

Ra 3/14/05

SRO Admin SPMS.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **SRO Shift Turnover**

ID Number: JPM-A1SRO

Revision: 0

*Provide all hard copies*

II. Initiated:



R. J. Ashley  
Developer

*1/28/05*

1/28/05  
Date

III. Reviewed:



Technical Reviewer

*01/28/05*  
Date

IV. Approved:

*N/A*

User Department Supervisor

Date



Nuclear Training Supervisor

*1/28/05*  
Date

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-A1SRO Rev. 0

Task Title: SRO Shift Turnover

System: Conduct of Operations

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 20

Task No.(s): NUTIMS # 119-02-034

Applicable To: SRO X RO \_\_\_\_\_ PEO \_\_\_\_\_

K/A No.: 2.1.3 K/A Rating: 3.0/3.4

Method of Testing:

Simulated Performance: X Actual Performance: \_\_\_\_\_

Location:

Classroom: X Simulator: X In-Plant: X

Task Standards:

At the completion of this JPM, the SRO has performed a review of turn over documents and found incorrect information related to a shift turnover

Required Materials

(procedures, equipment):

- Shift Manager Log (eSOMS)
- MP-14-OPS-GDL200, Attachment 2, MP2/3 Shift Turnover Report
- MP-14-OPS-GDL200, Operations Standards, Section 3.6 and Section 3.7 (Rev. 009)
- DNOS-0306, Dominion Nuclear Standards, "Shift Turnover"

General References:

- MP-14-OPS-GDL200, Operations Standards, Section 3.6 and Section 3.7 (Rev. 009)
- DNOS-0306, Dominion Nuclear Standards, "Shift Turnover"

\*\*\*\* READ TO THE EXAMINEE \*\*\*\*

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-A1SRO

Rev. 0

Initiating Cues:

- Review the required documents prior to assuming shift duties.
- I will act as the off going US.
- Document any problems, if any, on this sheet and report your conclusions to the off going US.

Initial Conditions:

- You are the oncoming US and have just arrived in the control room for the beginning of your shift.
- The eSOMS program is NOT available; however, a hard copy of the Narrative Log for the off-going shift has been printed out. The IT Department is presently working to restore the program.

Simulator Requirements: N/A

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\*\*\*\*\* NOTES TO EXAMINER \*\*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A1SRO

TITLE: **SRO Shift Turnover**

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START TIME: \_\_\_\_\_

STEP 1      X    Performance Steps: Obtain the documents that need to be reviewed prior to assuming shift duties.

GRADE \_\_\_\_ X    Standards:

*Examinee requests the documents that he/she would review. As a minimum, the list should include the following:*

- *MP-14-OPS-GDL200, Attachment 2, MP2/3 Shift Turnover Report*
- *Control Room Log book (ie. eSOMS Narrative Log)*

*The examinee may include additional documents for review [i.e., Surveillance Schedule, Temporary Modifications, Red Tag Index, Night Order Log (for any new night orders), Radwaste Log Book (eSOMS), Radwaste Night Order Book, or Control Room Daily Surveillance MODES 1 & 2, SP 2619A-001 (NOT required)].*

*(There is NO requirement to review these documents prior to assuming the shift, but they may be utilized in a turnover.)*

- Cue:
- **Provide the MP2/3 Shift Turnover Report and the SM Log (eSOMS Narrative Log).**
  - **Inform the examinee that NO surveillances are scheduled for his/her shift.**
  - **If requested, provide MP-14-OPS-GDL200, Operations Standards, and /or DNOS-0306, Shift Turnovers**
- (The above listed additional documents will NOT be available to the examinee. If the examinee does request them, state that they are in use by other individuals, but will be provided prior to the completion of shift turnover.)**

- Comments:
- MP-14-OPS-GDL200, Attachment 2, MP2/3 Shift Turnover Report lists items that should be reviewed prior to assuming shift duties.
  - The examinee may also refer to MP-14-OPS-GDL200, Operations Standards, Attachment 3, Operating Practices, and/or DNOS-0306, Shift Turnovers, for any additional requirements.

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## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A1SRO

TITLE: **SRO Shift Turnover**

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STEP 2      X    Performance Steps: Review the MP2/3 Shift Turnover Report and the SM Log (eSOMS Narrative Log) and ask the off-going operator about anything out of the ordinary.

GRADE \_\_\_\_    X    Standards:

- *During the review of the SM log (eSOMS Narrative log) and the MP2/3 Shift Turnover Report, the examinee should recognize that there is a problem with taking the 'B' LPSI out of service while Facility 2 is protected.*
- *The examinee should also note that there is NO entry on the MP2/3 Turnover Sheet for the "B" LPSI Pump under either the TS LCO and TRM ACTION Statements or Plant Systems And Alternate Plant Configurations.*

Cue:    • **If necessary, review equipment out of service.**  
         • **The 'B' LPSI Pump is being removed from service to perform the scheduled PMs.**

Comments:

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Comments:    **After this step is completed, the JPM is considered complete.**

STOP TIME: \_\_\_\_\_

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-A1SRO

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, <b><u>ALL</u></b> critical steps must be completed correctly. If task is Time Critical, it <b><u>MUST</u></b> be completed within the specified time to achieve a satisfactory grade.
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Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 20

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## **EXAMINEE HANDOUT**

JPM ID Number: JPM-1ASRO

### **Initiating Cues:**

- Review the required documents prior to assuming shift duties.
- I will act as the off going US.
- Document any problems, if any, on this sheet and report your conclusions to the off going US.

### **Initial Conditions:**

- You are the oncoming US and have just arrived in the control room for the beginning of your shift.
- The eSOMS program is NOT available; however, a hard copy of the Narrative Log for the off-going shift has been printed out. The IT Department is presently working to restore the program.



# USE AS STAND ALONE JPM

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **SRO AWO Acceptance**

ID Number: JPM-A2SRO

Revision: 0

Provide all handouts,  
except 2604A6

II. Initiated:

R. J. Ashe  
Developer

1/28/05  
Date

III. Reviewed:

See Next Page for Signatures.

Technical Reviewer

Date \_\_\_\_\_

IV. Approved:

User Department Supervisor

Date \_\_\_\_\_

Nuclear Training Supervisor

Date \_\_\_\_\_

## USE AS STAND ALONE JPM

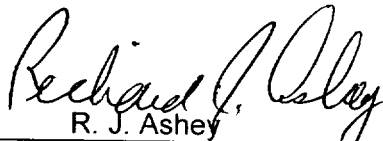
## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **SRO AWO Acceptance**

ID Number: JPM-A2SRO

Revision: 0

II. Initiated:

  
R. J. Ashley  
Developer

1/28/05  
Date

III. Reviewed:

  
Technical Reviewer

1/31/05  
Date

IV. Approved:

N/A  
User Department Supervisor

          
Date

  
Nuclear Training Supervisor

1/31/05  
Date

### SUMMARY OF CHANGES

A/I & Date	DESCRIPTION	REV/CHANGE
11-30-2004	Developed new JPM	0
02/25/2005 (DAP)	Added "as a post maintenance test procedure" to step #3 per comments from the NRC Validation Week.	6

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-A2SRO Rev. 0

Task Title: SRO AWO Acceptance

System: Equipment Control

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 20

Task No.(s): NUTIMS #119-01-098

Applicable To: SRO X RO \_\_\_\_\_ PEO \_\_\_\_\_

K/A No.: 2.2.21 K/A Rating: 2.3/3.5

#### Method of Testing:

Simulated Performance: X Actual Performance: \_\_\_\_\_

#### Location:

Classroom: X Simulator: \_\_\_\_\_ In-Plant: \_\_\_\_\_

Task Standards: - At the completion of this JPM, the examinee will recommend the correct PMT, HPSI Pump IST (SP2604AO-001).

Required Materials  
(procedures, equipment): - MP-20-WP-GDL40 "Pre and Post Maintenance Testing"  
- MP-20-WP-GDL30 "Work Performance"  
- MP-20-WP-GDL20 "Work Order Preparation"  
- SP2604AO "HPSI Pump Inservice Testing,  $\geq$  1,750 psia, Facility 1"  
- Training AWO

General References: MP-20-WP-GDL20, MP-20-WP-GDL40, MP-20-WP-GDL30

#### **\*\*\* READ TO THE EXAMINEE \*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-A2SRO

Rev. 0

Initiating Cues:

- You are the WC-SRO. The AWO for "A" HPSI pump bearing replacement has been returned you. Determine and list below what must be accomplished to close out the AWO.
- Inform the examiner of your completion of this JPM by discussing the conclusions of your evaluation of the work package and your recommendations.

Initial Conditions:

- The "A" HPSI Pump bearing replacement was done as on line maintenance, with the plant at 100% power.
- Tagging clearing and restoration activities are being done by other members of the crew.

Simulator Requirements:      None

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**\*\*\*\* NOTES TO EXAMINER \*\*\*\***

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A2SRO TITLE: SRO AWO Acceptance

---

START TIME: \_\_\_\_\_

STEP 1     \_\_\_ Performance Steps: Review the AWO using guidance in GDL20, GDL30, and GDL40.

GRADE \_\_\_     \_\_\_ Standards:     *The examinee reviews the AWO and requests the following references:*

- MP-20-WP-GDL40 "Pre and Post Maintenance Testing"
- MP-20-WP-GDL30 "Work Performance"
- MP-20-WP-GDL20 "Work Order Preparation"

Cue: **When requested, provide the examinee with the required documentation, including the enclosed GDL40, GDL30 and GDL20.**

Comments:

~~~~~

STEP 2     X Performance Steps: PMT for replacing HPSI pump bearings requires Tech Spec surveillance and IST to be performed, per GDL40 Att. # 3.6.

GRADE \_\_\_     \_\_\_ Standards:

          \_\_\_     X     • *Examinee refers to GDL40, and SP 2604AO.*

                          • *Examinee determines that Tech Spec surveillance SP 2604AO-001 should be done in it's entirety.*

Cue:

Comments: The examinee may also specify that the motor running and starting amperage be taken during the surveillance. (This would be the retest for disconnecting/reconnecting the motor)

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## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A2SRO TITLE: SRO AWO Acceptance

STEP 3      X Performance Steps: Recommendation given to add Tech Spec surveillance  
SP2604AO "HPSI Pump Inservice Testing,  $\geq 1,750$   
psia, Facility 1"

GRADE \_\_\_\_ X Standards: *Examinee makes recommendation to add Tech Spec surveillance SP2604AO "HPSI Pump Inservice Testing,  $\geq$  1,750 psia, Facility 1" to the AWO as a Post Maintenance Test procedure.*

\_\_\_\_\_ (Examinee may add the motor current requirement, also.)

Cue: \_\_\_\_\_

Comments:

Comments: **After this step is completed, the JPM is considered complete.**

~~~~~

**STOP TIME:**

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-A2SRO

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): \_\_\_\_\_

Actual Time to Complete (minutes): 20

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:



## EXAMINEE HANDOUT

JPM Number: JPM-A2RO

Rev. 0

Initiating Cues:

- You are the WC-SRO. The AWO for "A" HPSI pump bearing replacement has been returned you. Determine and list below what must be accomplished to close out the AWO.
- Inform the examiner of your completion of this JPM by discussing the conclusions of your evaluation of the work package and your recommendations.

Initial Conditions:

- The "A" HPSI Pump bearing replacement was done as on line maintenance, with the plant at 100% power.
- Tagging clearing and restoration activities are being done by other members of the crew.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

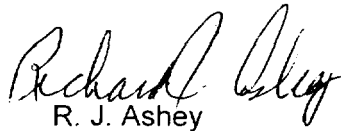
I. JPM Title: **SRO Review and Approve a Radioactive Liquid Waste Release Permit**

ID Number: JPM-A3SRO

Revision: 0

*Provide all handouts*

II. Initiated:

  
R. J. Ashley

Developer

01/27/05

Date

III. Reviewed:

  
Daniel A. Pantalone  
Technical Reviewer

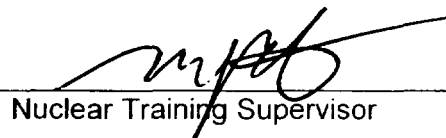
01/31/05  
Date

IV. Approved:

N/A

User Department Supervisor

                      
Date

  
Nuclear Training Supervisor

1/31/05  
Date

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2                      Examinee: \_\_\_\_\_

JPM Number: JPM-A3SRO                      Rev. 0

Task Title: **SRO Review and Approve a Radioactive Liquid Waste Release Permit**

System: Radiation Control

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 10

Task No.(s): NUTIMS # 119-02-026

Applicable To: SRO X RO \_\_\_\_\_ PEO \_\_\_\_\_

K/A No.: 2.3.6 K/A Rating: 2.1/3.1

Method of Testing:

Simulated Performance: X                      Actual Performance: \_\_\_\_\_

Location:

Classroom: X                      Simulator: X                      In-Plant: X

Task Standards:

At the completion of this JPM, the examinee will have discovered a plant operating condition that will NOT allow authorizing a radioactive liquid waste discharge.

Required Materials  
(procedures, equipment):

- SP 2617A Aerated and Clean Radioactive Liquid Waste Discharges
- Chem Form 2864-1, Millstone Unit 2 Liquid Discharge Permit Number 2000

General References:

SP 2617A, Steps 4.2.6 and 4.2.7 (Rev. 027-05)

**\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-A3S

Rev. 0

Initiating Cues: As the SM, you have directed the Radwaste PEO to make preparations to discharge the AWMT. Perform the required actions to authorize the discharge, or list the discrepancies below that would keep you from authorizing the discharge.

Initial Conditions:

- No other radioactive discharges are in progress.
- SP 2617A, section 4.2; steps 4.2.1 through 4.2.5 have been completed.
- Chemistry sample results are acceptable.
- RM-9116 is operable.
- AWMT level is 89%.
- The plant is in MODE 5 preparing the RCS for refueling.
- 2 Circulating Water Pumps operating, 2 Service Water Pumps operating.
- It is one hour past high tide.

Simulator Requirements: N/A

---

### \*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A3SRO TITLE: SRO Approve a Radioactive Liquid Waste Release Permit

---

START TIME: \_\_\_\_\_

STEP 1          Performance Steps: When Chem. Form 2864-001 (Discharge Permit) is obtained from Chemistry Department, SM review and authorize Chem. Form 2864-1, "Millstone Unit #2 Liquid Discharge Permit No. 2005," for discharge.

