	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: DETERMINING POWER REDUCTION BASED ON DISCHARGE CANAL TEMP

JPM NUMBER: JPM-C.6-002 **REV.** 1

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR999.275
Circulating Water System

K/A NUMBERS: 2.1.20 **Rating: SRO/RO:** 4.6/4.6

APPLICABLE METHOD OF TESTING:
 Discussion: Simulate/walkthrough: Perform:

EVALUATION LOCATION: In-Plant: Control Room:
 Simulator: Other:
 Lab:

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

INITIAL CONDITIONS:

- It is 1900 on a hot 98°F **OCTOBER** day.
- Yesterday's high temperature was 74°F
- CWT103 (Discharge Canal Wtr Temp – High) is in alarm
- The Discharge Canal Daily Running Average temperature is reading 95.5°F.
- Current Discharge Canal temperature is 96.6°F.

INITIATING CUES:

- Using CARP CWT103, determine the amount of power reduction required to ensure that the Discharge Canal Daily Running Average temperature discharge canal temperature (CWT103) is below the limit.
- Assume a 10% reduction in reactor power will result in a 1°F reduction in discharge canal temperature.

JPM PERFORMANCE INFORMATION

Required Materials: Calculator, Copy of CARP C.6-CWT103

General References: CARP C.6-CWT103

Task Standards: Determine amount of power reduction required for high discharge canal temperature

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Refers to C.6-CWT103 (Discharge Canal Wtr Temp - High)
Critical: N	
Standard:	Refers to C.6-CWT103 (Discharge Canal Wtr Temp - High)
Evaluator Cue:	Provide a copy of C.6-CWT103
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 2	Procedure Step 1
Critical: Y	Monitor CWT103 DR Discharge Canal Wtr Temp - Daily Running Avg to ensure that the permit limit of 80°F Dec through Feb, 85°F Mar and Nov, and 95°F Apr through Oct will not be exceeded.
Standard:	Determines that the limit for October is 95°F.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

<p>Performance Step: 3 Critical: N</p>	<p>Procedure Step 2 During the summer, perform the following as needed to ensure that the Daily Running Average limit is not exceeded for the end of the day reading.</p> <ol style="list-style-type: none"> a. Verify all available cooling tower fans are in service. b. Verify the following are fully closed: <ol style="list-style-type: none"> 1. CW-17 11 CT Riser Drn 2. CW-18 11 CT Riser Drn 3. CW-19 12 CT Riser Drn 4. CW-20 12 CT Riser Drn 5. CW-37 108 inch Hdr Drn 6. S-106A 11 Cooling Tower Drain Gate 7. S-106B 12 Cooling Tower Drain Gate 8. Cooling Tower Return Gates 9. Deicing Line c. Verify that the discharge structure gates are fully opened.
<p>Standard:</p>	<p>Determined status of each item.</p>
<p>Evaluator Cue:</p>	<p>State that all available cooling tower fans are in service, all valves listed are closed and that the discharge structure gates are fully open.</p>
<p>Performance:</p>	<p>SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/></p>
<p>Comments:</p>	<hr/>

<p>Performance Step: 4 Critical: N</p>	<p>Procedure Step 3 Perform the following during summer:</p> <p>NOTE 1: <u>If</u> CWT103 DR Discharge Canal Water Temperature Daily Running Average is less than 94.5°F at 0100, <u>And</u> no significant increase in temperature or humidity is forecast for today as compared to yesterday, <u>Then</u> no power drop should be required.</p> <p><u>If</u> CWT103 DR Discharge Canal Water Temp Daily Running Average is ≥94.5°F at 0100, <u>And</u> no rain or cooling trend is forecast for today as compared to yesterday, <u>Then</u> plant power should be reduced at least 10% from 0100 until such time as needed for the plant to be back at 100% power as specified by the system dispatcher or electric marketing.</p>
<p>Standard:</p>	<p>Determines no actions are required.</p>
<p>Evaluator Cue:</p>	<p>State CWT103 read 92.3°F at 0100.</p>
<p>Performance:</p>	<p>SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/></p>
<p>Comments:</p>	<hr/>

Performance Step: 5
Critical: Y

NOTE 2:

At 100% power, there is normally about a 30°F rise in circulating water temperature through the condenser. A 10% load drop would result in about a 3°F drop in circ water condenser outlet temperature but could result in only a 0.7 to 1.5°F drop in Discharge Canal temperature depending on how much cooling is being obtained through the cooling towers which is a function of wet bulb temperature.

Also, the Daily Average Discharge Canal water temperature limit is a time weighted average. The following formula can be used to assist in monitoring the discharge canal water temperature in order to determine if a power drop will be required.

$$[(x \text{ hr}) (\text{Running Daily Avg discharge temp at } x \text{ hr})] + [(24-x)(y)] = [(94.9^\circ\text{F}) (24 \text{ hr})]$$

y = avg disch canal wtr temp for rest of day

$$(x \text{ hr})(\text{CWT103DR}) + (24-x)(y) = 2277.6$$

Example, assume at 2000, CWT103 DR is 95.5°F: $(20)(95.5^\circ\text{F}) + (4)(y) = 2277.6$

y = 91.9°F which means that the discharge canal water temperature needs to average 91.9°F for the remaining 4 hours of the day. If at 2000 the discharge canal water temperature is 95.9°F and if each 10% power drops results in a 1°F drop in discharge canal water temperature, this could require a 40% power drop.

- a. If a power drop is required to meet the Daily Avg Discharge Canal Wtr Temp limit,
Then perform the following:
 - 1). Notify Shift Supervisor
 - 2). Notify System Dispatcher
 - 3). Reduce plant power as needed

Standard: $(19)(95.5) + (5)(y) = 2277.6$
 $y = 92.6^\circ\text{F}$

$96.6 - 92.6 = 4^\circ\text{F}$. At a 1°F reduction in canal temperatures for every 10% reduction in power, this would require a 40% reduction in power or an average power level of 60%.

