THEN declare both required low pressure ECCS subsystems inoperable, AND enter applicable Actions of Tech Spec LCO 3.5.2.

\_\_\_\_\_  
CRS  
(1900-2200)

\_\_\_\_\_  
CRS  
(0700-1000)

I/jao

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SR 3.7.2.1 and 3.7.2.2 (INTAKE STRUCTURE WATER LEVEL AND AVERAGE TEMPERATURE)

**S\* STEP 19** IF in MODES 1, 2, or 3,  
THEN perform the following:

- a. Record the values of ultimate heat sink from the following OPERABLE indicators:

Instrument	Value
LI-1852A Circulation Pump Basin Level (Intake Structure/C06) (Tech Spec: $\geq 899$ ft mean sea level)	ft
LI-1853A Circulation Pump Basin Level (Intake Structure/C06) (Tech Spec: $\geq 899$ ft mean sea level)	ft
(Tech Spec $\leq 90^{\circ}\text{F}$ ) CWT101 Upstream River Temp	$^{\circ}\text{F}$

(1900-2200)

- b. IF the basin level is  $< 899$  ft mean sea level,  
THEN notify Shift Supervision,  
AND enter the applicable ACTIONS of Tech Spec 3.7.2.
- c. IF the service water inlet temperature is  $> 90^{\circ}\text{F}$ ,  
THEN notify Shift Supervision,  
AND enter the applicable ACTIONS of Tech Spec 3.7.2.

(1900-2200)

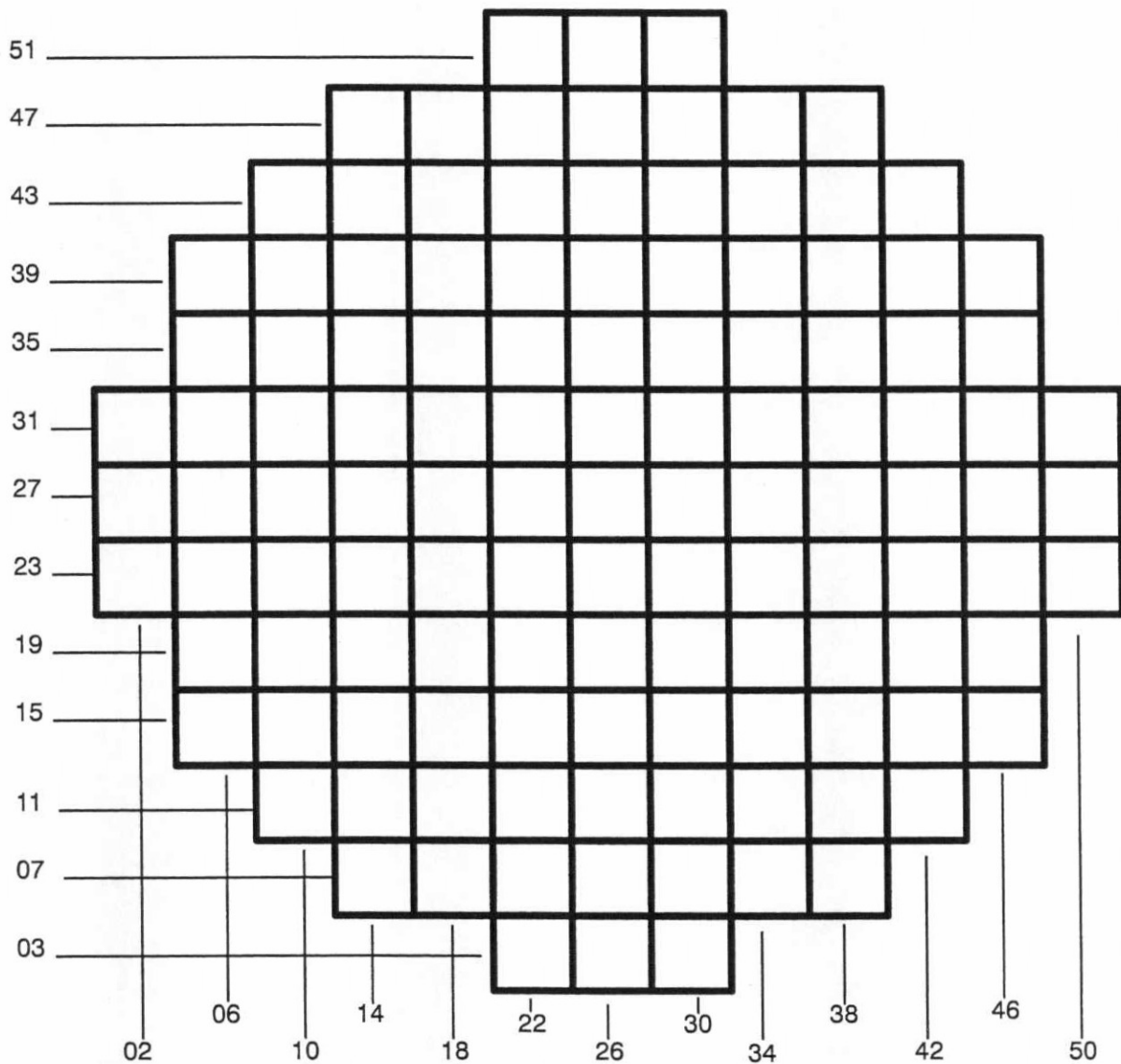
**STEP 20** Review Daily Log 0000-B for appropriate entries.

Shift Supv  
(1900-2200)

Shift Supv  
(0700-1000)

Figure 1 Control Rod Position Determination

If the Gardel Adobe document is available attach it to this page.



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## **BASES**

Technical Specification Amendment No. 104 changed the frequency of instrument sensor checks from "once per shift" to "once per 12 hours." In order to comply with accepted surveillance practices, the interval on the surveillances was changed to every 12 hours plus 25%, i.e., 3 hours. Therefore, the "shiftly" checks will be completed between 1900-2200 hours and 0700-1000 hours daily.

Prior to revision 76, this procedure contained surveillance 0205 (FUEL POOL WATER LEVEL TEST). Surveillance 0205 was moved to Procedure 0000-J (OPERATIONS DAILY LOG - PART J OUTPLANT) as a result of Condition Report 19993305 and Action 19993500 to revise the 0000-x series procedures into separate Control Room and outplant Operator tasks. The non-Technical Specification related CRD HCU N<sub>2</sub> pressure check which was STEP 4 of surveillance 0082 (CRD ACCUMULATOR ALARM CHECK) was also moved to 0000-J; however, the requirements satisfied by 0082 remain in this procedure.

Surveillance 0463 (CONTROL ROOM TEMPERATURE VERIFICATION) is used to check Control Room temperature once every 12 hours.

Control Room temperature is checked each shift to ensure that the continuous duty rating for the instrumentation and equipment cooled by the Control Room Ventilation system is not exceeded. Continuous duty temperature rating for the instrumentation and equipment is based on 104°F per Bechtel Specification M-118, Heating Ventilation and Air Conditioning Systems and Controls since this is the highest temperature stated for Office & Control Building including the Cable Spreading and Battery Rooms. A 95°F acceptance criteria is used in this procedure based on engineering judgement to allow some time until 104°F is reached. The temperatures are measured in the four panels because they are typically hotter than other areas of the Control Room.

Main Control Room area bulk temperature is manually monitored and recorded hourly using Form 2030A (HOURLY CONTROL ROOM LOGS AND WATT HOUR METER READINGS). Form 2030A revision 9 has a maximum 78°F acceptance criteria. This is based on commitment M91187A which requires administrative control on Control Room temperature from excessively exceeding the 78°F limit. Station blackout analysis assumes a start Control Room bulk temperature of 78°F. Should temperatures exceed 78°F, then actions are taken to lower the temperature.

### **0082, STEP 2 (CRD ACCUMULATOR)**

Tech Spec SR 3.1.5.1 requires each accumulator pressure to be > 940 psig in MODES 1 and 2. Tech Spec SR 3.9.5.2 requires the accumulator pressure of the withdrawn controls be ≥ 940 psig. The pressure switch PS-130, Accumulator Low Nitrogen Pressure, is set at 1000 psig with a potential drift of 50 psig, therefore, annunciator 5-B-36 (CRD ACCUMULATOR LO/PRESS HI/LEVEL) may ALARM with an actual pressure between 950 psig and 1050 psig.

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Surveillance 0133 is used for Jet Pump operability and Recirculation MG set checks.

Tech Spec 3.4.2.1.1 requires verification that at least one of the following criteria (a or b) is satisfied for each operating recirculation loop:

- a. Recirculation pump flow to speed ratio differs by  $\leq 5\%$  from established patterns, and jet pump loop flow to recirculation pump speed ratio differs by  $\leq 5\%$  from established patterns.
- b. Each jet pump diffuser to lower plenum differential pressure differs by  $\leq 20\%$  from established patterns.

STEP 3 verifies that the criteria in part a is met every 24 hours. If it is not STEP 3.d. requires the performance of Procedure 0442 (SPECIAL JET PUMP OPERABILITY TEST). Tech Spec SR 3.4.2.1 is not required to be performed until 4 hours after associated recirculation loop is in operation and until 24 hours after  $> 25\%$  RTP.

Operations Manual B.01.04-06 is used for acceptance criteria in STEPs 3 and 4. The figures were derived by compiling operational data and plotting the data at different Recirc pump speeds. Once the data was obtained and plotted, a normal operating range which bounded all the data was plotted in the form of a curve. This normal operating range curve was then deviated by 5% which provides the acceptance band.

STEPS 3.a., b., c. are the primary checks to assure that the reactor recirculation system jet pumps are operating satisfactorily and that a reactor recirculation jet pump hold-down beam has not failed. If Tech Spec SR 3.4.2.1.a requirements are not satisfied in STEPs 3.a., b., c., then it is required by Tech Spec SR 3.4.2.1.b to compare individual jet pump dP percent deviation from the normal range of deviation. STEP 5 is used to collect operational data on jet pump dP to establish the expected normal range of deviation and to establish the Limiting Condition for Operation criteria in Procedure 0442 (SPECIAL JET PUMP OPERABILITY TEST). It also verifies the operation of recorder FR-7288 Jet Pump Flow Recorder (Panel C-38).

STEPS 3.e. and 3.f. perform SR 3.4.1.1 to verify that both recirculation loops are in operation. STEP 3 is a convenient location for this check.

STEP 6 is not required to satisfy Technical Specifications. The recirculation pump motor generators are designed to provide an output voltage of approximately 70 Volts per Hertz, or about 39 Volts per percent indicated speed. STEP 6 is intended to verify this ratio is maintained (reference SIL 472). STEP 6 is performed only when recirculation pump speed is above 50% due to inaccuracies at lower speeds. The acceptance criteria range of 35.5 to 40.5 volts per percent speed was derived from and are based on trending actual normal operational performance data. SIL 472 indicated that this particular parameter should be monitored daily to assure that no deviation from the normal occurs that could result in damaging the Recirc pump motor. The purpose for contacting the System Engineer at greater than 41% is based on System Engineer preference.



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Tech Spec SR 3.4.9.5 and SR 3.4.9.6 (Surveillance 0445) is used to manually record reactor vessel flange and head flange temperature if necessary.

Tech Spec SR 3.4.9.5 and SR 3.4.9.6 require verification that the reactor vessel flange and head flange temperatures are  $\geq 70^{\circ}\text{F}$ . Tech Spec SR 3.4.9.5 is not required to be performed until 30 minutes after RCS temperature  $\leq 80^{\circ}\text{F}$  in MODE 4 and then 30 minutes thereafter. Tech Spec SR 3.4.9.6 is not required to be performed until 12 hours after RCS temperature  $\leq 100^{\circ}\text{F}$  in MODE 4 and then 12 hours thereafter.

Surveillance 1365 is used during periods of reactor shutdown with reactor temperature less than  $212^{\circ}\text{F}$  to assure the reactor is positively vented unless preparations for a vessel pressure test are underway. This check should ensure reactor venting is maintained. Reference Condition Report 19982359, Ops Daily Log Requirements Regarding Reactor Vent Path, for more information.