GRADE          Standards:     *SM should review and initial Chem Form 2864-001. If examinee determines that the discharge should NOT be made at this point, he may elect NOT to initial the permit.*

- Cue:     • **Provide Chem. Form 2864-1 to the examinee.**  
          • **If the examinee determines that the discharge CANNOT be authorized, ask, "Why?"**

Comments:

~~~~~

STEP 2     X Performance Steps: When Chem. Form 2864-001(Discharge Permit) is authorized, refer to OPS Form 2617A-001 and perform the following:

- Review plant conditions and authorize discharge.
- Ensure no other radioactive discharges are in progress (other than SG blowdown) and initial.
- If discharge is to be performed with radiation monitor *not* OPERABLE, Ensure 2 independent samples have been analyzed for AWMT, as specified on Chem Form 2852-1, "Unit 2 Liquid Radwaste Effluent Rad Monitor Inoperative", and Initial.

GRADE     Standards:     *Examinee reviews plant conditions and:*

X                             - *determines that the discharge CANNOT be authorized*

X                             - *because the actual dilution flow rate (with 2 circ Water and 2 Service Water Pumps operating) is less than the Required Dilution Flow Rate on the Discharge Permit.*

- Cue:     **If the examinee determines that the discharge CANNOT be authorized and does NOT provide a reason, ask, "Why?"**

Comments:

~~~~~

Comments:     **After this step is completed, the JPM is considered complete.**

STOP TIME: \_\_\_\_\_

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-A3SRO

Rev. 0

Date Performed:

Operator:

Evaluator(s):

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 10

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM ID Number: JPM-A3SRO

Initiating Cues:

As the SM, you have directed the Radwaste PEO to make preparations to discharge the AWMT. Perform the required actions to authorize the discharge, or list the discrepancies below that would keep you from authorizing the discharge.

Initial Conditions:

- No other radioactive discharges are in progress.
- SP 2617A, section 4.2; steps 4.2.1 through 4.2.5 have been completed.
- Chemistry sample results are acceptable.
- RM-9116 is operable.
- AWMT level is 89%.
- The plant is in MODE 5 preparing the RCS for refueling.
- 2 Circulating Water Pumps operating, 2 Service Water Pumps operating.
- It is one hour past high tide.

**FOR TRAINING ONLY**

Approved

Approval Date

Effective Date

MILLSTONE UNIT #2

LIQUID DISCHARGE PERMIT NO. 2000

(SP43075)

Tank.....: AWMT  
 Sampled by.....: C  
 Minimum Recirc Time.....: 0.5 hr w/ mixer; 4.0 hr w/ pump  
 TSS (ppm) .....: 8.8 (AWMT limit = 45 ppm; CWMT limit = 22.5 ppm)  
 Boric acid conc (ppm).....: 237 pH (>2 pH <12.5) : 8.8  
 Eff. Monitor Bkg = (cpm)...: 1.65E+04

<<< 2 circulating water pumps must be in operation during this discharge >>>  
 During Unit 2 shutdown a minimum dilution flow rate of 20,000 gpm is allowable  
 with the discharge rate limited to 30.5 gpm.

| Isotope | Activity<br>(uCi/ml) | MPC<br>(uCi/ml) | Activity/MPC |
|---------|----------------------|-----------------|--------------|
| MN-54   | 4.766E-06            | 1.000E-04       | 4.766E-02    |
| CO-57   | 3.166E-07            | 4.000E-04       | 7.914E-04    |
| CO-58   | 4.451E-06            | 9.000E-05       | 4.945E-02    |
| CO-60   | 1.032E-04            | 3.000E-05       | 3.442E+00    |
| AG110M  | 9.981E-06            | 3.000E-05       | 3.327E-01    |
| SB-125  | 7.137E-06            | 1.000E-04       | 7.137E-02    |
| XE-133  | 3.095E-06            |                 |              |
| CS-134  | 7.431E-07            | 9.000E-06       | 8.257E-02    |
| CS-137  | 2.167E-06            | 2.000E-05       | 1.084E-01    |
| I-3     | 3.780E-02            | 3.000E-03       | 1.260E+01    |
| Totals  | 1.328E-04 (@)        |                 | 1.673E+01    |

(@) No gasses or H-3 included in totals, however, H-3 is in Activity/MPC col.

Diluted gas concentration (uCi/ml) = 3.517E-09c

Aw INIT \_\_\_\_\_

Minimum recirc time is .....: 0.5 hr w/mixer; 4.0 hr w/pump  
 Administrative quarterly release limit (Ci).....: 5.000E-02  
 Total activity released this quarter (Ci) .....: 3.490E-03  
 Estimated volume this discharge.....: 4000.  
 Estimated activity this discharge.....: 2.011E-03  
 Est total activity released this quarter (Ci).....: 5.501E-03

|                                                       |           |       |           |
|-------------------------------------------------------|-----------|-------|-----------|
| (1) Reduction factor.....:                            | 5.976E-02 |       | S.M. init |
| (2) Required dilution flow rate.....:                 | 308000.   | (gpm) | _____     |
| 3 circ water, 2 service water pump(s)                 |           |       |           |
| (3) Normal rate limit (flow rate = #1*#2*0.1).....:   | 350       | (gpm) | _____     |
| (5) Liquid effluent monitor alarm setting             |           |       |           |
| (ALARM).....:                                         | 107,348   | (cpm) | _____     |
| Maximum approved rate.....:                           | 350       | (gpm) | _____     |
| 'Authorization required to exceed normal rate limit.) |           |       |           |

Source check performed.....: PEB

DISCHARGE

DILUTION

INTEGRATOR

**FOR TRAINING ONLY**



| DATE/TIME                                                  | FLOW RATE<br>(gpm) | READING<br>(4*DIFF=gal) | DISCHARGE<br>RATE (gpm) | OPERATOR |
|------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------|
| Start _____                                                | _____              | _____                   | _____                   | _____    |
| End _____                                                  | _____              | _____                   | _____                   | _____    |
| Liquid eff monitor reading 15 min after start of discharge |                    |                         | _____ (cpm)             |          |
| Total liquid waste discharged = _____ (gal) * 3785         |                    |                         | = _____ (ml)            |          |
| Liquid eff monitor Bkg reading after flush                 |                    |                         | _____ (cpm)             |          |
| SM/US _____                                                | Date _____         | Time _____              |                         |          |

Chem Form 2864-1  
Rev. 1  
Page 1 of 1

**FOR TRAINING ONLY**

**FOR TRAINING ONLY**

# FOR TRAINING ONLY

## Attachment 2

### Evaluation of Rad Monitor Response Based on Isotopic Mix

(Sheet 1 of 1)

Discharge Permit #: 2000

Date: Today

Total Tank Activity:  $1.36 E - 4$  ( $\mu\text{Ci/cc}$ )

Tank Being Discharged: AWMT

| Isotope      | Activity ( $\mu\text{Ci/cc}$ )  | % of Total Activity |
|--------------|---------------------------------|---------------------|
| <u>Co-60</u> | <u><math>1.032 E - 4</math></u> | <u>75.9</u>         |
| <u> </u>     | <u> </u>                        | <u> </u>            |
| <u> </u>     | <u> </u>                        | <u> </u>            |
| <u> </u>     | <u> </u>                        | <u> </u>            |
| <u> </u>     | <u> </u>                        | <u> </u>            |
| <u> </u>     | <u> </u>                        | <u> </u>            |
| <u> </u>     | <u> </u>                        | <u> </u>            |

#### NOTE

Consider gamma yield of each isotope before calculating response factor.

Latest RM response during Cs-137 calibration:  $1.90 E + 08$  cpm/ $\mu\text{Ci/cc}$

Current RM response factor based on isotopic mix:

$$= [1 + (\% \text{Co-60} / 100)] \times [\text{RM response to Cs-137}]$$

$$= [1 + \frac{75.9}{100}] \times [1.90 E 8 \text{ cpm}/\mu\text{Ci/cc}]$$

Current RM response factor based on isotopic mix =  $3.34 E 8$  cpm/ $\mu\text{Ci/cc}$

Performed By: J. Chen

Reviewed By: W. S. Hanger

Level of use  
Information

FOR TRAINING ONLY

SP 2864  
Rev. 004-01  
53 of 55

To be performed  
after scenario #1

## JOB PERFORMANCE MEASURE APPROVAL SHEET

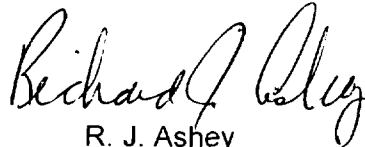
I. JPM Title: **Classify the Event**

ID Number: JPM-A4SRO

Revision: 0

Provide handout  
after the initial  
classification.

II. Initiated:



R. J. Ashley  
Developer

1/21/05  
Date

III. Reviewed:

  
Technical Reviewer

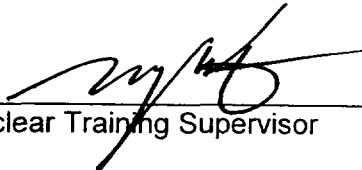
01/28/05  
Date

IV. Approved:

N/A

User Department Supervisor

                      
Date



Nuclear Training Supervisor

1/28/05  
Date

### SUMMARY OF CHANGES

| A/I & Date          | DESCRIPTION       | REV/CHANGE |
|---------------------|-------------------|------------|
| 12/06/2004<br>(SRM) | Developed new JPM | 0          |
|                     |                   |            |
|                     |                   |            |

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A4SRO TITLE: Classify The Event

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2

Examinee: \_\_\_\_\_

JPM Number: JPM-A4SRO

Rev. 0

Task Title: **Classify the Event**

System: Admin

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 20

Task No.(s): NUTIMS # 303-05-091

Applicable To: SRO X RO \_\_\_\_\_ PEO \_\_\_\_\_

K/A No.: 2.4.41 K/A Rating: 2.3/4.1

Method of Testing:

Simulated Performance: \_\_\_\_\_ Actual Performance: X

Location:

Classroom: X Simulator: X In-Plant: X

Task Standards: At the completion of this JPM the examinee will determine the classification of the scenario to be an Alert/C1.

Required Materials  
(procedures, equipment): MP-26-EPI-FAP06-002, Rev. 003 "EAL Tables"  
MP-26-EPI-FAP06-005, Rev. 000-003, "Control Room Protective Action Recommendation"  
MP-26-EPI-FAP01-001 "Control Room-Director of Station Emergency Operations (CR DSEO)"  
MP-26-EPA-REF02 "MP2 EAL Technical Basis Document"  
MP-26-EPI-FAP06, Rev. 000-006, "Classification PAR"

General References: EP-MP-26-EPI-FAP06, Rev. 000-006, "Classification PAR"

\*\*\*\*\* READ TO THE EXAMINEE \*\*\*\*\*

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A4SRO TITLE: Classify The Event

---

### JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-A4SRO

Rev. 0

Initiating Cues:

- You are the Shift Manager.
- Classify the event you have just completed on the simulator.
  - You are to consider all plant conditions during the scenario.
  - Your classification should reflect the most severe classification level reached.

Initial Conditions:

As observed during the previous simulator session.

Simulator Requirements:

Simulator scenario that was run for the evaluation. (ES04LI1)

---

\*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A4SRO TITLE: Classify The Event

---

START TIME: \_\_\_\_\_

STEP 1       X   Performance Steps:    Examinee obtains MP-26-EPI-FAP06-002 "Millstone Unit 2 Emergency Action Levels" and classifies the simulator event that was just completed.

GRADE \_\_\_\_   X   Standards:        • *Examinee determines the classification is Barrier Failure, BA1; Alert Charlie-One.*  
              \_\_\_\_   X                                  • *Based on RCS Barrier, RCB4, Reactor Coolant leak > CVCS capacity AND entry into EOP-2534, Steam Generator Tube Rupture or EOP 2540, Functional Recovery, to address Steam Generator Tube Rupture.*

Cue:

Comments:    All required reference material is available in the simulator.

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A4SRO TITLE: Classify The Event

---

- STEP 2      X Performance Steps:
- Examinee obtains MP-26-EPI-FAP06-002 "Millstone Unit 2 Emergency Action Levels" and classifies the event from the supplied handout.
  - Examinee obtains EP-MP-26-EPI-FAP06, Rev. 000-006, "Classification PAR" and MP-26-EPI-FAP06-005, Rev. 000-003, "Control Room Protective Action Recommendation", and determines the appropriate PAR for the event from the supplied handout.

- GRADE           X Standards:
- *Examinee determines the classification is Barrier Failure, BG1; General Emergency Alpha.*
  - *Based on:*
    - *Fuel Clad Barrier, Potential Loss, FCB4, RVLMS reading = 0%*
    - *RCS Barrier, RCB4, Loss, Reactor Coolant leak > CVCS capacity AND entry into EOP-2534, Steam Generator Tube Rupture or EOP 2540, Functional Recovery, to address Steam Generator Tube Rupture.*
    - *CTMT Barrier, CNB3, Loss, Primary to secondary > Tech Spec limits and a Prolonged release from affected S/G to environment when used for cooldown.*
  - *Examinee determines that the PAR is to evacuate Zones A, B, and E. All other zones must be sheltered.*
- X
- X
- X