Evaluator Cue: None

Evaluator Note: None

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


Comments: _____

Performance Step: 6	2. <u>If</u> the Daily Average limit is exceeded for the end of the day reading, <u>Then</u> notify the Gen Supt Oper, Supt Chem & Env Prot and the Gen Supt Engr. If one of these persons can <u>NOT</u> be contacted, notify the Plant Manager.
Critical: N	
Standard:	Determines Average limit is NOT exceeded.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 7	INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.
Critical: N	
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge that the task has been completed.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues:

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: OVERTIME RESTRICTIONS/FATIGUE MANAGEMENT

JPM NUMBER: JPM-FP-S-FMP-01-001 **REV.** 3

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR299.144
Adhere to the Requirements of Overtime Restrictions and Fitness for Duty Requirements

K/A NUMBERS: Generic 2.1.5 **Rating: SRO/RO:** 2.9/3.9

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: No

TASK APPLICABILITY: SRO: RO: NLO:

Additional site-specific signatures may be added as desired.

Developed by:	
	Developer
	Date
Validated by:	
	Validator
	Date
	(See JPM Validation Checklist, Attachment 1)
Approved by:	
	Training Supervisor
	Date

JPM-FP-S-FMP-01-001 (Overtime Restrictions/Fatigue Management) Rev. 3

INITIAL CONDITIONS:

- You are a licensed operator
- The plant is at rated conditions
- No outages or power reductions are scheduled

INITIATING CUES:

Review your proposed work schedule for the upcoming six weeks. Compare the proposed six week schedule with the normal six week schedule. Identify any proposed overtime, that if worked, will violate the requirements of FP-S-FMP-01 (10 CFR 26 Fatigue Management Fleet Procedure). (Assume NO waivers will be granted, NO overtime was worked in the previous six weeks and NO overtime is scheduled for the following six weeks.)

PROPOSED SIX WEEK SCHEDULE

WEEK 1	SUN	MON	TUE	WED	THU	FRI	SAT
	X	D	D	D	X	X	X
WEEK 2	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	X	D	D	D	D
WEEK 3	SUN	MON	TUE	WED	THU	FRI	SAT
	D	R	D	X	X	N	N
WEEK 4	SUN	MON	TUE	WED	THU	FRI	SAT
	N	N	X	R	R	R	X
WEEK 5	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	N	N	N	X	X
WEEK 6	SUN	MON	TUE	WED	THU	FRI	SAT
	X	T	T	T	T	T	N

- X = Day Off
- D = 12 Hour Day
- N = 12 Hour Night (Starts at 1800 on previous day)
- R = 8 Hour Relief Shift
- T = 8 Hour Training Day

NORMAL SIX WEEK SCHEDULE

WEEK 1	SUN	MON	TUE	WED	THU	FRI	SAT
	X	D	D	D	X	X	X
WEEK 2	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	X	X	D	D	D
WEEK 3	SUN	MON	TUE	WED	THU	FRI	SAT
	D	R	X	X	X	N	N
WEEK 4	SUN	MON	TUE	WED	THU	FRI	SAT
	N	N	X	R	R	R	X
WEEK 5	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	N	N	N	X	X
WEEK 6	SUN	MON	TUE	WED	THU	FRI	SAT
	X	T	T	T	T	T	X

JPM PERFORMANCE INFORMATION

- Required Materials:**
- Prepared NON-OUTAGE six week rotating schedules (included in examinee turnover)
- General References:**
- OWI-01.01 (Operations Group Organization and Responsibility Assignments)
 - FP-S-FMP-01 (10 CFR 26 Fatigue Management Fleet Procedure)
- Task Standards:**
- Adhere to the Requirements of Overtime Restrictions and Fitness for Duty 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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Attains copy of six week rotating schedule and FP-S-FMP-01 (10 CFR 26 Fatigue Management Fleet Procedure).
Critical: N	
Standard:	Locates procedure(s)
Evaluator Cue:	Provide the examinee the copy of fleet procedure (FP-S-FMP-01). The six week schedules are included on the examinee turnover sheet.
Evaluator Note:	The six week schedule is posted in the control room and the fleet procedure would be accessed via the company web in sharepoint. The examinee may also refer to OWI-01.01 for general shift schedule information (section 4.5)
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

JPM-FP-S-FMP-01-001 (Overtime Restrictions/Fatigue Management) Rev. 3

<p>Performance Step: 2 Critical: N</p>	<p>FP-S-FMP-01 Section 5.1 (10 CFR 26 Work Hour Limits For Covered Individuals)</p> <p>Section 5.1.1 The following limits apply to covered individuals regardless of unit status:</p> <ul style="list-style-type: none"> ➤ No more than 16 work hours in any 24-hour period. ➤ No more than 26 work hours in any 48-hour period. ➤ No more than 72 work hours in any 7-day period. ➤ At least a 10-hour break between successive work periods or an 8-hour break when a break of less than 10 hours is necessary to accommodate a crew's schedule transition between work schedules. ➤ A 34-hour break in any 9 day period (this limit may be incorporated into the following table of limits) <p>Section 5.1.2: During online operations, and without issuance of a waiver, an individual's required average minimum days off SHALL adhere to the requirements listed in Table 1 below (averaged over the shift cycle):</p> <p>Operations 12-Hour Shift: 2.5 days off/week required</p> <ol style="list-style-type: none"> 1. For the purposes of calculating an average number of days off, the duration of the shift cycle may not exceed six (6) weeks. 2. A normal operations day for a shift is a day when the unit is not in an outage when the shift starts.
<p>Standard:</p>	<p>Locates and reviews sections 5.1.1 and 5.1.2</p>
<p>Performance:</p>	<p>SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/></p>
<p>Comments:</p>	<p>_____</p>

<p>Performance Step: 3 Critical: N</p>	<p>Reviews Week 1 of proposed schedule</p>
<p>Standard:</p>	<p>Reviews schedule and determines that no overtime days are scheduled.</p>
<p>Performance:</p>	<p>SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/></p>
<p>Comments:</p>	<p>_____</p>

