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| | JOB PERFORMANCE MEASURE (JPM) |
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SITE: MONTICELLO

TASK TITLE: CORE THERMAL LIMITS MONITORING

JPM NUMBER: JPM-A.1.a **REV.** 1

RELATED PRA INFORMATION: NONE

TASK NUMBERS: CR200.129

K/A NUMBERS: Generic 2.1.19

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

Maximum Time for Completion: 30 Minutes Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO/RO

Additional signatures may be added as needed.

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|----------------------|---|------|
| Developed by: | Instructor | Date |
| Validated by: | Validation Instructor (See JPM Validation Checklist, Attachment 1) | Date |
| Approved by: | Training Supervisor | Date |

JPM Number: JPM-C.2-05.B.1-002

JPM Title: CORE THERMAL LIMITS MONITORING

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

SIMULATOR SETUP:

- Copy of Operations Daily Log – Part E

INITIAL CONDITIONS:

- Reactor power has just been increased from 90% to 98% with the Recirc Flow Control System per C.2-05, LOAD FOLLOWING.

INITIATING CUES (IF APPLICABLE):

- You have been asked to perform the Core Thermal Limits Monitoring for MFLCPR, MAPRAT and MFLPD per Ops Man C.2-05, Section B.1, and determine any required actions if necessary. Record data on Forms 0207, 0208, and 0225 of Operations Daily Log 0000 – Part E. Report when the task is complete.

JPM PERFORMANCE INFORMATION

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

Required Materials: See Simulator Setup

General References: C.2-05, Rev. 13

Task Standards: Perform Core Thermal Limits monitoring

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.

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|----------------------------|---|
| Performance Step: 1 | Locates procedure C.2-05, POWER OPERATION. |
| Critical <u>N</u> | |
| Standard: | Locates appropriate procedure. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|----------------------------|---|
| Performance Step: 2 | C.2-05 Part A, Step 1: |
| Critical <u>N</u> | <u>IF</u> process computer is not anticipated to be available during a 24 hour period, <u>THEN</u> contact a Nuclear Engineer to arrange determination of MCPR. |
| Standard: | Determines Process Computer is available. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|----------------------------|--|
| Performance Step: 3 | C.2-05 Part A, Step 2.a: |
| Critical <u>N</u> | When 3D Monicore computer is available, perform the following: a. Demand Official 3D Monitor to calculate core nodal power distribution, <u>AND</u> use MCPR data for the fuel assemblies that are closest to the limiting CPR. |
| | <u>NOTE 4:</u> The most limiting MCPR is edited as MFLCPR on the Periodic Log |
| | <u>NOTE 5:</u> MFLCPR is the Core Maximum ratio of power and flow dependent CPR limit to the bundle's actual CPR. |
| Standard: | Demands an Official 3D Monitor and evaluates MCPR data. |
| Evaluator Note: | A 3D monitor case can be obtained by three different methods. Two using the Toshiba SPDS monitor and one using any network connect personnel computer. Candidates may use any method. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|--|---|
| Performance Step: 4 Critical <u>N</u> | First possible method contained in steps 4-6 |
| Standard: | Verify that the Toshiba SPDS monitor is in the GDP mode. 1. Observes red light above GDP mode indicator is lit, or 2. Pushes the mode button to transfer to the GDP mode. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>Y</u> | Pushes the blue "CORE MENU" button in the lower left corner of the keyboard. |
| Standard: | Pushes the blue "CORE MENU" button. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 6 Critical <u>Y</u> | Pushes the "TAB CURSOR" and uses the roller ball to move the cursor over to the "DEMAND 3DM CASE" square. Pushes the "XMIT" button or the "A-IN" button. |
| Standard: | Moves cursor over the "DEMAND 3DM CASE" square and pushes the "XMIT" or "A-IN" button. |
| Evaluator Note: | Printer in control room will now print out an official 3D monitor case. |
| Evaluator Cue: | Hand candidate the modified 3D monitor case to be used for the remainder of the JPM |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|--|---|
| Performance Step: 7 Critical <u>N</u> | Second method for obtaining printout is contained in steps 7-9. |
| | Verifies Toshiba SPDS monitor is in the VT-100 mode |
| Standard: | 1. Observes red light above VT-100 mode indicator is lit, or 2. Pushes the mode button to transfer to the VT-100 mode. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 8 Critical <u>Y</u> | Types the number 5 for the RUN OFFICIAL 3D function on the command line. |
| Standard: | Types the number 5 on the RUN OFFICIAL 3D function command line. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 9 Critical <u>Y</u> | Pushes the TAB button to move the cursor to the EXECUTE poke point and then presses the SELECT/2 key on the numerical key. |
| Standard: | Tabs the cursor to the EXECUTE poke point and presses the SELECT/2 key. |
| Evaluator Note: | Printer in control room will now print out an official 3D monitor case. |
| Evaluator Cue: | Hand candidate the modified 3D monitor case to be used for the remainder of the JPM |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 10 Critical <u>Y</u> | Third method for obtaining printout is contained in steps 10-12. |
| | Uses any network personnel computer and logs onto the ATHENA computer |
| Standard: | Logs onto the ATHENA computer |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|---|--|
| Performance Step: 11 Critical <u>Y</u> | Types the number 5 for the RUN OFFICIAL 3D function on the command line. |
| Standard: | Types the number 5 on the RUN OFFICIAL 3D function command line. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 12 Critical <u>Y</u> | Pushes the TAB button to move the cursor to the EXECUTE poke point and then presses the SELECT key on the numerical key pad. |
| Standard: | Tabs the cursor to the EXECUTE poke point and presses the SELECT key. |
| Evaluator Note: | Printer in control room will now print out an official 3D monitor case. |
| Evaluator Cue: | Hand candidate the modified 3D monitor case to be used for the remainder of the JPM |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|-----------------------------|---|
| Performance Step: 13 | C.2-05 Part A, Step 2.b: |
| Critical <u>Y</u> | Record the following data for the most limiting fuel bundle on Form 0225: a. The value of MFLCPR b. Core location of MFLCPR c. Percent rated core flow |
| Standard: | Records data on Form 0225. a. MFLCPR .883 b. Core location 13 - 32 c. % rated core flow 89.9% |
| Evaluator Note: | The highest value of MFLCPR will be displayed on the first line of the printout. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 14 Critical <u>Y</u> | C.2-05 Part A, Step 2.c: Verify MFLCPR is below the Action Limit (0.98 times the Tech Spec Limit) and the Tech Spec Limit. 1) <u>IF</u> MFLCPR is below both limits, <u>THEN</u> initial Form 0225. 2) <u>IF</u> MFLCPR is not below both limits, <u>THEN</u> proceed as follows: a) <u>IF</u> MFLCPR is above the Action Limit, <u>THEN</u> contact a Nuclear Engineer. <p style="text-align: center;"><u>NOTE:</u> Reducing power with recirc flow will not decrease MFLCPR by a significant fraction and may increase MFLCPR. Rod pattern alteration will always be required to return MFLCPR to an acceptable value.</p> b) <u>IF</u> MFLCPR exceeds the Tech Spec Limit, <u>THEN</u> immediately contact a Nuclear Engineer. <u>AND</u> take actions required by Tech Spec 3.11.C and 4 AWI-04.08.01 (EVENT NOTIFICATIONS). |
| Standard: | Verifies MFLCPR is below the Action and Tech Spec limits and checks "YES" on Form 0225 |
| Evaluator Note: | The 0000-E form only contains one place to initial for all 3 values. Therefore, the candidate may wait to initial until all three values are evaluated. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|--|
| Performance Step: 15 Critical <u>N</u> | C.2-05 Part A, Step 2.d: <u>IF</u> MPR or EPR is out of service, <u>THEN</u> verify that guidance for additional actions for Core Thermal Limits Monitoring in Operations Manuals C.4-B.05.09.A (ABNORMAL PROCEDURES – MAIN STEAM PRESSURE REGULATOR FAILURE CAUSING DECREASING PRESSURE) and C.4-B.05.09.B (ABNORMAL PROCEDURES – MAIN STEAM PRESSURE REGULATOR FAILURE CAUSING INCREASING PRESSURE) is followed. |
| Standard: | Determines MPR and EPR are not out of service. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|--|
| Performance Step: 16 Critical <u>N</u> | C.2-05 Part B, Step 3: Demand Official 3D Monitor to calculate the nodal power distribution, <u>AND</u> use the data for the fuel assembly that has its MAPRAT closest to 1.0. |
| Standard: | Evaluates nodal power distribution to find the fuel assembly that has its MAPRAT closest to 1.0. |
| Evaluator Note: | All three thermal limits are printed out when a 3D Monitor is requested. The highest value of MAPRAT will be displayed on the first line of the printout. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|-----------------------------|---|
| Performance Step: 17 | C.2-05 Part B, Step 3: |
| Critical <u>Y</u> | Record the following data for the most limiting fuel bundle on Form 0225: a. The value of MAPRAT b. Core location of MAPRAT c. Percent rated core flow |
| Standard: | Records data on Form 0225. a. MAPRAT .880 b. Core location 35 – 14 - 5 c. % rated core flow 89.9% |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| <p>Performance Step: 18 Critical <u>Y</u></p> | <p>C.2-05 Part B, Step 5.a: Verify MAPRAT is below the Action Limit (0.98 times the Tech Spec Limit) and the Tech Spec Limit.</p> <p>a. <u>IF</u> MAPRAT is below both limits, <u>THEN</u> initial FORM 0207.</p> <p>b. <u>IF</u> MAPRAT is not below both limits, <u>THEN</u> proceed as follows:</p> <p>1) <u>IF</u> MAPRAT is above the Action Limit, <u>AND</u> below the Tech Spec Limit, <u>THEN</u> contact a Nuclear Engineer.</p> <p>2) <u>IF</u> MAPRAT exceeds the Tech Spec Limit, <u>THEN</u> immediately contact a Nuclear Engineer, <u>AND</u> take action required by Tech Spec 3.11.A and 4 AWI-04.08.01.</p> <p style="text-align: center;"><u>NOTE:</u> Reducing power with recirc flow will not decrease MAPRAT by a significant fraction and may increase MAPRAT. Rod pattern alterations will always be required to return MAPRAT to an acceptable value.</p> |
| <p>Standard:</p> | <p>Verifies MAPRAT is below the Action and Tech Spec limits and checks "YES" on Form 0207.</p> |
| <p>Evaluator Note:</p> | <p>The 0000-E form only contains one place to initial for all 3 values. Therefore, the candidate may wait to initial until all three values are evaluated.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

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|---|--|
| <p>Performance Step: 19 Critical <u>N</u></p> | <p>C.2-05 Part B, Step 5.c: <u>IF</u> either the MPR or the EPR is out of service, <u>THEN</u> verify that guidance for additional actions for Core Thermal Limits Monitoring in Operations Manuals C.4-B.05.09.A and C.4-B.05.09.B is followed.</p> |
| <p>Standard:</p> | <p>Determines MPR and EPR are not out of service.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

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|---|---|
| Performance Step: 20 Critical <u>N</u> | C.2-05 Part C, Step 6: Demand the Official 3D Monitor to calculate the nodal power distribution. |
| Standard: | Evaluates nodal power distribution. |
| Evaluator Note: | All three thermal limits are printed out when a 3D Monitor is requested. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 21 Critical <u>N</u> | C.2-05 Part C, Step 7: Scan the Periodic Log to find the highest MFLPD, <u>AND</u> note the MFLPD and the location in the core where it exists. |
| Standard: | Scans Periodic Log and finds the highest MFLPD and its location in the core. |
| Evaluator Note: | The highest value of MFLPD will be displayed on the first line of the printout. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|--|
| Performance Step: 22 Critical <u>Y</u> | C.2-05 Part C, Step 8: Record the following data for the most limiting fuel bundle on Form 0208: a. The value of MFLPD. b. The location of MFLPD. |
| Standard: | Records the data on Form 0208. a. MFLPD 0.990 b. Location of MFLPD 35 - 12 - 5 |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|-----------------------------|--|
| Performance Step: 23 | C.2-05 Part C, Step 9.a: |
| Critical <u>Y</u> | Verify MFLPD is below Action Limit (0.98 times the Tech Spec Limit) and Tech Spec Limit. |
| | a. <u>IF</u> MFLPD is below both limits, <u>THEN</u> initial Form 0208 |
| Standard: | Determines MFLPD is 0.990 |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

Performance Step: 24
Critical Y

C.2-05 Part C, Step 9.b:
IF MFLPD is not below both limits,
THEN proceeds as follows:
1) IF MFLPD is above the Action Limit,
AND below the Tech Spec Limit,
THEN contact the Nuclear Engineer.
2) IF MFLPD exceeds the Tech Spec Limit,
THEN immediately contact a Nuclear Engineer.

CAUTION

Reducing power can cause an increase in MFLCPR or MAPRAT. If any bundle has a MAPRAT or MFLCPR greater than the corresponding Action Limit (0.98 for MAPRAT and 0.98 for MFLCPR), do not reduce power more than 2% prior to contacting a Nuclear Engineer.

a) Reduce power at the maximum allowable rate until MFLPD meets the Tech Spec Limit.