Surveillance 1472 is used to gather information that will be tracked by the CRF-EFT System Engineer and used to schedule tests 0468-01A (V-FE-11 METHYL IODINE REMOVAL EFFICIENCY TEST), 0468-02A (V-FE-12 METHYL IODINE REMOVAL EFFICIENCY TEST), 0466-01 (V-FE-11 HEPA FILTER EFFICIENCY TEST) and 0466-02 (V-EF-12 HEPA FILTER EFFICIENCY TEST) as required to meet Tech Spec 5.5.6 and 5.5.6.c.

STEP 15 - The Bases for Tech Spec SR 3.1.3.1 states that control rod position may be determined by the use of OPERABLE position indicators, by moving control rods to a position with an OPERABLE indicator, or by the use of other appropriate methods (full out light or full in light). In addition, if a rod is selected the position may be observed at the four rod display or at the Rod Worth Minimizer Operations Display.

STEP 20 has been added to provide independent supervisory review within the surveillance time frame. (Reference CAP035250)



## JOB PERFORMANCE MEASURE (JPM)

**SITE:** MONTICELLO NUCLEAR GENERATING PLANT

**JPM TITLE:** DAILY JET PUMP OPERABILITY CHECK TEST 0133

**JPM NUMBER:** JPM-0133-002 **REV.** 0

**RELATED PRA INFORMATION:** None

**TASK NUMBER(S) / TASK TITLE(S):** CR299.349  
Perform Operations Daily Log – Parts A, B, D, E, G, H, & J

**K/A NUMBERS:** 2.1.12 **Rating: SRO/RO:** 3.4/3.0

**APPLICABLE METHOD OF TESTING:**

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐

Simulator: ☒ Other: ☐

Lab: ☐

Time for Completion: 25 Minutes Time Critical: No

Alternate Path / Faulted: Yes

**TASK APPLICABILITY:** SRO: X SRO/RO: \_\_\_\_\_ SRO/RO/NLO: \_\_\_\_\_

Additional signatures may be added as needed.

<b>Developed by:</b>	<b>J Ruth</b>	
	Instructor	Date
<b>Validated by:</b>	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
<b>Approved by:</b>	Training Supervisor	Date



**JPM Number:** JPM-0133-002

**JPM Title:** Daily Jet Pump Operability Check Test 0133

**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
-----------------------

(See MTCP-03.32, Figure 6.2)
------------------------------

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.

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

**INITIAL CONDITIONS:**

- The reactor is operating at power
- Test 0133, Daily Jet Pump Operability Check per Operations Daily Log – Part B has been completed by the RO
- You are the CRS

**INITIATING CUES (IF APPLICABLE):**

- Review for satisfactory completion of the provided Test 0133, Daily Jet Pump Operability Check per Operations Daily Log – Part B

**JPM PERFORMANCE INFORMATION**

**Required Materials:** Marked up copy of completed test, B.01.04-06 Figures 15, 16 & 17.

**General References:** Simulator IC at 100% power.

**Task Standards:** Perform a supervisory review of the daily Jet Pump Operability Test.

**Start Time:** \_\_\_\_\_

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

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

**Performance Step: 1**  
**Critical: N**

**NOTE:** STEP 3.b. and 3.c. not required to be performed until 4 hours after associated recirculation loop is in operation and until 24 hours after THERMAL POWER >25% RTP.

IF the Reactor is in MODE 1 or 2,  
AND recirculation loop(s) is in operation,  
THEN obtain and record the values for the operating loop(s) described in the matrices below and perform the following:

Variable	Panel	Item Description	Value	Unit
	CRT	RPV501, Core Thermal Power %	99.9	%
A	C-04	SI-2-184-16A, Recirc Pump 11 %Speed	94	%
B	C-04	SI-2-184-16B, Recirc Pump 11 %Speed	96	%
C	C-04	FI-2-159A, Recirc Loop 11 Flow	25 x 10 <sup>3</sup>	gpm
D	C-04	FI-2-159B, Recirc Loop 12 Flow	27 x 10 <sup>3</sup>	gpm

**Standard:** Reviews the above data.

**Evaluator Cue:** None

**Performance:** SATISFACTORY ☐ UNSATISFACTORY ☐

**Comments:** \_\_\_\_\_

**Performance Step: 2****Critical: Y**

On Figure 17, Recirculation Pump Flow vs Speed, of Ops Man B.01.04-06 (REACTOR RECIRCULATION SYSTEM – FIGURES) plot points for values of variables A vs C and variables B vs D.

1) Does point A vs C fall in ACCEPTABLE RANGE?

Yes ☐ No ☐

2) Does point B vs D fall in ACCEPTABLE RANGE?

Yes ☐ No ☐

**Standard:**

Reviews points and determines 1) is **NOT** in the acceptable range and 2) is in the acceptable range.

**Evaluator Cue:**

None

**Performance:**

**SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:****Performance Step: 3****Critical: N**

Variable	Panel	Item Description	Value	Unit
E	C-04	FI-2-3-92B, Jet Pump Loop A Flow	$24.9 \times 10^6$	lb/hr
F	C-04	FI-2-3-92A, Jet Pump Loop B Flow	$26.1 \times 10^6$	lb/hr
G	calc	$(E \div L) \times 100$ , % Loop A Flow	86.5	%
H	calc	$(F \div L) \times 100$ , % Loop B Flow	90.6	%
J	calc	$(G \div A) \times 100$ , % Loop Flow / % Pump Speed	0.92	ratio
K	calc	$(H \div B) \times 100$ , % Loop Flow / % Pump Speed	0.94	ratio
L=Constant		Half of rated Core Flow	$28.8 \times 10^6$	lb/hr
M	calc	$(E \div (L \times 2)) \times 100\%$ , % Core Flow	43.2	%
N	calc	$(F \div (L \times 2)) \times 100\%$ , % Core Flow	45.3	%

**Standard:**

Reviews the above data.

**Evaluator Cue:**

None

**Performance:**

**SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:**

**Performance Step: 4** IF THERMAL POWER IS >25% RTP,  
**Critical: Y** THEN on Figure 15, Loop A: Jet Pump Loop Flow/Pump Speed, of Ops Man B.01.04-06 plot points for values of variables J vs A.

1) Does point J vs A fall in ACCEPTABLE RANGE?

Yes ☐ No ☐ N/A ☐

**Standard:** Review points and determines values are **NOT** in the acceptable range.

**Evaluator Cue:** If informed, acknowledge that point does not fall within the acceptable range.

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:** \_\_\_\_\_

**Performance Step: 5** IF THERMAL POWER IS >25% RTP,  
**Critical: Y** THEN on Figure 16, Loop B: Jet Pump Loop Flow/Pump Speed, of Ops Man B.01.04-06 plot points for values of variables K vs B.

1) Does point K vs B fall in ACCEPTABLE RANGE?

Yes ☐ No ☐ N/A ☐

**Standard:** Reviews points and determines values are **NOT** in the acceptable range.

**Evaluator Cue:** If informed, acknowledge that point does not fall within the acceptable range.

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:** \_\_\_\_\_

**Performance Step: 6** IF any question in STEPs 3.a. through 3.c. is checked "No",  
**Critical: Y** THEN notify Control Room Supervisor,  
AND perform procedure 0442 (SPECIAL JET PUMP OPERABILITY TEST).

**Standard:** When informed, acknowledge that performance of procedure 0442 is required and state that the JPM is complete.

**Evaluator Cue:** None

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:** \_\_\_\_\_

**Terminating Cues:**      **EVALUATOR INFORMS OPERATOR THAT THE JPM IS COMPLETE.**

**Stop Time:**      \_\_\_\_\_

**Critical Time**        N/A

## **TURNOVER SHEET**

### **INITIAL CONDITIONS:**

- The reactor is operating at power
- Test 0133, Daily Jet Pump Operability Check per Operations Daily Log – Part B has been completed by the RO
- You are the CRS

### **INITIATING CUES (IF APPLICABLE):**

- Review for satisfactory completion of the provided Test 0133, Daily Jet Pump Operability Check per Operations Daily Log – Part B

**SIMULATOR SET UP:**

- Admin JPM – no simulator setup is required.

**SIMULATOR - MALFUNCTIONS:**

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

**SIMULATOR - OVERRIDES:**

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

**SIMULATOR - REMOTE FUNCTIONS:**

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							



**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

\_\_\_\_\_  
 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

\_\_\_\_\_  
 Validation Personnel /Date

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 Validation Personnel/Date

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 Validation Personnel/Date

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 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

Historical Record: (Optional)

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0463 CONTROL ROOM TEMPERATURE VERIFICATION  
0082 CRD ACCUMULATOR ALARM CHECK  
0508 ONE INOPERABLE CONTROL ROD  
0509 TWO OR MORE INOPERABLE CONTROL RODS  
0133 DAILY JET PUMP OPERABILITY CHECK  
0445 REACTOR VESSEL SHELL FLANGE TEMPERATURE RECORDER CHECK  
1365 REACTOR VESSEL VENTING CHECK  
1472 CONTROL ROOM FRESH AIR SUPPLY RUN TIME CHECK

Approval: PCR 01062344

REVIEW AND APPROVAL OF ACTIVITIES		DATE
Shift Supv Approval to Commence: NA		Time: NA
Completed By	(1900-2200) Shift Oper:	
	(0700-1000) Shift Oper:	
Completion Reviewed By	Shift Supervision:	
	Shift Manager:	
	CRV/EFT System Engineer:	
	CRD System Engineer:	
	RECIRC System Engineer:	

## COMMENTS

*[The page contains faint horizontal lines, suggesting it was part of a lined notebook or document.]*

WO(S) ISSUED YES \_\_\_\_ NO \_\_\_\_ NUMBER(S) \_\_\_\_\_

I/kab

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## **PURPOSE**

The purpose of this procedure is to monitor equipment or record values considered important to Plant operation or required by Technical Specifications. This procedure monitors, records, assesses or verifies the:

1. Control Room temperature in order to satisfy Commitment M91187A.
2. CRD's Accumulator pressure in order to satisfy Tech Spec SR 3.1.5.1 and SR 3.9.5.2.
3. CRD's Accumulator level alarms.
4. Reactor Jet pumps in order to satisfy Tech Spec SR 3.4.2.1.a and SR 3.4.2.1.b.
5. Recirculation Pump motor's volts/%speed.
6. Reactor vessel shell flange temperature in order to satisfy Tech Spec SR 3.4.9.5 and SR 3.4.9.6.
7. Jet pump loop flow mismatch in order to satisfy Tech Spec SR 3.4.1.1.
8. Plant operating region of the power to flow map in order to satisfy Tech Spec SR 3.4.1.2.
9. Control rod position determination in order to satisfy Tech Spec SR 3.1.3.1 and SR 3.1.6.1.
10. Operation of the RHR Shutdown Cooling subsystems in order to satisfy Tech Spec SR 3.4.7.1, SR 3.4.8.1, SR 3.9.7.1, and SR 3.9.8.1.
11. Suppression pool and condensate storage tank level in order to satisfy Tech Spec SR 3.5.2.1.
12. Reactor vessel is vented during periods of reactor shutdown.
13. V-ERF-11 and V-ERF-12 run hours to ensure that system operating limits in Tech Spec 5.5.6.c are not exceeded.
14. Intake Structure Level in order to satisfy Tech Spec SR 3.7.2.1.
15. Average Temperature of the Ultimate Heat Sink in order to satisfy Tech Spec SR 3.7.2.2.

## **REFERENCES**

See BASES.

I/kab

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**PERSONNEL**

Operator(s)

**EQUIPMENT**

Calculator

**PRECAUTIONS**

1. Procedure steps identified with an asterisk (\*) **SHALL** be completed satisfactorily to meet Technical Specification requirements. If any one of these steps or substeps cannot be satisfactorily completed, then notify the Control Room Supervisor immediately.
2. Regardless of the steps initiating conditional IF statements, steps identified with an (S) **SHALL** be performed within 24 hours before (based on expectation) establishing Plant conditions requiring operability of the associated system or component in order to satisfy Tech Spec SR 3.0.2.