Cue:    **Provide the examinee with the handout for Event #2.**

Comments:    All required reference material is available in the simulator.

~~~~~

Comments:    **After this step is completed, the JPM is considered complete.**

STOP TIME:



## VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-A4SRO

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

|                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For examinee to achieve a satisfactory grade, <b><u>ALL</u></b> critical steps must be completed correctly. If task is Time Critical, it <b><u>MUST</u></b> be completed within the specified time to achieve a satisfactory grade. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Time Critical Task? Yes \_\_\_\_\_ No \_\_\_\_\_

Validated Time (minutes): 20

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM ID Number: JPMA4SRO

Rev. 0

Initiating Cues:

- You are the Shift Manager.
- Classify the event you have just completed on the simulator.
  - You are to consider all plant conditions during the scenario.
  - Your classification should reflect the most severe classification level reached.

Initial Conditions:

As observed during the previous simulator session.

Classification Level NRC: \_\_\_\_\_

State: \_\_\_\_\_

Basis: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This event is a continuation of the previous simulator scenario. Time '0' starts shortly after the simulator scenario is terminated. Use all previously available information from the scenario to assist in determining the classification and any applicable PAR for this event. Assume wind speed and direction are at 7 mph from 235° for the remainder of this event.

| Time    | Information                                                                                                                                                                                                                                                                                                                                                                                                                                | Source            |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 0       | Report to the Control Room, "There is a large steam leak in the Enclosure Building by #2 Atmospheric Dump Valve. It appears to be a flange leak, but I can't get close enough to verify that."                                                                                                                                                                                                                                             | PEO               |
| 30 sec. | Observe NO change in Enclosure Building pressure. Determine that the steam leak is NOT large enough to impact any Safety Function. Continue with EOP 2540.                                                                                                                                                                                                                                                                                 | PPO/US            |
| 12 min. | #2 Atmospheric Dump Valve has failed closed and CANNOT be opened from C-05 or locally due to the steam leak. RCS temperature is rising slowly.                                                                                                                                                                                                                                                                                             | SPO               |
| 14 min. | Direction is given to use #1 Atmospheric Dump Valve to stabilize the plant and to feed #1 SG as required to maintain level 40-70%.                                                                                                                                                                                                                                                                                                         | US                |
| 15 min. | #1 Atmospheric Dump Valve is throttled open to stabilize RCS temperature and feed is available to #1 S/G.                                                                                                                                                                                                                                                                                                                                  | SPO               |
| 22 min. | Several Radiation Monitors are in alarm, including the following: <ul style="list-style-type: none"> <li>CTMT HI RANGE Rad Monitors, RM-8240 and RM-8241; reading 3.5 R/hr and rising</li> <li>"A" Main Steam Line Rad Monitors, RM-4299A and RM-4299B; reading 2.5 R/hr and rising.</li> <li>Refuel Bridge Rad Monitor, RM-7891; reading is pegged high</li> <li>Personnel Access Rad Monitor, RM-7890; reading is pegged high</li> </ul> | PPO               |
| 32 min. | Report to the control room that an RCS sample was taken a few minutes ago. The sample has a dose rate of 31 mR/hr/ml at one foot from the sample container.                                                                                                                                                                                                                                                                                | Chemistry / RMT 1 |
| 35 min. | CEDE at the site boundary is 1.2 R/hr and stable.                                                                                                                                                                                                                                                                                                                                                                                          | RMT 2             |
| 38 min. | <ul style="list-style-type: none"> <li>CTMT HI RANGE Rad Monitors, RM-8240 and RM-8241, now reading 43 R/hr and stable. Highest recorded reading was 45 R/hr.</li> <li>"A" Main Steam Line Rad Monitors, RM-4299A and RM-4299B, now reading 22 R/hr and stable. Highest recorded reading was 25 R/hr.</li> </ul>                                                                                                                           | PPO               |

Classification Level    NRC: \_\_\_\_\_

State: \_\_\_\_\_

Basis: \_\_\_\_\_

PAR: \_\_\_\_\_

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **SRO Tag Clearance Approval**

ID Number: JPM-A5SRO

Revision: 0

*Provide all handouts*

II. Initiated:



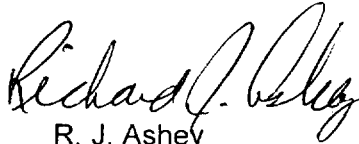
Daniel A. Pantalone

Developer

01/27/05

Date

III. Reviewed:



R. J. Ashley

Technical Reviewer

1/27/05

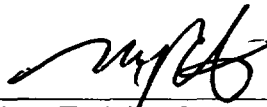
Date

IV. Approved:

N/A

User Department Supervisor

Date



Nuclear Training Supervisor

1/31/05

Date

## SUMMARY OF CHANGES

| A/I & Date          | DESCRIPTION       | REV/CHANGE |
|---------------------|-------------------|------------|
| 11-23-2005<br>(SRM) | Developed new JPM | 0          |
|                     |                   |            |
|                     |                   |            |

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2                      Examinee: \_\_\_\_\_  
JPM Number: JPM-A5SRO                      Rev. 0  
Task Title: Perform Tagging Operations  
System: Administrative  
Time Critical Task: Yes \_\_\_\_\_ No X  
Validated Time (minutes): 15  
Task No.(s): NUTIMS #119-03-170  
Applicable To: SRO X RO \_\_\_\_\_ PEO \_\_\_\_\_  
K/A No.: 2.2.13 K/A Rating: 3.6/3.8

Method of Testing:

Simulated Performance: \_\_\_\_\_ Actual Performance: X

Location:

Classroom: X Simulator: X In-Plant: X

Task Standards:

- At the completion of this JPM, the examinee will have discovered that the tag out is in error. He will recommend the clearance not be approved until the Cross tie valve 2-CHW-125 is added to the clearance and the other Cross tie valve 2-CHW-124 is removed.

Required Materials

(procedures, equipment):

- WC 2 "Tagging"
- Attachment 7 Tagout Request
- Attachment 10, Work Package Tagout Verification/Boundary Sheet
- P&ID 25203-26027 sheet 2 of 4
- P&ID 25203-30011 sheet 12F
- OP-2330C-001 "Chilled Water System Valve Alignment"

General References:

WC 2, Section 1.4, 1.5. (Rev. 6-06)

\*\*\* READ TO THE EXAMINEE \*\*\*

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

# Attachment 9 Manual Tagout Sheet

(Sheet 1 of 1)

~~ANSWER KEY~~

This form is for Manual use only, it is not intended to match a computer generated form.

|                                                                                                               |                                                                          |                                                     |                                        |                                     |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------|-------------------------------------|
| 1. Tagout Number<br><b>R330C62-003</b>                                                                        | 2. Date<br><b>TODAY</b>                                                  | 3. AWO Number ("or Multiple")<br><b>M2-04-03686</b> | 4. Contact Person<br><b>V-TEAM</b>     | Tagout Number<br><b>2330C62-003</b> |
| 5. Equipment<br><b>2-CHW-123 "CHILL WATER PUMP (P-149C) DISCHARGE VALVE"</b>                                  |                                                                          |                                                     | 8. Tag Lift Sheet attached [Comm. 3.4] | <input type="checkbox"/> Yes        |
| 6. Reason tagged<br><b>REPLACE 2-CHW-123, LEAKS PAST SEAT</b>                                                 |                                                                          |                                                     | 9. Additional AWOs under this tagout   | <input type="checkbox"/> Yes        |
| 7. Special Instructions/Caution<br><b>CONTACT CHEMISTRY FOR DRAINING INSTRUCTIONS AND NPDS CONSIDERATIONS</b> |                                                                          |                                                     | 10. Partial restoration                | <input type="checkbox"/> Yes        |
|                                                                                                               |                                                                          |                                                     | 11. Prepared by<br><b>TAG PREPARER</b> |                                     |
| 12a<br>Step<br>No.                                                                                            | Note: Initial position for Blue Tags. N/A if position not required.      |                                                     | 12c. Tag Placed/<br>Action complete    | Independent<br>Verification         |
|                                                                                                               | 12b. Equipment identification and nomenclature and location              |                                                     | Date                                   | Init                                |
| 1                                                                                                             | P149C-HS "CHILLED WTR. PPC" HAND SW (C-80) YELLOW                        |                                                     |                                        |                                     |
| 2                                                                                                             | B2175 "NON-VITAL CHILLED WATER PUMP C" (MCC B21) RED, OFF                |                                                     |                                        |                                     |
| 3                                                                                                             | B2174 "VITAL CHILLER SUPPLEMENTAL" (MCC B21) RED, OFF                    |                                                     |                                        |                                     |
| 4                                                                                                             | 2-CHW-116 "CHILLED WATER PUMP (P-149C) SUCTION ISOLATION" RED, CLOSED    |                                                     |                                        |                                     |
| 5                                                                                                             | 2-CHW-125 "P-149B CROSS TIE TO X196B" RED, CLOSED                        |                                                     |                                        |                                     |
| 6                                                                                                             | 2-CHW-126 "X-196B OUTLET ISOLATION" RED, CLOSED                          |                                                     |                                        |                                     |
| 7                                                                                                             | 2-CHW-123 "CHILLED WATER PUMP (P-149C) DISCHARGE ISOLATION" NO TAG, OPEN |                                                     |                                        |                                     |
| 8                                                                                                             | 2-CHW-174 "P-149C CROSS TIE HEADER VENT" RED, OPEN                       |                                                     |                                        |                                     |
| 9                                                                                                             | 2-CHW-147 "CHILLED WATER PUMP (P-149C) DISCHARGE DRAIN" RED, OPEN        |                                                     |                                        |                                     |
| 13a. Tagout correct and equipment may be isolated<br>SM/US notified for power block.                          |                                                                          |                                                     | 13b. Date                              |                                     |
| <b>ANSWER KEY</b><br>Boundary approved by: _____<br>Authorized to be hung by: _____                           |                                                                          |                                                     |                                        |                                     |

Level of Use  
Information



WC 2  
Rev. 006-06  
76 of 86

JPM-A5320

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-A5SRO

Rev. 0

Initiating Cues:

- You are the WC-SRO, the work package for 2-CHW-123 "Chill Water Pump (P-149C) Discharge Isolation" valve has been reviewed. Approve the prepared tagout.
- The valve must be replaced due to leakage past the seat.
- Restoration information is not required.
- All drawings have been verified "Controlled, Approved and up to date".
- Tags are going to be made up by the PEOs.

Initial Conditions:

- 2-CHW-123 "Chill Water Pump (P-149C) Discharge Isolation" valve is leaking by it's seat.
- Maintenance advised removal and replacement of the valve.
- The Station Tagging Computer Program is unavailable.
- The need for a manual tagout was evaluated and approved by all required personnel.
- The tagout will be entered into the computer as soon as the computer is available.

Simulator Requirements:      None

---

\*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A5SRO    TITLE: SRO Tag Clearance Approval

---

START TIME: \_\_\_\_\_

STEP 1    X Performance Steps:                      -    Review prepared Manual tag out, referring to appropriate sections of WC-2, the P&ID drawings, and the valve alignment OP2330C-001.

GRADE \_\_\_\_ X Standards:                      *The examinee reviews Manual tag out sheet using WC-2, "Tagging", Attachments 9, 10, & 16 as necessary*

*The examinee also refers to the P&IDs for the Chill Water system, and the valve alignment OP 2330C-001. Using the following references:*

X  
X  
\_\_\_\_\_  
  
\_\_\_\_\_

- P&ID 25203-26027 sheet 2 of 4
- P&ID 25203-30011 sheet 12F
- OP-2330C-001 "Chilled Water System Valve Alignment"
- WC-2 "Tagging" Att. 9, 10, & 16.

Cue:    **When requested, provide the examinee with the required documentation, including WC2, "Tagging".**

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A5SRO TITLE: SRO Tag Clearance Approval

STEP 2	<u>X</u> <u>X</u> _____ _____ _____ _____ _____ _____ _____	Performance Steps:	<ul style="list-style-type: none"><li>- Review Tagout for the following:</li><li>- VERIFY tagout provides personnel and equipment safety for the tasks and hazards involved.</li><li>- REFER to Attachment 4 and VERIFY all energy sources and isolation points have been considered.</li><li>- VERIFY tagout does not compromise the operability of other components.</li><li>- IF tagout is a blue tag tagout, ENSURE all work is assigned to a single contact Person.</li><li>- REVIEW effects of tagout on indications, instruments or controls and need for compensatory actions.</li><li>- VERIFY completeness and sequencing of steps.</li><li>- VERIFY correct tag selection for all work packages.</li><li>- Unless required by procedure, ENSURE blue tags are not hung on redundant trains of operable safety related equipment.</li></ul>
--------	---	--------------------	---

GRADE ____	<u>X</u> _____	Standards:	<ul style="list-style-type: none"><li>- <i>Examinee refers to the P&amp;IDs for the Chilled Water System, OP 2330C-001 "Chilled Water Valve Alignment" and discovers that the tag out is in error.</i></li><li>- <i>He also refers to WC-2 "Tagging" section 1.4 &amp; 1.5</i></li></ul>
------------	-------------------	------------	--

Cue: **If requested, provide Attachment 7, Tagout Request.**

Comments:

~~~~~

|        |                            |                    |                                                                                                                                                                                                                                                            |
|--------|----------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP 3 | _____<br>_____<br><u>X</u> | Performance Steps: | <p>IF tag out indicates a deficiency, PERFORM one of the following:</p> <ul style="list-style-type: none"><li>a. NOTIFY a Tag Control Coordinator and RESOLVE the problem.</li><li>b. RETURN tagout to a Tag Control Coordinator for resolution.</li></ul> |
|--------|----------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|            |                   |            |                                                                                                                                                                                                                                               |
|------------|-------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRADE ____ | _____<br><u>X</u> | Standards: | <p><i>Examinee states that he would:</i></p> <ul style="list-style-type: none"><li>- <i>notify the Tag Control Coordinator (PEO) of the issue.</i></li><li>- <i>Recommend adding tag for 2-CHW-125, removing tag for 2-CHW-124.</i></li></ul> |
|------------|-------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A5SRO TITLE: **SRO Tag Clearance Approval**

---

Cue: If examinee does not recommend the tag out be modified then, ask the examinee for his recommendations.

Comments: - The order may differ slightly provided the examinee ensures the tag out is changed.