NOTE:

A rapid estimate of the MFLPD can be made by assuming that a power decrease of 1% leads to a MFLPD decrease of 0.01.

Standard:

Observes that MFLPD is above the Action Limit but below the Tech Spec limit, and checks "NO" on Form 0208.
1. Contacts the Nuclear Engineer
2. Notifies CRS that MFLPD is above the Action Limit but below the Tech Spec limit and that reactor power may need to be reduced.

Evaluator Cue:

Another operator will decrease reactor power within acceptable limits.

Performance:

SATISFACTORY _____ UNSATISFACTORY _____

Comments:

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- Reactor power has just been increased from 90% to 98% with the Recirc Flow Control System per C.2-05, LOAD FOLLOWING.

INITIATING CUES (IF APPLICABLE):

- You have been asked to perform the Core Thermal Limits Monitoring for MFLCPR, MAPRAT and MFLPD per Ops Man C.2-05, Section B.1, and determine any required actions if necessary. Record data on Forms 0207, 0208, and 0225 of Operations Daily Log 0000 – Part E. Report when the task is complete.

| | | | | |
|-----------------|--------|---------|--------------------|------------------------------|
| CORE PARAMETERS | | | MONTI C22 3DM DIST | SEQUENCE NO 16 |
| POWER | MWT | 1769 | 3D MONICORE | 17-SEP-2003 12:11 CALCULATED |
| POWER | MWE | 603 | PERIODIC LOG | 17-SEP-2003 12:12 PRINTED |
| FLOW | MLB/HR | 53.499 | CALC RESULTS | CASE ID FMLD1030617121158 |
| FPAPDR | | 0.907 | | RESTART FMLD1030617120213 |
| SUBC | BTU/LB | 24.71 | Keff | 1.0015 |
| PR | PSIa | 1015.8 | XE WORTH % | -2.41 |
| CORE | MWD/sT | 22679.1 | XE/RATED | 1.01 |
| CYCLE | MWD/sT | 2810.2 | | |
| MCPR | | 1.719 | | |

LOAD LINE SUMMARY
 CORE POWER 98.0%
 CORE FLOW 89.9%
 LOAD LINE 104.2%

CORRECTION FACTOR: MFLCPR= 1.007 MFLPD= 1.000 MAPRAT= 0.987
 OPTION: ARTS DUAL LOOP MANUAL FLOW MCPRLIM= 1.470

MOST LIMITING LOCATIONS (NON-SYMMETRIC)

| MFLCPR | LOC | MFLPD | LOC | MAPRAT | LOC | PCRAT | LOC |
|--------|-------|-------|----------|--------|----------|-------|----------|
| 0.883 | 13-32 | 0.990 | 35-12- 5 | 0.880 | 35-14- 5 | 0.986 | 19-40- 3 |
| 0.864 | 17-14 | 0.944 | 13-36- 5 | 0.863 | 13-36- 5 | 0.984 | 17-40- 4 |
| 0.861 | 21-14 | 0.940 | 35-14- 5 | 0.855 | 21-40- 4 | 0.983 | 39-34- 5 |
| 0.859 | 13-36 | 0.934 | 11-36- 5 | 0.850 | 15-38- 4 | 0.983 | 13-22- 5 |
| 0.859 | 13-34 | 0.930 | 13-34- 5 | 0.838 | 35-12- 5 | 0.981 | 41-32- 5 |
| 0.846 | 15-30 | 0.927 | 21-40- 4 | 0.831 | 13-34- 5 | 0.981 | 31-14- 4 |
| 0.840 | 33-14 | 0.915 | 15-38- 4 | 0.831 | 13-32- 5 | 0.980 | 35-12- 5 |
| 0.839 | 23-16 | 0.910 | 15-30- 4 | 0.828 | 19-40- 4 | 0.979 | 21-12- 3 |
| 0.839 | 11-32 | 0.908 | 19-40- 4 | 0.825 | 11-36- 5 | 0.977 | 39-36- 5 |
| 0.838 | 15-16 | 0.907 | 23-38- 4 | 0.798 | 23-38- 4 | 0.974 | 14-36- 5 |

| SEQ. | A2R4 | C=MFLCPR | D=MFLPD | M=MAPRAT | P=PCRAT | *=MULTIPLE | CORE AVE | AXIAL | | | | | |
|------|------|----------|---------|----------|---------|------------|--------------|----------|----|----|----|----|----|
| | | | | | | | NOTCH REL PW | LOC | | | | | |
| 51 | | | | | | | 00 | 0.076 24 | | | | | |
| 47 | | | | | | | 02 | 0.245 23 | | | | | |
| L | | | | | | | 04 | 0.634 22 | | | | | |
| 43 | | 30 | 00 | 30 | | | 06 | 0.758 21 | | | | | |
| | | | | | | | 08 | 0.884 20 | | | | | |
| 39 | | | | | | | 10 | 0.977 19 | | | | | |
| L | | | | | | | 12 | 1.004 18 | | | | | |
| 35 | | 30 | 00 | 00 | 30 | | 14 | 1.004 17 | | | | | |
| | | c | | | | | 16 | 1.056 16 | | | | | |
| 31 | | | | | | | 18 | 1.044 15 | | | | | |
| L | | | | | | | 20 | 1.110 14 | | | | | |
| 27 | | 00 | 00 | 00 | 00 | | 22 | 1.144 13 | | | | | |
| | | | | | | | 24 | 1.183 12 | | | | | |
| 23 | | | | | | | 26 | 1.215 11 | | | | | |
| L | | | | | | | 28 | 1.212 10 | | | | | |
| 19 | | 30 | 00 | 00 | 00 | 30 | 30 | 1.214 09 | | | | | |
| | | | | | | | 32 | 1.247 08 | | | | | |
| 15 | | | | | | | 34 | 1.262 07 | | | | | |
| L | | | | | * | | 36 | 1.299 06 | | | | | |
| 11 | | 30 | 00 | 30 | | | 38 | 1.340 05 | | | | | |
| | | | | | | | 40 | 1.344 04 | | | | | |
| 07 | | | | | | | 42 | 1.258 03 | | | | | |
| L | | | | | | | 44 | 1.125 02 | | | | | |
| 03 | L | L | L | L | L | L | 46 | 0.361 01 | | | | | |
| | 02 | 06 | 10 | 14 | 18 | 22 | 26 | 30 | 34 | 38 | 42 | 46 | 50 |

CORE AVERAGE RADIAL POWER DISTRIBUTION
 RING # 1 2 3 4 5 6 7
 REL PW 0.837 1.325 1.225 1.261 1.302 1.105 0.420

| MONTI | C22 | 3DM | DIST | INSTRUMENT READINGS/STATUS CALIBRATED LPRM READINGS | | | | | |
|-------|------|-------|------|--|-------|------|-------|------|--|
| 45D | | | | 21.4 | 25.4 | 18.3 | | | |
| C | | | | 34.1 | 0.0 | 30.7 | | | |
| B | | | | 0.0 | 42.0 | 38.3 | | | |
| A | | | | 55.3 | 50.7 | 46.5 | | | |
| 37D | | | | 27.3 | 24.7 | 27.4 | 23.8 | 18.6 | |
| C | | | | 41.6 | 42.0 | 43.0 | 40.4 | 30.3 | |
| B | | | | 52.2 | 52.4 | 53.7 | 52.9 | 39.0 | |
| A | | | | 60.5 | 63.9P | 67.2 | 68.1 | 44.5 | |
| 29D | 19.8 | 28.3C | | 27.2 | 24.2 | 28.5 | 25.4 | | |
| C | 25.5 | 41.2 | | 45.8 | 43.0 | 44.1 | 34.1 | | |
| B | 28.5 | 51.1 | | 53.9 | 51.5 | 53.9 | 42.6 | | |
| A | 26.1 | 60.5 | | 61.1 | 61.9 | 64.9 | 51.6 | | |
| 21D | | | | 30.6 | 27.4 | 26.0 | 25.4 | 20.9 | |
| C | | | | 44.3 | 43.2 | 45.4 | 43.2 | 33.9 | |
| B | | | | 55.0 | 51.4 | 53.2 | 53.2 | 44.1 | |
| A | | | | 61.5 | 58.1 | 63.4 | 64.5 | 56.9 | |
| 13D | | | | 20.9 | 23.3 | 27.3 | 27.1 | | |
| C | | | | 35.2 | 41.5 | 42.2 | 41.4 | | |
| B | | | | 0.0 | 55.6 | 51.9 | 53.0 | | |
| A | | | | 44.8 | 70.2 | 59.4 | 63.5* | | |
| 05D | | | | | | 19.4 | | | |
| C | | | | | | 0.0 | | | |
| B | | | | | | 28.4 | | | |
| A | | | | | | 26.3 | | | |
| | 04 | 12 | 20 | 28 | 36 | 44 | | | |

SEQUENCE NO 16
 17-SEP-2003 12:11 CALCULATED
 17-SEP-2003 12:12 PRINTED
 CASE ID FMLD1020520110024
 LPRM SHAPE - FULL CORE

FAILED SENSORS:
 LPRM (4 SIGNAL FAILED)
 1213B 2045B 2805C 2845C
 LPRM (0 PANACEA REJECTED)
 LPRM (2 PANACEA REJECTED)
 1237A 3645A
 NONE

T = TIP RUN RECOMMENDED

T = TIP RUN RECOMMENDED
 D = MFLPD LOCATION
 P = PCRAT LOCATION
 P = PCRAT LOCATION
 * = MULTIPLE LIMIT

CORE SUMMARY

| | | | | | |
|------------|--------|---------------|-------|---------------------|-------|
| CORE POWER | 98.0% | CALC SUB FLOW | 89.4% | DP MEAS PSI | 14.73 |
| CORE FLOW | 89.9% | OPER SUB FLOW | -1.7% | DP CALC PSI | 17.85 |
| LOAD LINE | 104.2% | FLOW BASIS | MEAS | FEEDWTR FLOW MLB/HR | 7.07 |

APRM CALIBRATION

| READING | A | B | C | D | E | F |
|-------------|-------|-------|-------|-------|-------|-------|
| AGAF | 99.7 | 99.3 | 99.3 | 99.6 | 99.5 | 99.0 |
| | 0.983 | 0.987 | 0.987 | 0.984 | 0.985 | 0.990 |
| APRM - %CTP | 1.7 | 1.3 | 1.3 | 1.6 | 1.5 | 1.0 |

TIP RUNS RECOMMENDED

STRINGS: NONE

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| | JOB PERFORMANCE MEASURE (JPM) |
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SITE: MONTICELLO

TASK TITLE: INDEPENDENT VERIFICATION

JPM NUMBER: A.1.b **REV.** 8

RELATED PRA INFORMATION: NONE

TASK NUMBERS: CR206.102

K/A NUMBERS: Generic 2.1.29

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

Maximum Time for Completion: 30 Minutes Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO/RO

Additional signatures may be added as needed.

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

A.1.b

JPM Number: _____

JPM Title: INDEPENDENT VERIFICATION _____

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SIMULATOR SETUP:

1. Initialize to IC-246 where HPCI is operable.
2. Place the handswitch for HPCI MO-2062 to the OPEN position.
3. Verify CV-3503 set at 47%.
4. Verify FIC-23-108 is in BAL and set to 87%.
5. Fill out Procedure 0255-06-IA-1 as follows:
 - Shift Supervisor approval on coversheet.
 - Reason to Perform – Quarterly. (In conjunction with no other tests.)
 - Fill in prerequisites:
 - RWP established.
 - N/A
 - Current time plus 15 minutes
 - I&C notified
 - Chemistry notified
 - 47% open
 - Verified Torus level ~ 1.0" (check indication)
 - RHR is available
 - Fill in numbers and initial STEP 1 through 68.

INITIAL CONDITIONS:

- The routine quarterly HPCI pump and valve surveillance has just been completed.

INITIATING CUES:

- The Shift Supervisor directs you to perform the required independent verification, for the components in the Control Room, to assure the components are in an ECCS line-up.
- Perform STEP 69 of Test 0255-06-IA-1.

JPM PERFORMANCE INFORMATION

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

Required Materials: See simulator setup

General References: 4AWI-04.04.02, Rev 8; Procedure 0255-06-IA-1, Rev 62

Task Standards: Place the HPCI System 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).

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:
Critical

Standard:

Evaluator Note: The candidate *SHALL* ensure verification is performed separately from the actions of the individual positioning the components.

 The candidate *SHALL NOT* reposition any component on the checklist (4AWI-04.04.02, section 4.3.6.C).

 Violation of either of the above conditions should constitute failure of this JPM.