**REASON FOR PERFORMING PROCEDURE**

Check One

1. Routine daily surveillance to satisfy Technical Specification requirements and monitoring of other important structures systems or components. Complete all steps.
2. Other - Implement requirements for use of "Other" stated in 4 AWI-04.05.07 (PROCEDURE USE AND ADHERENCE (FP-G-DOC-03)).



**PREREQUISITES**

None

I/kab

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## PROCEDURE

Shift

**GENERAL NOTE:** Steps may be performed in any order. Substeps should be performed in the order written.

### 0463 (CONTROL ROOM TEMPERATURE VERIFICATION)

**STEP 1** For all modes of operation record TI-4933A-D, Panel Internal and Area Temperature, indication in table below:

Point	Instrument	Panel	Shift Indication (°F)		Acceptance Criteria
			1900-2200	0700-1000	
1	TI-4933D	C-252			≤ 95°F
2	TI-4933A	C-15			≤ 95°F
3	TI-4933B	C-16			≤ 95°F
4	TI-4933C	C-17			≤ 95°F

- a. IF acceptance criteria are not met,  
THEN provide additional cooling per Ops Man  
 B.08.13-05 (CONTROL ROOM H&V AND EFT –  
 SYSTEM OPERATION),  
AND notify System Engineer and Shift Supervision to  
 determine actions and notifications.

(1900-2200)

(0700-1000)

### 0082, Tech Spec SR 3.1.5.1 and SR 3.9.5.2 (CRD ACCUMULATOR CHECK)

**S\* STEP 2** IF in MODE 1, 2 or 5,  
THEN perform the following:

**NOTE:** All Control Rod Accumulators are required to be **OPERABLE** in **MODES 1 and 2**. Only those Control Rod Accumulators associated with withdrawn control rods are required to be **OPERABLE** in **MODE 5**.

- a. Check the status in the Control Room of the required Operable control rod accumulator pressure and level alarms.

(1900-2200)

(0700-1000)

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- b. IF a required operable control rod accumulator's Alarm cannot be cleared using normal plant procedures,  
THEN record HCU number(s) below,  
AND notify Shift Supervision for determination of control rod operability using B.01.03-05 (CRD HYDRAULIC SYSTEM - SYSTEM OPERATION) operational considerations.  
Alarm(s) for required operable control rod(s) could not be cleared for:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(1900-2200)

\_\_\_\_\_  
(Use coversheet COMMENTS section if not room here.) (0700-1000)

- c. For system performance monitoring, verify all control rod accumulator alarms are listed below including the alarm cause (high level and/or low pressure).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(1900-0700)

\_\_\_\_\_  
(Use coversheet COMMENTS section if not room here.) (0700-1900)

- d. IF it is determined that the actual accumulator pressure is < 940 psig,  
THEN list the associated control rod and enter the applicable Tech Spec Actions.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(1900-0700)

\_\_\_\_\_  
(Use coversheet COMMENTS section if not room here.) (0700-1900)

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0133, Tech Spec SR 3.4.2.1 (DAILY JET PUMP OPERABILITY CHECKS)

**NOTE:** STEP 3.b. and 3.c. not required to be performed until 4 hours after associated recirculation loop is in operation and until 24 hours after THERMAL POWER > 25% RTP.

- \* **STEP 3** IF Reactor is in MODE 1 or 2,  
AND recirculation loop(s) is in operation,  
THEN obtain and record values for the operating loop(s)  
described in the matrices below and perform the following:

Variable	Panel	Item Description	Value	Unit
	CRT	RPV501, Core Thermal Power %	99.9	%
A	C-04	SI-2-184-16A, Recirc Pump 11 %Speed	94	%
B	C-04	SI-2-184-16B, Recirc Pump 12 %Speed	96	%
C	C-04	FI-2-159A, Recirc Loop 11 Flow	$25 \times 10^3$	gpm
D	C-04	FI-2-159B, Recirc Loop 12 Flow	$27 \times 10^3$	gpm

- a. On Figure 17, Recirculation Pump Flow vs Speed, of Ops Man B.01.04-06 (REACTOR RECIRCULATION SYSTEM – FIGURES) plot points for values of variables A vs C and variables B vs D.

- 1) Does point for A vs C fall in ACCEPTABLE RANGE?

Yes ☒ No ☐

- 2) Does point for B vs D fall in ACCEPTABLE RANGE?

Yes ☒ No ☐

Variable	Panel	Item Description	Value	Unit
E	C-04	FI-2-3-92B, Jet Pump Loop A Flow	$24.9 \times 10^6$	lb/hr
F	C-04	FI-2-3-92A, Jet Pump Loop B Flow	$26.1 \times 10^6$	lb/hr
G	calc	$(E \div L) \times 100$ , % Loop A Flow	= 86.5	%
H	calc	$(F \div L) \times 100$ , % Loop B Flow	= 90.6	%
J	calc	$G \div A$ , % Loop Flow / % Pump Speed	= .92	ratio
K	calc	$H \div B$ , % Loop Flow / % Pump Speed	= .94	ratio
L = Constant		Half of rated Core Flow	$28.8 \times 10^6$	lb/hr
M	calc	$(E \div (L \times 2)) \times 100\%$ , % Core Flow	= 43.2	%
N	calc	$(F \div (L \times 2)) \times 100\%$ , % Core Flow	= 45.3	%

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- b. IF THERMAL POWER is  $> 25\%$  RTP,  
THEN on Figure 15 Loop A: Jet Pump Loop Flow/Pump  
Speed, of Ops Man B.01.04-06 plot point for value of  
variables J vs A.

1) Does point for J vs A fall in ACCEPTABLE RANGE?

Yes ☒ No ☐ NA ☐

- c. IF THERMAL POWER is  $> 25\%$  RTP,  
THEN on Figure 16 Loop B: Jet Pump Loop Flow/Pump  
Speed, of Ops Man B.01.04-06 plot point for value of  
variables K vs B.

1) Does point for K vs B fall in ACCEPTABLE RANGE?

Yes ☒ No ☐ NA ☐

- d. IF any question in STEPs 3.a. through 3.c. is checked  
"No",  
THEN notify Control Room Supervisor,  
AND perform Procedure 0442 (SPECIAL JET PUMP  
OPERABILITY TEST).

N/A  
(1900-2200)

- e. IF in MODE 1 or 2,  
AND both recirculation loops are in operation,  
THEN:

1) Calculate percent of total rated core flow (M+N)  
88.54 %

2) Calculate absolute value ( $|M-N|$ ), Jet Pump Flow  
Mismatch 2.08 %.

3) IF percent of total rated core flow from STEP 3.e.1)  
is  $< 70\%$ ,  
THEN is the Jet Pump Flow Mismatch from  
STEP 3.e.2)  $\leq 10\%$ ?

Yes ☐ No ☐ NA ☒

4) IF percent of total rated core flow from STEP 3.e.1)  
is  $\geq 70\%$ ,  
THEN is the Jet Pump Flow Mismatch from  
STEP 3.e.2)  $\leq 5\%$ ?

Yes ☒ No ☐ NA ☐

N/A  
(1900-2200)



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- f. IF any question in STEP 3.e. is checked "No",  
THEN notify Control Room Supervisor,  
AND evaluate Tech Spec 3.4.1 and enter appropriate Condition.

N/A  
(1900-2200)

**STEP 4** IF the Reactor is in MODE 1,  
AND there is recirculation flow,  
THEN perform the following:

- a. From FPR-2-3-95 (C-04), Core dP Red Pen, record dP:

17

- b. Record the square root of Core dP (from a. above):

= 4.1

- c. From CRT mimic obtain and record Core Flow:

55.2 x 10<sup>6</sup> lb/hr

- d. Calculate and record 100 x (c. ÷ 57.6 x 10<sup>6</sup> lb/hr):

= 95.8 % rated Core Flow

- e. On Figure 20 Core Plate dP vs Core Flow, of Ops Man B.01.04-06 plot point for value of b. vs d. above.

- 1) Does point for b. vs d. fall in ACCEPTABLE RANGE?

Yes ☒ No ☐

- 2) IF No,  
THEN notify Shift Supervision to determine actions and notifications.

N/A  
(1900-2200)

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- \* **STEP 5** IF Reactor is in MODE 1,  
AND THERMAL POWER > 25% RTP with a recirculation  
loop in operation,  
THEN from FR-7288, JET PUMP FLOW RECORDER  
(Panel C-38), record individual Jet Pump and loop average  
dPs in the matrix below and perform the following:

Loop A			Loop B		
Jet Pump	Raw dP	dP/Loop Avg	Jet Pump	Raw dP	dP/Loop Avg
11	8.8	1	1	8.8	1.01
12	8.8	1	2	8.6	0.99
13	8.7	0.99	3	8.7	1
14	8.8	1	4	8.9	1.02
15	8.6	0.98	5	8.7	1
16	8.9	1.01	6	8.8	1.01
17	8.8	1	7	8.7	1
18	8.7	0.99	8	8.6	0.99
19	8.8	1	9	8.7	1
20	8.6	0.98	10	8.7	1
Loop Avg dP	8.8		Loop Avg dP	8.7	

- a. For each loop divide each individual Jet Pump raw dP by its Loop Average dP and record in matrix.

TL26  
(1900-2200)

- STEP 6** IF Reactor is in MODE 1,  
AND Recirc Pump speed (SI-2-184-16A&B on C-04) > 50%,  
THEN perform the following:

- a. Record 2-184-23A (C-04), A Pump Volts, indication:  
3500 Volts
- b. Record 2-184-23B (C-04), B Pump Volts, indication:  
3550 Volts
- c. Record SI-2-184-16A, Recirc Pump 11 %Speed,  
indication: 94 %
- d. Record SI-2-184-16B, Recirc Pump 12 %Speed,  
indication: 94 %

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e. Record result of  $a \div c$ :

$$= \frac{37.2}{(35.5 - 40.5)} \text{ Volts/\% Speed for 11}$$

f. Record result of  $b \div d$ :

$$= \frac{37}{(35.5 - 40.5)} \text{ Volts/\% Speed for 12}$$

- g. IF either acceptance criteria is not met,  
THEN on Panel C-21 from TR-2-184-26, RECIRC MG  
SET WINDING TEMP, and TR-2-2-31, RECIRC PUMP  
AND MTR TEMP, verify MG Set generator and Recirc  
pump motor winding temperatures are normal and not  
unexpectedly trending up,  
AND notify Shift Supervision to determine actions and  
notifications.

TR-2-6  
(1900-2200)

0445 Tech Spec SR 3.4.9.5 and SR 3.4.9.6 (REACTOR VESSEL SHELL FLANGE  
TEMPERATURE CHECK)

**\* STEP 7**

IF in MODE 4,  
THEN record reactor coolant temperature from SPDS.

\_\_\_\_\_ °F  
(1900-2200)  
\_\_\_\_\_ °F  
(0700-1000)

- \* a. IF reactor coolant temperature is  $\leq 100^\circ\text{F}$ ,  
THEN verify vessel flange (TR-2-3-89 pt 1) and head  
flange (TR-2-3-89 pt 10) temperatures are  $\geq 70^\circ\text{F}$   
every 12 hours.

(1900-2200)  
(0700-1000)

- \* b. IF reactor coolant temperature is  $\leq 80^\circ\text{F}$ ,  
THEN initiate Procedure 0118 to verify vessel flange  
(TR-2-3-89 pt 1) and head flange (TR-2-3-89 pt 10)  
temperatures are  $\geq 70^\circ\text{F}$  every 30 minutes.

(1900-2200)  
(0700-1000)

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1365 (REACTOR VESSEL VENTING CHECK)

**STEP 8** During periods in MODE 2, MODE 4, or MODE 5 verify that the reactor is positively vented by one of the four paths listed below and record path used by checking appropriate box.  
(If in MODE 1 or MODE 3 check NA box)

Check path used:	Shift									
	(1900-2200)					(0700-1000)				
	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	NA <input type="checkbox"/>	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	NA <input type="checkbox"/>

- IF Path A is used,  
AND reactor startup (MODE 2) is in progress,  
THEN it is permissible for the breakers to be in the closed position.
- IF Path B or C is used,  
THEN observe requirements of Ops Man Section C.3.VIII.K, Shutdown and Refueling Mode Requirements - Reactor Vessel Venting.
- IF general entry to Primary containment is not planned,  
THEN it is recommended to use Path C.
- IF preparations for a vessel pressure test or vessel leak test are underway,  
THEN reactor venting is not required.