<p>Performance Step: 4 Critical: N</p>	<p>Reviews Week 2 of proposed schedule.</p>
<p>Standard:</p>	<p>Reviews schedule and recognizes one overtime day scheduled (Wednesday -Day Shift).</p>
<p>Performance:</p>	<p>SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/></p>
<p>Comments:</p>	<p>_____</p>

Performance Step: 5 Critical: Y	Reviews Week 3 of proposed schedule.
Standard:	<ul style="list-style-type: none">➤ Reviews schedule and recognizes one overtime day scheduled (Tuesday - Day Shift). <u>Non-Critical Portion Of Standard</u>➤ Recognizes that 72 work hours will be exceeded in a 7-day period. <u>Non-Critical Portion Of Standard</u>➤ Recognizes working this overtime day in conjunction with the overtime day in week 2 will violate 10CFR26 Overtime restrictions.
Evaluator Cue:	If notified of exceeding limit, acknowledge as supervision.
Evaluator Note:	This would result in 80 hours worked in a 7 day period. NOTE: The examinee may wait until the end of the JPM to report the exceeded limit.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____


Performance Step: 6 Critical: N	Reviews Week 4 of proposed schedule.
Standard:	Reviews schedule and determines that no overtime days are scheduled.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 7 Critical: N	Reviews Week 5 of proposed schedule.
Standard:	Reviews schedule and determines that no overtime days are scheduled.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 8	Reviews Week 6 of proposed schedule.
Critical: Y	
Standard:	<ul style="list-style-type: none"> ➤ Reviews schedule and recognizes one overtime day scheduled (Saturday – Night Shift). <u>Non-Critical Portion Of Standard</u> ➤ Recognizes that 16 work hours will be exceeded in a 24-hour period. <u>Non-Critical Portion Of Standard</u> ➤ Recognizes that 26 work hours will be exceeded in a 48-hour period. <u>Non-Critical Portion Of Standard</u> ➤ Recognizes that an 10-hour break is necessary to accommodate schedule transition between work schedules. <u>Non-Critical Portion Of Standard</u> ➤ Recognizes working this overtime day will violate 10CFR26 Overtime restrictions.
Evaluator Cue:	If notified of exceeding limit, acknowledge as supervision.
Evaluator Note:	<ul style="list-style-type: none"> ➤ The operator would work 8 training hours from 0700 to 1500 on the week 6 Friday and then start at 1800 on Friday for the Saturday Night shift. This will be 20 hours worked from 0600 on Friday until 0700 on Saturday morning. ➤ The operator would work 8 training hours from 0700 to 1500 on the week 6 Thursday and Friday and then an additional 12 hours from 1800 on Friday until 0600 on Saturday. This will be 28 hours worked from 0700 on Thursday until 0600 on Saturday morning. ➤ The operator would only have a 4 hour transition period between completed their training day on Friday and starting the Saturday Night Shift on Friday night at 1800. ➤ The “34-hour break in any 9 day period” limit is met throughout the proposed 6 week schedule. ➤ The “2.5 days off per week” requirement is met. A total of 16 days off are provided. Averaged over the 6 week period results in 2.67 days off per week.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: When examinee notifies the evaluator of the violations, if any, state **JPM is complete.**

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: INDEPENDENT VERIFICATION OF HPCI

JPM NUMBER: JPM-4 AWI-04.04.02-004 **REV.** 0

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR206.102
Perform the HPCI Pump Flow and Valve Tests

K/A NUMBERS: Generic 2.2.15 **Rating: SRO/RO:** 4.3/4.3.9

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: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:	Roman Becker	
	Developer	Date
Validated by:	Validator	Date
	(See JPM Validation Checklist, Attachment 1)	
Approved by:	Training Supervisor	Date

JPM-4 AWI-04.04.02-004 (Independent Verification Of HPCI) Rev. 0

INITIAL CONDITIONS:

- 0255-06-IA-1 (HPCI Quarterly Pump And Valve Tests) is complete through STEP 77.
- Independent verification is now required.
- You are an extra licensed operator and did not participate in the test up to this point.

INITIATING CUES:

- The CRS directs you to perform independent verification, for the components in the Control Room by performing STEP 78 of Test 0255-06-IA-1 (HPCI Quarterly Pump & Valve Test).

JPM PERFORMANCE INFORMATION

Required Materials: Test 0255-06-IA-1

General References: 4 AWI-04.04.02

Task Standards: Verify the HPCI System is in Standby Readiness

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	a. MO-2034 open, handswitch 23A-S2 in NEUTRAL.
Standard:	Operator observes MO-2034 open, handswitch 23A-S2 in NEUTRAL.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 2	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	b. MO-2035 open, handswitch 23A-S3 in AUTO.
Standard:	Operator observes MO-2035 open, handswitch 23A-S3 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 3	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	c. MO-2036 closed, handswitch 23A-S1 in AUTO.
Standard:	Operator observes MO-2036 closed, handswitch 23A-S1 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 4	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	d. MO-2061 closed, handswitch 23A-S14 in AUTO.
Standard:	Operator observes MO-2061 closed, handswitch 23A-S14 in AUTO
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 5	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	e. MO-2062 closed, handswitch 23A-S13 in AUTO.
Standard:	Operator observes MO-2062 closed, handswitch 23A-S13 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 6	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	f. MO-2063 open, handswitch 23A-S4 in AUTO.
Standard:	Operator observes MO-2063 open, handswitch 23A-S4 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 7	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	g. CV-2065 closed, handswitch 23A-S10 in AUTO.
Standard:	Operator observes CV-2065 closed, handswitch 23A-S10 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 8	Procedure Step 78
Critical: Y	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	h. MO-2067 closed, handswitch 23A-S7 in AUTO.
Standard:	Operator observes MO-2067 OPEN , handswitch 23A-S7 in AUTO.
Evaluator Cue:	Acknowledge the out of position valve and tell examinee to continue with Independent Verification
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 9	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	<ul style="list-style-type: none"> i. MO-2068 closed, handswitch 23A-S6 in AUTO.
Standard:	Operator observes MO-2068 closed, handswitch 23A-S6 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 10	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	<ul style="list-style-type: none"> j. MO-2071 closed, handswitch 23A-S8 in AUTO.
Standard:	Operator observes MO-2071 closed, handswitch 23A-S8 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 11	Procedure Step 78
Critical: Y	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	<ul style="list-style-type: none"> k. CV-3503 closed, valve controller set at 0% open.
Standard:	Operator observes CV-3503 throttled open , valve controller set at 47% open.
Evaluator Cue:	Acknowledge the out of position valve and tell examinee to continue with Independent Verification
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 12	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	l. Aux Oil Pmp handswitch 23A-S17 in AUTO.
Standard:	Operator observes Aux Oil Pmp handswitch 23A-S17 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____