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

Comments: _____

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| Performance Step: 1 Critical <u>N</u> | 0255-06-IA-1 STEP 69.a: MO-2034 OPEN, handswitch 23A-S2 in NEUTRAL. |
| Standard: | 1. Observes MO-2034 red OPEN indicating light is lit. 2. Observes MO-2034 handswitch is in NEUTRAL. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 2 Critical <u>N</u> | 0255-06-IA-1 STEP 69.b: MO-2035 OPEN, handswitch 23A-S3 in AUTO. |
| Standard: | 1. Observes MO-2035 red OPEN indicating light is lit. 2. Observes MO-2035 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 3 Critical <u>N</u> | 0255-06-IA-1 STEP 69.c: MO-2036 CLOSED, handswitch 23A-S1 in AUTO. |
| Standard: | 1. Observes MO-2036 green CLOSED indicating light is lit. 2. Observes MO-2036 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 4 Critical <u>N</u> | 0255-06-IA-1 STEP 69.d: MO-2061 CLOSED, handswitch 23A-S14 in AUTO. |
| Standard: | 1. Observes MO-2061 green CLOSED indicating light is lit. 2. Observes MO-2061 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>Y</u> | 0255-06-IA-1 STEP 69.e: MO-2062 CLOSED, handswitch 23A-S13 in AUTO. |
| Standard: | 1. Observes MO-2062 red OPEN indicating light is on and green CLOSED indicating light is off. 2. Observes MO-2062 handswitch is in OPEN. 3. Does not reposition switch, notifies Shift Supervisor. |
| Evaluator Cue: | The CRS will have another operator correct the position. Continue with the independent verification. |
| Evaluator Note: | Candidate may * this step and make a comment in the “Comment Section” of the procedure identifying the miss positioned valve. He may also wait to the end to make this comment. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 6 Critical <u>N</u> | 0255-06-IA-1 STEP 69.f: MO-2063 OPEN, handswitch 23A-S4 in AUTO. |
| Standard: | 1. Observes MO-2063 red OPEN indicating light is lit. 2. Observes MO-2063 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 7 Critical <u>N</u> | 0255-06-IA-1 STEP 69.g: MO-2065 CLOSED, handswitch 23A-S10 in AUTO. |
| Standard: | 1. Observes MO-2065 green CLOSED indicating light is lit. 2. Observes MO-2065 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 8 Critical <u>N</u> | 0255-06-IA-1 STEP 69.h: MO-2067 CLOSED, handswitch 23A-S7 in AUTO. |
| Standard: | 1. Observes MO-2067 green CLOSED indicating light is lit. 2. Observes MO-2067 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 9 Critical <u>N</u> | 0255-06-IA-1 STEP 69.i: MO-2068 CLOSED, handswitch 23A-S6 in AUTO. |
| Standard: | 1. Observes MO-2068 green CLOSED indicating light is lit. 2. Observes MO-2068 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 10 Critical <u>N</u> | 0255-06-IA-1 STEP 69.j: MO-2071 CLOSED, handswitch 23A-S8 in AUTO. |
| Standard: | <ol style="list-style-type: none">1. Observes MO-2071 green CLOSED indicating light is lit.2. Observes MO-2071 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 11 Critical <u>Y</u> | 0255-06-IA-1 STEP 69.k: CV-3503 CLOSED, valve controller set at 0% open. |
| Standard: | <ol style="list-style-type: none">1. Observes CV-3503 red OPEN indicating light is lit and green CLOSED indicating light is off.2. Observes CV-3503 load station setting is 47%.3. Does not reposition load station, notifies Shift Supervisor. |
| Evaluator Cue: | The CRS will have another operator correct the position. Continue with the independent verification. |
| Evaluator Note: | Candidate may * this step and make a comment in the “Comment Section” of the procedure identifying the miss positioned controller. He may also wait to the end to make this comment. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 12 Critical <u>N</u> | 0255-06-IA-1 STEP 69.l: Aux Oil Pump handswitch 23A-S17 in AUTO. |
| Standard: | Observes the Aux Oil Pump handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 13 Critical <u>N</u> | 0255-06-IA-1 STEP 69.m: Gland Seal Condenser Blower handswitch 23A-S18 in AUTO. |
| Standard: | Observes the Gland Seal Condenser Blower handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 14 Critical <u>N</u> | 0255-06-IA-1 STEP 69.n: Gland Seal Condensate Pump handswitch 23A-S19 in RUN. |
| Standard: | Observes the Gland Seal Condensate Pump handswitch is in RUN. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 15 Critical <u>Y</u> | 0255-06-IA-1 STEP 69.o: Pump Flow Controller, FIC-23-108, in AUTO at 87%. |
| Standard: | <ol style="list-style-type: none"> 1. Observes the Flow Controller mode selector switch is positioned to BAL. 2. Observes the Flow Controller tape set is at 87%. |
| Evaluator Cue: | The CRS will have another operator correct the position. Continue with the independent verification. |
| Evaluator Note: | Candidate may * this step and make a comment in the “Comment Section” of the procedure identifying the miss positioned controller. He may also wait to the end to make this comment. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- The routine quarterly HPCI pump and valve surveillance has just been completed.

INITIATING CUES:

- The Shift Supervisor directs you to perform the required independent verification, for the components in the Control Room, to assure the components are in an ECCS line-up.
- Perform STEP 69 of Test 0255-06-IA-1.
- Inform the evaluator when you have completed the task.

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| | JOB PERFORMANCE MEASURE (JPM) |
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SITE: MONTICELLO

TASK TITLE: OFF-GAS HYDROGEN ANALYZER CHECKS

JPM NUMBER: JPM-A.2 REV 0

RELATED PRA INFORMATION: NONE

TASK NUMBERS: CR299.271

K/A NUMBERS: Generic 2.2.12

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

Maximum Time for Completion: 30 Minutes Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO/RO

Additional signatures may be added as needed.

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

JPM Number: A.2

JPM Title: OFF-GAS HYDROGEN ANALYZER CHECKS

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SIMULATOR SETUP:

- Initialize the simulator to IC-246.
- Verify annunciator C-252A-28 is forced into alarm.
- Verify a T.I.T. is hanging on Panel C-252 stating that Train 'A' Hydrogen Analyzer 'Z' is out of service for maintenance.
- Verify that chart recorder paper contains a re-zero spike within the past 4 hours for each analyzer except Train A Analyzer 'Z' and Train B Analyzer 'Y'.
- Verify a copy of the 0000-H procedure is located on a clipboard and located at the Leads desk.
- Verify the Off-gas hydrogen analyzers are reading as follows:
 - 0.7 for Train A H2 Analyzer X
 - 0.1 for Train A H2 Analyzer Y
 - Failed high on Train A H2 Analyzer Z
 - 0.2 for Train B H2 Analyzer X
 - 0.3 for Train B H2 Analyzer Y
 - 0.1 for Train B H2 Analyzer Z

INITIAL CONDITIONS:

- The reactor is operating at 100% power.
- The Train 'A' Hydrogen Analyzer 'Z' is out of service for maintenance.

INITIATING CUES (IF APPLICABLE):

- Perform the daily Off-Gas Hydrogen Analyzer Checks per 0000-H, OPERATIONS DAILY LOG – PART H, Test 0209.

JPM PERFORMANCE INFORMATION

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

Required Materials: See simulator setup

General References: Procedure 0000-H; Test 0209, Rev 80

Task Standards: Perform the Daily Off-Gas Hydrogen Analyzer Checks

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 procedure 0000-H, OPERATIONS DAILY LOG – PART H, step 3.
Critical N

Standard: Locates appropriate procedure and step.

Evaluator Note: Procedure 0000-H is normally kept on a clipboard within the Control Room.

Evaluator Cue: After the candidate describes where to get a copy of the procedure hand the candidate a copy of procedure 0000-H.

Performance: SATISFACTORY _____ UNSATISFACTORY _____

Comments: _____

JPM-A.2

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| <p>Performance Step: 2 Critical <u>Y</u></p> | <p>STEP 3 <u>IF</u> an Off-Gas System air ejector is in operation, <u>OR</u> if within 24 hours of expected conditions requiring air ejector operating, <u>THEN</u> perform the following:</p> <p>a. Using Ops Man B.07.02.01-05 (RECOMBINER SYSTEM – SYSTEM OPERATION), determine and check the box for each train’s operable H₂ analyzer channels.</p> <p style="text-align: center;"><u>Train A:</u> X <input type="checkbox"/> Y <input type="checkbox"/> Z <input type="checkbox"/> <u>Train B:</u> X <input type="checkbox"/> Y <input type="checkbox"/> Z <input type="checkbox"/></p> |
| <p>Standard:</p> | <ol style="list-style-type: none"> 1. Monitors AR-7554A and AR-7554B for unsteady indications $\geq -0.1\%$. 2. Contacts the TBO to determine that rotameter readings are greater than 50 CCM and less than full scale and bypass flow is 1800 - 2800 CCM. 3. Determines that the X and Y analyzers are operable for Train A. 4. Determines that all Train B analyzers are operable. |
| <p>Evaluator Cue:</p> | <ol style="list-style-type: none"> 1. If candidate uses process computer to obtain pts OGR121 and OGR126 state that these points are unavailable. 2. If candidate uses SPDS screen 572 state that this screen is unavailable. 3. If candidate questions the unsteady operation of the recorders state that the recorders are unsteady in their operation. 4. Report as the TBO that all off-gas hydrogen analyzer rotameter readings are 65 CCM and bypass flow is 2200 CCM. |
| <p>Evaluator Note:</p> | <p>The simulator is unable to provide unsteady indications on AR-7554A/B.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

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| <p>Performance Step: 3 Critical <u>N</u></p> | <p>STEP 3.a.1) <u>IF</u> an operating train has one or less operable channel, <u>THEN</u> initiate required actions per ODCM-03.01, Table 3.</p> |
| <p>Standard:</p> | <p>Determines that a sufficient number of Off-Gas H₂ Analyzers are in operation.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

JPM-A.2

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| Performance Step: 4 Critical <u>Y</u> | STEP 3.b In matrix below perform the following: 1) Check Yes or No for Train Operating status. |
| Standard: | Places a check in the 'Yes' block for Train A and Train B. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>Y</u> | STEP 3.b.2) Record channel analyzer % H ₂ indications. Indications may be obtained from AR-7554A/B, SPDS display 572, or process computer points OGR121 – OGR126. |
| Standard: | Records the following from AR-7554A/B: <ol style="list-style-type: none"> 1. 0.7 for Train A H₂ Analyzer X 2. 0.1 for Train A H₂ Analyzer Y 3. 0.2 for Train B H₂ Analyzer X 4. 0.3 for Train B H₂ Analyzer Y 5. 0.1 for Train B H₂ Analyzer Z |
| Evaluator Note: | If the candidate attempts to monitor SPDS display 572 or check process computer points OGR121-OGR126, inform the candidate that the hydrogen analyzer readings should be taken from the recorder. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 6 Critical <u>Y</u> | STEP 3.b.3) Check Yes or No for each analyzer re-zeroing within past 8.5 hours. |
| Standard: | <ol style="list-style-type: none"> 1. Determines that analyzer Y on Train B has NOT re-zeroed. 2. Checks NO box for analyzer Y on Train B. |
| Evaluator Note: | Re-zero is determined by a spike on the chart recorder paper within the past 8.5 hours for each hydrogen analyzer. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.2

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| Performance Step: 7 Critical <u>Y</u> | STEP 3.b.3).a) <u>IF</u> an analyzer has not re-zeroed, <u>THEN</u> perform manual re-zeroing of analyzer per Ops Man B.07.02.01-05, <u>AND</u> notify System Engineer during normal working hours. |
| Standard: | 1. Directs the Turbine building operator to re-zero analyzer Y on train B. 2. Informs the system engineer. |
| Evaluator cue: | State that the Turbine building operator has re-zeroed the analyzer. Also, inform him that another operator will inform the system engineer and that he is to continue with the procedure. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 8 Critical <u>Y</u> | STEP 3.b.4) For each train record the difference between its Channel X, Y and Z Highest and Lowest % H ₂ indications, and record reactor power. |
| Standard: | Records Train A H ₂ Analyzer 'Highest-Lowest' difference of 0.6, Train B H ₂ Analyzer 'Highest-Lowest' difference of 0.2, and reactor power of 100%. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.2

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| Performance Step: 9 Critical <u>Y</u> | STEP 3.b.4).a) <u>IF</u> difference is > 0.5%, <u>THEN</u> notify System Engineer during normal working hours, <u>AND</u> notify Shift Supervision to determine actions and notifications. |
| Standard: | <ol style="list-style-type: none"> 1. Determines that the 'Highest-Lowest' difference recorded is > 0.5% and notifies the System Engineer. 2. Informs the CRS that Train 'A' Hydrogen Analyzer 'A' is not operating within design tolerances. |
| Evaluator Note: | The candidate should make an entry in the comments section of the procedure stating that Train 'A' Hydrogen Analyzer 'A' is not operating within design tolerances. He may wait to the completion of procedure to perform this step. |
| Evaluator Cue: | Make a report as the System Engineer that Train 'A' Hydrogen Analyzer X is not operating within design tolerances. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 10 Critical <u>N</u> | STEP 3.c <u>IF</u> the operability status is undetermined, <u>AND</u> Steam Jet Air Ejectors are not in service, <u>THEN</u> contact I&C group to perform Test 0211 (RECOMBINER TRAIN OUTLET HYDROGEN ANALYZER CALIBRATION PROCEDURES) to satisfy 0209 requirements. |
| Standard: | None |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 11 | Makes a comment in the "Comment Section" of the procedure. |
| Critical <u>N</u> | |
| Standard: | The candidate should make an entry in the comments section of the procedure stating that Train 'A' Hydrogen Analyzer 'A' is not operating within design tolerances and that Train 'B' Hydrogen Analyzer 'Y' did not re-zero automatically. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- The reactor is operating at 100% power.
- The Train 'A' Hydrogen Analyzer 'Z' is out of service for maintenance.