Comments: **After this step is completed, the JPM is considered complete.**

~~~~~

STOP TIME: \_\_\_\_\_

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-A5SRO

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No \_\_\_\_\_

Validated Time (minutes): 15

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM Number: JPM-A5SRO

Rev 0

### Initiating Cues:

- You are the WC-SRO, the work package for 2-CHW-123 "Chill Water Pump (P-149C) Discharge Isolation" valve has been reviewed. Approve the prepared tagout.
- The valve must be replaced due to leakage past the seat.
- Restoration information is not required.
- All drawings have been verified "Controlled. Approved and up to date".

### Initial Conditions:

- 2-CHW-123 "Chill Water Pump (P-149C) Discharge Isolation" valve is leaking by it's seat.
- Maintenance advised removal and replacement of the valve.
- The Station Tagging Computer Program is unavailable.
- The need for a manual tagout was evaluated and approved by all required personnel.
- The tagout will be entered into the computer as soon as the computer is available.

**Attachment 9**  
**Manual Tagout Sheet**  
(Sheet 1 of 1)

**TRAINING USE  
ONLY**

*This form is for Manual use only, it is not intended to match a computer generated form.*

1. Tagout Number <b>2330C62-003</b>		2. Date <b>TODAY</b>		3. AWO Number ("or Multiple") <b>M2-04-03686</b>		4. Contact Person <b>V-TEAM</b>		Tagout Number <b>2330C62-003</b>																																																																																					
5. Equipment <b>2-CHW-123 "CHILL WATER PUMP (P-149C) DISCHARGE VALVE"</b>						8. Tag Lift Sheet attached [Comm. 3.4] <input type="checkbox"/> Yes																																																																																							
6. Reason tagged <b>REPLACE 2-CHW-123, LEAKS PAST SEAT</b>						9. Additional AWOs under this tagout <input type="checkbox"/> Yes																																																																																							
7. Special Instructions/Caution <b>CONTACT CHEMISTRY FOR DRAINING INSTRUCTIONS AND NPDS CONSIDERATIONS</b>						10. Partial restoration <input type="checkbox"/> Yes																																																																																							
11. Prepared by <b>TAG PREPARER</b>																																																																																													
<p align="center"><i>Note: Initial position for Blue Tags. N/A if position not required.</i></p> <table border="1"> <thead> <tr> <th rowspan="2">12a Step No.</th> <th rowspan="2">12b. Equipment identification and nomenclature and location</th> <th colspan="2">12c. Tag Placed/ Action complete</th> <th colspan="2">Independent Verification</th> </tr> <tr> <th>Date</th> <th>Init</th> <th>Date</th> <th>Init</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>P149C-HS "CHILLED WTR. PPC" HAND SW (C-80) YELLOW</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>B2175 "NON-VITAL CHILLED WATER PUMP C" (MCC B21) RED, OFF</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>B2174 "VITAL CHILLER SUPPLEMENTAL" (MCC B21) RED, OFF</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>2-CHW-116 "CHILLED WATER PUMP (P-149C) SUCTION ISOLATION" RED, CLOSED</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>2-CHW-124 "P-149B CROSS TIE TO X196B" RED, CLOSED</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td>2-CHW-126 "X-196B OUTLET ISOLATION" RED, CLOSED</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td>2-CHW-123 "CHILLED WATER PUMP (P-149C) DISCHARGE ISOLATION" NO TAG, OPEN</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>2-CHW-174 "P-149C CROSS TIE HEADER VENT" RED, OPEN</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9</td> <td>2-CHW-147 "CHILLED WATER PUMP (P-149C) DISCHARGE DRAIN" RED, OPEN</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">13a. Tagout correct and equipment may be isolated SM/US notified for power block.</td> <td colspan="8">13b. Date</td> </tr> <tr> <td colspan="10"> Boundary approved by: _____  Authorized to be hung by: _____ </td> </tr> </tbody></table>										12a Step No.	12b. Equipment identification and nomenclature and location	12c. Tag Placed/ Action complete		Independent Verification		Date	Init	Date	Init	1	P149C-HS "CHILLED WTR. PPC" HAND SW (C-80) YELLOW					2	B2175 "NON-VITAL CHILLED WATER PUMP C" (MCC B21) RED, OFF					3	B2174 "VITAL CHILLER SUPPLEMENTAL" (MCC B21) RED, OFF					4	2-CHW-116 "CHILLED WATER PUMP (P-149C) SUCTION ISOLATION" RED, CLOSED					5	2-CHW-124 "P-149B CROSS TIE TO X196B" RED, CLOSED					6	2-CHW-126 "X-196B OUTLET ISOLATION" RED, CLOSED					7	2-CHW-123 "CHILLED WATER PUMP (P-149C) DISCHARGE ISOLATION" NO TAG, OPEN					8	2-CHW-174 "P-149C CROSS TIE HEADER VENT" RED, OPEN					9	2-CHW-147 "CHILLED WATER PUMP (P-149C) DISCHARGE DRAIN" RED, OPEN					13a. Tagout correct and equipment may be isolated SM/US notified for power block.		13b. Date								Boundary approved by: _____ Authorized to be hung by: _____									
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**TRAINING USE  
ONLY**

Level of Use  
Information



Rev. 006-06  
76 of 86

Sim JPM's.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I JPM Title: **Manual Makeup to the VCT**

ID Number: JPM-S1

Revision: 0

Provide examinee  
with OP 2304C only

II. Initiated:



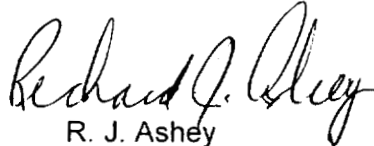
Daniel A. Pantalone

Developer

1/21/2005

Date

III. Reviewed:



R. J. Ashley

Technical Reviewer

1/26/05

Date

IV. Approved:

NA

User Department Supervisor

                      
Date



Nuclear Training Supervisor

1/26/05

Date



### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-S1 Rev. 0

Task Title: Manual Makeup to the VCT

System: CVCS

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 10

Task No.(s): NUTIMS #004-01-194

Applicable To: SRO X RO X PEO \_\_\_\_\_

K/A No. 004-A2.06 K/A Rating 4.2/4.3

Method of Testing:

Simulated Performance: \_\_\_\_\_ Actual Performance: X

Location:

Classroom: \_\_\_\_\_ Simulator: X In-Plant: \_\_\_\_\_

Task Standards: At the completion of this JPM, the examinee has completed a Manual blended make up to the VCT.

Required Materials  
(procedures,  
equipment): OP 2304C, and 2208 Attachment 4

General References: OP 2304C Rev 021-10, Section 4.9

\*\*\*\*\* READ TO THE EXAMINEE \*\*\*\*\*

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

**Attachment 4**  
**Manual Calculations With PPC Not Available**  
(Sheet 1 of 1)

**Blended Makeup Flowrate Determination Formula:**

PMW flowrate = "K" x (boric acid flowrate)

Where, "K" = 
$$\frac{5943 \text{ (ppm boron in BAST)} - 573 \text{ (ppm boron in makeup)}}{573 \text{ (ppm boron in makeup)}} = 9.77 \text{ PMW} \Rightarrow 9.2 \text{ to } 9.8$$

*Answer Key - Not needed if examinee uses the computer.*

**Boration and Dilution Formulas:**

**NOTE**

The boration and dilution formulas used in this worksheet assume the RCS is at 532°F, 2,250 psia, and pressurizer level is at 40%.

BAST Boron Concentration ( $C_{BAST}$ ) <b>5943</b> ppm	Initial RCS Boron Concentration ( $C_I$ ) <b>573</b> ppm
RCS T <sub>AVG</sub> <b>572</b> °F	Desired Final RCS Boron Concentration ( $C_F$ ) <b>573</b> ppm

**Boration Formula ( $C_F > C_I$ ):**

$$\text{Volume of boric acid (gal)} = 62,490 \times \ln \left[ \frac{(C_I - C_{BAST})}{(C_F - C_{BAST})} \right]$$

**Dilution Formula ( $C_F < C_I$ ):**

$$\text{Volume of PMW (gal)} = 62,490 \times \ln \frac{(C_I)}{(C_F)}$$

**Natural Logarithmic Values for Selected Points**

Ln 1.0 = 0.000	Ln 1.5 = 0.405	Ln 2.0 = 0.693
Ln 1.1 = 0.095	Ln 1.6 = 0.470	Ln 2.1 = 0.742
Ln 1.2 = 0.182	Ln 1.7 = 0.531	Ln 2.2 = 0.788
Ln 1.3 = 0.262	Ln 1.8 = 0.588	Ln 2.3 = 0.833
Ln 1.4 = 0.336	Ln 1.9 = 0.642	Ln 2.4 = 0.875

**Level of Use  
Information**

STOP      THINK      ACT      REVIEW

OP 2208  
Rev. 013-04  
31 of 33

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S1

Rev. 0

Initiating Cues:

- The Unit Supervisor has directed you to perform a manual blended makeup to the VCT and raise VCT level by 2% while maintaining the PMW and Boric Acid flow controllers in the "AUTO" mode of operation. Use OP 2304C starting with step 4.9.2.
- When makeup is completed, return the system lineup to normal.
- The examiner will act as the US.

Initial Conditions:

- RCS boron concentration is 573 ppm
- In-service Boric Acid Storage Tank concentration is 5,943 ppm
- No manual leak rate is in progress.

Simulator Requirements:-

Initialize at any IC with charging, letdown, and makeup to the VCT available.  
Verify RCS boron (Cb) = 573 on the simulator.  
Verify "A" BAST pp selected to 'lead' (C-O2)  
Verify "A" BAST concentration = 5943 ppm  
Verify VCT level  $\leq 82\%$   
Set the PMW and BA Controllers 210Y and 210X setpoint to zero.

---

**\*\*\*\*\* NOTES TO EXAMINER \*\*\*\*\***

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S1

TITLE: Manual Makeup to the VCT

---

START TIME: \_\_\_\_\_

~~~~~

STEP 1                Performance Steps:      Ensure PMW is available and at least one charging pump operating.

GRADE           Standards:      *Examinee observes red indicating lights lit on C-02 for*  
          - *PMW pumps*  
          - *and charging pumps.*

Cue

:

Comments:

~~~~~

STEP 2        X        Performance Steps:      Determine the required ratio of Boric Acid flow to PMW flow.

GRADE             X        Standards:      *Examinee uses either OP 2208 or PPC to determine that the ratio of Boric Acid to PMW flow is 1 gallon to 9.2 to 9.5 gallons, respectively.*

Cue

:

Comments:      PMW value does not have to be calculated to the decimal points if done by hand.

~~~~~

STEP 3                Performance Steps:      Ensure the following are closed:  
- Makeup valve stop, CH-512 (C-04)  
- VCT makeup bypass, CH-196 (C-02)  
- RWST isolation, CH-192 (C-02)

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S1

TITLE: Manual Makeup to the VCT

---

GRADE \_\_ Standards: *Examinee observes the green lights 'only' lit for CH-512 on C-04, Ch-196 and CH-192 on C-02*

Cue  
:

Comments:

~~~~~

STEP 4 Performance Steps: Determine the desired VCT level change in % level and total gallons required.

GRADE \_\_ Standards: *Examinee states that a 2% level rise is required and using 34 gal/%, a total of 68 gallons is required.*

Cue If not stated, solicit information.  
:

Comments: VCT %/gal. is listed on the VCT Label on C-02.

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S1

TITLE: Manual Makeup to the VCT

---

STEP 5      X      Performance Steps:      Reset PMW and BA controllers (FC-210X & FC-210Y), to zero.

GRADE           Standards:      *For each controller, examinee checks:*

- "L" indicated,
- presses and holds "SEL" button until "TOTAL RST" is displayed.
- Presses "R/L" button to shift controller to "R" (resets totalizer), then back to "L".
- Presses "SEL" to display controller number.

X

X

X

Cue  
:

Comments:      Manual Leak Rate Determination is not in progress (Step 4.9.7.b is N/A)

~~~~~

STEP 6                Performance Steps:      Start PPC trend of VCT level (L226).

GRADE                     Standards:      *Examinee starts PPC trend and displays it on PPC monitor.*

Cue  
:

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S1

TITLE: Manual Makeup to the VCT

---

|        |          |                    |                                                                                                            |
|--------|----------|--------------------|------------------------------------------------------------------------------------------------------------|
| STEP 7 | <u>X</u> | Performance Steps: | Adjust automatic setpoints of PMW and Boric Acid controllers (FC-210X / FC-210Y), and ensure in automatic. |
|--------|----------|--------------------|------------------------------------------------------------------------------------------------------------|

|       |          |            |                                                                                                                                                                                                                 |
|-------|----------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRADE | <u>X</u> | Standards: | <i>For each controller, examinee ensures:</i> <ul style="list-style-type: none"><li>- "AM" is lit and adjusts controller setpoint as necessary to obtain a ratio of 1 gal. BA to 9.2 to 9.5 gal. PMW.</li></ul> |
|-------|----------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Cue

Comments: Any ratio of approximately 1 gal. BA to 9.2 to 9.5 gal. PMW is acceptable (i.e. 10 gals. BA to 92-95 gals. PMW, etc.). Controllers are normally in "AM" mode.

~~~~~

STEP 8	<u>X</u>	Performance Steps:	Place "Makeup Mode Selector Switch" in "MANUAL".
--------	----------	--------------------	--

GRADE	<u>X</u>	Standards:	<i>Examinee places the "Makeup Mode Selector Switch" in "MANUAL" position on C-04.</i>
-------	----------	------------	--

Cue

Comments:

~~~~~

|        |          |                    |                            |
|--------|----------|--------------------|----------------------------|
| STEP 9 | <u>X</u> | Performance Steps: | Start one boric acid pump. |
|--------|----------|--------------------|----------------------------|

|       |          |            |                                                                                                                                                                                                                                                                                                |
|-------|----------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRADE | <u>X</u> | Standards: | <i>Examinee starts the selected (by indicated switch position) "A" B.A. pump by:</i> <ul style="list-style-type: none"><li>- placing its hand switch to the "START" position,</li><li>- checks red light lit,</li><li>- and checks indicated discharge pressure is at least 98 psig.</li></ul> |
|       | <u>X</u> |            |                                                                                                                                                                                                                                                                                                |
|       | —        |            |                                                                                                                                                                                                                                                                                                |
|       | —        |            |                                                                                                                                                                                                                                                                                                |

Cue

Comments: The selected BA pump must be from the BAST used to determine VCT

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S1

TITLE: Manual Makeup to the VCT

---

blend. (The "A" is the selected pump and should be used)

~~~~~

STEP 10     X     Performance Steps:             Open Makeup Stop Valve, CH-512.

GRADE         X     Standards:             *Examinee places CH-512 switch to "OPEN" on C-04 and ensures red light only is lit.*

Cue  
:

Comments:     Examinee may check that the "M" of "AM" extinguishes on the makeup controllers.

~~~~~

STEP 11             Performance Steps:             Ensure flows have stabilized at setpoints of the flow controllers.

GRADE                 Standards:             *Examinee watches flow controllers on C-04 to ensure flow begins and then stabilizes at the calculated setpoints.*

Cue  
:

Comments:     The flow values may vary depending upon how many GPM of BA are used.

~~~~~

STEP 12             Performance Steps:             Monitor VCT level and pressure as indicated on PI-225 and LI-226.

GRADE                 Standards:             *Examinee observes indications on C-02 or PPC.*

Cue  
:

Comments:

~~~~~



## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S1

TITLE: Manual Makeup to the VCT

|         |          |                    |                                                                              |
|---------|----------|--------------------|------------------------------------------------------------------------------|
| STEP 13 | <u>X</u> | Performance Steps: | When desired VCT level is reached Close<br>"Makeup Vlv Stop" CH-512, on C-04 |
|---------|----------|--------------------|------------------------------------------------------------------------------|

|              |            |                                                      |
|--------------|------------|------------------------------------------------------|
| GRADE ____   | Standards: | Examinee observes that:                              |
| <u>  X  </u> |            | - 2% level has been added to the VCT                 |
| <u>  X  </u> |            | - and closes CH-512.                                 |
|              |            | - Observes green light lit for valve and flow stops. |

Cue

Comments:

**STEP 14**      X      Performance Steps:      Stop "Boric Acid" pump, P-19A or B.

| GRADE     | Standards: | Examinee                                                    |
|-----------|------------|-------------------------------------------------------------|
| <u>X</u>  |            | - takes the "A" Boric Acid Pump hand switch on C-O2 to stop |
| <u>  </u> |            | - verifies the green light is lit and the red light is out  |
| <u>  </u> |            | - verifies discharge pressure is zero with no flow.         |

Cue  
:

Comments:

STEP 15     X     Performance Steps:     Places the "Make Up Mode Select" switch in "Dilute" on C-04.