(1900-2200)

(0700-1000)

**Path A: Steam Line Drains**

- MO-2373, MAIN STEAM LINE DRAIN - INBOARD, OPEN
- B4333, MAIN STEAM LINE DRN INBOARD 480V SUPPLY, OPEN
- MO-2374, MAIN STEAM LINE DRAIN - OUTBOARD, OPEN
- D313-06, MAIN STM LINE DRAIN OUTBD 250VDC SUPPLY, OPEN
- MO-2565, STEAM LINE DRAIN ORIFICE BYPASS, OPEN
- B1104, MST LINE DRN ORIFICE BYPASS 480VAC SUPPLY, OPEN

**Path B: Reactor Head Vent to Drywell Sump or Atmosphere**

- XDV-2, HEAD VENT BYP TO CRW, OPEN
- XDV-3, HEAD VENT BYP TO CRW, OPEN
- Or Reactor Head vent piping removed and reactor head vented to atmosphere

**Path C: Reactor Head Vent to Drywell Sump**

- CV-2371, REACTOR HEAD VENT TO CRW INBD, OPEN
- CV-2372, REACTOR HEAD VENT TO CRW OTBD, OPEN

**Path D: Reactor Head Removed**

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1472 (CONTROL ROOM FRESH AIR SUPPLY RUN TIME CHECK)

- STEP 9** For all modes of operation record V-ERF-11 and V-ERF-12 running times from Panels C-263A and C-264B.

KI-4280A \_\_\_\_\_  
(hours)

KI-4280B \_\_\_\_\_  
(hours)

\_\_\_\_\_  
(0700-1000)

- a. IF posted filter testing requirement is exceeded,  
THEN verify affected EFT train is shutdown per Ops  
Man B.08.13-05 (CONTROL ROOM H&V AND EFT -  
SYSTEM OPERATION),  
AND notify CRV-EFT System Engineer and Shift  
Supervision.

\_\_\_\_\_  
(0700-1000)

Tech Spec SR 3.4.1.2 (PLANT OPERATING REGION OF THE POWER FLOW MAP)

**NOTE:** Power to flow map located in COLR.

- S\* STEP 10** IF in MODE 1 or 2,  
THEN perform the following to determine current position on  
the power to flow map:

- a. Obtain THERMAL POWER from Gardel,  
OR contact Nuclear Engineering.

- b. Record THERMAL POWER:

\_\_\_\_\_ MWth

- c. Record Core Coolant Flow from the Gardel User  
Interface.

\_\_\_\_\_ MLb/Hr

- d. With the values of THERMAL POWER and Core  
Coolant Flow determine the operating region from the  
Power to Flow map and check the appropriate region  
below:

- ☐ Normal Region  
☐ Stability Buffer Region  
☐ Stability Exclusion Region

\_\_\_\_\_  
(1900-2200)

- e. IF in the Stability Exclusion Region,  
THEN inform Control Room Supervisor,  
AND enter applicable Action of Tech Spec 3.4.1.

\_\_\_\_\_  
(1900-2200)

I/kab

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- f. IF in the Stability Buffer Region,  
THEN inform Control Room Supervision,  
AND determine whether the power distribution controls  
specified in the COLR are in effect in accordance with  
Ops Man C.2-05 (POWER OPERATION), Section B.1.

Power distribution controls in effect: Yes ☐ No ☐ (1900-2200)

- g. IF in the Stability Buffer Region,  
AND the power distribution controls are not in effect,  
THEN enter the applicable Action of Tech Spec 3.4.1. (1900-2200)

- h. IF in the Normal Region,  
OR in the Stability Buffer Region with the power  
distribution controls in effect,  
THEN acceptance criteria is met,  
AND no action is required. (1900-2200)

Tech Spec SR 3.1.3.1 and SR 3.1.6.1 (DAILY CONTROL ROD POSITION DETERMINATION  
AND VERIFICATION OF COMPLIANCE WITH BPWS)

**GENERAL NOTE:** **STEPS 11 through 15 are required to be performed in  
MODE 1 and 2.**

- S\* STEP 11** IF in MODES 1 or 2,  
THEN document the current position of each control rod by  
performing the following:

- On the Gardel User Interface, verify that the control rod  
withdrawal display fills the upper right portion of the  
window.
- On the Gardel User Interface, click the "File" function  
button.
- On the resulting menu, point to "Document".
- On the resulting menu, click "Monitor Only".
- Print out the resulting Adobe Document.
- Attach the computer printouts to this procedure.

(1900-2200)

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**NOTE:** Control rods at position 48 are indicated by a blank on the Adobe document. For control rod positions not indicated on the Adobe document by a blank, +, or a rod position number, STEPs 12 and 13 are an acceptable method for determining the position of these control rods.

- STEP 12** IF the position of a control rod is not indicated in the Adobe Document as a blank, +, or a rod position number, THEN record the indicated position from the full core or four rod group display in Figure 1 (CONTROL ROD POSITION DETERMINATION). (1900-2200)
- STEP 13** IF the position of a control rod is not indicated in the Adobe Document as a blank, +, or a rod position number, AND it could not be determined in accordance with STEP 12, THEN inform the Control Room Supervisor and determine the position of the control rods by appropriate methods. (1900-2200)
- \* STEP 14** IF the position of the control rod could not be determined, THEN DECLARE the control rod inoperable, and take the applicable Tech Spec ACTION(s). (1900-2200)
- S\* STEP 15** IF in MODES 1 or 2 with THERMAL POWER  $\leq$  10% RTP, THEN:
- a. Review the logs and determine which rods, if any are inoperable. (1900-2200)
  - b. Verify that control rod positions are consistent with Rod Worth Minimizer sequence. (1900-2200)

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**NOTE:** Inoperable control rods must be inserted per Tech Specs. These rods are not to be considered in the following step.

- c. Compare the expected control rod pattern and the actual control rod pattern and document any differences below:

Control Rod	Expected Position	Actual Position	Differences

- d. Inform Shift Supervision if there are any differences, and ENTER the appropriate ACTIONS of Tech Spec 3.1.6, if necessary.

(1900-2200)

Tech Spec SR 3.4.7.1 and SR 3.4.8.1 (RESIDUAL HEAT REMOVAL SHUTDOWN COOLING SYSTEM DURING MODE 3 AND MODE 4)

**STEP 16** IF in MODE 3, with reactor steam dome pressure less than the RHR shutdown cooling supply isolation interlock, OR in MODE 4, THEN perform the following:

- a. Verify there is either one RHR shutdown subsystem in operation or one recirculation loop in operation.

(1900-2200)

(0700-1000)

- b. IF no recirculation loop is in operation, AND no RHR Shutdown Cooling subsystem is in operation, THEN notify Shift Supervision, AND enter the applicable ACTIONS of Tech Spec 3.4.7 or 3.4.8.

(1900-2200)

(0700-1000)



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Tech Spec SR 3.9.7.1 and SR 3.9.8.1 (RESIDUAL HEAT REMOVAL SHUTDOWN COOLING SYSTEM DURING MODE 5)

**STEP 17**    IF in MODE 5,  
THEN perform the following:

a.    Is one RHR shutdown cooling subsystem in operation.

Yes ☐    No ☐

\_\_\_\_\_  
(1900-2200)

\_\_\_\_\_  
(0700-1000)

b.    IF no RHR shutdown cooling subsystem is in operation,  
THEN notify Shift Supervision to verify applicable  
ACTIONS of Tech Spec 3.9.7 or Tech Spec 3.9.8 are  
met.

\_\_\_\_\_  
(1900-2200)

\_\_\_\_\_  
(0700-1000)

Tech Spec SR 3.5.2.1 (SUPPRESSION POOL AND CONDENSATE STORAGE TANK WATER LEVEL REQUIREMENTS)

**S\* STEP 18**    IF any of the following are applicable,

- In MODE 4,
- In MODE 5 with spent fuel storage pool gates installed,
- In MODE 5 with spent fuel storage pool gates removed  
and water level < 21 ft 11 inches over the top of the  
reactor pressure vessel flange,

THEN perform the following:

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**NOTE:** Twelve hour frequency Tech Spec Surveillance Requirement.

- a. Record the values as indicated below:

Parameter	Values			
	1900-2200		0700-1000	
Suppression Pool Level (From Panel C-03 Recorder PLR-7251A or 7251B) (Tech Spec $\geq -3$ ft)	ft		ft	
Condensate Storage Tank A Level (From Panel C-06 LI-1358) (Tech Spec $\geq 4$ ft for two tank operation and $\geq 7$ ft for one tank operation)	ft		ft	
Condensate Storage Tank B Level (From Panel C-06 LI-1359) (Tech Spec $\geq 4$ ft for two tank operation and $\geq 7$ ft for one tank operation)	ft		ft	
	YES	NO	YES	NO
Are any operations with a potential to drain the vessel (OPDRV) in progress?				

**NOTE:** Tech Spec SR 3.5.2.1 is considered met if either the Suppression Pool water level is  $\geq -3$  ft; or the Condensate Storage Tank(s) water level is  $\geq 7$  ft for one tank operation or  $\geq 4$  ft for two tank operation with no OPDRVs in progress.

- b. IF Condensate Storage Tank Water Level is acceptable,  
AND an OPDRV is in progress,  
THEN declare one required ECCS subsystem inoperable,  
AND enter applicable Actions of Tech Spec LCO 3.5.2.
- CRS  
(1900-2200)
- CRS  
(0700-1000)
- c. IF Condensate Storage Tank Water Level and Suppression Pool Water Level are not acceptable,  
THEN declare both required low pressure ECCS subsystems inoperable,  
AND enter applicable Actions of Tech Spec LCO 3.5.2.
- CRS  
(1900-2200)
- CRS  
(0700-1000)

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SR 3.7.2.1 and 3.7.2.2 (INTAKE STRUCTURE WATER LEVEL AND AVERAGE TEMPERATURE)

**S\* STEP 19** IF in MODES 1, 2, or 3,  
THEN perform the following:

- a. Record the values of ultimate heat sink from the following OPERABLE indicators:

Instrument	Value
LI-1852A Circulation Pump Basin Level (Intake Structure/C06) (Tech Spec: $\geq 899$ ft mean sea level)	ft
LI-1853A Circulation Pump Basin Level (Intake Structure/C06) (Tech Spec: $\geq 899$ ft mean sea level)	ft
(Tech Spec $\leq 90^{\circ}\text{F}$ ) CWT101 Upstream River Temp	$^{\circ}\text{F}$

(1900-2200)

- b. IF the basin level is  $< 899$  ft mean sea level,  
THEN notify Shift Supervision,  
AND enter the applicable ACTIONS of Tech Spec 3.7.2.
- c. IF the service water inlet temperature is  $> 90^{\circ}\text{F}$ ,  
THEN notify Shift Supervision,  
AND enter the applicable ACTIONS of Tech Spec 3.7.2.