INITIATING CUES (IF APPLICABLE):

- Perform the daily Off-Gas Hydrogen Analyzer Checks per 0000-H, OPERATIONS DAILY LOG – PART H, Test 0209.

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| | JOB PERFORMANCE MEASURE (JPM) |
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SITE: MONTICELLO

TASK TITLE: EXPECTED DOSE DETERMINATION TO INSPECT EQUIPMENT

JPM NUMBER: A.3 **REV.** 0

RELATED PRA INFORMATION: NONE

TASK NUMBERS: NL299.107
NL299.128

K/A NUMBERS: Generic 2.3.4

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
 Maximum Time for Completion: 20 Minutes Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO/RO/NLO

Additional signatures may be added as needed.

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

JPM Number: A.3

JPM Title: EXPECTED DOSE DETERMINATION TO INSPECT EQUIPMENT

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

SIMULATOR SETUP:

6. Initialize to IC-246 where HPCI is operable.
7. Place the handswitch for HPCI MO-2062 to the OPEN position.
8. Verify CV-3503 set at 47%.
9. Verify FIC-23-108 is in BAL and set to 87%.
10. Fill out Procedure 0255-06-IA-1 as follows:
 - Shift Supervisor approval on coversheet.
 - Reason to Perform – Quarterly. (In conjunction with no other tests.)
 - Fill in prerequisites:
 - RWP established.
 - N/A
 - Current time plus 15 minutes
 - I&C notified
 - Chemistry notified
 - 47% open
 - Verified Torus level ~ 1.0" (check indication)
 - RHR is available
 - Fill in numbers and initial STEP 1 through 68.

INITIAL CONDITIONS:

- The routine quarterly HPCI pump and valve surveillance has just been completed.

INITIATING CUES:

- The Shift Supervisor directs you to perform the required independent verification, for the components in the Control Room, to assure the components are in an ECCS line-up.
- Perform STEP 69 of Test 0255-06-IA-1.

JPM PERFORMANCE INFORMATION

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

Required Materials: See simulator setup

General References: 4AWI-04.04.02, Rev 8; Procedure 0255-06-IA-1, Rev 62

Task Standards: Place the HPCI System 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).

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:
Critical

Standard:

Evaluator Note: The candidate *SHALL* ensure verification is performed separately from the actions of the individual positioning the components.

The candidate *SHALL NOT* reposition any component on the checklist (4AWI-04.04.02, section 4.3.6.C).

Violation of either of the above conditions should constitute failure of this JPM.

Performance: SATISFACTORY _____ UNSATISFACTORY _____

Comments: _____

| | |
|----------------------------|--|
| Performance Step: 1 | 0255-06-IA-1 STEP 69.a: MO-2034 OPEN, handswitch 23A-S2 in NEUTRAL. |
| Critical <u>N</u> | |
| Standard: | 3. Observes MO-2034 red OPEN indicating light is lit. 4. Observes MO-2034 handswitch is in NEUTRAL. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|----------------------------|---|
| Performance Step: 2 | 0255-06-IA-1 STEP 69.b: MO-2035 OPEN, handswitch 23A-S3 in AUTO. |
| Critical <u>N</u> | |
| Standard: | 3. Observes MO-2035 red OPEN indicating light is lit. 4. Observes MO-2035 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|----------------------------|---|
| Performance Step: 3 | 0255-06-IA-1 STEP 69.c: MO-2036 CLOSED, handswitch 23A-S1 in AUTO. |
| Critical <u>N</u> | |
| Standard: | 3. Observes MO-2036 green CLOSED indicating light is lit. 4. Observes MO-2036 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 4 Critical <u>N</u> | 0255-06-IA-1 STEP 69.d: MO-2061 CLOSED, handswitch 23A-S14 in AUTO. |
| Standard: | 3. Observes MO-2061 green CLOSED indicating light is lit. 4. Observes MO-2061 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>Y</u> | 0255-06-IA-1 STEP 69.e: MO-2062 CLOSED, handswitch 23A-S13 in AUTO. |
| Standard: | 4. Observes MO-2062 red OPEN indicating light is on and green CLOSED indicating light is off. 5. Observes MO-2062 handswitch is in OPEN. 6. Does not reposition switch, notifies Shift Supervisor. |
| Evaluator Cue: | The CRS will have another operator correct the position. Continue with the independent verification. |
| Evaluator Note: | Candidate may * this step and make a comment in the “Comment Section” of the procedure identifying the miss positioned valve. He may also wait to the end to make this comment. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|--|---|
| Performance Step: 6 Critical <u>N</u> | 0255-06-IA-1 STEP 69.f: MO-2063 OPEN, handswitch 23A-S4 in AUTO. |
| Standard: | 3. Observes MO-2063 red OPEN indicating light is lit. 4. Observes MO-2063 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|--|---|
| Performance Step: 7 Critical <u>N</u> | 0255-06-IA-1 STEP 69.g: MO-2065 CLOSED, handswitch 23A-S10 in AUTO. |
| Standard: | 3. Observes MO-2065 green CLOSED indicating light is lit. 4. Observes MO-2065 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|--|---|
| Performance Step: 8 Critical <u>N</u> | 0255-06-IA-1 STEP 69.h: MO-2067 CLOSED, handswitch 23A-S7 in AUTO. |
| Standard: | 3. Observes MO-2067 green CLOSED indicating light is lit. 4. Observes MO-2067 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|--|---|
| Performance Step: 9 Critical <u>N</u> | 0255-06-IA-1 STEP 69.i: MO-2068 CLOSED, handswitch 23A-S6 in AUTO. |
| Standard: | 3. Observes MO-2068 green CLOSED indicating light is lit. 4. Observes MO-2068 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 10 Critical <u>N</u> | 0255-06-IA-1 STEP 69.j: MO-2071 CLOSED, handswitch 23A-S8 in AUTO. |
| Standard: | 3. Observes MO-2071 green CLOSED indicating light is lit. 4. Observes MO-2071 handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 11 Critical <u>Y</u> | 0255-06-IA-1 STEP 69.k: CV-3503 CLOSED, valve controller set at 0% open. |
| Standard: | 4. Observes CV-3503 red OPEN indicating light is lit and green CLOSED indicating light is off. 5. Observes CV-3503 load station setting is 47%. 6. Does not reposition load station, notifies Shift Supervisor. |
| Evaluator Cue: | The CRS will have another operator correct the position. Continue with the independent verification. |
| Evaluator Note: | Candidate may * this step and make a comment in the “Comment Section” of the procedure identifying the miss positioned controller. He may also wait to the end to make this comment. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 12 Critical <u>N</u> | 0255-06-IA-1 STEP 69.l: Aux Oil Pump handswitch 23A-S17 in AUTO. |
| Standard: | Observes the Aux Oil Pump handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 13 Critical <u>N</u> | 0255-06-IA-1 STEP 69.m: Gland Seal Condenser Blower handswitch 23A-S18 in AUTO. |
| Standard: | Observes the Gland Seal Condenser Blower handswitch is in AUTO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 14 Critical <u>N</u> | 0255-06-IA-1 STEP 69.n: Gland Seal Condensate Pump handswitch 23A-S19 in RUN. |
| Standard: | Observes the Gland Seal Condensate Pump handswitch is in RUN. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 15 Critical <u>Y</u> | 0255-06-IA-1 STEP 69.o: Pump Flow Controller, FIC-23-108, in AUTO at 87%. |
| Standard: | 3. Observes the Flow Controller mode selector switch is positioned to BAL. 4. Observes the Flow Controller tape set is at 87%. |
| Evaluator Cue: | The CRS will have another operator correct the position. Continue with the independent verification. |
| Evaluator Note: | Candidate may * this step and make a comment in the "Comment Section" of the procedure identifying the miss positioned controller. He may also wait to the end to make this comment. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- The routine quarterly HPCI pump and valve surveillance has just been completed.

INITIATING CUES:

- The Shift Supervisor directs you to perform the required independent verification, for the components in the Control Room, to assure the components are in an ECCS line-up.
- Perform STEP 69 of Test 0255-06-IA-1.
- Inform the evaluator when you have completed the task.

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| | JOB PERFORMANCE MEASURE (JPM) |
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SITE: MONTICELLO

TASK TITLE: RESPONSE TO A LARGE DIESEL FUEL SPILL

JPM NUMBER: JPM-A.4 **REV.** 0

RELATED PRA INFORMATION: NONE

TASK NUMBERS: CR299.147

K/A NUMBERS: Generic 2.4.26

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

Maximum Time for Completion: 20 Minutes Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO/RO

Additional signatures may be added as needed.

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|----------------------|---|------|
| Developed by: | Instructor | Date |
| Validated by: | Validation Instructor (See JPM Validation Checklist, Attachment 1) | Date |
| Approved by: | Training Supervisor | Date |

JPM Number: JPM-A.4

JPM Title: RESPONSE TO A LARGE DIESEL FUEL SPILL

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SIMULATOR SETUP:

- None

INITIAL CONDITIONS:

- Reactor is operating normally at 100% power.
- The Diesel Fuel Service Pump (P-77) is tagged out for repairs.

INITIATING CUES (IF APPLICABLE):

- The Turbine building operator calls the Control Room and reports there is 3 inches of Diesel Fuel on the floor in the 11 EDG Day Tank room. The fuel is coming from the Day Tank overflow line and demands that the Diesel Fuel Transfer Pump be shutdown immediately. The Control Room Supervisor directs you to perform the immediate actions for a large oil spill. Inform the Control Room Supervisor when all immediate actions are complete.

| | |
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| Performance Step: 2 Critical <u>N</u> | Note 1: The containment and cleanup of spills, leaks or uncontrolled discharges SHALL be initiated immediately after notice of the discharge. Note 2: A large spill/leak is one that is not easily isolated, contained and is > 5 gallons. Plant Maintenance and Operations Personnel may be required for containment and/or recovery activities at the direction of the Shift Manager/Shift Supervisor Note 3: Section 6.2.4 is a recommendation by the MPCA from the oil spill drill conducted in late October, 1996. Note 4: Response activities SHALL NOT be attempted if contact with the spilled material is likely to occur, or if donning of specialized PPE is required. Step 6.2.1 The Shift Manger/Shift supervisor SHALL be notified immediately of the spill/leak once discovered. |
| Standard: | Recognizes that the Control Room Supervisor already knows of the spill since in the Initiating cues the CRS directed him to perform the immediate actions for a Diesel spill. Candidate may state that he would notify other members of crew management. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 3 Critical <u>Y</u> | Step 6.2.2 Using the plant PA system, inform personnel of the spill/leak location and direct unnecessary personnel to remain clear of the affected area. |
| Standard: | Makes an announcement on the PA system such as: “Attention plant personnel, attention plant personnel, a diesel fuel oil spill has occurred in the No. 11 EDG Day Tank Room. All non-essential personnel stand clear of the No. 11 EDG Day Tank Room.” |
| Evaluator Note: | Announcement may not be verbatim, but should be similar. Candidate should repeat the above announcement a second time (this is not part of the critical task). Candidate may call out the Fire Brigade to combat the spill. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 4 Critical <u>Y</u> | Step 6.2.3 Direct the isolation and/or containment of the spill/leak. Local damage control methods such as trenching, sand bagging, and barricading should be employed when possible to prevent the spread of hazardous chemicals. |
| Standard: | Verbalizes securing the Diesel Fuel Transfer pump by placing 42-4202/CS to STOP. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>N</u> | Step 6.2.4 In the event of a large oil spill > 5 gallons, immediately consider initiating one or both of the following options to prevent spilled oil from being discharged directly to the river or discharge canal: A. Obtain one or more storm drain blocker(s) (36"x36"; 30 lb rubber mats) from the east or west end of Turbine Building Addition(TBA) and apply (yellow side up) to the nearest affected storm drain(s). B. Use containment/spill control materials from most convenient spill control equipment boxes. C. For major spills (>100 gallons), use the site front end loader to dike sand/dirt around the affected storm drain. |
| Standard: | Candidate determines that there is nothing more that can be done to contain the spill. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 6 Critical <u>N</u> | Step 6.2.5 If restricted access to the affected area is desired, contact the Security Shift Supervisor for Security Force assistance. |
| Standard: | Candidate may contact the Security Shift Supervisor for assistance. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 7 Critical <u>Y</u> | Step 6.2.6 Contact one of the following organizations as soon as possible if the spill or leak is more challenging than site personnel can handle. A. Chemical spills only 1. Bay West (Containment/Cleanup Response Contractor) 1-800-279-0456 or 651-291-0456. B. Oil spills only 1. Xcel Electric Utility Construction. a. Keith Olson (Day) 612-630-4505 (Pager) 612-539-0858 b. Steve Smieja (Day) 612-630-4141 (Pager) 612-538-5063 |
| Standard: | Candidate calls one of the Oil spill contact numbers. |
| Evaluator Note: | Candidate may determine that the spill is within the capabilities of the plant and no other contact is needed. This step is critical only if the candidate determines if spill is more challenging than site personnel can handle. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 8 Critical <u>Y</u> | Step 6.2.7 Inform the Environmental Coordinator of the event to provide spill containment and cleanup guidelines. |
| Standard: | Informs the Environmental Coordinator. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 9 Critical <u>Y</u> | Step 6.2.8 <u>IF</u> spill/leak is within the Reactor Building, Turbine Building, or Radwaste Building, <u>THEN</u> notify the SCTMT Engr to evaluate for potential chemical contamination of the SGBT charcoal filters. |
| Standard: | Informs the SCTMT Engineer. |
| Evaluator Cue: | If candidate continues on and starts performing the steps for Section 6.3 (Detection/Sampling and Analysis) or 6.4 (Cleanup/Recovery Actions) than state "Another operator will perform these steps." |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- Reactor is operating normally at 100% power.
- The Diesel Fuel Service Pump (P-77) is tagged out for repairs.