GRADE        X   Standards: *Examinee takes handswitch and turns it from the "Manual" to "Dilute" position.*

Cue

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S1

TITLE: Manual Makeup to the VCT

---

Comments: **After this step is completed, the JPM is considered complete.**

~~~~~

STOP TIME: \_\_\_\_\_

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-S1

Rev. 0

Date Performed:

Operator:

Evaluator(s):

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.  
If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 10

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM ID Number: S1

### Initiating Cues:

- The Unit Supervisor has directed you to perform a manual blended makeup to the VCT and raise VCT level by 2% while maintaining the PMW and Boric Acid flow controllers in the "AUTO" mode of operation. Use OP 2304C starting with step 4.9.2.
- When makeup is completed, return the system lineup to normal.
- The examiner will act as the US.
- No manual leak rate is in progress.

### Initial Conditions:

- RCS boron concentration is 573 ppm
- In-service Boric Acid Storage Tank concentration is 5,943 ppm

## JOB PERFORMANCE MEASURE APPROVAL SHEET

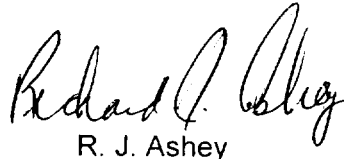
I. JPM Title: Filling #1 Safety Injection Tank

ID Number: JPM-S2

Revision: 0

*Provide exemine  
with OP 23060 only.*

II. Initiated:

  
R. J. Ashe

Developer

1/24/05

Date

III. Reviewed:

  
Technical Reviewer

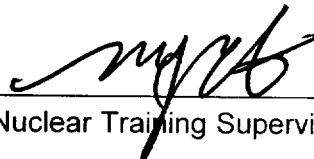
1/24/05  
Date

IV. Approved:

NA

User Department Supervisor

Date

  
Nuclear Training Supervisor

1/27/05  
Date

### SUMMARY OF CHANGES

A/I & Date	DESCRIPTION	REV/CHANGE
01/18/2005	Develop new JPM using 2306O.	0

## JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2                      Examinee: \_\_\_\_\_  
JPM Number: JPM-S2                      Rev. 0  
Task Title: Fill #1 Safety Injection Tank  
System: Safety Injection  
Time Critical Task: Yes \_\_\_\_\_ No X  
Validated Time (minutes): 25  
Task No.(s): NUTIMS #006-02-017  
Applicable To: SRO X      RO X      PEO \_\_\_\_\_  
K/A No.: 006-A1.13      K/A Rating: 3.5/3.7

### Method of Testing:

Simulated Performance: \_\_\_\_\_      Actual Performance: X

### Location:

Classroom: \_\_\_\_\_      Simulator: X      In-Plant: \_\_\_\_\_

### Task Standards:

The examinee will start filling the #1 SIT using the "A" HPSI Pump. The "A" HPSI Pump will trip on overload. The examinee will align the "B" HPSI Pump to Facility 1 and complete filling the #1 SIT using the "B" HPSI Pump.

### Required Materials

(procedures,equipment):

SP 2606O  
OP 2343  
OP 2308  
ARP 2590A-001

### General References:

SP 2606O, Section 4.1  
OP 2343, Section 4.7  
OP 2308, Section 4.1  
ARP 2590A-001

### **\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S2

Rev. 0

### Initiating Cues:

- You are the PPO.
- The Unit Supervisor has directed you to fill the #1 SIT using the "A" HPSI Pump per OP-2306O, "Safety Injection Tanks, RCS > 1750 psia".
- The examiner will act as the Unit Supervisor and/or PEO.

### Initial Conditions:

- The plant is at 100% power, NOP/NOT.
- No equipment is out of service.
- Bus 24E is aligned to Bus 24C.
- A PEO is available at the "A" HPSI Pump.
- The "A" HPSI has been checked and is ready to start.

### Simulator Requirements:

Initialize at a normal 100% power (IC-93) with #1 SIT at the low level alarm, above 200 psig, and enter the following:

- SI04A on BT 48 ("A" HPSI Pump >20 amps) "A" HPSI Pp Trip
- I/O on Annunciator C-01 A-1 ("A" HPSI Pump Overload/Trip) on C-01 on BT 49 ("A" HPSI Pump >2 amps)
- IDT SIMT39(1) set to 7.3e4 (#1 SIT at 55.2%)

Pressurize #1 SIT to approximately 218 psig.

### **\*\*\*\* NOTES TO EXAMINER \*\*\*\***

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S2

TITLE: Fill #1 Safety Injection Tank

---

START TIME: \_\_\_\_\_

STEP 1      \_\_\_\_\_ Performance Steps: DETERMINE desired SIT(s) level using one of the following criteria:

- IF sampling is required, do not fill greater than 59.6% (PPC high alarm 59.7%), the following alarms are excepted (C-01):
  - SAFETY INJECTION TANK 1 LEVEL HI" (A-10)
  - SAFETY INJECTION TANK 2 LEVEL HI" (A-11)
  - SAFETY INJECTION TANK 3 LEVEL HI" (A-12)
  - SAFETY INJECTION TANK 4 LEVEL HI" (A-13)
- IF sampling is not required, do not fill greater than the following:
  - 59.6% (PPC high alarm 59.7%) for SIT 1
  - 58.8% (alarm C-01 59%) for SITs 2, 3, and 4

GRADE \_\_\_\_\_ Standards: *Per precaution 3.1, the examinee should know that a sample is not required because the SIT is being filled from the RWST, > 1720 ppm; therefore, he/she determines that the desired level is NOT greater than 59.6%*

Cue: **If asked, as the US inform the examinee that a sample is NOT required.**

Comments:

~~~~~

STEP 2      \_\_\_\_\_ Performance Steps: WHEN HPSI pump is started, CHECK the following (C-01):

- Motor amperage 20 to 30 amps
- Nominal discharge pressure 1250 to 1300 psig

GRADE \_\_\_\_\_ Standards: *The examinee states he/she will check motor amps between 20 and 30 amps and discharge pressure of the "A" HPSI Pump between 1250 and 1300 psig on C-01.*

Cue:

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S2

TITLE: Fill #1 Safety Injection Tank

- STEP 3     X     Performance Steps: IF filling SIT 1, PERFORM the following (C-01):
- a. VERIFY open "SI-611, FILL & DRN."
  - b. IF required, START one of the following HPSI pumps:
    - "P-41A, HPSI PP A"
    - "P-41B, HPSI PP B"
    - "P-41C, HPSI PP C"

GRADE	Standards:	<i>The examinee performs the following:</i>
<u>   X</u>		<ul style="list-style-type: none"><li>• On C-01, opens SI-611, Fill and Drain, and observes the red light is lit.</li></ul>
<u>   X</u>		<ul style="list-style-type: none"><li>• Places the "A" HPSI Pump. handswitch on C-01 to start.<ul style="list-style-type: none"><li>- Observes that the pump trips.</li><li>- Observes no pump amps or pressure.</li><li>- Observes an amber light above the pump handswitch.</li><li>- Observes Annunciator C-01,A1 "HPSI PUMP A OVERLOAD/TRIP"</li></ul></li></ul>
<u>   X</u>		<ul style="list-style-type: none"><li>• Reports to the US that the "A" HPSI has tripped and annunciator A-1 on C-01 is lit.</li></ul>
<u>   X</u>		<ul style="list-style-type: none"><li>• May ask the PEO at the pump to report any abnormal conditions.</li></ul>
<u>   X</u>		<ul style="list-style-type: none"><li>• Initiates Annunciator Response Procedure, ARP 2590A-001.</li></ul>
<u>   X</u>		<ul style="list-style-type: none"><li>• Recommend placing the "B" HPSI in service on Facility 1.</li></ul>
<u>   X</u>		<ul style="list-style-type: none"><li>• Closes SI-611 to place the plant in a known stable condition.</li></ul>

- Cue:
- As the US, respond that the "A" HPSI Pp. tripped and annunciator C-01, A1, is lit.
  - When asked, provide the examinee with Annunciator Response Procedure, ARP 2590A-001.
  - As the PEO, report that the pump started then stopped immediately. There are no signs of any damage and no abnormal noises were heard.
  - If required, ask the examinee for a recommendation and concur.
  - As the US, call maintenance and generate a CR.

Comments: The examinee should state that the "A" HPSI Pump is inoperable.

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S2

TITLE: Fill #1 Safety Injection Tank

---

STEP 4      \_\_\_\_ Performance Steps: Refer to the following LCOs and determine applicability:

- TRM 3.1.2.1
- Tech Spec 3.5.2
- Tech Spec 3.5.3

GRADE \_\_\_\_ Standards: *The examinee informs the US to determine applicability of TRM 3.1.2.1 and TS 3.5.2 and 3.5.3*

Cue: **Report as the US that you will check the TS applicability.**

Comments: This action is directed in ARP 2590A-001 "HPSI Pp. 'A' Overload/Trip"

~~~~~

STEP 5      \_\_\_\_ Performance Steps: • Refer to OP 2308, High Pressure Safety Injection System, and place "B" HPSI Pp. on Facility 1.  
• Determine the cause of the pump trip and submit a trouble report.

GRADE \_\_\_\_ Standards: • *The examinee refers to OP 2308, High Pressure Safety Injection System, Section 4.1.*  
• *The examinee requests the US to have a CR/TR written and have the cause of the trip determined.*

Cue: • **The US acknowledges the request.**  
• **When asked, provide the examinee with OP 2308, High Pressure Safety Injection System, Section 4.1**

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S2

TITLE: Fill #1 Safety Injection Tank

|        |          |                    |                                                                                                                                                                                                                                                                                                                              |
|--------|----------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP 6 | <u>X</u> | Performance Steps: | <p>If shifting from “A” pump to “B” pump, perform the following:</p> <ul style="list-style-type: none"> <li>- Verify “B” HPSI aligned to Facility 1 per OP 2343.</li> <li>- Enter TSAS 3.5.2</li> <li>- Place P41A, “HPSI PP A,” in PTL</li> <li>- Remove P41B, “HPSI PP B,” from PTL.</li> <li>- Exit TSAS 3.5.2</li> </ul> |
|--------|----------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|       |     |          |            |                                                                                                                                                                                                                                                                                                                                                                                        |
|-------|-----|----------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRADE | ___ | ___      | Standards: | <ul style="list-style-type: none"> <li>• The examinee references OP 2343 to determine if the "B" HPSI is aligned to Facility 1 <u>or</u> he/she determines that "B" HPSI is aligned to Facility 1 because Bus 24E is aligned to Bus 24C.</li> </ul>                                                                                                                                    |
|       | ___ | ___      |            | <ul style="list-style-type: none"> <li>• Per OP 2308, the examinee will:               <ul style="list-style-type: none"> <li>- Inform the US to log into TSAS 3.5.2</li> <li>- On C-01, place the "A" HPSI Pump handswitch in Pull-To-Lock.</li> <li>- On C-01, remove the "B" HPSI Pump from Pull-To Lock.</li> <li>- Inform the US to log out of TSAS 3.5.2.</li> </ul> </li> </ul> |
|       | ___ | <u>X</u> |            |                                                                                                                                                                                                                                                                                                                                                                                        |
|       | ___ | <u>X</u> |            |                                                                                                                                                                                                                                                                                                                                                                                        |
|       | ___ | ___      |            |                                                                                                                                                                                                                                                                                                                                                                                        |

Cue:

- If asked, provide the examinee with OP 2343, 4160 Volt Electrical System.
- If the examinee begins to verify all the steps to align the 'B' HPSI to Facility 1, as the US inform the examinee the 'B' HPSI is aligned and the steps in 2343 are complete.
- If examinee asks for a PEO to check "B" HPSI Pump, report that the pump is ready to start.

Comments: The above guidance is in 2308 step 4.1

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S2

TITLE: Fill #1 Safety Injection Tank

---

STEP 7              Performance Steps: WHEN HPSI pump is started, CHECK the following (C-01):

- Motor amperage 20 to 30 amps
- Nominal discharge pressure 1250 to 1300 psig

GRADE               Standards:     *The examinee states he/she will check motor amps between 20 and 30 amps and discharge pressure of the "B" HPSI Pp between 1250 and 1300 psig on C-01.*

Cue:

Comments: This step may or may NOT be repeated by the examinee.

~~~~~

STEP 8       X       Performance Steps: IF filling SIT 1, PERFORM the following (C-01):

- a. VERIFY open "SI-611, FILL & DRN."
- b. IF required, START one of the following HPSI pumps:
  - "P-41A, HPSI PP A"
  - "P-41B, HPSI PP B"
  - "P-41C, HPSI PP C"

GRADE     Standards:     *The examinee performs the following:*

       X       • On C-01, examinee opens (or ensures open) SI-611, Fill and Drain, and observes the red light is lit.

       X       • Places the "B" HPSI Pump. handswitch on C-01 to start and observes the proper indications on the "B" HPSI Pump.

Cue:     **If requested, as the PEO, report that the pump is running with NO abnormal indications.**

Comments: The examinee must realize that she/he must return to 2306O and commence with step 4.1.3.

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S2

TITLE: Fill #1 Safety Injection Tank

---

STEP 9       X   Performance Steps: Throttle open SI-618, Hdr –1A Ck Vlv Lkg Drn Stop, not to exceed 300 psig, as indicated in Recirc Hdr Press, PI-305.

GRADE        X   Standards:

- *While observing Recirc Header Pressure indicator, PI-305, the examinee throttles open SI-618, Hdr –1A Ck Vlv Lkg Drn Stop, to a pressure less than 300 psig, but greater than #1 SIT pressure.*
- *Examinee observes rise in #1 SIT level.*

Cue:

Comments:

~~~~~

STEP 10       X   Performance Steps: Close SI-618 when any of the following occur:

- SI TK1 LVL, L311 is at the desired level (PPC)
- SI TK 1 PRESS, P311, is at 225 psig (PPC)
- SI TK 1 PRESS, P-311, is at 225 psig (C-01)
- #1 SIT High Pressure alarm is annunciated on the PPC.

GRADE        X   Standards:

*When any of the following occur, the examinee will close SI-618:*

- *SI TK1 LVL, L311 is at the desired level of 59.6% (PPC)*
- *SI TK 1 PRESS, P311, is at 225 psig (PPC)*
- *SI TK 1 PRESS, P-311, is at 225 psig (C-01)*
- *#1 SIT High Level alarm is annunciated on the PPC at 59.8%.*

Cue:

Comments: SIT pressure of 225 psig should be the most limiting parameter. Depending on the flow rate, this could take 5 to 10 minutes.

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S2

TITLE: Fill #1 Safety Injection Tank

---

STEP 11      X      Performance Steps: When filling is complete, Stop the "B" HPSI Pump.

GRADE        X      Standards:    *Examinee stops the "B" HPSI Pump.*

Cue:

Comments: This JPM is complete when the examinee stops the "B" HPSI Pump. The examinee does NOT have to wait for Safety Injection to Loop 1A and 2B to lower to between 225 and 275 psig.

STOP TIME: \_\_\_\_\_

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-S2

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No \_\_\_\_\_

Validated Time (minutes): 25

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:



## EXAMINEE HANDOUT

JPM Number: JPM-S2

Rev. 0

### Initiating Cues:

- You are the PPO.
- The Unit Supervisor has directed you to fill the #1 SIT using the "A" HPSI Pump per OP-2306O, "Safety Injection Tanks, RCS > 1750 psia".
- The examiner will act as the Unit Supervisor and/or PEO.

### Initial Conditions:

- The plant is at 100% power, NOP/NOT.
- No equipment is out of service.
- Bus 24E is aligned to Bus 24C.
- A PEO is available at the "A" HPSI Pump.
- The "A" HPSI has been checked and is ready to start.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: Start 4<sup>th</sup> RCP

ID Number: JPM-S3

Revision: 0

*Provide examinee  
with OP2301C only.*

II. Initiated:



Daniel A. Pentalone  
Developer

01/18/05

Date

III. Reviewed:



Duffy Ashley  
Technical Reviewer

1/26/05

Date

IV. Approved:

NA

User Department Supervisor

Date



Nuclear Training Supervisor

1/26/05

Date

### **SUMMARY OF CHANGES**

<b>A/I &amp; Date</b>	<b>DESCRIPTION</b>	<b>REV/CHANGE</b>
10/27/2005 (DAP)	Developed this new JPM	0

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-S3 Rev. 0

Task Title: Start a Reactor Coolant Pump

System: Reactor Coolant Pump

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 15 min.

Task No.(s): NUTIMS # 003 01 031

Applicable To: SRO X RO X PEO \_\_\_\_\_

K/A No.: 003 A2.03 K/A Rating: 2.7/3.1

#### Method of Testing:

Simulated Performance: \_\_\_\_\_ Actual Performance: X

#### Location:

Classroom: \_\_\_\_\_ Simulator: X In-Plant: \_\_\_\_\_

#### Task Standards:

The examinee will start the RCP, monitor critical RCP parameters including alarms and secure the RCP per OP 2301C and/or ARP 2590B-083.

#### Required Materials

(procedures,equipment):

OP 2301C, Reactor Coolant Pumps  
Annunciator Response Procedure, ARP 2509B-083, C-03, BA-19

#### General References:

#### \*\*\*\*\* READ TO THE EXAMINEE \*\*\*\*\*

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S3

Rev. 0

Initiating Cues: The US has directed you to start the 'A' RCP in accordance with OP 2301C, Reactor Coolant Pumps, section 4.1.

Initial Conditions: A plant heat-up is in progress following an outage for unplanned maintenance.

- The RCS is at normal pressure and Tc is > 500°F.
- Three RCPs are running.
- All parameters for the 'A' RCP are normal for this condition.
- OP-2301C, section 4.1 is complete up to step 4.1.10.

Simulator Requirements: Initialize at zero power, ARI. (IC-93) then trip rods.

- 'A' RCP is secured.
- RCS is at ~ 505 °F.
- Plant is stable.

A malfunction to lower the level in the Upper Oil Reservoir will be inserted after the "A" RCP is started.

### \*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S3

TITLE: Start 4<sup>th</sup> RCP

---

START TIME: \_\_\_\_\_

STEP 1            Performance Steps: Observe controlled bleedoff flow on PPC or PR-150A (C-04R) between 0.75 and 2.0 gpm.

GRADE               Standards:     *Examinee displays and monitors "A" RCP bleedoff flow on the PPC, or on C-04R.*

Cue: \_\_\_\_\_

Comments:

~~~~~

STEP 2       X   Performance Steps: Place "RCP-A LIFT PPS" switch to "START" (C-03)

GRADE          X   Standards:     *Examinee places the 'A' RCP Lift Pump switch to start and observes the red light lit.*

Cue:     **When the examinee indicates that the lift pump must run for 2 minutes, inform the examinee that 2 minutes have elapsed.**

Comments:     Annunciator AB-18 on C-02/3, RCP A ANTIREV ROT FLOW LO, will reset.