(1900-2200)

**STEP 20** Review Daily Log 0000-B for appropriate entries.

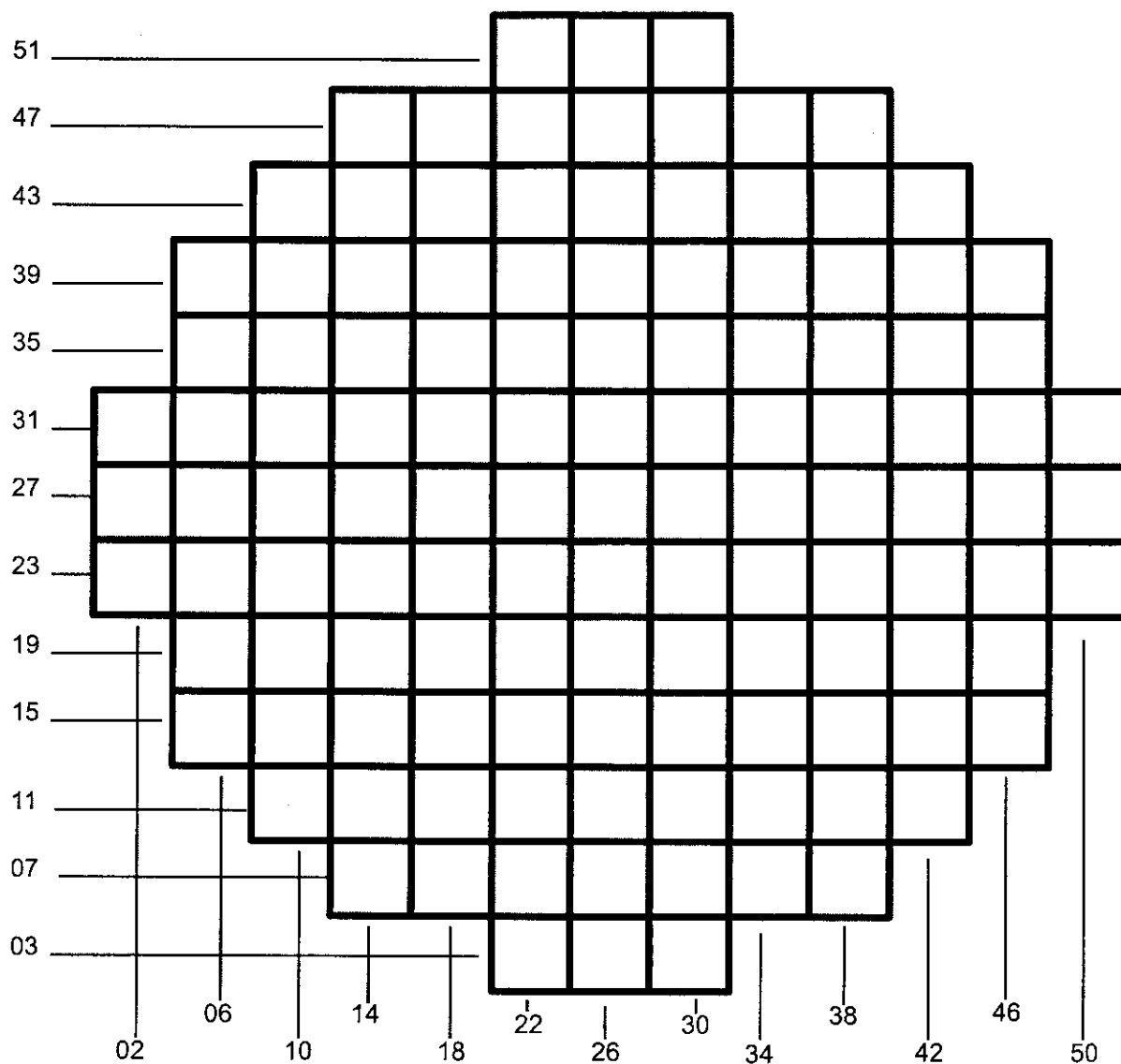
Shift Supv  
(1900-2200)

Shift Supv  
(0700-1000)

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Figure 1 Control Rod Position Determination

If the Gardel Adobe document is available attach it to this page.



I/kab

<b>MONTICELLO NUCLEAR GENERATING PLANT</b>		0000-B
<b>TITLE:</b>	<b>OPERATIONS DAILY LOG - PART B</b>	Revision 91
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## **BASES**

Technical Specification Amendment No. 104 changed the frequency of instrument sensor checks from "once per shift" to "once per 12 hours." In order to comply with accepted surveillance practices, the interval on the surveillances was changed to every 12 hours plus 25%, i.e., 3 hours. Therefore, the "shiftly" checks will be completed between 1900-2200 hours and 0700-1000 hours daily.

Prior to revision 76, this procedure contained surveillance 0205 (FUEL POOL WATER LEVEL TEST). Surveillance 0205 was moved to Procedure 0000-J (OPERATIONS DAILY LOG - PART J OUTPLANT) as a result of Condition Report 19993305 and Action 19993500 to revise the 0000-x series procedures into separate Control Room and outplant Operator tasks. The non-Technical Specification related CRD HCU N<sub>2</sub> pressure check which was STEP 4 of surveillance 0082 (CRD ACCUMULATOR ALARM CHECK) was also moved to 0000-J; however, the requirements satisfied by 0082 remain in this procedure.

Surveillance 0463 (CONTROL ROOM TEMPERATURE VERIFICATION) is used to check Control Room temperature once every 12 hours.

Control Room temperature is checked each shift to ensure that the continuous duty rating for the instrumentation and equipment cooled by the Control Room Ventilation system is not exceeded. Continuous duty temperature rating for the instrumentation and equipment is based on 104°F per Bechtel Specification M-118, Heating Ventilation and Air Conditioning Systems and Controls since this is the highest temperature stated for Office & Control Building including the Cable Spreading and Battery Rooms. A 95°F acceptance criteria is used in this procedure based on engineering judgement to allow some time until 104°F is reached. The temperatures are measured in the four panels because they are typically hotter than other areas of the Control Room.

Main Control Room area bulk temperature is manually monitored and recorded hourly using Form 2030A (HOURLY CONTROL ROOM LOGS AND WATT HOUR METER READINGS). Form 2030A revision 9 has a maximum 78°F acceptance criteria. This is based on commitment M91187A which requires administrative control on Control Room temperature from excessively exceeding the 78°F limit. Station blackout analysis assumes a start Control Room bulk temperature of 78°F. Should temperatures exceed 78°F, then actions are taken to lower the temperature.

## **0082, STEP 2 (CRD ACCUMULATOR)**

Tech Spec SR 3.1.5.1 requires each accumulator pressure to be > 940 psig in MODES 1 and 2. Tech Spec SR 3.9.5.2 requires the accumulator pressure of the withdrawn controls be ≥ 940 psig. The pressure switch PS-130, Accumulator Low Nitrogen Pressure, is set at 1000 psig with a potential drift of 50 psig, therefore, annunciator 5-B-36 (CRD ACCUMULATOR LO/PRESS HI/LEVEL) may ALARM with an actual pressure between 950 psig and 1050 psig.

<b>MONTICELLO NUCLEAR GENERATING PLANT</b>		0000-B
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Surveillance 0133 is used for Jet Pump operability and Recirculation MG set checks.

Tech Spec 3.4.2.1.1 requires verification that at least one of the following criteria (a or b) is satisfied for each operating recirculation loop:

- a. Recirculation pump flow to speed ratio differs by  $\leq 5\%$  from established patterns, and jet pump loop flow to recirculation pump speed ratio differs by  $\leq 5\%$  from established patterns.
- b. Each jet pump diffuser to lower plenum differential pressure differs by  $\leq 20\%$  from established patterns.

STEP 3 verifies that the criteria in part a is met every 24 hours. If it is not STEP 3.d. requires the performance of Procedure 0442 (SPECIAL JET PUMP OPERABILITY TEST). Tech Spec SR 3.4.2.1 is not required to be performed until 4 hours after associated recirculation loop is in operation and until 24 hours after  $> 25\%$  RTP.

Operations Manual B.01.04-06 is used for acceptance criteria in STEPs 3 and 4. The figures were derived by compiling operational data and plotting the data at different Recirc pump speeds. Once the data was obtained and plotted, a normal operating range which bounded all the data was plotted in the form of a curve. This normal operating range curve was then deviated by 5% which provides the acceptance band.

STEPS 3.a., b., c. are the primary checks to assure that the reactor recirculation system jet pumps are operating satisfactorily and that a reactor recirculation jet pump hold-down beam has not failed. If Tech Spec SR 3.4.2.1.a requirements are not satisfied in STEPs 3.a., b., c., then it is required by Tech Spec SR 3.4.2.1.b to compare individual jet pump dP percent deviation from the normal range of deviation. STEP 5 is used to collect operational data on jet pump dP to establish the expected normal range of deviation and to establish the Limiting Condition for Operation criteria in Procedure 0442 (SPECIAL JET PUMP OPERABILITY TEST). It also verifies the operation of recorder FR-7288 Jet Pump Flow Recorder (Panel C-38).

STEPS 3.e. and 3.f. perform SR 3.4.1.1 to verify that both recirculation loops are in operation. STEP 3 is a convenient location for this check.

STEP 6 is not required to satisfy Technical Specifications. The recirculation pump motor generators are designed to provide an output voltage of approximately 70 Volts per Hertz, or about 39 Volts per percent indicated speed. STEP 6 is intended to verify this ratio is maintained (reference SIL 472). STEP 6 is performed only when recirculation pump speed is above 50% due to inaccuracies at lower speeds. The acceptance criteria range of 35.5 to 40.5 volts per percent speed was derived from and are based on trending actual normal operational performance data. SIL 472 indicated that this particular parameter should be monitored daily to assure that no deviation from the normal occurs that could result in damaging the Recirc pump motor. The purpose for contacting the System Engineer at greater than 41% is based on System Engineer preference.

<b>MONTICELLO NUCLEAR GENERATING PLANT</b>		0000-B
<b>TITLE:</b>	<b>OPERATIONS DAILY LOG - PART B</b>	Revision 91
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Tech Spec SR 3.4.9.5 and SR 3.4.9.6 (Surveillance 0445) is used to manually record reactor vessel flange and head flange temperature if necessary.

Tech Spec SR 3.4.9.5 and SR 3.4.9.6 require verification that the reactor vessel flange and head flange temperatures are  $\geq 70^{\circ}\text{F}$ . Tech Spec SR 3.4.9.5 is not required to be performed until 30 minutes after RCS temperature  $\leq 80^{\circ}\text{F}$  in MODE 4 and then 30 minutes thereafter. Tech Spec SR 3.4.9.6 is not required to be performed until 12 hours after RCS temperature  $\leq 100^{\circ}\text{F}$  in MODE 4 and then 12 hours thereafter.

Surveillance 1365 is used during periods in MODE 4 reactor temperature to assure the reactor is positively vented unless preparations for a vessel pressure test are underway. This check should ensure reactor venting is maintained. Reference Condition Report 19982359, Ops Daily Log Requirements Regarding Reactor Vent Path, for more information.

Surveillance 1472 is used to gather information that will be tracked by the CRF-EFT System Engineer and used to schedule tests 0468-01A (V-FE-11 METHYL IODINE REMOVAL EFFICIENCY TEST), 0468-02A (V-FE-12 METHYL IODINE REMOVAL EFFICIENCY TEST), 0466-01 (V-FE-11 HEPA FILTER EFFICIENCY TEST) and 0466-02 (V-EF-12 HEPA FILTER EFFICIENCY TEST) as required to meet Tech Spec 5.5.6 and 5.5.6.c.

STEP 15 - The Bases for Tech Spec SR 3.1.3.1 states that control rod position may be determined by the use of OPERABLE position indicators, by moving control rods to a position with an OPERABLE indicator, or by the use of other appropriate methods (full out light or full in light). In addition, if a rod is selected the position may be observed at the four rod display or at the Rod Worth Minimizer Operations Display.