INITIATING CUES (IF APPLICABLE):

- The Turbine building operator calls the Control Room and reports there is 3 inches of Diesel Fuel on the floor in the 11 EDG Day Tank room. The fuel is coming from the Day Tank overflow line and demands that the Diesel Fuel Transfer Pump be shutdown immediately. The Control Room Supervisor directs you to perform the immediate actions for a large oil spill. Inform the Control Room Supervisor when all immediate actions are complete.

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|--|-------------------------------|
| | JOB PERFORMANCE MEASURE (JPM) |
|--|-------------------------------|

SITE: MONTICELLO

TASK TITLE: CORE THERMAL LIMITS MONITORING

JPM NUMBER: JPM-A.1.a **REV.** 1

RELATED PRA INFORMATION: NONE

TASK NUMBERS: SS200.136

K/A NUMBERS: Generic 2.1.19

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

Maximum Time for Completion: 30 Minutes Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO

Additional signatures may be added as needed.

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

JPM-A.1.a

JPM Number: JPM-A.1.a

JPM Title: CORE THERMAL LIMITS MONITORING

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SIMULATOR SETUP:

- Copy of Operations Daily Log – Part E

INITIAL CONDITIONS:

- Reactor power has just been increased from 90% to 98% with the Recirc Flow Control System per C.2-05, LOAD FOLLOWING.

INITIATING CUES (IF APPLICABLE):

- You have been asked to perform the Core Thermal Limits Monitoring for MFLCPR, MAPRAT and MFLPD per Ops Man C.2-05, Section B.1, and determine any required actions if necessary. Record data on Forms 0207, 0208, and 0225 of Operations Daily Log 0000 – Part E. Report when the task is complete.

JPM PERFORMANCE INFORMATION

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

Required Materials: See Simulator Setup

General References: C.2-05, Rev. 13

Task Standards: Perform Core Thermal Limits monitoring

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 procedure C.2-05, POWER OPERATION. |
| Critical <u>N</u> | |
| Standard: | Locates appropriate procedure. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.1.a

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| Performance Step: 2 Critical <u>N</u> | C.2-05 Part A, Step 1: <u>IF</u> process computer is not anticipated to be available during a 24 hour period, <u>THEN</u> contact a Nuclear Engineer to arrange determination of MCPR. |
| Standard: | Determines Process Computer is available. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 3 Critical <u>N</u> | C.2-05 Part A, Step 2.a: When 3D Monicore computer is available, perform the following: b. Demand Official 3D Monitor to calculate core nodal power distribution, <u>AND</u> use MCPR data for the fuel assemblies that are closest to the limiting CPR. |
| | <u>NOTE 4:</u> The most limiting MCPR is edited as MFLCPR on the Periodic Log |
| | <u>NOTE 5:</u> MFLCPR is the Core Maximum ratio of power and flow dependent CPR limit to the bundle's actual CPR. |
| Standard: | Demands an Official 3D Monitor and evaluates MCPR data. |
| Evaluator Note: | A 3D monitor case can be obtained by three different methods. Two using the Toshiba SPDS monitor and one using any network connect personnel computer. Candidates may use any method. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.1.a

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| Performance Step: 4 Critical <u>N</u> | First possible method contained in steps 4-6 |
| Standard: | Verify that the Toshiba SPDS monitor is in the GDP mode. 3. Observes red light above GDP mode indicator is lit, or 4. Pushes the mode button to transfer to the GDP mode. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>Y</u> | Pushes the blue "CORE MENU" button in the lower left corner of the keyboard. |
| Standard: | Pushes the blue "CORE MENU" button. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 6 Critical <u>Y</u> | Pushes the "TAB CURSOR" and uses the roller ball to move the cursor over to the "DEMAND 3DM CASE" square. Pushes the "XMIT" button or the "A-IN" button. |
| Standard: | Moves cursor over the "DEMAND 3DM CASE" square and pushes the "XMIT" or "A-IN" button. |
| Evaluator Note: | Printer in control room will now print out an official 3D monitor case. |
| Evaluator Cue: | Hand candidate the modified 3D monitor case to be used for the remainder of the JPM |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.1.a

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|--|---|
| Performance Step: 7 Critical <u>N</u> | Second method for obtaining printout is contained in steps 7-9. Verifies Toshiba SPDS monitor is in the VT-100 mode |
| Standard: | 3. Observes red light above VT-100 mode indicator is lit, or 4. Pushes the mode button to transfer to the VT-100 mode. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 8 Critical <u>Y</u> | Types the number 5 for the RUN OFFICIAL 3D function on the command line. |
| Standard: | Types the number 5 on the RUN OFFICIAL 3D function command line. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 9 Critical <u>Y</u> | Pushes the TAB button to move the cursor to the EXECUTE poke point and then presses the SELECT/2 key on the numerical key. |
| Standard: | Tabs the cursor to the EXECUTE poke point and presses the SELECT/2 key. |
| Evaluator Note: | Printer in control room will now print out an official 3D monitor case. |
| Evaluator Cue: | Hand candidate the modified 3D monitor case to be used for the remainder of the JPM |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|---|
| Performance Step: 10 Critical <u>Y</u> | Third method for obtaining printout is contained in steps 10-12. |
| | Uses any network personnel computer and logs onto the ATHENA computer |
| Standard: | Logs unto the ATHENA computer |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|---|--|
| Performance Step: 11 Critical <u>Y</u> | Types the number 5 for the RUN OFFICIAL 3D function on the command line. |
| Standard: | Types the number 5 on the RUN OFFICIAL 3D function command line. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|---|--|
| Performance Step: 12 Critical <u>Y</u> | Pushes the TAB button to move the cursor to the EXECUTE poke point and then presses the SELECT key on the numerical key pad. |
| Standard: | Tabs the cursor to the EXECUTE poke point and presses the SELECT key. |
| Evaluator Note: | Printer in control room will now print out an official 3D monitor case. |
| Evaluator Cue: | Hand candidate the modified 3D monitor case to be used for the remainder of the JPM |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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|-----------------------------|---|
| Performance Step: 13 | C.2-05 Part A, Step 2.b: |
| Critical <u>Y</u> | Record the following data for the most limiting fuel bundle on Form 0225: a. The value of MFLCPR b. Core location of MFLCPR c. Percent rated core flow |
| Standard: | Records data on Form 0225. a. MFLCPR .883 b. Core location 13 - 32 c. % rated core flow 89.9% |
| Evaluator Note: | The highest value of MFLCPR will be displayed on the first line of the printout. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

Performance Step: 14
Critical Y

C.2-05 Part A, Step 2.c:
Verify MFLCPR is below the Action Limit (0.98 times the Tech Spec Limit) and the Tech Spec Limit.

- 3) IF MFLCPR is below both limits,
THEN initial Form 0225.
- 4) IF MFLCPR is not below both limits,
THEN proceed as follows:
 - c) IF MFLCPR is above the Action Limit,
THEN contact a Nuclear Engineer.

NOTE:

Reducing power with recirc flow will not decrease MFLCPR by a significant fraction and may increase MFLCPR. Rod pattern alteration will always be required to return MFLCPR to an acceptable value.

- d) IF MFLCPR exceeds the Tech Spec Limit,
THEN immediately contact a Nuclear Engineer.
AND take actions required by Tech Spec 3.11.C and 4 AWI-04.08.01 (EVENT NOTIFICATIONS).

Standard: Verifies MFLCPR is below the Action and Tech Spec limits and checks "YES" on Form 0225

Evaluator Note: The 0000-E form only contains one place to initial for all 3 values. Therefore, the candidate may wait to initial until all three values are evaluated.

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

Comments: _____

JPM-A.1.a

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| Performance Step: 15 Critical <u>N</u> | C.2-05 Part A, Step 2.d: <u>IF</u> MPR or EPR is out of service, <u>THEN</u> verify that guidance for additional actions for Core Thermal Limits Monitoring in Operations Manuals C.4-B.05.09.A (ABNORMAL PROCEDURES – MAIN STEAM PRESSURE REGULATOR FAILURE CAUSING DECREASING PRESSURE) and C.4-B.05.09.B (ABNORMAL PROCEDURES – MAIN STEAM PRESSURE REGULATOR FAILURE CAUSING INCREASING PRESSURE) is followed. |
| Standard: | Determines MPR and EPR are not out of service. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 16 Critical <u>N</u> | C.2-05 Part B, Step 3: Demand Official 3D Monitor to calculate the nodal power distribution, <u>AND</u> use the data for the fuel assembly that has its MAPRAT closest to 1.0. |
| Standard: | Evaluates nodal power distribution to find the fuel assembly that has its MAPRAT closest to 1.0. |
| Evaluator Note: | All three thermal limits are printed out when a 3D Monitor is requested. The highest value of MAPRAT will be displayed on the first line of the printout. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|-----------------------------|---|
| Performance Step: 17 | C.2-05 Part B, Step 3: |
| Critical <u>Y</u> | Record the following data for the most limiting fuel bundle on Form 0225: a. The value of MAPRAT b. Core location of MAPRAT c. Percent rated core flow |
| Standard: | Records data on Form 0225. a. MAPRAT .880 b. Core location 35 – 14 - 5 c. % rated core flow 89.9% |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.1.a

| | |
|---|---|
| <p>Performance Step: 18 Critical <u>Y</u></p> | <p>C.2-05 Part B, Step 5.a: Verify MAPRAT is below the Action Limit (0.98 times the Tech Spec Limit) and the Tech Spec Limit.</p> <p>c. <u>IF</u> MAPRAT is below both limits, <u>THEN</u> initial FORM 0207.</p> <p>d. <u>IF</u> MAPRAT is not below both limits, <u>THEN</u> proceed as follows:</p> <p>3) <u>IF</u> MAPRAT is above the Action Limit, <u>AND</u> below the Tech Spec Limit, <u>THEN</u> contact a Nuclear Engineer.</p> <p>4) <u>IF</u> MAPRAT exceeds the Tech Spec Limit, <u>THEN</u> immediately contact a Nuclear Engineer, <u>AND</u> take action required by Tech Spec 3.11.A and 4 AWI-04.08.01.</p> <p style="text-align: center;"><u>NOTE:</u> Reducing power with recirc flow will not decrease MAPRAT by a significant fraction and may increase MAPRAT. Rod pattern alterations will always be required to return MAPRAT to an acceptable value.</p> |
| <p>Standard:</p> | <p>Verifies MAPRAT is below the Action and Tech Spec limits and checks "YES" on Form 0207.</p> |
| <p>Evaluator Note:</p> | <p>The 0000-E form only contains one place to initial for all 3 values. Therefore, the candidate may wait to initial until all three values are evaluated.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

| | |
|---|--|
| <p>Performance Step: 19 Critical <u>N</u></p> | <p>C.2-05 Part B, Step 5.c: <u>IF</u> either the MPR or the EPR is out of service, <u>THEN</u> verify that guidance for additional actions for Core Thermal Limits Monitoring in Operations Manuals C.4-B.05.09.A and C.4-B.05.09.B is followed.</p> |
| <p>Standard:</p> | <p>Determines MPR and EPR are not out of service.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

JPM-A.1.a

| | |
|---|---|
| Performance Step: 20 Critical <u>N</u> | C.2-05 Part C, Step 6: Demand the Official 3D Monitor to calculate the nodal power distribution. |
| Standard: | Evaluates nodal power distribution. |
| Evaluator Note: | All three thermal limits are printed out when a 3D Monitor is requested. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|---|---|
| Performance Step: 21 Critical <u>N</u> | C.2-05 Part C, Step 7: Scan the Periodic Log to find the highest MFLPD, <u>AND</u> note the MFLPD and the location in the core where it exists. |
| Standard: | Scans Periodic Log and finds the highest MFLPD and its location in the core. |
| Evaluator Note: | The highest value of MFLPD will be displayed on the first line of the printout. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|---|--|
| Performance Step: 22 Critical <u>Y</u> | C.2-05 Part C, Step 8: Record the following data for the most limiting fuel bundle on Form 0208: b. The value of MFLPD. b. The location of MFLPD. |
| Standard: | Records the data on Form 0208. a. MFLPD 1.01 b. Location of MFLPD 35 - 12 - 5 |
| Evaluator Note: | This value is above the Action limit and TS limit. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|---|---|
| Performance Step: 23 Critical <u>Y</u> | C.2-05 Part C, Step 9.a: Verify MFLPD is below Action Limit (0.98 times the Tech Spec Limit) and Tech Spec Limit. b. <u>IF</u> MFLPD is below both limits, <u>THEN</u> initial Form 0208 |
| Standard: | Determines MFLPD is above the Action and Tech Spec limits and checks NO on form 0208. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

Performance Step: 24
Critical Y

- C.2-05 Part C, Step 9.b:
IF MFLPD is not below both limits,
THEN proceeds as follows:
- 3) IF MFLPD is above the Action Limit,
AND below the Tech Spec Limit,
THEN contact the Nuclear Engineer.
 - 4) IF MFLPD exceeds the Tech Spec Limit,
THEN immediately contact a Nuclear Engineer.