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S3

TITLE: Start 4<sup>th</sup> RCP

STEP 3     X   Performance Steps: Place the "RCP-A, P-40A" switch to START.

GRADE \_\_\_\_ X Standards: *Examinee places the 'A' RCP switch on C-03 to the start position and observes:*

- *Red light lit*
- *The ammeter peg high and decay off.*

Cue: **Booth Instructor – RC12A (20%)** When the examinee starts the “A” RCP, insert a malfunction to cause the upper oil reservoir level to lower.

Comments:

~~~~~

STEP 4     X   Performance Steps: Place the "RCP-A LIFT PPS" to "AUTO"

GRADE \_\_\_\_ X Standards: *When annunciator C-04 AA-4 is not lit, examinee places the 'A' RCP Lift Pp. switch on C-03 to AUTO.*

Cue:

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S3

TITLE: Start 4<sup>th</sup> RCP

---

STEP 5       X   Performance Steps: Observe annunciator BA19 on C-02/3, RCP A UPPER OIL RSVR LEVEL LO.

GRADE \_\_\_\_   X   Standards:

- *Examinee observes annunciator BA19 on C-02/3, RCP A UPPER OIL RSVR LEVEL LO, and informs the US.*
- *Examinee refers to ARP 2590B-083 or recommends that the associated ARP be referenced.*

Cue: **Acknowledge the recommendation and direct the examinee to implement the recommended ARP.**

Comments:

~~~~~

STEP 6       X   Performance Steps: Check 'A' RCP upper reservoir oil level indication and determine rate of level decrease.

GRADE \_\_\_\_   X   Standards:

*Examinee*

- *displays the "RCP A Motor Data" display on the PPC*
- *monitors "L156" (Upper Reservoir Level).*
- *calculates the rate of level decrease*

*or*

- *monitors "L156" on C-04R*
- *calculates the rate of level decrease*

Cue:

Comments:

~~~~~



## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S3

**TITLE: Start 4<sup>th</sup> RCP**

STEP 7             Performance Steps: Monitor "A" RCP bearing temperatures and oil levels (C-04R or PPC)

GRADE \_\_\_\_ Standards: *The examinee monitors "A" RCP bearing temperatures and oil level by:*

- *displaying the "RCP A Motor Data" display on the PPC*
- or
- *monitoring parameters on C-04R*

Cue: 

Comments:

STEP 8      X    Performance Steps: If oil level is rapidly lowering,

- trip the Rx and Turbine
- stop the "A" RCP
- refer to EOP 2525, Standard Post Trip Actions

GRADE \_\_\_\_ X Standards: *Examinee secures the "A" RCP.  
Examinee reports that tripping the Reactor and Turbine is  
NOT applicable in this condition.*

Cue:

- If required, ask the examinee for a recommendation. Acknowledge the recommendation and direct the examinee to perform the required actions.
- If the examinee recommends turning off the "A" Lift Pump, inform the examinee that it will be turned off after the RCP coasts down.

Comments: Turning off the "A" Lift Pump is NOT a required action, but may be recommended to limit the loss of oil in the upper reservoir.

Comments: **After this step is completed, the JPM is considered complete.**

**STOP TIME:** 11:00

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-S3

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, <b><u>ALL</u></b> critical steps must be completed correctly. If task is Time Critical, it <b><u>MUST</u></b> be completed within the specified time to achieve a satisfactory grade.
---

Time Critical Task? Yes \_\_\_\_\_ No \_\_\_\_\_

Validated Time (minutes): 15

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM ID Number: JPM-S3

Initiating Cues: The US has directed you to start the 'A' RCP in accordance with OP 2301C, Reactor Coolant Pumps, section 4.1.

Initial Conditions: A plant heat-up is in progress following an outage for unplanned maintenance.

- The RCS is at normal pressure and Tc is > 500°F.
- Three RCPs are running.
- All parameters for the 'A' RCP are normal for this condition.
- OP-2301C, section 4.1 is complete up to step 4.1.10.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **Perform TDAFP Operability Test**

ID Number: JPM-S4

Revision: 0

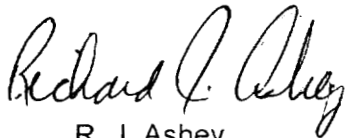
II. Initiated:

  
\_\_\_\_\_  
Daniel A. Pantalone  
Developer

Provide all  
handouts at  
the start of  
the JPM

01/24/05  
\_\_\_\_\_  
Date

III. Reviewed:

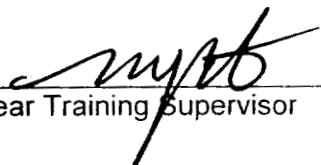
  
\_\_\_\_\_  
R. J. Ashley  
Technical Reviewer

1/26/05  
\_\_\_\_\_  
Date

IV. Approved:

N/A  
\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Nuclear Training Supervisor

1/27/05  
\_\_\_\_\_  
Date

## **SUMMARY OF CHANGES**

<b>A/I &amp; Date</b>	<b>DESCRIPTION</b>	<b>REV/CHANGE</b>
01/13/2005 (DAP)	Developed new JPM	0
02/24/2005 (DAP)	Verified that the TDAFP minimum speed on the simulator is > 1500 rpm. Changed some of the steps in the JPM from critical to not critical per NRC feedback. Deleted steps 19 and 20 from the JPM per NRC feedback.	0

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2                      Examinee: \_\_\_\_\_

JPM Number: JPM-S4                      Rev. 0

Task Title: Align TDAFP for Service

System: Aux Feedwater

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 20

Task No.(s): NUTIMS #061-01-076

Applicable To:      SRO X      RO X      PEO \_\_\_\_\_

K/A No.: 061 A2.04      K/A Rating: 3.4/3.8

Method of Testing:

Simulated Performance: \_\_\_\_\_      Actual Performance: X

Location:

Classroom: \_\_\_\_\_      Simulator: X      In-Plant: \_\_\_\_\_

Task Standards:

Examinee completes the assigned section of SP 2610B, determines that the TDAFP is not operable, and shuts down the pump.

Required Materials

(procedures, equipment):

SP-2610BO, Rev 000-00, TDAFP Tests, Operating  
SP 2610BO-002, Rev. 000-00, "TDAFP and Recirculation Check Valve IST"  
OP 2322, Rev 025-02, Auxiliary Feedwater System  
SP 2610BO-002, Rev. 000-00, "TDAFP and Recirculation Check Valve IST"

General References:

SP 2610BO Rev 000-00, TDAFP Tests, Operating

**\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S4

Rev. 0

Initiating Cues:

The US has directed you to complete SP 2610BO, "TDAFP AND RECIRCULATION CHECK VALVE IST," for a retest after minor maintenance.

- You are to start at step 4.2.10 of SP 2610BO, Rev. 000-00.
- The completed steps of the procedure are marked.

Initial Conditions:

- The TDAFP Trip Test does NOT need to be performed.
- Vibration Data does NOT need to be taken.
- The Terry Turbine Minimum Flow Recirc Discharge Check, 2-FW-33, does NOT need to be verified full open.
- A PEO is stationed at the TDAFP
- The US entered LCO 3.7.1.2 per step 4.1.3 and TRMAS 7.1.15, Item B, per step 4.2.5.
- Turbine AFW Discharge Isolation, 2-FW-9C, is closed.
- No S/G Tube leaks exist.
- Aux Feed Pump Suction Header X-Tie, 2-CN-28, is open.
- Aux Feed Pump Suction Header Stop, 2-CN-27A, is open.
- The TDAFP is ready to start. OP 2322, section 4.2 "Aligning TDAFW for Service," is complete.
- The examiner will act as the US, PEO, and any other support person.

Simulator Requirements:

IC-24 or any mode IC with AFW secured and steam supply pressure >800 psig.

FW30C @ 48%, Degraded TDAFP

- Check that you can find a computer point like F201 on the PPC Trend Search Screen.
- If not, close the MMI Viewers and restart the Viewers.

---

\*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S4

TITLE: Perform TDAFP Operability Test

---

START TIME: \_\_\_\_\_

STEP 1      X Performance Steps: Refer To OP 2322, Auxiliary Feedwater System," and  
START  
TDAFP from Control Room.

GRADE \_\_\_\_ X Standards:      *Examinee obtains OP 2322, Auxiliary Feedwater, section  
4.3.*

Cue:

Comments:

~~~~~

STEP 2      \_\_\_\_ Performance Steps: - Refer To Section 4.2, and ENSURE TDAFP and  
stem leakoff drains are aligned for service.

GRADE \_\_\_\_ \_\_\_\_ Standards:      *Examinee states that Section 4.2 is complete.*

Cue:

Comments: Per the Initial Conditions, Section 4.2 has been performed.

~~~~~



## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S4

**TITLE: Perform TDAFP Operability Test**

STEP 3             Performance Steps: If SG tube leaks are known to exist and it is necessary to operate TDAFP, as necessary, Record pump operating times in SM Log Book.

GRADE \_\_\_\_ Standards: *Examinee states that NO tube leaks exist.*

Cue:

Comments: Per Initial Conditions, NO tube leakage exists.

~~~~~

STEP 4           Performance Steps: Ensure one or both of the following are open (C-05):

- No. 1 TDAFP Sply Vlv, MS-201
- No. 2 TDAFP Sply Vlv, MS-202

GRADE \_\_\_\_ Standards: *Examinee verifies that the following valves have red open lights lit. (C-05):*

- *No. 1 TDAFP SPLY VLV, MS-201*
- *No. 2 TDAFP SPLY VLV, MS-202*

Cue:

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S4

TITLE: Perform TDAFP Operability Test

---

STEP 5            Performance Steps: If at any time, No. 1 TDAFP Sply Vlv, MS-201, or No. 2 TDAFP Sply Vlv, MS-202, are to remain closed for greater than 8 hours, Refer To Section 4.18 and Initiate necessary actions.

GRADE               Standards:     *Examinee states that No. 1 TDAFP Sply Vlv, MS-201, or No. 2 TDAFP Sply Vlv, MS-202, will NOT be closed for greater than 8 hours*

Cue:     **If asked, as the US state that the steam supply valves will NOT be closed for greater than 8 hours.**

Comments:

~~~~~

STEP 6            Performance Steps: Ensure the TDAFP is NOT rotating. (Local)

GRADE               Standards:     *Examinee determines the TDAFP is NOT rotating by asking the PEO to check for rotation.*

Cue:     **When asked, report as the PEO that the TDAFP is NOT rotating.**

Comments:

~~~~~

STEP 7       X   Performance Steps: Using TDAFP Stm Vlv Sel Sw, SV-4188, slowly Open terry turbine auxiliary feed pump steam supply, 2-MS-464 (SV-4199) (C-05).

GRADE          X   Standards:     *Examinee places SV-4188 in the open position and observes:*

- *Both green lights go out.*
- *TDAFP Speed on C-05 increases to approximately 1500 rpm.*

Cue:

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S4

TITLE: **Perform TDAFP Operability Test**

---

STEP 8      X Performance Steps: To warm turbine and lubricate bearings, OPERATE TDAFP at a minimum speed of 1,500 rpm for at least 2 minutes.

GRADE \_\_\_\_ X Standards: *Examinee waits for 2 minutes.*

Cue: **When appropriate, inform the examinee that 2 minutes has past. The TDAFP is warm.**

Comments:

~~~~~

STEP 9      X Performance Steps: When at least 2 minutes has elapsed, adjust the "SPD CNTL" switch to maintain the following:

- Turbine speed between 1500 to 4200 rpm.
- Discharge pressure  $\geq$  1080 psig.

GRADE \_\_\_\_ X Standards: *When 2 minutes has elapsed, the examinee adjusts the SPD "CNTL" to maintain the following as monitored on C-05 or the PPC:*

- Turbine speed between 1,500 and 4,200 rpm
- Pump discharge pressure greater than or equal to 1,080 psig

Cue:

Comments:

~~~~~

STEP 10     \_\_\_\_ Performance Steps: If mechanical seal leakage of TDAFP is greater than 1 quart per minute, Notify system engineer.

GRADE \_\_\_\_ \_\_\_\_ Standards: *Examinee asks PEO to determine magnitude of mechanical seal leakage.*

Cue: **When asked as the PEO, report that mechanical seal leakage is normal (less than 1 quart per minute).**

Comments: The examinee should now return to SP 2610BO.

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S4

TITLE: Perform TDAFP Operability Test

---

STEP 11         Performance Steps: Operate TDAFP at 1,500 to 1,600 for greater than two minutes.

GRADE              Standards:    *Examinee states that the TDAFP has already been run at 1500 rpm for 2 minutes in OP 2322.*

Cue:

Comments:

~~~~~

STEP 12      X   Performance Steps:    When TDAFP has operated for greater than two minutes, adjust TDAFP "SPD CNTL" switch (C-05) and establish 4,200 rpm (4,150 to 4,250 rpm).

GRADE           X   Standards:    *Examinee adjusts the SPD "CNTL" to establish 4,200 rpm as read on C-05.*

Cue:

Comments:

~~~~~

STEP 13         Performance Steps: IF mechanical seal leakage of TDAFP is greater than one quart per minute, NOTIFY System Engineer.