Performance Step: 13	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	m. Gland Seal Condenser Blower Handswitch 23A-S18 in AUTO.
Standard:	Operator observes Gland Seal Condenser Blower Handswitch 23A-S18 in AUTO.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 14	Procedure Step 78
Critical: Y	Perform independent verification that the following HPCI system components are in the proper ECCS line-up:
	n. Gland Seal Condensate Pump handswitch 23A-S19 in RUN.
Standard:	Operator observes Gland Seal Condensate Pump handswitch 23A-S19 in AUTO .
Evaluator Cue:	Acknowledge the out of position switch and tell examinee to continue with Independent Verification
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 15	Procedure Step 78
Critical: N	Perform independent verification that the following HPCI system components are in the proper ECCS line-up: o. Pump Flow Controller, FIC-23-108, in AUTO at 3000 gpm.
Standard:	Operator observes Pump Flow Controller, FIC-23-108, in AUTO at 3000 gpm.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: WHEN OPERATOR INFORMS THE EVALUATOR THAT STEP 78.O IS COMPLETE, STATE THE JPM IS COMPLETE.

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: MAIN STEAM LINE RAD MONITOR CHANNEL CHECK

JPM NUMBER: JPM-0000-D-002 **REV.** 1

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR299.349
Perform OPERATIONS DAILY LOG – Parts A, B, D, E, G, H & J

K/A NUMBERS: 2.3.5 **Rating: SRO/RO:** 2.9/2.9

APPLICABLE METHOD OF TESTING:
 Discussion: Simulate/walkthrough: Perform:

EVALUATION LOCATION: In-Plant: Control Room:
 Simulator: Other:
 Lab:

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

INITIAL CONDITIONS:

- The plant is operating at ~ 15% power
- You are the BOP Operator performing the Night Shift Ops Daily Log

INITIATING CUES (IF APPLICABLE):

- Perform the following surveillance as part of Ops Daily Log 0000-D
- 1464 (Main Steam Line Rad Monitor Channel Check)

JPM PERFORMANCE INFORMATION

Required Materials: Full Scope Simulator
Marked up copy of Ops Daily Log 0000-D

General References: 0000-D

Task Standards: Perform Ops Daily Log 0000-D and annotate out of spec readings

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Reviews 0000-D Test 1464
Critical: N	
Standard:	Reviews 0000-D Test 1464
Evaluator Cue:	Provide 0000-D page that includes Test 1464
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 2	Procedure Step 7 Table
Critical: N	<p>If there is operating steam in a Main Steam Line, or the Mechanical Vacuum Pump is in service, <u>Then</u> from RM-17-251A-D, MSL Radiation Monitor Channel A-D (Panel C-10), record in table below the indications and determinations.</p> <p>Channel A (RM-17-251A)</p>
Standard:	<p>Records Channel A (RM-17-251A) Expected Value: <u>~ 20 mr/hr</u> Acceptance Criteria: 1 to 1450 mr/hr</p>
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 3	Procedure Step 7 Table (CONT)
Critical: N	<p>If there is operating steam in a Main Steam Line, or the Mechanical Vacuum Pump is in service, <u>Then</u> from RM-17-251A-D, MSL Radiation Monitor Channel A-D (Panel C-10), record in table below the indications and determinations.</p> <p>Channel B (RM-17-251B)</p>
Standard:	<p>Records Channel B (RM-17-251B) Expected Value: <u>~ 20 mr/hr</u> Acceptance Criteria: 1 to 1450 mr/hr</p>
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 4	Procedure Step 7 Table (CON'T)
Critical: N	<p>If there is operating steam in a Main Steam Line, or the Mechanical Vacuum Pump is in service, <u>Then</u> from RM-17-251A-D, MSL Radiation Monitor Channel A-D (Panel C-10), record in table below the indications and determinations.</p> <p>Channel C (RM-17-251C)</p>
Standard:	<p>Records Channel C (RM-17-251C) Expected Value: <u>~ 20 mr/hr</u> Acceptance Criteria: 1 to 1450 mr/hr</p>
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 5	Procedure Step 7 Table (CON'T)
Critical: Y	<p>If there is operating steam in a Main Steam Line, or the Mechanical Vacuum Pump is in service, <u>Then</u> from RM-17-251A-D, MSL Radiation Monitor Channel A-D (Panel C-10), record in table below the indications and determinations.</p> <p>Channel D (RM-17-251D)</p>
Standard:	<p>Records Channel D (RM-17-251D) Expected Value: <u>~ 4000 mr/hr</u> Acceptance Criteria: 1 to 1450 mr/hr</p>
Evaluator Cue:	If examinee notifies supervision of the out of tolerance reading, acknowledge the report and inform the examinee to continue with the surveillance.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____