CAUTION

Reducing power can cause an increase in MFLCPR or MAPRAT. If any bundle has a MAPRAT or MFLCPR greater than the corresponding Action Limit (0.98 for MAPRAT and 0.98 for MFLCPR), do not reduce power more than 2% prior to contacting a Nuclear Engineer.

- b) Reduce power at the maximum allowable rate until MFLPD meets the Tech Spec Limit.

NOTE:

A rapid estimate of the MFLPD can be made by assuming that a power decrease of 1% leads to a MFLPD decrease of 0.01.

Standard:

3. Immediately contacts the Nuclear Engineer
4. Evaluates that power needs to be reduced approximately 2%. (A caution prevents reducing power by more than 2% without Nuclear Engineer concurrence.)

Evaluator Cue:

If the candidate does not evaluate results state that he is now the Control Room Supervisor and to take appropriate actions as the CRS.

Performance:

SATISFACTORY _____ UNSATISFACTORY _____

Comments:

JPM-A.1.a

Performance Step: 25
Critical Y

- C.2-05 Part C, Step 9.b.2.b) & c):
- c) Take actions required by Tech Spec 3.11.B.
 - d) Inform personnel according to 4AWI.04.08.01.

Standard:

1. Describes actions that need to be taken per Tech Spec 3.11.B.

 “If at any time during operation it is determined that the limiting value for LHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits. If the LHGR is not returned to within the prescribed limits within 2 hours, reduce thermal power to less than 25% within the next 4 hours.”
2. Describe who needs to be notified per 4AWI.04.08.01.
 Part A of Form 3389 (EVENT NOTIFICATIONS)
 - General Superintendent Operations
 - General Superintendent Engineering
 - Superintendent Nuclear Engineering (courtesy call only)
 - Plant Manager
 - Site Vice President

Performance: **SATISFACTORY _____ UNSATISFACTORY _____**

Comments: _____

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- Reactor power has just been increased from 90% to 98% with the Recirc Flow Control System per C.2-05, LOAD FOLLOWING.

INITIATING CUES (IF APPLICABLE):

- You have been asked to perform the Core Thermal Limits Monitoring for MFLCPR, MAPRAT and MFLPD per Ops Man C.2-05, Section B.1, and determine any required actions if necessary. Record data on Forms 0207, 0208, and 0225 of Operations Daily Log 0000 – Part E. Report when the task is complete.

| | | |
|---------------------|--------------------|------------------------------|
| CORE PARAMETERS | MONTI C22 3DM DIST | SEQUENCE NO 16 |
| POWER MWT 1769 | 3D MONICORE | 17-SEP-2003 12:11 CALCULATED |
| POWER MWE 603 | PERIODIC LOG | 17-SEP-2003 12:12 PRINTED |
| FLOW MLB/HR 53.499 | CALC RESULTS | CASE ID FMLD1030617121158 |
| FPAPDR 0.907 | | RESTART FMLD1030617120213 |
| SUBC BTU/LB 24.71 | Keff 1.0015 | LPRM SHAPE - FULL CORE |
| PR PSIA 1015.8 | XE WORTH % -2.41 | LOAD LINE SUMMARY |
| CORE MWD/sT 22679.1 | XE/RATED 1.06 | CORE POWER 98.0% |
| CYCLE MWD/sT 2810.2 | | CORE FLOW 89.9% |
| MCPR 1.719 | | LOAD LINE 104.2% |

CORRECTION FACTOR: MFLCPR= 1.007 MFLPD= 1.000 MAPRAT= 0.987
 OPTION: ARTS DUAL LOOP MANUAL FLOW MCPRLIM= 1.470

MOST LIMITING LOCATIONS (NON-SYMMETRIC)

| MFLCPR | LOC | MFLPD | LOC | MAPRAT | LOC | PCRAT | LOC |
|--------|-------|-------|----------|--------|----------|-------|----------|
| 0.883 | 13-32 | 1.010 | 35-12- 5 | 0.880 | 35-14- 5 | 0.986 | 19-40- 3 |
| 0.864 | 17-14 | 0.944 | 13-36- 5 | 0.863 | 13-36- 5 | 0.984 | 17-40- 4 |
| 0.861 | 21-14 | 0.940 | 35-14- 5 | 0.855 | 21-40- 4 | 0.983 | 39-34- 5 |
| 0.859 | 13-36 | 0.934 | 11-36- 5 | 0.850 | 15-38- 4 | 0.983 | 13-22- 5 |
| 0.859 | 13-34 | 0.930 | 13-34- 5 | 0.838 | 35-12- 5 | 0.981 | 41-32- 5 |
| 0.846 | 15-30 | 0.927 | 21-40- 4 | 0.831 | 13-34- 5 | 0.981 | 31-14- 4 |
| 0.840 | 33-14 | 0.915 | 15-38- 4 | 0.831 | 13-32- 5 | 0.980 | 35-12- 5 |
| 0.839 | 23-16 | 0.910 | 15-30- 4 | 0.828 | 19-40- 4 | 0.979 | 21-12- 3 |
| 0.839 | 11-32 | 0.908 | 19-40- 4 | 0.825 | 11-36- 5 | 0.977 | 39-36- 5 |
| 0.838 | 15-16 | 0.907 | 23-38- 4 | 0.798 | 23-38- 4 | 0.974 | 14-36- 5 |

| SEQ. | A2R4 | C=MFLCPR | D=MFLPD | M=MAPRAT | P=PCRAT | *=MULTIPLE | CORE AVE | AXIAL | | | | | |
|------|------|----------|---------|----------|---------|------------|--------------|----------|----|----|----|----|----|
| | | | | | | | NOTCH REL PW | LOC | | | | | |
| 51 | | | | | | | 00 | 0.076 24 | | | | | |
| 47 | | | | | | | 02 | 0.245 23 | | | | | |
| L | | | | | | | 04 | 0.634 22 | | | | | |
| 43 | | 30 | 00 | 30 | | | 06 | 0.758 21 | | | | | |
| | | | | | | | 08 | 0.884 20 | | | | | |
| 39 | | | | | | | 10 | 0.977 19 | | | | | |
| L | | | | | | | 12 | 1.004 18 | | | | | |
| 35 | | 30 | 00 | 00 | 30 | | 14 | 1.004 17 | | | | | |
| | | C | | | | | 16 | 1.056 16 | | | | | |
| 31 | | | | | | | 18 | 1.044 15 | | | | | |
| L | | | | | | | 20 | 1.110 14 | | | | | |
| 27 | | 00 | 00 | 00 | 00 | | 22 | 1.144 13 | | | | | |
| | | | | | | | 24 | 1.183 12 | | | | | |
| 23 | | | | | | | 26 | 1.215 11 | | | | | |
| L | | | | | | | 28 | 1.212 10 | | | | | |
| 19 | | 30 | 00 | 00 | 00 | 30 | 30 | 1.214 09 | | | | | |
| | | | | | | | 32 | 1.247 08 | | | | | |
| 15 | | | | | | | 34 | 1.262 07 | | | | | |
| L | | | | | * | | 36 | 1.299 06 | | | | | |
| 11 | | 30 | 00 | 30 | | | 38 | 1.340 05 | | | | | |
| | | | | | | | 40 | 1.344 04 | | | | | |
| 07 | | | | | | | 42 | 1.258 03 | | | | | |
| L | | | | | | | 44 | 1.125 02 | | | | | |
| 03 | L | L | L | L | L | L | 46 | 0.361 01 | | | | | |
| | 02 | 06 | 10 | 14 | 18 | 22 | 26 | 30 | 34 | 38 | 42 | 46 | 50 |

CORE AVERAGE RADIAL POWER DISTRIBUTION
 RING # 1 2 3 4 5 6 7
 REL PW 0.837 1.325 1.225 1.261 1.302 1.105 0.420

| MONTI | C22 | 3DM | DIST | INSTRUMENT READINGS/STATUS CALIBRATED LPRM READINGS | | | | | |
|-------|------|-------|------|--|-------|------|-------|------|--|
| 45D | | | | 21.4 | 25.4 | 18.3 | | | |
| C | | | | 34.1 | 0.0 | 30.7 | | | |
| B | | | | 0.0 | 42.0 | 38.3 | | | |
| A | | | | 55.3 | 50.7 | 46.5 | | | |
| 37D | | | | 27.3 | 24.7 | 27.4 | 23.8 | 18.6 | |
| C | | | | 41.6 | 42.0 | 43.0 | 40.4 | 30.3 | |
| B | | | | 52.2 | 52.4 | 53.7 | 52.9 | 39.0 | |
| A | | | | 60.5 | 63.9P | 67.2 | 68.1 | 44.5 | |
| 29D | 19.8 | 28.3C | | 27.2 | 24.2 | 28.5 | 25.4 | | |
| C | 25.5 | 41.2 | | 45.8 | 43.0 | 44.1 | 34.1 | | |
| B | 28.5 | 51.1 | | 53.9 | 51.5 | 53.9 | 42.6 | | |
| A | 26.1 | 60.5 | | 61.1 | 61.9 | 64.9 | 51.6 | | |
| 21D | | | | 30.6 | 27.4 | 26.0 | 25.4 | 20.9 | |
| C | | | | 44.3 | 43.2 | 45.4 | 43.2 | 33.9 | |
| B | | | | 55.0 | 51.4 | 53.2 | 53.2 | 44.1 | |
| A | | | | 61.5 | 58.1 | 63.4 | 64.5 | 56.9 | |
| 13D | | | | 20.9 | 23.3 | 27.3 | 27.1 | | |
| C | | | | 35.2 | 41.5 | 42.2 | 41.4 | | |
| B | | | | 0.0 | 55.6 | 51.9 | 53.0 | | |
| A | | | | 44.8 | 70.2 | 59.4 | 63.5* | | |
| 05D | | | | | | 19.4 | | | |
| C | | | | | | 0.0 | | | |
| B | | | | | | 28.4 | | | |
| A | | | | | | 26.3 | | | |
| | 04 | 12 | 20 | 28 | 36 | 44 | | | |

SEQUENCE NO 16
 17-SEP-2003 12:11 CALCULATED
 17-SEP-2003 12:12 PRINTED
 CASE ID FMLD1020520110024
 LPRM SHAPE - FULL CORE

FAILED SENSORS:
 LPRM (4 SIGNAL FAILED)
 1213B 2045B 2805C 2845C
 LPRM (0 PANACEA REJECTED)
 LPRM (2 PANACEA REJECTED)
 1237A 3645A
 NONE

T = TIP RUN RECOMMENDED

T = TIP RUN RECOMMENDED
 D = MFLPD LOCATION
 P = PCRAT LOCATION
 P = PCRAT LOCATION
 * = MULTIPLE LIMIT

CORE SUMMARY

| | | | | | |
|------------|--------|---------------|-------|---------------------|-------|
| CORE POWER | 98.0% | CALC SUB FLOW | 89.4% | DP MEAS PSI | 14.73 |
| CORE FLOW | 89.9% | OPER SUB FLOW | -1.7% | DP CALC PSI | 17.85 |
| LOAD LINE | 104.2% | FLOW BASIS | MEAS | FEEDWTR FLOW MLB/HR | 7.07 |

APRM CALIBRATION

| READING | A | B | C | D | E | F |
|-------------|-------|-------|-------|-------|-------|-------|
| AGAF | 99.7 | 99.3 | 99.3 | 99.6 | 99.5 | 99.0 |
| | 0.983 | 0.987 | 0.987 | 0.984 | 0.985 | 0.990 |
| APRM - %CTP | 1.7 | 1.3 | 1.3 | 1.6 | 1.5 | 1.0 |

TIP RUNS RECOMMENDED

STRINGS: NONE

| | |
|--|-------------------------------|
| | JOB PERFORMANCE MEASURE (JPM) |
|--|-------------------------------|

SITE: MONTICELLO

TASK TITLE: CREW STAFFING DETERMINATION

JPM NUMBER: JPM-A.1.b **REV.** 0

RELATED PRA INFORMATION: NONE

TASK NUMBERS: SS299.294

K/A NUMBERS: Generic 2.1.4

APPLICABLE METHOD OF TESTING:

Discussion Simulate/walkthrough: Perform:

EVALUATION LOCATION: In-Plant: Control Room:

Simulator: Other:

Lab:

Time for Completion: 7 Minutes Time Critical: NO

Maximum Time for Completion: 14 Minutes Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO

Additional signatures may be added as needed.

| | | |
|----------------------|---|------|
| Developed by: | | |
| | Instructor | Date |
| Validated by: | | |
| | Validation Instructor (See JPM Validation Checklist, Attachment 1) | Date |
| Approved by: | | |
| | Training Supervisor | Date |

JPM-A.1.b

JPM Number: JPM-A.1.b

JPM Title: CREW STAFFING DETERMINATION

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SIMULATOR SETUP:

- Not Applicable

INITIAL CONDITIONS:

- The time is 0930 Sunday morning with the plant operating at 100% power.