STEP 20 has been added to provide independent supervisory review within the surveillance time frame. (Reference CAP035250)

Figure 15 Loop A: Jet Pump Loop Flow/Pump Speed

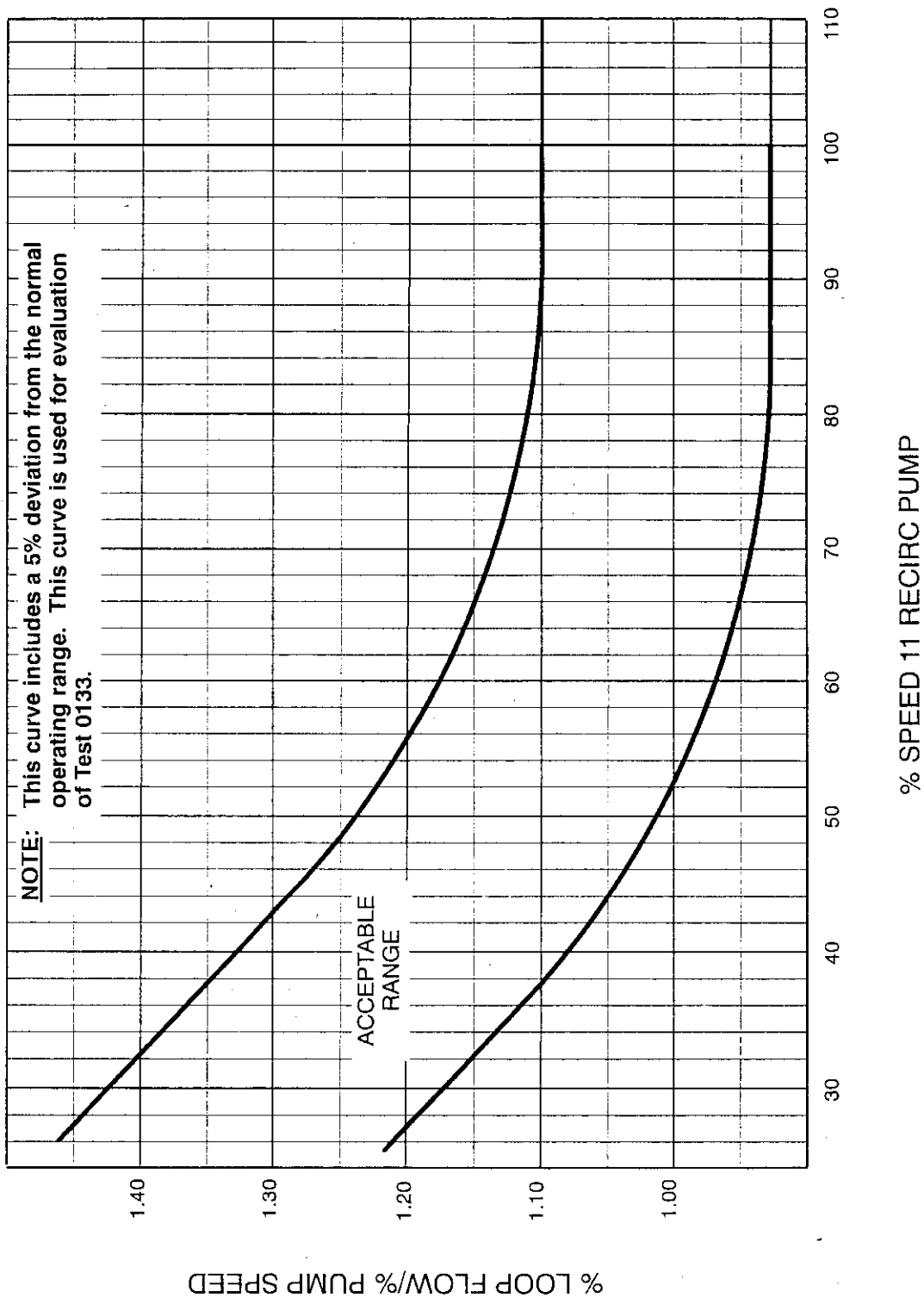




Figure 16 Loop B: Jet Pump Loop Flow/Pump Speed

**NOTE:** This curve includes a 5% deviation from the normal operating range. This curve is used for evaluation of Test 0133.

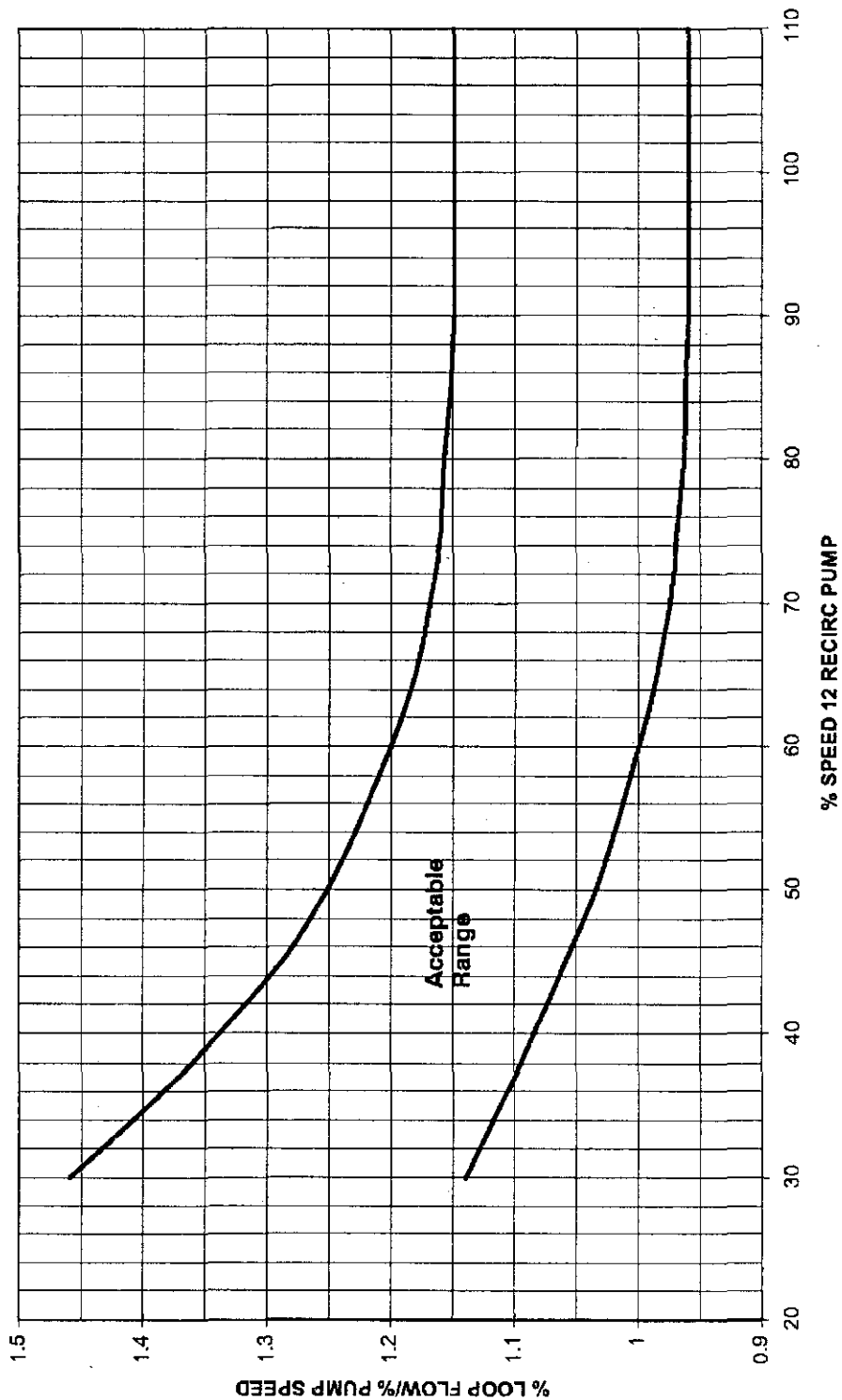
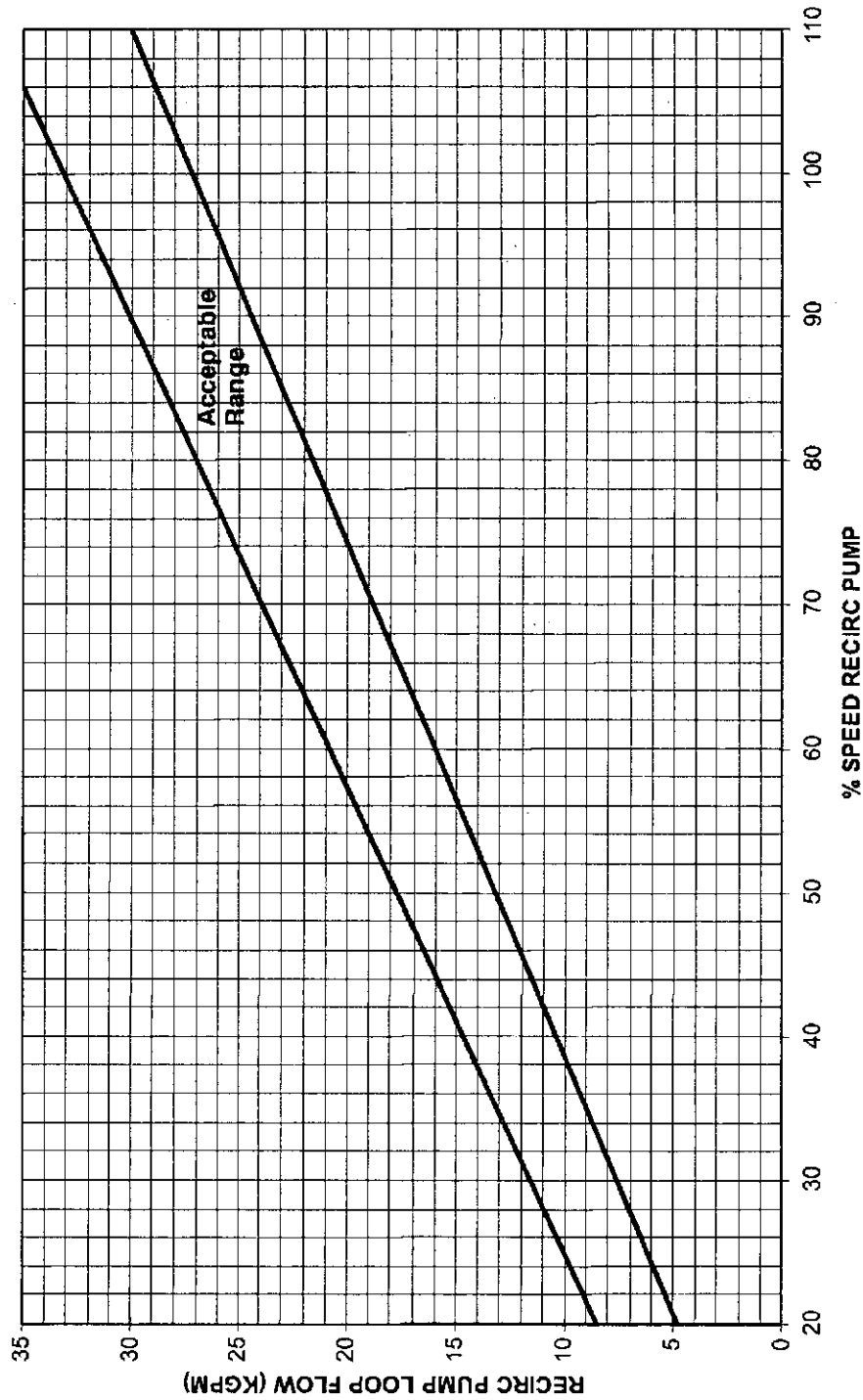