Performance Step: 6	Procedure Step 7 Table (CON'T)
Critical: Y	<p>If there is operating steam in a Main Steam Line, or the Mechanical Vacuum Pump is in service, <u>Then</u> from RM-17-251A-D, MSL Radiation Monitor Channel A-D (Panel C-10), record in table below the indications and determinations.</p> <p>Lowest indication x 1.4</p>
Standard:	<p>Records the lowest indication x 1.4 Expected Value: <u>~ 20 x 1.4 = 28 mr/hr</u> Acceptance Criteria: > Highest indication (~4000 mr/hr)</p>
Evaluator Cue:	If examinee notifies supervision of the out of tolerance reading, acknowledge the report and inform the examinee to continue with the surveillance.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 7	Procedure Step 7 Table (CON'T)
Critical: N	<p>If there is operating steam in a Main Steam Line, or the Mechanical Vacuum Pump is in service, <u>Then</u> from RM-17-251A-D, MSL Radiation Monitor Channel A-D (Panel C-10), record in table below the indications and determinations.</p> <p>At normal full power and HWC at maximum?</p>
Standard:	Determines the plant is NOT at full power, therefore, determines the acceptance criteria of ≥ 550 mr/hr is not applicable.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 8	INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.
Critical <u>N</u>	
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge that the task has been completed.
Evaluator Note:	DO NOT PROMPT.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: When the notifications have been made of the out of tolerance readings, state that the JPM is complete.

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: CREW STAFFING DETERMINATION

JPM NUMBER: JPM-OWI-01.06-002 **REV.** 3

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): SS299.294
 Implement the requirements associated with Control Room staffing and licensed and non-licensed Operator administrative requirements and responsibilities.

K/A NUMBERS: 2.1.5 Ability to use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc. **Rating: SRO/RO:** 3.9

APPLICABLE METHOD OF TESTING:

Discussion: Simulate/walkthrough: Perform:

EVALUATION LOCATION: In-Plant: Control Room:
 Simulator: Other:
 Lab:

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM-OWI-01.06-002 (Crew Staffing Determination) Rev. 3

INITIAL CONDITIONS:

- The time is 0930 Sunday morning with the plant operating at 100% power.
- Johnny Craig has just informed you that he is leaving immediately due to a personal emergency.

INITIATING CUES:

- Using the Operations Department Organization/Qualification chart and the crew member positions below; you are to identify the staffing adjustments that need to be made, recommendations for call-outs, and time constraints. (Assume the RP Specialist and Chemistry Technician are fully qualified).

	POSITION	CREW MEMBER
1	Shift Manager	Eagle
2	Control Room Supervisor	VanCulin
3	STA/SRO	Kosey
4	NLPE&RO	Teige
5	NPE&RO	Craig
6	NPE&RO	Yunger
7	NAPEO	Waaraniemi
8	NAPEO	Gustafson
9	NAPEO	West
10	RP Specialist	Olson
11	Chemistry Technician	Trump
12	Fire Brigade Leader	Craig
13	Fire Brigade Member #1	Waaraniemi
14	Fire Brigade Member #2	Gustafson
15	Fire Brigade Member #3	Olson
16	Fire Brigade Member #4	Trump
17	Safe Shutdown Member #1	Eagle
18	Safe Shutdown Member #2	West
19	Safe Shutdown Member #3	Teige
20	Safe Shutdown Member #4	Yunger

JPM PERFORMANCE INFORMATION

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Obtains a current copy of the Operations Department Organization/Qualification Chart to determine status of shift staffing.
Critical: N	
Standard:	This chart can be obtained from the MNGP Operations Home Page.
Evaluator Cue:	Provide the candidate with the JPM copy of the Modified Org Chart included with this JPM.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 2	Reviews the MNGP Operations Department Organization/Qualification.
Critical: Y	
Standard:	Identifies that Johnny Craig was filling the position of Fire Brigade Leader in addition to NPE&RO. Additionally the current crew compliment is short one required fire brigade member because John Yunger and Rick Kosey are not qualified Fire Brigade.
Evaluator Note:	If an operator is not qualified fire brigade a superscript 4 will be next to their name or annotated in the left hand column.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____


Performance Step: 3 Critical: Y	Identify the time requirements to have minimum staffing positions filled.
Standard:	Determines that minimum staffing must be filled within 2 hours per 4 AWI-08.01.01 (Fire Prevention Practices) or B.08.05-05, Table A.2-4.
Evaluator Note:	This AWI is Reference Use only. If the examinee doesn't state the 2 hour requirement, ask them what the time requirement is.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 4 Critical: Y	Initiates the process for call-out to fill the Fire Brigade Member position.
Standard:	Directs the NLPE&RO to initiate a call-out for the needed individual.
Evaluator Cue:	State that another operator has been called in to replace Johnny Craig as the NPE&RO and as Fire Brigade Leader and will be here in 45 minutes.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 5 Critical: N	INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge that the task has been completed.
Evaluator Note:	DO NOT PROMPT.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: Operator informs the evaluator that the task is complete.

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: SRO - NRC LICENSE MAINTENANCE RESPONSIBILITIES

JPM NUMBER: JPM-OWI-01.08-002 **REV.** 1

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): SS299.296
Implement the instructions regarding maintenance of active NRC licenses

K/A NUMBERS: 2.1 2.1.4 Rating: SRO/RO: 3.8 / 3.3

APPLICABLE METHOD OF TESTING:
 Discussion: Simulate/walkthrough: Perform:

EVALUATION LOCATION: In-Plant: Control Room:
 Simulator: Other:
 Lab:

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM-OWI-01.08-002 (SRO - NRC License Maintenance Responsibilities) Rev. 1

INITIAL CONDITIONS:

- You are a Licensed Senior Reactor Operator.
- You are qualified to stand the following watches:
 - Shift Manager (SM)
 - Control Room Supervisor (CRS)
 - Shift Technical Advisor (STA)
 - Work Execution Center SRO (WEC-SRO)
- You are current in Licensed Operator Requalification training and your medical status is acceptable.
- The dates, shift times and positions are provided for the watches you stood during the 2nd Quarter.

INITIATING CUES:

- Determine if you have met the requirements for maintaining your SRO license active.