INITIATING CUES (IF APPLICABLE):

- Ralph Mack has just informed you that he is leaving immediately due to a personal emergency. He has given a turnover to Tom Waibel, who has just recently completed his proficiency watches as Reactor Operator but is not current on Fire Brigade qualification. You are to identify the staffing adjustments that need to be made, recommendations for call-outs, and time constraints. Vocalize your thought process and report when you have completed the task.

**MNGP Shift Roster
Sunday**

| | Description | Assigned | Assumed At | Relieved At |
|----|-------------------------|----------------|------------|-------------|
| 1 | Shift Manager | Tim Witschen | Today 0635 | |
| 2 | Control Room Supervisor | Greg Rask | Today 0628 | |
| 3 | Work Control Supervisor | Don Modesitt | Today 0638 | |
| 4 | NLPE&RO | Duane VanCulin | Today 0632 | |
| 5 | NPE&RO | Brad Casperson | Today 0640 | |
| 6 | NPE&RO | Ralph Mack | Today 0641 | |
| 7 | NAPEO | Scott Dowd | Today 0632 | |
| 8 | NAPEO | Dave Voisin | Today 0638 | |
| 9 | RP Specialist | Howard Johnson | Today 0628 | |
| 10 | Chemistry Technician | Donald Trump | Today 0625 | |
| 11 | Fire Brigade Leader | Greg Rask | Today 0628 | |
| 12 | Fire Brigade Member #1 | Ralph Mack | Today 0641 | |
| 13 | Fire Brigade Member #2 | Scott Dowd | Today 0632 | |
| 14 | Fire Brigade Member #3 | Howard Johnson | Today 0628 | |
| 15 | Fire Brigade Member #4 | Donald Trump | Today 0625 | |
| 16 | Safe Shutdown Member #1 | Tim Witschen | Today 0635 | |
| 17 | Safe Shutdown Member #2 | Duane VanCulin | Today 0632 | |
| 18 | Safe Shutdown Member #3 | Brad Casperson | Today 0640 | |
| 19 | Safe Shutdown Member #4 | Dave Voisin | Today 0638 | |

Qualified Fire Brigade Members

- Greg Rask
- Ralph Mack
- Scott Dowd
- Howard Johnson
- Donald Trump

JPM PERFORMANCE INFORMATION

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

Required Materials: See Simulator Setup

General References: OWI-01.06, Rev 15; 4AWI-08.01.01, Rev 19

Task Standards: Shift staffing adjusted and actions taken to meet minimum shift staffing within the time constraints

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 | Obtains a current copy of the shift staffing report to determine status of shift staffing. |
| Critical <u>N</u> | |
| Standard: | Reviews the MNGP Shift Roster and identifies that Ralph was filling the position of Fire Brigade Member #1 in addition to NPE&RO. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|--|---|
| Performance Step: 2 Critical <u>Y</u> | Identify the time requirements to have minimum staffing positions filled. |
| Standard: | Determines that minimum staffing must be filled within 2 hours per 4AWI-08.01.01. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

| | |
|--|---|
| Performance Step: 3 Critical <u>Y</u> | 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: | Report as the NLPE&RO that another operator has been called in to replace Tom Waibel as the NPE&RO and as Fire Brigade Member #1 and will be here in 45 minutes. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- The time is 0930 Sunday morning with the plant operating at 100% power.

INITIATING CUES (IF APPLICABLE):

- Ralph Mack has just informed you that he is leaving immediately due to a personal emergency. He has given a turnover to Tom Waibel, who has just recently completed his proficiency watches as Reactor Operator but is not current on Fire Brigade qualification. You are to identify the staffing adjustment that need to be made, recommendations for call-outs, and time constraints. Vocalize your thought process and report when you have completed the task.

**MNGP Shift Roster
Sunday**

| | Description | Assigned | Assumed At | Relieved At |
|----|-------------------------|----------------|------------|-------------|
| 1 | Shift Manager | Tim Witschen | Today 0635 | |
| 2 | Control Room Supervisor | Greg Rask | Today 0628 | |
| 3 | Work Control Supervisor | Don Modesitt | Today 0638 | |
| 4 | NLPE&RO | Duane VanCulin | Today 0632 | |
| 5 | NPE&RO | Brad Casperson | Today 0640 | |
| 6 | NPE&RO | Ralph Mack | Today 0641 | |
| 7 | NAPEO | Scott Dowd | Today 0632 | |
| 8 | NAPEO | Dave Voisin | Today 0638 | |
| 9 | RP Specialist | Howard Johnson | Today 0628 | |
| 10 | Chemistry Technician | Donald Trump | Today 0625 | |
| 11 | Fire Brigade Leader | Greg Rask | Today 0628 | |
| 12 | Fire Brigade Member #1 | Ralph Mack | Today 0641 | |
| 13 | Fire Brigade Member #2 | Scott Dowd | Today 0632 | |
| 14 | Fire Brigade Member #3 | Howard Johnson | Today 0628 | |
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| 16 | Safe Shutdown Member #1 | Tim Witschen | Today 0635 | |
| 17 | Safe Shutdown Member #2 | Duane VanCulin | Today 0632 | |
| 18 | Safe Shutdown Member #3 | Brad Casperson | Today 0640 | |
| 19 | Safe Shutdown Member #4 | Dave Voisin | Today 0638 | |

Qualified Fire Brigade Members

Greg Rask
 Ralph Mack
 Scott Dowd
 Howard Johnson
 Donald Trump

| | |
|--|-------------------------------|
| | JOB PERFORMANCE MEASURE (JPM) |
|--|-------------------------------|

SITE: MONTICELLO

TASK TITLE: OFF GAS HYDROGEN ANALYZER CHECKS

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

RELATED PRA INFORMATION: NONE

TASK NUMBERS: SS299.338, CR299.271

K/A NUMBERS: G 2.2.12

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

Maximum Time for Completion: 30 Minutes Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO

Additional signatures may be added as needed.

| | | |
|----------------------|---|------|
| Developed by: | Instructor | Date |
| Validated by: | Validation Instructor (See JPM Validation Checklist, Attachment 1) | Date |
| Approved by: | Training Supervisor | Date |

JPM-A.2

JPM Number: JPM-A.2

JPM Title: OFF GAS HYDROGEN ANALYZER CHECKS

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SIMULATOR SETUP:

- Initialize the simulator to IC-246.
- Verify annunciator C-252A-28 is forced into alarm.
- Verify a T.I.T. is hanging on Panel C-252 stating that Train 'A' Hydrogen Analyzer 'Z' is out of service for maintenance.
- Verify that chart recorder paper for both trains' analyzers contain a spike within the past 4 hours.
- Verify copy of the 0000-H procedures is on a clipboard and located at the Leads desk.
- Verify the Off-gas hydrogen analyzers are reading as follows:
 - 0.7 for Train A H2 Analyzer X
 - 0.1 for Train A H2 Analyzer Y
 - Failed high on Train A H2 Analyzer Z
 - 0.2 for Train B H2 Analyzer X
 - 0.3 for Train B H2 Analyzer Y
 - 0.1 for Train B H2 Analyzer Z

INITIAL CONDITIONS:

- The reactor is operating at 100% power.
- The Train 'A' Hydrogen Analyzer 'Z' is out of service for maintenance.

INITIATING CUES (IF APPLICABLE):

- Perform the daily Off-Gas Hydrogen Analyzer Checks per 0000-H, OPERATIONS DAILY LOG – PART H, Test 0209.

JPM PERFORMANCE INFORMATION

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

Required Materials: See simulator setup

General References: Procedure 0000-H; Test 0209, Rev 80; ODCM-03.01, Rev 4

Task Standards: Perform the Daily Off-Gas Hydrogen Analyzer Checks

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.

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|----------------------------|--|
| Performance Step: 1 | Locates procedure 0000-H, OPERATIONS DAILY LOG – PART H, step 3. |
| Critical <u>N</u> | |
| Standard: | Locates appropriate procedure and step. |
| Evaluator Note: | Procedure 0000-H is normally kept on a clipboard within the Control Room. |
| Evaluator Cue: | After the candidate describes where to get a copy of the procedure hand the candidate a copy of procedure 0000-H. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.2

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| <p>Performance Step: 2 Critical <u>Y</u></p> | <p>STEP 3 <u>IF</u> an Off-Gas System air ejector is in operation, <u>OR</u> if within 24 hours of expected conditions requiring air ejector operating, <u>THEN</u> perform the following: a. Using Ops Man B.07.02.01-05 (RECOMBINER SYSTEM – SYSTEM OPERATION), determine and check the box for each train’s operable H₂ analyzer channels.</p> <p style="text-align: center;"><u>Train A:</u> X χ Y χ Z χ <u>Train B:</u> X χ Y χ Z χ</p> |
| <p>Standard:</p> | <ol style="list-style-type: none"> 5. Monitors AR-7554A and AR-7554B for unsteady indications $\geq -0.1\%$. 6. Contacts the TBO to determine that rotameter readings are greater than 50 CCM and less than full scale and bypass flow is 1800 - 2800 CCM. 7. Determines that the X and Y analyzers are operable for Train A. 8. Determines that all Train B analyzers are operable. |
| <p>Evaluator Cue:</p> | <ol style="list-style-type: none"> 5. If candidate uses process computer to obtain pts OGR121 and OGR126 state that these points are unavailable. 6. If candidate uses SPDS screen 572 state that this screen is unavailable. 7. If candidate questions the unsteady operation of the recorders state that the recorders are unsteady in their operation. 8. Report as the TBO that all off-gas hydrogen analyzer rotameter readings are 65 CCM and bypass flow is 2200 CCM. |
| <p>Evaluator Note:</p> | <p>The simulator is unable to provide unsteady indications on AR-7554A/B.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

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| <p>Performance Step: 3 Critical <u>N</u></p> | <p>STEP 3.a.1) <u>IF</u> an operating train has one or less operable channel, <u>THEN</u> initiate required actions per ODCM-03.01, Table 3.</p> |
| <p>Standard:</p> | <p>Determines that a sufficient number of Off-Gas H₂ Analyzers are in operation.</p> |
| <p>Performance:</p> | <p>SATISFACTORY _____ UNSATISFACTORY _____</p> |
| <p>Comments:</p> | <p>_____</p> |

JPM-A.2

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| Performance Step: 4 Critical <u>Y</u> | STEP 3.b In matrix below perform the following: 1) Check Yes or No for Train Operating status. |
| Standard: | Places a check in the 'Yes' block for Train A and Train B. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>Y</u> | STEP 3.b.2) Record channel analyzer % H ₂ indications. Indications may be obtained from AR-7554A/B, SPDS display 572, or process computer points OGR121 – OGR126. |
| Standard: | Records the following: 6. 0.7 for Train A H ₂ Analyzer X 7. 0.1 for Train A H ₂ Analyzer Y 8. 0.2 for Train B H ₂ Analyzer X 9. 0.3 for Train B H ₂ Analyzer Y 10. 0.1 for Train B H ₂ Analyzer Z |
| Evaluator Note: | If the candidate attempts to monitor SPDS display 572 or check process computer points OGR121-OGR126, inform the candidate that the hydrogen analyzer readings should be taken from the recorder. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 6 Critical <u>Y</u> | STEP 3.b.3) Check Yes or No for each analyzer re-zeroing within past 8.5 hours. |
| Standard: | 3. Determines that analyzer Y on Train B has NOT re-zeroed. 4. Checks NO box for analyzer Y on Train B. |
| Evaluator Note: | Re-zero is determined by a spike on the chart recorder paper within the past 8.5 hours for each hydrogen analyzer. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.2

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| Performance Step: 7 Critical <u>Y</u> | STEP 3.b.3).a) <u>IF</u> an analyzer has not re-zeroed, <u>THEN</u> perform manual re-zeroing of analyzer per Ops Man B.07.02.01-05, <u>AND</u> notify System Engineer during normal working hours. |
| Standard: | 3. Directs the Turbine building operator to re-zero analyzer Y on train B. 4. Informs the system engineer. |
| Evaluator cue: | State that the Turbine building operator has re-zeroed the analyzer. Also, inform him that another operator will inform the system engineer and that he is to continue with the procedure. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 8 Critical <u>Y</u> | STEP 3.b.4) For each train record the difference between its Channel X, Y and Z Highest and Lowest % H ₂ indications, and record reactor power. |
| Standard: | Records Train A H ₂ Analyzer 'Highest-Lowest' difference of 0.6, Train B H ₂ Analyzer 'Highest-Lowest' difference of 0.2, and reactor power of 100%. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