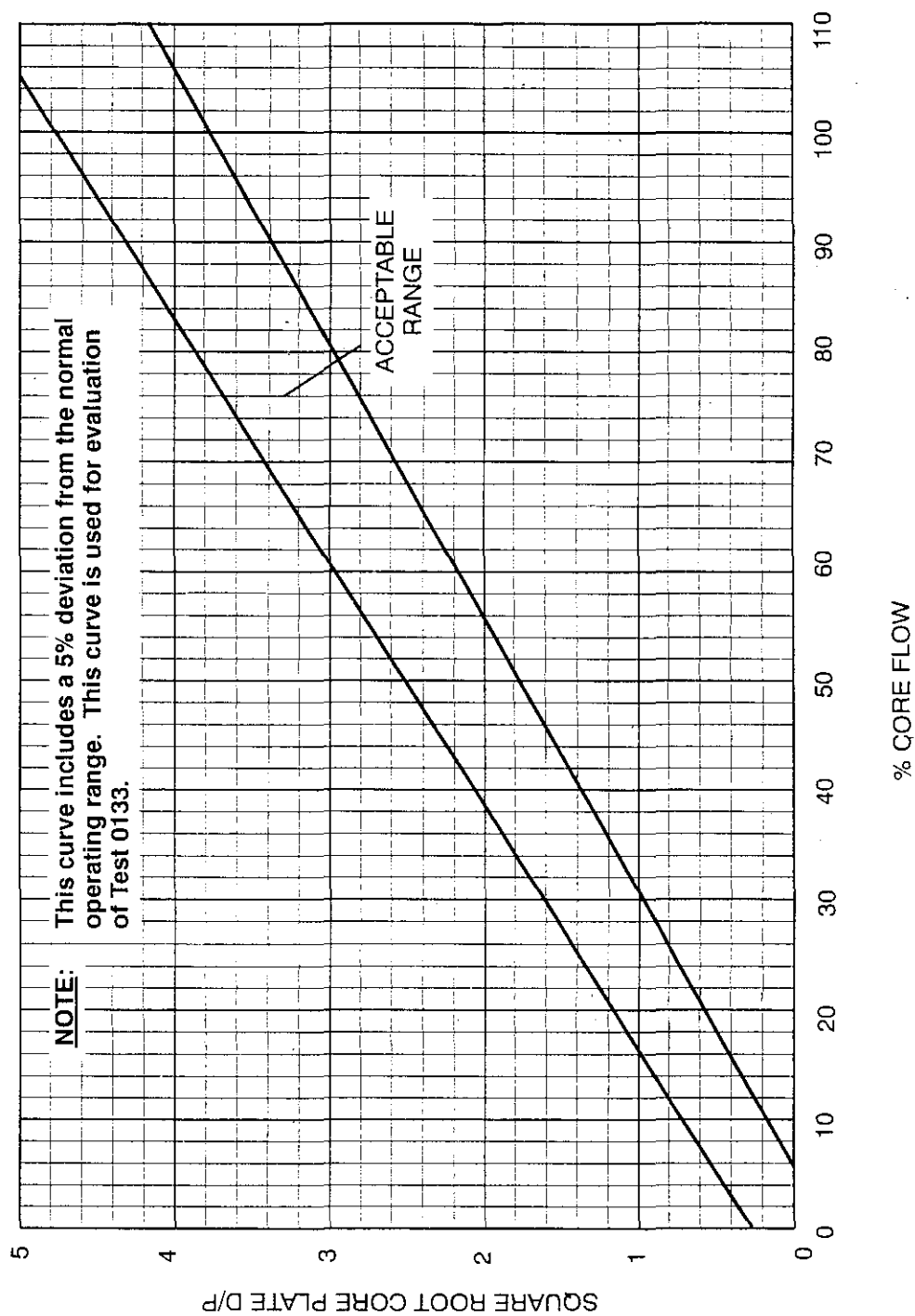
Figure 17 Recirculation Pump Flow vs Speed

**NOTE:** This curve includes a 5% deviation from the normal operating range. This curve is used for evaluation of Test 0133.



B.1.4-06.02-3

Figure 20 Core Plate D/P vs Core Flow



B.1.4-06.02-4



## JOB PERFORMANCE MEASURE (JPM)

**SITE:** MONTICELLO NUCLEAR GENERATING PLANT

**JPM TITLE:** LOCKED HIGH RADIATION AREA ENTRY

**JPM NUMBER:** JPM-4 AWI-08.04.06-002 **REV.** 0

**RELATED PRA INFORMATION:** None

**TASK NUMBER(S) / TASK TITLE(S):** CR999.299  
ADMINISTRATIVE PROCEDURES

**K/A NUMBERS:** 2.3.10 **Rating: SRO/RO:** 3.3/2.9

**APPLICABLE METHOD OF TESTING:**

Discussion: ☐ Simulate/walkthrough: ☒ Perform: ☐

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐

Simulator: ☐ Other: ☒

Lab: ☐

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: NO

**TASK APPLICABILITY:** SRO: \_\_\_\_\_ SRO/RO: \_\_\_\_\_ SRO/RO/NLO: X

Additional signatures may be added as needed.

<b>Developed by:</b>	<b>J. Ruth</b>	
	Instructor	Date
<b>Validated by:</b>	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
<b>Approved by:</b>	Training Supervisor	Date

**JPM Number:** JPM-4 AWI-08.04.06-002

**JPM Title:** LOCKED HIGH RADIATION AREA ENTRY

**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
(See MTCP-03.32, Figure 6.2)

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.

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

**INITIAL CONDITIONS:**

The task conditions are as follows:

- The plant is at 100% power.
- The RWCU pump room must be entered and MO-2398 must be inspected for potential valve stem leakage.
- You are an extra operator on shift
- Provide Survey Map
- Provide RWP

**INITIATING CUES (IF APPLICABLE):**

The CRS directs you to perform the specific instructions per 4 AWI-08.04.06, section 4.4.2, for a non routine entry into the posted locked high radiation area for the inspection.

### JPM PERFORMANCE INFORMATION

**Required Materials:** SURVEY MAP AND RWP FOR HI RADIATION AREA TO BE ENTERED

**General References:** 4 AWI-08.04.06, AREA CONTROL

**Task Standards:** VERIFY INDIVIDUAL EXPOSURE LIMITS ALLOW ENTRY INTO LOCKED HIGH RADIATION AREA

**Start Time:** \_\_\_\_\_

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

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

<b>Performance Step: 1</b>	Provided a copy of 4 AWI-08.04.06 (AREA CONTROL) reviews procedure and locates Section 4.4.2 specific instructions for high, locked high, and very high radiation areas.
<b>Critical: N</b>	
<b>Standard:</b>	Locates appropriate section of procedure.
<b>Evaluator Cue:</b>	Provide copy of procedure 4 AWI-08.04.06 (AREA CONTROL)
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

**Performance Step: 2** Specific instructions for high, locked high, and very high radiation areas.  
**Critical: N Y** A. Obtain any required special approvals as follows:

1. Locked High Radiation Area:  
 Non-routine entries your supervisor (if on site), the Shift Manager's, or the Rad Prot Coord's approval prior to the entry. Supervisors may approve their own entries.
2. Very High Radiation Area  
 You **SHALL** obtain written approval from the plant manager, which is based on a sound operational or safety reason.

[ NOTE: Post-Exam review determined that this step was a Critical Step ]

**Standard:** Determines step is applicable.

**Evaluator Cue:** If asked, state that the entry has been approved.

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:** \_\_\_\_\_

**Performance Step: 3** Obtain a high radiation area pre-entry briefing from the Radiation Protection staff.  
**Critical: N Y** This briefing and all high radiation area requirements of the RWP are required if any part of the body breaks the plane of the boundary, even if permission to reach over was granted.

[ NOTE: Post-Exam review determined that this step was a Critical Step ]

**Standard:** Determines that a radiological briefing must be performed.

**Evaluator Cue:** State that the radiological briefing has been performed.

**Performance:** **SATISFACTORY** ☐ **UNSATISFACTORY** ☐

**Comments:** \_\_\_\_\_



<b>Performance Step: 4</b>	Prepare to perform your individual exposure control duties as follows:
<b>Critical: Y</b>	1. You <b><i>SHALL</i></b> determine the expected area dose rates for all regions of the area you will be entering by reviewing area surveys.
	Reviews area surveys provided and determines the dose rate for the inspection is 1200 Mrem/hr at the valve and 180 Mrem/hr in the general vicinity of the valve.
<b>Standard:</b>	Determines dose rates will be 1200 Mrem/hr at the valve and 180 Mrem/hr in the general vicinity of the valve.
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 5</b>	Prepare to perform your individual exposure control duties as follows:
<b>Critical: Y</b>	2. Determine the expected duration of the entry and the expected dose needed to make the entry.
	Operator determines expected dose using determined dose rate and given duration of entry.
<b>Standard:</b>	Determines expected dose to be 138 Mrem.
<b>Evaluator Cue:</b>	State the expected duration of the entry is 6 minutes at the valve and an additional 6 minutes in the general vicinity of the valve.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 6</b>	Prepare to perform your individual exposure control duties as follows:
<b>Critical: Y</b>	3. Determine the allowable entry dose, either from the electronic dosimeter log-in process, from the local point, or from your dosimeter.
<b>Standard:</b>	Operator determines the dose alarm and dose rate alarm setpoints are too low for the performance of this task.
<b>Evaluator Cue:</b>	If reported, acknowledge the report.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 7</b>	Prepare to perform your individual exposure control duties as follows:
<b>Critical: Y</b>	4. <u>IF</u> the allowable entry dose is less than the expected entry dose, <u>THEN</u> you <b>SHALL</b> report to the Rad Prot Coord for resolution.
<b>Standard:</b>	Operator determines the allowable entry dose is less than the expected entry dose and reports to the Rad Prot Coord.
<b>Evaluator Cue:</b>	Acknowledge report as the Rad Prot Coord.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

**Terminating Cues:**      **WHEN REPORT IS MADE, STATE THAT THE JPM IS COMPLETE.**

**Stop Time:** \_\_\_\_\_

**Critical Time**    N/A

## TURNOVER SHEET

### INITIAL CONDITIONS:

The task conditions are as follows:

- The plant is at 100% power.
- The RWCU pump room must be entered and MO-2398 must be inspected for potential valve stem leakage.
- You are an extra operator on shift
- Provide Survey Map
- Provide RWP

### INITIATING CUES (IF APPLICABLE):

The CRS directs you to perform the specific instructions per 4 AWI-08.04.06, section 4.4.2, for a non routine entry into the posted locked high radiation area for the inspection.

## SIMULATOR SET UP:

Admin JPM; no simulator setup required.

## SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

## SIMULATOR - OVERRIDES:

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

## SIMULATOR - REMOTE FUNCTIONS:

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

\_\_\_\_\_  
 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

\_\_\_\_\_  
 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

\_\_\_\_\_  
 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

\_\_\_\_\_  
 Validation Personnel /Date

\_\_\_\_\_  
 Validation Personnel/Date

Historical Record: (Optional)

## PASSPORT - TOTAL EXPOSURE SYSTEM

## RADIATION WORK PERMIT



## ALARA Task

Report ID : TIPH900

RWP Number: 00000604 01

WO 00109700

11

03

RWP Title : LOCKED HIGH RADIATION AREA 10 - 100 MREM/HR - CLASS 1  
Type : RO Status: PLAN Date : 06/24/2006 10:11  
Area : ACCESS CONTROL AREA Location:

PSE: N

Approved Dose Estimate: 999999.000 ALARA Pre-Job Brief Required: N

Work Begin Date: 02/07/2006 00:01 Work End Date: 01/18/2023 23:59

Extension Date : By:

Initiated Date : 06/24/2006 10:11 By: OLSM11 OLSON

MICHA

ALARA Task

ALARA Task : WO 00109700 11 03 Status: READY Discipline: OPS  
ALARA Desc : OPS ROUNDS - LHRA

Radiological Conditions

Entry Class : 1 Stay Time: Resp Req'd : N

LHRA LOCKED HIGH RADIATION A  
CA CONTAMINATED AREA

Minimum Remaining Allowable Dose: 222 (mrem)

ED Dose Alarm: 22 (mrem) ED Dose Rate Alarm: 100 (mrem/hr)

Airborne: E (uCi/cc) DACs

Last Updated : 06/24/2006 By: OLSM11 OLSON MICHAEL

Radiological Hazards

Radiological Hazard	Type	Distance	Reading
CONTAMINATION	C	SURF-LOOSE	<10000 DPM-BETA
GB DOSE RATE	R	GENERAL	10-100 MREM/HOUR



## RADIATION WORK PERMIT

ALARA Task

ort ID : TIPH900

RWP Number:

00000604 01

WO 00109700

11

03

**Radiation Protection Requirements**

Dosimetry Type : S STANDARD (DRD/TLD)

Multi-Pack Type:

Type	Code	Description	Type	Code	Description
CLTH	CLAS	CLASS ONE CLOTHING REQU	CLTH	CLAS	CLASS TWO CLOTHING REQU