Date	Shift	Position
4/1	Days 0700-1900	WEC-SRO
4/2	Days 0700-1900	WEC-SRO
4/3	Days 0700-1900	WEC-SRO
4/6	Nights 1900-0700	SM
4/7	Nights 1900-0700	WEC-SRO
4/8	Nights 1900-0700	WEC-SRO
4/9	Nights 1900-0700	WEC-SRO
5/2	Days 0700-1900	WEC-SRO
5/3	Days 0700-1900	SM
5/4	Days 0700-1900	WEC-SRO
5/5	Relief 0700-1500	CRS
5/6	Days 0700-1900	WEC-SRO
5/10	Nights 1900-0700	WEC-SRO
5/12	Nights 1900-0700	WEC-SRO
5/13	Nights 1900-0700	WEC-SRO
5/20	Days 0700-1900	SM
5/21	Days 0700-1900	SM
5/22	Days 0700-1900	WEC-SRO
5/23	Days 0700-1900	WEC-SRO
6/4	Days 0700-1900	WEC-SRO
6/5	Days 0700-1900	STA
6/6	Days 0700-1900	WEC-SRO
6/24	Nights 1900-0700	WEC-SRO
6/30	Nights 1900-0700	WEC-SRO

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Locate and review controlled copy of Procedure OWI-01.08 (NRC License Maintenance Responsibilities).
Critical: N	
Standard:	Obtains and reviews correct procedure.
Evaluator Cue:	If controlled copy is not available for the performance of the JPM, then provide the examinee with a copy of OWI-01.08.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____


Performance Step: 2	Procedure Step 4.2.2.c
Critical: N	
	Maintaining an NRC license active requires the following:
	<ul style="list-style-type: none"> • Standing the required number of watches as the Licensed Operator on record during each calendar quarter.
Standard:	<ul style="list-style-type: none"> • Reviews this general requirement
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 3	Procedure Step 4.2.4.
Critical: Y	Monticello's Technical Specifications requires two SRO and two RO Licensed Operators on shift during routine power operations. Credit for license maintenance is granted when an Operator fills one of these Tech Spec required positions. The Shift Manager, Control Room Supervisor , Nuclear Lead Plant Equipment and Reactor Operator (NLPE&RO) and the Nuclear Plant Equipment and Reactor Operator (NPE&RO) designated as Operator at the Controls (OATC) are considered as licensed duty positions for the purpose of license maintenance credit.
Standard:	Determines that ONLY the SM or CRS positions can be counted toward maintenance of their active NRC license.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 4	Procedure Step 4.2.6
Critical: Y	To maintain active license status, each licensee SHALL actively perform the functions of the OATC (NPE&RO), Nuclear Lead Plant Equipment and Reactor Operator (NLPE&RO) or Senior Reactor Operator (e.g. Control Room Supervisor or Shift Manager) a minimum of five 12 hour shifts per calendar quarter.
Standard:	<ul style="list-style-type: none"> Determines that a total of five watches in the required positions of SM or CRS were performed; however, recognizes that the May 5th watch was only an eight hour relief shift. Determines that the minimum of five twelve hour shifts in a required licensed position has not been met to maintain an active NRC license.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: Once the determination has been made whether the minimum number of watches has **been / NOT been** met then state JPM complete.

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: SHUTDOWN RISK ASSESSMENT

JPM NUMBER: JPM-4 AWI-08.15.03-001 **REV.** 3

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): SS299.370
Implement Risk Management for Outages

K/A NUMBERS: 2.2 2.2.18 **Rating: SRO/RO:** 3.9 / 2.6

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: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

INITIAL CONDITIONS:

- Plant is in a Refueling Outage.
- Reactor coolant temperature is 100°F with Fuel Pool Gates removed.

JPM-4 AWI-08.15.03-001 (Shutdown Risk Assessment) Rev. 3

- Time to boil in the Reactor and Fuel Pool has been calculated to be 36 hours.
- Division 1 AC Outage window is in progress.
- Division 1 125 Vdc battery is being supplied from a temporary battery.
- All AC systems on Division II are available.
- Plant power is being supplied by 1R with 1AR available.
- Fuel is currently being moved from the Reactor vessel to the Fuel Pool.
- Nuclear Engineering has verified SDM requirements are met during all fuel moves.
- Tech Spec requirements for Control Rod position are MET.
- The inner and outer Railroad Airlock doors for the Reactor Building are OPEN and can NOT be closed.

INITIATING CUES:

- For the given conditions, perform a Shutdown Risk Assessment IAW AWI-08.15.03 and Form 2270.
- **INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK.**

JPM PERFORMANCE INFORMATION

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Locate and review controlled copy of Procedure 4 AWI-08.15.03 (Risk Management for Outages).
Critical: N	
Standard:	Obtains and reviews correct procedure.
Evaluator Cue:	PROVIDE operator copy of Form 2270 (Critical Safety System Checklist).
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 2	Procedure Step 4.6.4.
Critical: N	
	Shutdown and Refueling Mode Configuration Requirements
	Minimum system and off-site power availability for shutdown conditions are assessed using Figure 5.2.
Standard:	Refers to Figure 5.2 (Critical Safety System Requirements) of 4 AWI-08.15.03 and Form 2270 when determining minimum requirements for the shutdown risk assessment.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 3	Procedure Step 4.6.6.A.
Critical: N	
	Outage Risk Condition Zone Color Codes
	<ul style="list-style-type: none"> • Shutdown risk should be assessed using the shutdown risk assessment guidelines in Figure 5.1.
Standard:	<ul style="list-style-type: none"> • Refers to Figure 5.1 (Shutdown Risk Assessment) of 4 AWI-08.15.03 when assessing shutdown risk. • May refer to Form 2270 (Critical Safety System Checklist) during performance of the risk assessment.
Evaluator Cue:	If requested, PROVIDE copy of form 2270.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 4	Figure 5.2, Decay Heat Removal – Reactor Cavity
Critical: Y	
	Provide adequate decay heat removal to prevent coolant boiling and thereby prevent inventory loss and eventual fuel and spent fuel uncoverly.
Standard:	<ul style="list-style-type: none"> • Classifies Decay Heat Removal Key Safety Function as GREEN. <p><u>Non-Critical Portion:</u></p> <ul style="list-style-type: none"> • Based on Initial Conditions, determines Decay Heat Removal – Reactor Cavity section criteria should be used. • Determines at least two Decay Heat Removal systems are required for a condition of GREEN. • Based on Initial Conditions, determines the following systems are available for decay heat removal (total of 4): <ul style="list-style-type: none"> ○ 12 RHR pump and 12 RHRSW pump with RHR HX ○ 14 RHR pump and 14 RHRSW pump with RHR HX ○ RWCU in Heat Reject Mode with 12 RWCU pump ○ 12 Fuel Pool Cooling pump
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 5	Figure 5.2, Reactivity Control
Critical: Y	
	Maintain adequate shutdown margin in the reactor and fuel pool.
Standard:	<ul style="list-style-type: none"> • Classifies Reactivity Control Key Safety Function as GREEN. <p><u>Non-Critical Portion:</u></p> <ul style="list-style-type: none"> • Determines both criteria must be met for a condition of GREEN. • Based on Initial Conditions, determines the following conditions are met (total of 2): <ul style="list-style-type: none"> ○ Adequate SDM exists ○ All Control Rods in fueled cells are fully inserted
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 6 Figure 5.2, Inventory Control
Critical: Y