GRADE              Standards:    *The examinee states that mechanical seal leakage has already been verified at less than one quart per minute.*

Cue:    **If requested, as PEO, report that mechanical seal leakoff is still less than one quart per minute.**

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S4

TITLE: Perform TDAFP Operability Test

---

STEP 14         Performance Steps: If any TDAFP parameter is NOT normal, Notify SM or US.

GRADE              Standards:    *The examinee states that all TDAFP parameters appear normal.*

Cue:    **If requested, as PEO, report that all local conditions are normal.**

Comments:

~~~~~

STEP 15      X   Performance Steps: WHEN system conditions have been as stable as the system permits for at least two minutes, VERIFY TDAFP speed is 4,150 to 4,250 rpm from hand held tachometer (local).

GRADE           X   Standards:    *Examinee requests TDAFP speed from the PEO using the hand held tachometer.*

Cue:    **As the PEO, report the TDAFP speed in 4190 rpm.**

Comments:

~~~~~

STEP 16         Performance Steps: WHEN TDAFP has operated at 4,150 to 4,250 rpm with stable system conditions for at least two minutes, REQUEST qualified vibration monitoring personnel MEASURE TDAFP vibration level at points specified in SP 2610BO-002.

GRADE              Standards:    *Examinee should indicate vibration monitoring is NOT required per the initial conditions of this JPM.*

Cue:    **If necessary, remind the examinee that vibration monitoring is NOT necessary.**

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S4

TITLE: Perform TDAFP Operability Test

**STEP 17**

Performance Steps: Refer To SP 2610BO-002 and PERFORM the following:

X

a. RECORD TDAFP speed from hand held tachometer and DOCUMENT results.

X

b. RECORD TDAFP recirculation flow from portable flowmeter at FP-9863 and DOCUMENT results.

X

c. RECORD TDAFP discharge pressure (PPC P5284).

X

d. RECORD TDAFP suction pressure (PI-5401, local).

X

e. CALCULATE  $\Delta P$  corrected to rated speed.

X

f. RECORD TDAFP  $\Delta P$  corrected to rated speed and DOCUMENT results.

**GRADE**

Standards:

*Examinee requests the required information from the PEO and records the following in SP 2610BO-002:*

\_\_\_ X

- 4190 rpm in 4.2.18.a, "Hand held Tach"

\_\_\_ X

- 60 gpm in 4.2.18.b, "Recirc Flow"

\_\_\_ X

- 1116 psig in 4.2.18.c, "Discharge Press"

\_\_\_ X

- 16 psig in 4.2.18.d, "Suction Press"

\_\_\_ \_\_\_

- Marks UNSAT on SP 2610BO-002 for "Acceptable" and "Normal"

**Cue: Report as PEO that TDAFP speed is still 4190 rpm.  
Report as PEO that TDAFP Recirc flow is 60 gpm.  
Report as PEO that TDAFP suction pressure is 16 psig.**

Comments: The following is a guideline for determining TDAFP corrected discharge pressure. The actual data may be slightly different.

TDAFP discharge pressure, (PPC point P5284) = 1110 psig

TDAFP suction pressure, (PI\_5401) = 16 psig

TDAFP Speed Handheld tachometer = 4190 rpm

$$1. \quad 4200 \div \frac{4190}{\text{Recorded Speed}} = \frac{1.00238}{\text{Speed Correction Ratio}}$$

$$2. \quad \frac{1.00238}{\text{Speed Correction Ratio}} (\text{squared}) = \frac{1.0048}{\text{Speed Correction Factor}}$$

$$3. \quad \frac{1110}{\text{TDAFP Disch Press}} - \frac{16}{\text{TDAFW Suct Press}} = \frac{1094}{\text{Uncorrected D/P}}$$

$$4. \quad \frac{1094}{\text{Uncorrected D/P}} \times \frac{1.0048}{\text{Speed Correction Factor}} = \frac{1099}{\text{D/P Corrected to Rated Pump Speed (Note 3)}}$$

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S4

TITLE: Perform TDAFP Operability Test

---

STEP 18     X     Performance Steps: IF any Data Section data NOT within "Acceptable" limits, Refer To Attachment 1 and PERFORM applicable actions.

GRADE

Standards:

*The examinee:*

\_\_\_\_\_ X

- *Determines that the data is NOT within "Acceptable" limits and refers to Attachment 1.*

\_\_\_\_\_ X

- *Notifies the US that the pump failed the surveillance.*

\_\_\_\_\_ \_\_\_\_\_

- *Advises the US to carry out the steps in Attachment 1.*

Cue: **As the US, acknowledge the need to perform the steps of Attachment 1.**

~~~~~

Comments: **After this step is completed, the JPM is considered complete.**

~~~~~

STOP TIME: \_\_\_\_\_

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-S4

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No \_\_\_\_\_

Validated Time (minutes): 20

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:



## EXAMINEE HANDOUT

JPM Number: JPM-S4

Rev. 0

### Initiating Cues:

The US has directed you to complete SP 2610BO, "TDAFP AND RECIRCULATION CHECK VALVE IST," for a retest after minor maintenance.

- You are to start at step 4.2.10 of SP 2610BO, Rev. 000-00.
- The completed steps of the procedure are marked.

### Initial Conditions:

- The TDAFP Trip Test does NOT need to be performed.
- Vibration Data does NOT need to be taken.
- The operation of the Terry Turbine Minimum Flow Recirc Discharge Check, 2-FW-33, does NOT need to be verified.
- A PEO is stationed at the TDAFP
- The US entered LCO 3.7.1.2 per step 4.1.3 and TRMAS 7.1.15, Item B, per step 4.2.5.
- Turbine AFP Discharge Isolation, 2-FW-9C, is closed.
- No S/G Tube leaks exist.
- Aux Feed Pump Suction Header X-Tie, 2-CN-28, is open.
- Aux Feed Pump Suction Header Stop, 2-CN-27A, is open.
- The TDAFP is ready to start. OP 2322, section 4.2 "Aligning TDAFW for Service," is complete.
- The examiner will act as the US, PEO, and any other support person.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **"A" DG Operability Test (Alternate Path)**

ID Number: JPM-S5

Revision: 0

II. Initiated:

  
D. A. Pantalone  
Developer

Provide all  
handouts at  
the start of  
the JPM.

1/18/05  
Date

III. Reviewed:

  
D. Ashley  
Technical Reviewer

1/27/05  
Date

IV. Approved:

N/A  
User Department Supervisor

          
Date

  
Nuclear Training Supervisor

1/27/05  
Date

### SUMMARY OF CHANGES

| A/I & Date          | DESCRIPTION                                                                 | REV/CHANGE |
|---------------------|-----------------------------------------------------------------------------|------------|
| 01/18/2005<br>(DAP) | Modified JPM 223 Rev1 by using a different malfunction to develop this JPM. | 0          |
|                     |                                                                             |            |
|                     |                                                                             |            |

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-S5 Rev. 0

Task Title: Conduct a Facility 1 or 2 D/G operability test.

System: Diesel Generator

Time Critical Task: Yes        No   X  

Validated Time (minutes): 20 min

Task No.(s): NUTIMS # 064-02-015

Applicable To: SRO   X   RO   X   PEO       

K/A No.: 064 A4.01 K/A Rating: 4.0/4.3

Method of Testing:

Simulated Performance:        Actual Performance:   X  

Location:

Classroom:        Simulator:   X   In-Plant:       

Task Standards: Examinee performs the Facility 1 Diesel Generator Operability Test, SP 2613A, on the 'A' D/G, recognizes the "D/G 12U Trouble" annunciator. Upon requesting information from the PEO in the diesel room, the examinee recommends, or trips, the 'A' D/G.

Required Materials Stop watch  
(procedures, equipment): Authorized OPS Form 2613A-001, Rev. 020-01  
SP 2613A, Diesel Generator Operability Tests, Facility 1, Rev. 021-04, completed through step 4.1.20.

General References: SP 2613A, Diesel Generator Operability Tests, Facility 1, Rev. 021-04

**\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S5

Rev. 0

### Initiating Cues:

- The US has directed you to perform the Periodic 'A' D/G Operability Test (Fast Start, Loaded Run) per SP 2613A, beginning at step 4.1.21
- Review step 4.1.2 and 4.1.4 prior to commencing the surveillance.
- I will act as the US, PEO, etc.

### Initial Conditions:

- All plant conditions are normal.
- NO other surveillances are being performed that interfere with 2613A.
- SP 2613A-001 has been authorized for release.
- There are NO Ozone alerts in affect.
- Valve Alignment Check, OPS Form 2613A-002 was performed two weeks ago
- NO maintenance has been performed on the "A" DG in the last two weeks.
- The 'A' D/G pre-start check list, 2346A-002, has been completed.
- Steps 4.1.1 through 4.1.18 were performed by another operator who had to leave due to a family emergency.
- A PEO has been briefed and is standing by at the 'A' D/G gage board. He will complete the D/G Data Sheet, 2346A-004.
- The applicable portions of SP 2619G, AC Electrical Sources Inoperability, were completed 5 minutes ago.
- A chart recorder is installed for auto triggering at the 'A' D/G.
- "B" D/G is OPERABLE.

### Simulator Requirements:

- Initialize at a normal 100% power IC or a Low Power IC.
- Ensure the 'B' D/G is operable with its breaker open.
- Ensure 24C is powered from the NSST or RSST.
- Ensure Z1 SW total flow is  $\geq 2000$  GPM.
- Ensure no surveillances will interfere with 2613A.
- I/O A-36, panel CO-8 'ON' for BT37

---

### **\*\*\*\* NOTES TO EXAMINER \*\*\*\***

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. This JPM may be performed in conjunction with JPM-220 and JPM 221.

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S5

TITLE: "A" DG Operability Test

---

START TIME: \_\_\_\_\_

~~~~~

STEP 1          Performance Steps: If D/G prelube time exceeds 12 minutes and D/G is *not* started, then perform applicable steps to rotate the D/G with air.

GRADE           Standards:     *Examinee states that the prelube time should NOT exceed 12 minutes.*

Cue: \_\_\_\_\_

Comments:

~~~~~

STEP 2     X Performance Steps: Place Prelube Pump switch in START and start prelube timing.

GRADE      X Standards:     

- *Examinee places Prelube Pump switch in the START position and starts the stop watch.*
- *Examinee stops the stop watch when 9.5 to 12 minutes has elapsed.*

Cue:     **At the discretion of the examiner, inform the examinee that 9 minutes has elapsed.**  
         **(Booth Operator - EGR16 'Norm' [This resets the "12U DG Trouble" alarm on CO-8])**  
         **When asked the operator may request the PEO to reset the alarm on the EDG alarm panel.**

Comments:     The 9 minute mark allows the examinee time to review the next set of steps.

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S5

TITLE: **"A" DG Operability Test**

---

STEP 3     X Performance Steps: When 9½ to 12 minutes has elapsed, perform the following:

- Start the chart recorder
- Simultaneously place the "A" DG Manual Start-Stop switch in START and start the stop watch.

GRADE           X Standards:

- *When 9½ to 12 minutes has elapsed, examinee informs the PEO to start the chart recorder*
- *Examinee simultaneously places the "A" DG Manual Start-Stop switch in START and starts the stop watch.*

Cue: **Inform examinee that the chart recorder is running.**

Comments:

~~~~~

STEP 4     X Performance Steps: When diesel Ready To Load alarm is lit, stop the stop watch.

GRADE           X Standards:     *After approximately 8 seconds, the examinee observes the "Ready To Load" annunciator (A-34, C-08) and stops the stop watch.*

Cue:

Comments:     The Ready to Load alarm will be annunciated in less than 15 seconds.

~~~~~

STEP 5         Performance Steps: ENSURE "PRESS DELAY CIRCUIT ENERGIZED" light is lit after 25 seconds.

GRADE               Standards:     *The examinee asks the PEO at the 'A' D/G to report when the "PRESS DELAY CIRCUIT ENERGIZED" light is lit and monitors clock.*

Cue:     Wait approximately 25 seconds and report the "PRESS DELAY CIRCUIT ENERGIZED" light is lit.

Comments:

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S5

**TITLE: "A" DG Operability Test**

STEP 6     X Performance Steps: Place Prelube Pump switch in STOP.

GRADE      X Standards: *Examinee places the Prelube Pump switch in STOP.*

Cue:

Comments:

STEP 7               Performance Steps: Record stop watch diesel start time on OPS Form 2346A-004, "A" DG Data Sheet.

GRADE \_\_\_\_ Standards: *Examinee directs the PEO to enter the time from the stop watch on OPS Form 2346A-004, "A" DG Data Sheet.*

Cue: **The time has been entered on the form.**

Comments: The start time must be less than or equal to 15 seconds.

**STEP 8** \_\_\_\_\_ Performance Steps: Record the appropriate information on SP 2613A-001.

GRADE \_\_\_\_ Standards: *Examinee records the following on SP 2613A-001*

- *Stopwatch diesel start time, if < 15 sec. Initial the form.*
- *'A' D/G voltage, if between 3740 to 4580 volts, initial the form.*
- *'A' D/G frequency, if between 58.8 and 61.2 Hz, initial the form.*
- *Initial for adequate pre-lube time.*

Cue:

Comments: The start time must be less than 15 sec.



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S5

TITLE: **"A" DG Operability Test**

---

STEP 9          Performance Steps: Adjust "A" DG Load Cntl Governor Cntl switch to obtain at least 60 Hz.

GRADE           Standards:     *The examinee adjusts "A" DG Load Cntl Governor Cntl switch to obtain at least 60 Hz.*

Cue:

Comments:

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STEP 10    X Performance Steps: Place Syn Switch, 15G-12U-2, to ON.

GRADE      X Standards:     *The examinee obtains the hand switch, places it in the hole for Syn Switch, 15G-12U-2, and turns the switch to the ON position.*

Cue:

Comments:     After approximately 1 minute, the SYNC SWITCH ON alarm will annunciate. This is an expected alarm.

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S5

TITLE: **"A" DG Operability Test**

---

STEP 11    X    Performance Steps: Adjust "A" DG Voltage Cntl Reg Auto Cntl switch to match generator voltage with bus voltage.

GRADE           X    Standards:    *The examinee will place the "A" DG Voltage Cntl Reg Auto Cntl switch in either RAISE or LOWER to match the Incoming voltage with the Running voltage.*

Cue: *When the generator is running, the voltage should be adjusted to match the bus voltage.*

Comments:

~~~~~

STEP 12    X    Performance Steps: Turn "A" DG Volt Cntl Trans Sw to MAN.

GRADE           X    Standards:    *The examinee places the "A" DG Volt Cntl Trans Sw in MAN.*

Cue: *When the generator is running, the voltage should be adjusted to match the bus voltage.*

Comments:

~~~~~

STEP 13    X    Performance Steps: Adjust "A" DG Voltage Cntl Reg Man Cntl switch to match generator voltage with bus voltage.