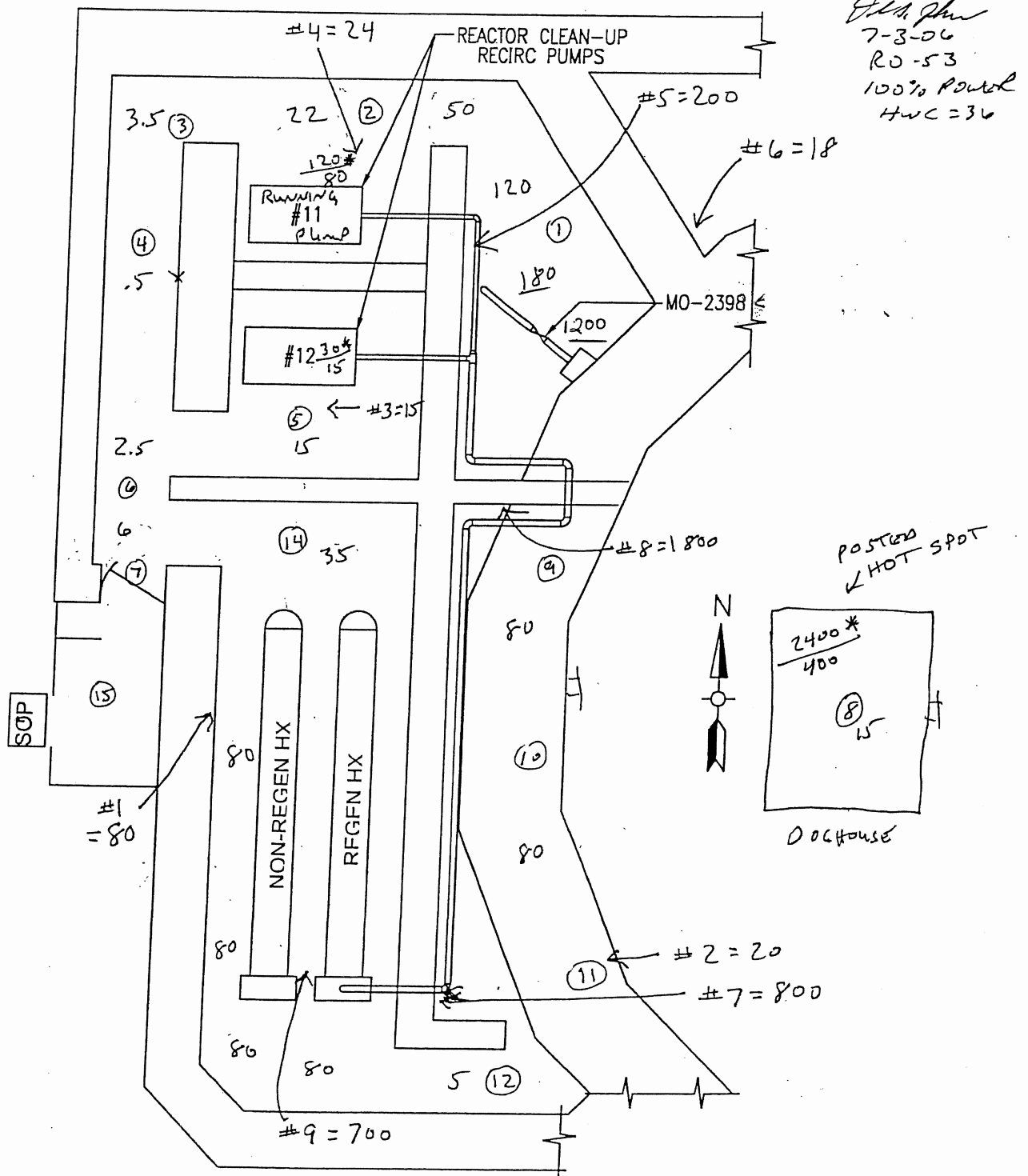
**Special Instructions and Hold Points**

Nbr	Special Instructions
1	REVIEW THE STANDARD INSTRUCTIONS IN THE RWP BOOK.
2	.
3	REVIEW CLASS 1 REQUIREMENTS IN THE RWP BOOK.
4	.
5	REVIEW CLASS 2 REQUIREMENTS IN THE RWP BOOK.
6	.
7	HIGH RADIATION AREA
8	.
9	FOR EACH HRA ENTERED, A RADIOLOGICAL BRIEFING IS
10	REQUIRED ONCE PER SHIFT. CONTACT RP PRIOR TO ENTRY.

Nbr	Hold Point Description
-----	------------------------

- End of Report -

MONTICELLO NUCLEAR GENERATING PLANT		5911
TITLE:	RWCU PUMP/HX ROOMS - REACTOR BLDG - ELEV 962'	Revision 8
		Page 1 of 1



3087 (DOCUMENT CHANGE, HOLD AND COMMENT FORM) incorporated: 01-0530

FOR ADMINISTRATIVE USE ONLY	Resp Subv: RADP	Assoc Ref: R.02.01	SR: (N)	Freq: 0 hrs
	ARMS: 5911	Doc Type: REF ONLY	Admin Initials: (S)	Date: 3/14/03





## JOB PERFORMANCE MEASURE (JPM)

**SITE:** MONTICELLO NUCLEAR GENERATING PLANT

**JPM TITLE:** OFF-SITE PROTECTIVE ACTION RECOMMENDATIONS

**JPM NUMBER:** JPM-A.2-204-004 **REV.** 2

**RELATED PRA INFORMATION:** None

**TASK NUMBER(S) / TASK TITLE(S):** SS304.121  
Formulate off-site protective action recommendations for the general public during the early phase of an emergency.

**K/A NUMBERS:** Generic 2.4.44 **Rating: SRO/RO:** 4.0/2.1

**APPLICABLE METHOD OF TESTING:**

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐

Simulator: ☒ Other: ☐

Lab: ☐

Time for Completion: 15 Minutes Time Critical: YES

Alternate Path / Faulted: NO

**TASK APPLICABILITY:** SRO: X SRO/RO: \_\_\_\_\_ SRO/RO/NLO: \_\_\_\_\_

Additional signatures may be added as needed.

<b>Developed by:</b>		
	Instructor	Date
<b>Validated by:</b>		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
<b>Approved by:</b>		
	Training Supervisor	Date

**JPM Number:** JPM-A.2-204-004

**JPM Title:** Off-Site Protective Action Recommendations

**Examinee:**

**Evaluator:**

**Job Title:**

**Date:**

**Start Time**

**Finish Time**

**PERFORMANCE RESULTS:**

**SAT:**

**UNSAT:**

<b>COMMENTS/FEEDBACK: (Comments <i>SHALL</i> be made for any steps graded unsatisfactory).</b>

**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
(See MTCP-03.32, Figure 6.2)

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.

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

**INITIAL CONDITIONS:**

- **THIS IS A DRILL.**
- The plant is shutdown in an Emergency Condition. An escalation to a General Emergency has just been declared (EAL RG1.1, Stack Effluent Monitor "A" exceeds  $2.1\text{E}+8$   $\mu\text{curies/second}$ ).
- Current Met Data is:
  - Wind direction (from): 0 degrees
  - Wind speed: 13 mph
  - Temperature: 85°F
  - Precipitation: none
  - Ch. 11 – Diff. Temp: -0.79
- Dose assessment is not currently available

**INITIATING CUES (IF APPLICABLE):**

- **THIS IS A DRILL.**
- Initiate and complete Form 5790-102-02 (MONTICELLO EMERGENCY NOTIFICATION REPORT FORM) and provide to Shift Manager/Emergency Director when complete.
- This is a time critical JPM
- **THIS IS A DRILL.**

**INSTRUCTOR NOTE:** This JPM is time critical. Start time is when the initiating cue is acknowledged by the examinee. Stop time is when the examinee returns the JPM paper work to you or verbally states the task is complete.

### JPM PERFORMANCE INFORMATION

**Required Materials:** None

**General References:** Simulator

**Task Standards:** Formulate off-site protective action recommendations for the general public during the early phase of an emergency.

**Start Time:** \_\_\_\_\_

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

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

<b>Performance Step: 1</b>	Locate General Emergency form packet. (May also reference procedure A.2-204 OFF-SITE PROTECTION ACTION RECOMMENDATIONS)
<b>Critical: N</b>	
<b>Standard:</b>	Locates General Emergency packet.
<b>Evaluator Cue:</b>	When examinee locates General Emergency packet, hand them a copy of the material from the packet.
	<b><u>NOTE:</u></b> The items covered by JPM steps 2 and 3 may be done in any order as long as the standard for each step is met.
<b>Performance:</b>	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 2</b> <b>Critical: Y</b>	6.1.1 Initiate Form 5790-102-02 (MONTICELLO EMERGENCY NOTIFICATION REPORT FORM) A. Complete the Protective Action Recommendations section recommending sheltering or an evacuation of a 2 mile radius and 5 miles downwind and advise the remainder of the plume EPZ to go indoors to monitor EAS broadcasts. (See Figure 7.3.A for assistance.) B. Determine which geopolitical subareas are affected by referring to the Sector-Subarea Conversion Table on Form 5790-102-02
<b>Standard:</b>	Complete Section 10 of Form 5790-102-02. The grading standard is as follows: <ul style="list-style-type: none"> <li>• Item B is circled.</li> <li>• The blank in front of "Sectors out to 2 miles" contains the word "ALL"</li> <li>• The blank in front of "Sectors out to 5 miles" contains "H,J,K"</li> <li>• Only the following subareas are circled: 2, 5W and 5S.</li> </ul>
<b>Evaluator Cue:</b>	None
<b><u>NOTE:</u> See attached form with data filled in.</b>	
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 3</b>	Initiate Form 5790-102-02
<b>Critical: Y</b>	C. Ensure completion of the remaining sections of Form 5790-102-02 and submit the completed form to the ED for approval.
<b>Standard:</b>	<p>The grading standard is as follows:</p> <ul style="list-style-type: none"> <li>Section 1: item B should be circled <b>(not critical)</b>.</li> <li>Section 2: item B should be circled.</li> <li>Section 4: item D should be circled.</li> <li>Section 5: item A circled <b>(not critical)</b> and date and time filled in and EAL RG1.1.</li> <li>Section 6: item B should be circled.</li> <li>Section 7: item B should be circled <b>(not critical)</b>.</li> <li>Section 8: Wind direction is 0 degrees and affected downwind sectors H, J and K should be circled.</li> <li>Section 9: Wind speed of 13 mph and stability class E circled <b>(stability class not critical)</b>.</li> <li>Section 11: Examinee should indicate that they would use the label from the General emergency packet here (specifically the label for RG1.1) or they may write the IC description for RG1 in the space provided.</li> </ul>
<b>Evaluator Cue:</b>	None
<b><u>NOTE:</u> See attached form with data filled in.</b>	
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 4</b>	<b>INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.</b>
<b>Critical: N</b>	
<b>Standard:</b>	Operator informs evaluator that the task is completed.
<b>Evaluator Cue:</b>	None
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

**Terminating Cues:** When told the actions are complete, acknowledge, and state the JPM is complete.

**Stop Time:** \_\_\_\_\_

**Critical Time** \_\_\_\_\_

## TURNOVER SHEET

### INITIAL CONDITIONS:

- **THIS IS A DRILL.**
- The plant is shutdown in an Emergency Condition. An escalation to a General Emergency has just been declared (EAL RG1.1, Stack Effluent Monitor "A" exceeds  $2.1\text{E}+8$   $\mu\text{curies/second}$ ).
- Current Met Data is:
  - Wind direction (from): 0 degrees
  - Wind speed: 13 mph
  - Temperature: 85°F
  - Precipitation: none
  - Ch. 11 – Diff. Temp: -0.79
- Dose assessment is not currently available

### INITIATING CUES (IF APPLICABLE):

- **THIS IS A DRILL.**
- Initiate and complete Form 5790-102-02 (MONTICELLO EMERGENCY NOTIFICATION REPORT FORM) and provide to Shift Manager/Emergency Director when complete.
- This is a time critical JPM
- **THIS IS A DRILL.**

## SIMULATOR SET UP:

Admin JPM; no simulator setup required.

## SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

## SIMULATOR - OVERRIDES:

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

## SIMULATOR - REMOTE FUNCTIONS:

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							



**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

\_\_\_\_\_  
 Validation Personnel /Date

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 Validation Personnel/Date

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 Validation Personnel/Date

Historical Record: (Optional)