Control of reactor and spent fuel coolant inventory during shutdown conditions to prevent core and spent fuel uncover and for maintaining the overall decay heat removal function.

Standard:

- Classifies Inventory Control Key Safety Function as GREEN.

Non-Critical Portion:

- Determines at least three low pressure injection sources are required for a condition of GREEN in the Reactor.
- Determines at least two low pressure injection sources are required for a condition of GREEN in the Spent Fuel Pool.
- Based on Initial Conditions, determines the following systems are available for low pressure injection for the Reactor (total of 6):
 - 12 Core Spray pump
 - 12 RHR pump
 - 14 RHR pump
 - 12 Condensate pump
 - 12 Condensate Service pump
 - 12 CRD pump
- Based on Initial Conditions, determines the following systems are available for low pressure injection for the Spent Fuel Pool (total of 4):
 - 12 Condensate Service pump
 - 12 Demin Water pump
 - Fire Diesel
 - Electric Fire pump

Evaluator Cue: None

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

Comments: _____

Performance Step: 7	Figure 5.2, Secondary Containment Control
Critical: Y	
	Provide a functional barrier to limit airborne fission product release to the environment (elevated/monitored/diluted release) commensurate with the potential likelihood for a release of radioactive products to the Reactor Building.
Standard:	<ul style="list-style-type: none"> • Classifies Secondary Containment Control Key Safety Function as RED. <p><u>Non-Critical Portion:</u></p> <ul style="list-style-type: none"> • Based on Initial Conditions, determines Secondary Containment Safety Function is required due to movement of irradiated fuel and performance of core alterations. • Due to both inner and outer Railroad Airlock doors open and can <u>NOT</u> be closed, determines that Secondary Containment is currently unavailable.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____


Performance Step: 8	Figure 5.2, DC Electrical Control
Critical: Y	
	Maintain DC electrical power available as required to provide DC instrument and control power necessary to support essential and vital systems which provide Key Safety Functions.
Standard:	<ul style="list-style-type: none"> • Classifies DC Electrical Control Key Safety Function as GREEN. <p><u>Non-Critical Portion:</u></p> <ul style="list-style-type: none"> • Determines at least two 125 VDC systems are required for a condition of GREEN. • Based on Initial Conditions, determines the following systems are available (total of 2): <ul style="list-style-type: none"> ○ Div 1 125 VDC Battery & Distribution from ○ Div 2 125 VDC Battery & Distribution
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 9	Figure 5.2, AC Electrical Control
Critical: Y	
	Manage the configuration of all AC power sources (offsite and onsite) to the station 4KV buses to support Key Safety Functions.
Standard:	<ul style="list-style-type: none"> Classifies AC Electrical Control Key Safety Function as GREEN.
	Non-Critical Portion:
	<ul style="list-style-type: none"> Determines at least two offsite power supplies and one EDG are required for a condition of GREEN. Based on Initial Conditions, determines the following systems are available (total of 2 offsite power supplies and 1 EDG): <ul style="list-style-type: none"> 1R Transformer 1AR Transformer 12 EDG
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 10	INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.
Critical: N	
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	ACKNOWLEDGE that the task has been completed.
Evaluator Note:	DO NOT PROMPT
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: Secondary Containment Control Key Safety Function has been declared RED with remaining Key Safety Functions declared GREEN.

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: SRO – EMERGENCY EXPOSURE CONTROL

JPM NUMBER: JPM-A.2-401-002 **REV.** 0

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): SS304.134
 Implement Emergency Exposure Control

K/A NUMBERS: 2.3.4 Rating: SRO: 3.7

APPLICABLE METHOD OF TESTING:

Discussion: Simulate/walkthrough: Perform:

EVALUATION LOCATION: In-Plant: Control Room:

 Simulator: Other:

 Lab:

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM-A.2-401-002 (SRO – Emergency Exposure Control) Rev. 0

INITIAL CONDITIONS:

The plant was at rated conditions when an event occurred. Twenty (20) minutes later the following conditions exist:

- A General Emergency has been declared
- The TSC and EOF have NOT yet been manned
- 5790-401-01 (Emergency Exposure Authorization Form) has been initiated for Roger Radworker and is ready for your review
- Roger is assigned to manipulate several valves for protection of valuable property
- Radiation Protection estimates that Roger will receive the following exposure:
 - Whole Body: 7 REM
 - Lens of the Eye: 35 REM
 - Hands and Forearms: 75 REM
- You are performing Step 6.1.2 of A.2-401 to determine the authorized exposure limit for this job.

INITIATING CUES:

- Using A.2-401 Figure 7.1 determine the following:
 - What are the AUTHORIZED LIMITs for:
 - Whole Body
 - Lens of the Eye
 - Hands and Forearms
 - Based on estimated exposure; should you authorize Form 5790-401-01 Part C?