JPM-A.2

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| Performance Step: 9 Critical <u>Y</u> | STEP 3.b.4).a) <u>IF</u> difference is > 0.5%, <u>THEN</u> notify System Engineer during normal working hours, <u>AND</u> notify Shift Supervision to determine actions and notifications. |
| Standard: | Determines that the 'Highest-Lowest' difference recorded is > 0.5% and notifies the System Engineer. |
| Evaluator Note: | The candidate should make an entry in the comments section of the procedure stating that Train 'A' Hydrogen Analyzer 'A' is not operating within design tolerances. |
| Evaluator Cue: | Make a report as the System Engineer that Train 'A' Hydrogen Analyzer X is not operating within design tolerances. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 10 Critical <u>Y</u> | Declares the Analyzer X on Train 'A' inoperable. |
| Standard: | Declares the Analyzer X on Train 'A' inoperable. |
| Evaluator Cue: | State "You are now the Control Room Supervisor. Given the information contained in the just completed surveillance, take actions accordingly." |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 11 Critical <u>Y</u> | Refers to ODCM-03.01, Section 2.4, Off-Gas Treatment System, and Table 3, Radioactive Gaseous Effluent Monitoring Instrumentation. |
| Standard: | <ol style="list-style-type: none"> 1. Determines that Train 'A' does not meet the minimum number of operable hydrogen monitors. 2. Determines that operation may continue for up to 14 days on Train 'A' with only one operable hydrogen analyzer. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 12 Critical <u>N</u> | STEP 3.c <u>IF</u> the operability status is undetermined, <u>AND</u> Steam Jet Air Ejectors are not in service, <u>THEN</u> contact I&C group to perform Test 0211 (RECOMBINER TRAIN OUTLET HYDROGEN ANALYZER CALIBRATION PROCEDURES) to satisfy 0209 requirements. |
| Standard: | None |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- The reactor is operating at 100% power.
- The Train 'A' Hydrogen Analyzer 'Z' is out of service for maintenance.

INITIATING CUES (IF APPLICABLE):

- Perform the daily Off-Gas Hydrogen Analyzer Checks per 0000-H, OPERATIONS DAILY LOG – PART H, Test 0209.

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| | JOB PERFORMANCE MEASURE (JPM) |
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SITE: MONTICELLO

TASK TITLE: AUTHORIZATION FOR EMERGENCY EXPOSURE CONTROL

JPM NUMBER: JPM-A.3 **REV.** 0

RELATED PRA INFORMATION: NONE

TASK NUMBERS: SS304.116

K/A NUMBERS: Generic 2.3.4

APPLICABLE METHOD OF TESTING:

Discussion: Simulate/walkthrough: Perform:

EVALUATION LOCATION: In-Plant: Control Room:

Simulator: Other:

Lab:

Time for Completion: 10 Minutes Time Critical:

Maximum Time for Completion: 20 Minutes Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO

Additional signatures may be added as needed.

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

JPM Number: JPM-A.2-401-001

JPM Title: AUTHORIZATION FOR EMERGENCY EXPOSURE CONTROL

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SIMULATOR SETUP:

- Provide the candidate a completed Pre-Job Briefing form. Ensure the form states that the task will take approximately 1 hour in a radiation field of 20R/hr.
- Form 5790-401-01 is filled out as follows:
 - Part A with an authorized limit of 10 Rem.
 - Part B with signature.
 - Part C with REC signature.

INITIAL CONDITIONS:

- Severe Fuel Element Failure has occurred.
- Reactor is experiencing an ATWS and is currently at 30% power.
- C.5-2007 is being implemented.
- SBLC has failed to initiate from the Control Room.
- The determination has been made to inject boron using C.5-3102 (ALTERNATE BORON INJECTION WITH CRD).
- Reactor building radiation levels on the 935' floor and CRD pump room are 20 R/hour.
- The TSC is not manned and the Shift Manager has become incapacitated.
- A Pre-Job brief has been completed.

INITIATING CUES (IF APPLICABLE):

- Determine if any additional paperwork or authorization is needed for the operator to perform this task.

JPM PERFORMANCE INFORMATION

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

Required Materials: See Simulator Setup

General References: A.2-401 Rev 8, Form 5790-401-01 Rev 8

Task Standards: Authorization for Emergency Exposure Control

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.

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| Performance Step: 1 | Locates procedure A.2-401 |
| Critical <u>N</u> | |
| Standard: | Locates appropriate procedure and step. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 2 Critical <u>Y</u> | <u>IMPORTANT:</u> In the event a planned emergency exposure is necessary, the following actions should be performed. Although it is preferable to perform and document these steps prior to the exposure, if necessary, <u>the Emergency Director may verbally authorize the increased exposure and complete the documentation at a later time.</u> |
| | Step 6.1.1 Initiate Form 5790-401-01 (EMERGENCY EXPOSURE AUTHORIZATION FORM). |
| Standard: | Determines that the operator will exceed the federal dose limit and form 5790-401-01 needs to be initiated. |
| Evaluator Cue: | Hand candidate Form 5790-401-01 after the candidate verbalizes it is needed. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 3 Critical <u>Y</u> | Step 6.1.2 Complete PART A of the EMERGENCY EXPOSURE AUTHORIZATION as follows: A. Record personal information provided by the individual and/or other exposure control files. B. Record the date the exposure was authorized and the authorized exposure limit (refer to Form 5790-107-04 (EMERGENCY WORK REQUEST) if completed). C. Check the applicable INDIVIDUAL INFORMATION boxes. D. Check the applicable EMERGENCY ACTIONS boxes. E. Thoroughly brief the individual on the consequences of acute emergency exposures (review the EFFECTS OF ACUTE EXPOSURES, FIGURE 7.2) and other aspects of the emergency action. F. Sign and date the completed PART A. |
| Standard: | 1. Reviews completed Part A and B of form 5790-401-01. 2. Determines that the authorized limit is not adequate and changes authorized limit to 20 - 25 Rem. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 4 | Step 6.1.4 Route the completed form to the Radiological Emergency Coordinator for review and Emergency Director approval. |
| Critical <u>Y</u> | |
| Standard: | Signs for Emergency Director approval in Part C. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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

DO NOT PROMPT!

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- Severe Fuel Element Failure has occurred.
- Reactor is experiencing an ATWS and is currently at 30% power.
- C.5-2007 is being implemented.
- SBLC has failed to initiate from the Control Room.
- The determination has been made to inject boron using C.5-3102 (ALTERNATE BORON INJECTION WITH CRD).
- Reactor building radiation levels on the 935' floor and the CRD pump room are 20 R/hour
- The TSC is not manned and the Shift Manager has become incapacitated.
- A Pre-Job brief has been completed.

INITIATING CUES (IF APPLICABLE):

- Determine if any additional paperwork or authorization is needed for the operator to perform this task.

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| | JOB PERFORMANCE MEASURE (JPM) |
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SITE: MONTICELLO

TASK TITLE: AUTHORIZATION FOR POTASSIUM IODIDE USE

JPM NUMBER: JPM-A.4 REV. 0

RELATED PRA INFORMATION: NONE

TASK NUMBERS: SS304.133

K/A NUMBERS: Generic 2.4.36

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

Maximum Time for Completion: 20 Minutes Alternate Path / Faulted NO

TASK APPLICABILITY: SRO

Additional signatures may be added as needed.

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

JPM Number: JPM-A.4

JPM Title: AUTHORIZATION FOR POTASSIUM IODIDE USE

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT:

UNSAT:

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

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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.

SETUP:

- Fill out form 5790-105-01 by initialing steps 1-6 with step 3 and 4 being NA'ed.
- Fill out form 5790-102-3 (MIDAS Generated Follow-up Notification message) with the following checked or filled out.
 1. Location: Monticello Nuclear Generating Plant
 2. Class of Emergency: General
 3. Type of Release: Actual Airborne
 4. Date and time Dose Projection Performed: Today 10 minutes ago
 5. Release Data: Today 10 minutes ago with high levels of ground release for all three.
 6. Dose Projections: High levels of Thyroid dose at the site boundary
 7. Survey Results: Blank
 8. For liquid release to river: Blank
 9. Plant Emergency response actions in progress:
 - On-Site Radiological monitoring checked
 - Site Evacuation checked
 - Other checked with the following words "Thyroid dose is projected to be 30 rem to on-site personnel.
 10. The rest left blank.

INITIAL CONDITIONS:

- A manual reactor scram was inserted following a Loss of Coolant Accident and severe release of radioactivity.
- A General Emergency has been declared and the 15 minute notifications have been completed.
- The last Reactor coolant sample results showed dose equivalent I-131 of 2×10^4 $\mu\text{Ci/gm}$.
- It is expected that the operating crew will be on watch for the next 6 hours before being relieved.
- Control Room Ventilation/Emergency Filtration Treatment System failures have occurred.
- The TSC Emergency Ventilation System is operating as expected.
- The TSC has not been fully manned yet.
- You are the Emergency Director.

INITIATING CUES (IF APPLICABLE):

- Determine what additional protective actions should be taken for personnel remaining on site.

Note: Hand candidate a copy of Form 5790-105-01.

JPM PERFORMANCE INFORMATION

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

Required Materials: None

General References: A.2-304 Rev 7, Form 5790-304-01 Rev 3, Form 5790-105-01 Rev 13

Task Standards: Implement the use of Thyroid Prophylaxis (Potassium Iodide Use)

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.

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| Performance Step: 1 Critical <u>Y</u> | Form 5790-105-01 Step 7 |
| | If the event involves radiological or chemistry implications, direct the duty RPS or Chemist to perform the following duties until the REC position is staffed. a. Duty Chemist to initiate MIDAS. b. In-plant chemistry samples as necessary c. Radiation surveys and air samples as necessary. |
| Standard: | a. Directs duty chemist to initiate MIDAS. b. Directs duty chemist to perform chemistry samples. c. Directs radiation surveys and air samples. |
| Evaluator Cue: | State that Midas has been initiated and in-plant samples and surveys have been completed. Hand the candidate a copy of the Emergency Notification Followup Message. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 2 Critical <u>Y</u> | Reviews the Emergency Notification Followup message. |
| Standard: | Determines that dose to the thyroid for the operators in the Control Room will be 30 Rem. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 3 Critical <u>N</u> | Locates procedure A.2-304 "Thyroid Prophylaxis (Potassium Iodide Use)" |
| Standard: | Locates appropriate procedure and step. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 4 Critical <u>Y</u> | <p>Note: The FDA's Bureau of Radiological Health and Drugs Bulletin Volume XVI, Number 7, recommends the issuance of KI to individuals projected to receive a thyroid dose of 25 rem CDE or more. 25 rem CDE Thyroid is 1000 DAC-hrs and is equivalent to an intake of ~25 uCi of I-131.</p> <p>Step 6.1.5 If the projected thyroid dose, to affected personnel, has exceeded or is projected to exceed 25 rem CDE, then initiate Form 5790-304-01, identify the emergency response facility for which potassium iodide issuance is recommended (initiate a separated form for each affected facility) and forward the form(s) to the Emergency Director for approval. Discuss with the Emergency Director the reason for the recommendation.</p> |
| Standard: | Determines that Form 5790-304-01 should be initiated to begin issuing potassium iodide to the Control Room operators. |
| Evaluator Cue: | After the candidate states that Form 5790-304-01 should be initiated, hand the candidate a copy of the form and direct them to fill it out. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 5 Critical <u>Y</u> | Places a check mark in the space next to "Technical Support Center" on page 1 of Form 5790-304-01. |
| Standard: | Places a check mark in the space next to "Technical Support Center" on page 1 of Form 5790-304-01. |
| Evaluator Cue: | After the candidate places a check mark in the appropriate location on Form 5790-304-01, sign the block for recommendation by the Radiological Emergency Coordinator using current time and date. If asked if the TSC, OSC and EOF are manned, state "The Emergency Response Organization is in the process of staffing." |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

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| Performance Step: 6 Critical <u>Y</u> | Signs the block for approval by the Emergency Director. |
| Standard: | Signs the block for approval by the Emergency Director. |
| Performance: | SATISFACTORY _____ UNSATISFACTORY _____ |
| Comments: | _____ |

Terminating Cues: PRE-APPROVED PROMPT

Inform the candidate that the task is complete.

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- A manual reactor scram was inserted following a Loss of Coolant Accident and severe release of radioactivity.
- The last Reactor coolant sample results showed dose equivalent I-131 of 2×10^4 $\mu\text{Ci/gm}$.
- It is expected that the operating crew will be on watch for the next 6 hours before being relieved.
- Control Room Ventilation/Emergency Filtration Treatment System failures have occurred.
- The TSC Emergency Ventilation System is operating as expected.
- The TSC has not been fully manned yet.
- You are the Emergency Director.

INITIATING CUES (IF APPLICABLE):

- Determine what additional protective actions should be taken for personnel remaining on site.