JPM PERFORMANCE INFORMATION

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Qualification Program Examinations).

Performance Step: 1 Locate and review copy of Procedure A.2-401 and Form 5790-401-01.
Critical: N

Standard: Obtains and reviews correct procedure and form.

Evaluator Cue: Provide examinee copy of Procedure A.2-401 and Form 5790-401-01.

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

Comments: _____

Performance Step: 2 A.2-401 Procedure Step 6.1.2.B
Critical: Y

Using Figure 7.1, Determine the **authorized exposure limit** for protection of valuable property.

Standard: Determine authorized exposure limit as follows:
 Protection of valuable property is **10 REM**
 Apply Note 3: Exposure to the lens of the eye should be limited to 3 times the value listed and doses to the skin and/or extremities should be limited to 10 times the value listed. Therefore:
Whole Body Limit = 10 REM
Lens of the Eye Limit = 30 REM
Hands and Forearms Limit = 100 REM

Evaluator Cue: None

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


Comments: _____

JPM-A.2-401-002 (SRO – Emergency Exposure Control) Rev. 0

Performance Step: 3	A.2-401 Procedure Step 6.1.2.B
Critical: Y	Based on estimated exposure, determine if Form 5790-401-01 should be authorized.
Standard:	Estimated Exposure Whole Body: 7 REM Lens of the Eye: 35 REM Hands and Forearms: 75 REM Determines that limit for Lens of the Eye will be exceeded and Form 5790-401-01 should NOT be approved.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: Once the determination has been made whether or not to approve Form 5790-401-01 then state JPM complete.

Stop Time: _____

	JOB PERFORMANCE MEASURE (JPM)
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SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: CLASSIFY EVENT ACCORDING TO EMERGENCY CLASSIFICATION GUIDELINES

JPM NUMBER: JPM-A.2-101-018 **REV.** 5

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): SS304.104
Implement Monticello Emergency Plan during a Site Area Emergency

K/A NUMBERS: 2.4.41 Rating: SRO/RO: 4.6 / 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: Yes

Alternate Path: No

TASK APPLICABILITY: SRO: RO: NLO

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM-A.2-101-018 (Classify Event According To Emergency Classification Guidelines) Rev. 5

INITIAL CONDITIONS:

- Refueling outage is in progress with the Reactor partially defueled.
- Annunciators 6-C-08 (Earthquake) and 6-C-13 (Operational Basis Earthquake) have alarmed.
- Indications of a seismic event have been felt in the Control Room and confirmed with Prairie Island.
- The Reactor Building Operator reports that the Reactor Building Railroad inner and outer doors are damaged and can NOT be closed.
- RPV water level is -60 inches and lowering.
- You are the Shift Manager.

INITIATING CUES:

- Determine the appropriate emergency classification.
- Summon the Shift Emergency Communicator (SEC) to the Control Room.
- **THIS JPM IS TIME CRITICAL.**
- **INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK.**
- **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 verbalizes the EAL declaration.

JPM PERFORMANCE INFORMATION

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).

IMPORTANT: 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, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1	Locate Procedure A.2-101 (Classification Of Emergencies) and the EAL Charts.
Critical: N	
	Procedure A.2-101 Section 6.1.2.A Classification – When informed of plant parameters, radiological release levels or events which indicate that an emergency classification may be appropriate, evaluate the emergency classification.
Standard:	Locates procedure A.2-101 & EAL Matrix.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 2	Procedure step 6.1.2.A.1.
Critical: N	
	Confirm that the indications have been verified using redundant or coincident indications.
Standard:	Verifies indications provides in the initial conditions
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 3	Procedure step 6.1.2.A.2.
Critical: Y	Refer to Form 5790-101-02 and identify any EALs applicable to the initiating condition.
Standard:	Refers to the Modes 4, 5, DEF side of the EAL matrix.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 4	Procedure step 6.1.2.A.3.
Critical: Y	Locate the applicable EAL on Form 5790-101-02.
Standard:	<ul style="list-style-type: none"> • Locates applicable EAL CS2 (Loss of RPV Inventory Affecting Core Decay Heat Removal Capability with Irradiated Fuel in the RPV) and determines CS2.1 applies based on the following: <ul style="list-style-type: none"> ○ With Secondary Containment <u>not</u> established, RPV inventory as indicated by RPV level LESS THAN -53 in. • Declares Site Area Emergency within 15 minutes of initiating cue.
Evaluator Note:	Ensure to stop clock for time critical portion of JPM. TIME: _____
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 5	Procedure step 6.1.2.A.4.
Critical: N	If multiple events and/or indications are involved, classify the emergency based on the event (or indication) that results in the highest (most conservative) emergency classification.
Standard:	None required.
Evaluator Note:	SRO may evaluate HA1 (Natural and Destructive Phenomena Affecting the Plant VITAL AREA) and determine HA1.1 also applies due to the receipt of a confirmed Operating Basis Earthquake. However, since a Site Area Emergency was already declared and this is a higher classification then HA1.1, no additional declaration required.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 6	Procedure step 6.1.2.A.5.
Critical: N	Consider the effect that combinations of events have; that, if taken individually, would constitute a lower emergency classification but collectively may exceed the criteria for a higher classification.
Standard:	None required.
Evaluator Note:	May evaluate CS2.1 and HA1.1 as a combination and determine no higher classification exists.
Evaluator Cue:	None
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: 7	Procedure step 6.1.2.A.6.
Critical: N	
	Summon the Shift Emergency Communicator(s) to the Control Room via the Site PA system (Access 305#).
Standard:	Summons the Shift Emergency Communicator (SEC) to the Control Room.
Evaluator Cue:	As SEC, ACKNOWLEDGE summons.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step:	INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.
Critical: N	
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge that the task has been completed.
Evaluator Note:	DO NOT PROMPT
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: Site Area Emergency has been declared and the Shift Emergency Communicator (SEC) has been summoned to the Control Room.

Stop Time: _____