GRADE           X    Standards:    *The examinee place the "A" DG Voltage Cntl Reg Man Cntl switch in either RAISE or LOWER to match the Incoming voltage with the Running voltage.*

Cue: *When the generator is running, the voltage should be adjusted to match the bus voltage.*

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S5

TITLE: "A" DG Operability Test

---

STEP 14    X    Performance Steps: Turn "A" DG Volt Cntl Trans Sw to AUTO.

GRADE          X    Standards:    *The examinee places the "A" DG Volt Cntl Trans Sw in AUTO.*

Cue:

Comments:

~~~~~

STEP 15    X    Performance Steps: Turn Unit Parallel Sel Sw/12U to UNIT PARALLEL and observe Unit Parallel white light lit.

GRADE          X    Standards:    *The examinee will place the Unit Parallel Sel Sw/12U to the UNIT PARALLEL position and observe Unit Parallel white light is lit.*

Cue:

Comments:

~~~~~

STEP 16          Performance Steps: To ensure slow rotation (0.5 to 1 rpm) of sychroscope in fast direction, adjust "A" SG Load Cntl Governor Cntl switch to raise or lower engine speed.

GRADE                Standards:    *The examinee will place the "A" SG Load Cntl Governor Cntl switch in the RAISE or LOWER position to ensure the syncroscope is rotating at approximately 0.5 to 1 rpm in the fast direction.*

Cue:

Comments:

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## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S5

TITLE: **"A" DG Operability Test**

---

STEP 17    X    Performance Steps: When synchroscope needle passes "11 o'clock" position, simultaneously close DG A Fdr Bkr, 15G-12U-2 (A312)

GRADE          X    Standards:    When synchroscope needle passes "11 o'clock" position, The examinee will simultaneously close the "A" DG Output Breaker, 15G-12U-2 (A312).

Cue:

Comments: Due to the operating characteristics of the simulator, the "A" DG Output Breaker may NOT close or may trip. This does NOT constitute a failure of the JPM. The examinee may be given additional opportunities to reset and close the breaker.

~~~~~

STEP 18    X    Performance Steps: • Adjust "A" DG Load CNTL Governor Cntl switch to load the "A" DG to between 1,350 and 1,450 kW at a rate of 250 to 300 kW per minute.  
• While raising "A" DG load, Adjust "A" DG Voltage Cntl Reg Auto Cntl to maintain a kvar loading at approximately 50% of the kW loading.

GRADE          X    Standards: • *The examinee will use the "A" DG Load Cntl Governor Cntl switch to load the "A" DG to between 1,350 and 1,450 kW at a rate of 250 to 300 kW per minute.*  
• *While raising "A" DG load, the examinee will adjust "A" DG Voltage Cntl Reg Auto Cntl to maintain a kvar loading at approximately 50% of the kW loading.*

Cue:

Comments: Annunciator (A-36, C-08) "DIESEL GENERATOR 12U TROUBLE", will be annunciated when load is raised to approximately 500 kW. The examinee may NOT notice the annunciator until load is raised to the directed range.

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S5

TITLE: "A" DG Operability Test

---

STEP 19    X    Performance Steps: Observe Annunciator (A-36, C-08) "DIESEL GENERATOR 12U TROUBLE"

GRADE          X    Standards:    *The examinee will observe and annunciator (A-36, C-08) "DIESEL GENERATOR 12U TROUBLE".*

Cue:

Comments:

~~~~~

STEP 20    X    Performance Steps: Send an operator to the 'A' D/G panel C-38 to determine cause of the annunciator.

GRADE          X    Standards:    *The examinee directs the PEO in the 'A' D/G room to report the cause of the annunciator.*

Cue:    **As the PEO, report that annunciator (B-1, C-38) "LUBE OIL PRESSURE LOW" is lit.**

**If the examinee requests a report of lube oil pressure, report 'A' D/G Lube Oil pressure = 19 psig and decreasing slowly.**

**If requested the PEO reports that the ARP for alarm B-1 on C-38 is missing.**

Comments:    Due to the seriousness of the annunciator, the examinee may NOT wait for a report on lube oil pressure or for referring to the ARP for (B1, C-38) "Low Lube Oil Pressure" before (recommend) tripping the "A" DG. (See next step)

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## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S5

TITLE: "A" DG Operability Test

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STEP 21    X    Performance Steps: Refer to ARP 2591A (B-1, C-38) "LUBE OIL PRESSURE LOW".

- Setpoint = 20 psig decreasing
- Auto Function, diesel trips.

GRADE           X    Standards:

*The examinee refers to ARP 2591A "Lube Oil Pressure Low", and directs the PEO in the 'A' D/G Room to report lube oil pressure.*

*Upon receiving a report of 19 psig and slowly dropping, the examinee will either:*

- *Recommend tripping the 'A' D/G or will immediately trip the 'A' D/G by one, or a combination of, the following.*
  - *Simultaneously push both emergency trip buttons.*
  - *Place the "A" DG Man Start-Stop switch in the STOP position.*
  - *Trip the "A" DG Output breaker, then place the "A" DG Man Start-Stop switch in the STOP position.*

Cue:    **As the PEO in the 'A' D/G Room report lube oil pressure = 19 psig and dropping slowly.**

Comments:    While ARP 2591A (B-1) does not direct the D/G be tripped, it clearly stated the D/G should have tripped. The examinee should recommend or trip the 'A' D/G.

~~~~~

STEP 22    X    Performance Steps: Trip the "A" EDG by pushing both Emergency Trip push buttons (CO-8 vertical section), and observing the breaker tripping open and the EDG frequency lowering.

GRADE           X    Standards:    *The examinee trips the "A" EDG by simultaneously pushing the Emergency Trip pushbuttons. The examinee observes the EDG breaker trip open and the frequency lowering.*

Cue:

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S5

TITLE: "A" DG Operability Test

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Comments: **After this step is completed, the JPM is considered complete.**

STOP TIME: \_\_\_\_\_

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-S5

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, <b><u>ALL</u></b> critical steps must be completed correctly. If task is Time Critical, it <b><u>MUST</u></b> be completed within the specified time to achieve a satisfactory grade.
---

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 20 minutes

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:



## IC-93      Low Power JPMs

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>ASI Upper</u>	4.73	4.69	4.70	4.70
<u>ASI Lower</u>	4.73	4.70	4.72	4.69
<u>Nuclear Power</u>	<sup>4</sup> / <sub>99</sub>	4.87	4.89	4.87
<u>ΔT Power</u>	3.90	4.09	<del>3.93</del> <sup>4</sup> / <sub>90</sub>	4.06
<u>Tcold Cal.</u>	4.80	4.61	4.90	4.90

## EXAMINEE HANDOUT

JPM ID Number: JPM-S5

### Initiating Cues:

- The US has directed you to perform the Periodic 'A' D/G Operability Test (Fast Start, Loaded Run) per SP 2613A, beginning at step 4.1.21
- Review step 4.1.2 and 4.1.4 prior to commencing the surveillance.
- I will act as the US, PEO, etc.

### Initial Conditions:

- All plant conditions are normal.
- NO other surveillances are being performed that interfere with 2613A.
- SP 2613A-001 has been authorized for release.
- There are NO Ozone alerts in affect.
- Valve Alignment Check, OPS Form 2613A-002 was performed two weeks ago
- NO maintenance has been performed on the "A" DG in the last two weeks.
- The 'A' D/G pre-start check list, 2346A-002, has been completed.
- Steps 4.1.1 through 4.1.18 were performed by another operator who had to leave due to a family emergency.
- A PEO has been briefed and is standing by at the 'A' D/G gage board. He will complete the D/G Data Sheet, 2346A-004.
- The applicable portions of SP 2619G, AC Electrical Sources Inoperability, were completed 5 minutes ago.
- A chart recorder is installed for auto triggering at the 'A' D/G.
- "B" D/G is OPERABLE.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

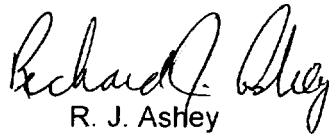
I. JPM Title: **Power Range Safety Channel and Delta T Power Channel Calibration**

ID Number: JPM-S6

Revision: 0

Provide all  
handouts at  
the start of  
the JPM

II. Initiated:

  
R. J. Ashley

Developer

1/10/05

Date

III. Reviewed:

  
Technical Reviewer

1/26/05  
Date

IV. Approved:

NA  
User Department Supervisor

Date

  
Nuclear Training Supervisor

1/27/05  
Date

**SUMMARY OF CHANGES**

A/I & Date	DESCRIPTION	REV/CHANGE

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-S6 Rev. 0

Task Title: Power Range Safety Channel and Delta T Power Channel Calibration

System: Instrumentation

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 10 minutes

Task No.(s): NUTIMS # 015-02-002

Applicable To: SRO X RO X PEO \_\_\_\_\_

K/A No.: 012 A2.04 K/A Rating: 3.1/3.2

Method of Testing:

Simulated Performance: \_\_\_\_\_ Actual Performance: X

Location:

Classroom: \_\_\_\_\_ Simulator: X In-Plant: \_\_\_\_\_

Task Standards:

During the performance of SP 2601D, Power Range Safety Channel and Delta T Power Channel Calibration, the examinee determines that the -10 Volt power Supply voltage is not in the acceptable range and bypasses the channel.

Required Materials  
(procedures,equipment):

- SP 2601D, Power Range Safety Channel and Delta T Power Channel Calibration
- Authorized copy of surveillance form SP 2601D-001, Power Range Safety Channel and Delta T Power Channel Calibration
- Calculator

General References:

SP 2601D, Power Range Safety Channel and Delta T Power Channel Calibration

\*\*\*\* READ TO THE EXAMINEE \*\*\*\*

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S6

Rev. 0

Initiating Cues:

- You are the PPO
- An I&C Technician has just completed the incore/excore detector calibration on RPS Channel "C".
- The US has directed you to perform surveillance SP 2601D, Power Range Safety Channel and Delta T Power Channel Calibration, for RPS Channel "C" only.

Initial Conditions:

- The plant is at 100% power
- All systems are in a normal alignment
- SP 2601D-001 has been authorized

Simulator Requirements:

Any 100% power, stable IC. (e.g., IC-24)

Insert malfunction RP30C at 4% to cause the -10 Volt power supply on Channel "C" to read -9.996 Volts.

---

\*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, ALL critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under NO circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S6

TITLE: Power Range Safety Channel and Delta T  
Power Channel Calibration

---

START TIME: 11:00

STEP 1 X Performance Steps: Place Meter Input switch to "METER INPUT."

GRADE     X Standards: *Examinee places RPS Channel "C" Meter Input switch to "METER INPUT" position.*

Cue: 

Comments:

~~~~~

STEP 2 X Performance Steps: Press and hold the "ZERO" test button.

GRADE     X Standards: *Examinee presses and holds the "ZERO" test button on RPS Channel "C".*

Cue: 

Comments:

~~~~~

STEP 3 X Performance Steps: When voltage is observed, release test button and record respective voltage on applicable form.

GRADE     X Standards: *Examinee observes a voltage of  $0.000 \pm 0.003$  volts, releases the test button, and records this value on SP 2601D-001, page 2, step 4.1.1c for Channel "C"*

Cue: 

Comments:

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S6

TITLE: Power Range Safety Channel and Delta T  
Power Channel Calibration

---

STEP 4     X Performance Steps: Press and hold the "+10V" test button.

GRADE \_\_\_\_ X Standards: *Examinee presses and holds the "+10V" test button on RPS Channel "C".*

Cue:

Comments:

~~~~~

STEP 5     X Performance Steps: When voltage is observed, release test button and record respective voltage on applicable form.

GRADE \_\_\_\_ X Standards: *Examinee observes a voltage of +10.000±0.003 volts, releases the test button, and records this value on SP 2601D-001, page 2, step 4.1.1c for Channel "C"*

Cue:

Comments:

~~~~~

STEP 6     X Performance Steps: Press and hold the "-10V" test button.

GRADE \_\_\_\_ X Standards: *Examinee presses and holds the "-10V" test button on RPS Channel "C".*

Cue:

Comments:

~~~~~

STEP 7     X Performance Steps: When voltage is observed, release test button and record respective voltage on applicable form.

GRADE \_\_\_\_ X Standards: *Examinee observes a voltage of -9.996 volts, releases the test button, and records this value on SP 2601D-001, page 2, step 4.1.1c for Channel "C"*

Cue:

Comments:

~~~~~



## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S6

TITLE: Power Range Safety Channel and Delta T  
Power Channel Calibration

---

STEP 8       X   Performance Steps: Compare each channel's voltage values within  
"Acceptance Criteria" range on applicable form.

GRADE        X   Standards:     *Examinee determines that the voltage reading of -9.996  
volts exceeds the acceptance criteria of -9.997 to -  
10.003 volts on SP 2601D-001, page 2, step 4.1.1c for  
Channel "C"*  
*Examinee checks "UNSAT" on SP 2601D-001, page 2,  
step 4.1.2, for Channel "C"*

Cue:

Comments:

~~~~~

STEP 9       X   Performance Steps: If any values are outside of acceptance criteria,  
perform the following:

- Refer to Technical Specification LCO 3.3.1.1 and perform applicable actions to declare applicable RPS channel inoperable.
- Perform applicable actions to place the RPS channel's trips in a bypassed condition.
- Submit Priority 1 Trouble Report to I&C Department to repair or calibrate voltmeter.

GRADE        X   Standards:     *Examinee determines that RPS Channel "C" is inoperable  
and performs the following:*

- *Informs the US that RPS Channel "C" is inoperable and recommends logging into the action statement for Tech Spec LCO 3.3.1.1.*
- *Places the bypass key lock switches for all trip units on Channel "C" in the "trip" position.*
- *Recommends submitting a Priority 1 Trouble Report to the I&C Department for repair or calibrate the RPS Channel "C" -10 volt power supply.*
- *States that the remainder of the calibration cannot be accomplished until the -10 volt power supply is restored.*

Cue: **If the examinee does NOT make the recommendations listed,  
ask him/her what recommendations he/she would make.**

Comments: **After this step is completed, the JPM is considered complete.**

~~~~~

STOP TIME:

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-S6

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

|                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For examinee to achieve a satisfactory grade, <b><u>ALL</u></b> critical steps must be completed correctly. If task is Time Critical, it <b><u>MUST</u></b> be completed within the specified time to achieve a satisfactory grade. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 10 minutes

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM ID Number: JPM-S6

### Initiating Cues:

- You are the PPO
- An I&C Technician has just completed the incore/excore detector calibration on RPS Channel "C".
- The US has directed you to perform surveillance SP 2601D, Power Range Safety Channel and Delta T Power Channel Calibration, for RPS Channel "C" only.

### Initial Conditions:

- The plant is at 100% power
- All systems are in a normal alignment
- SP 2601D-001 has been authorized

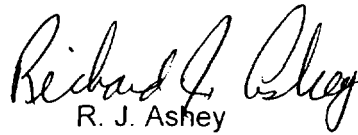
## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger**

ID Number: JPM-S7

Revision: 0

II. Initiated:

  
R. J. Ashley

Developer

Provide all  
handouts at  
the start of  
the JPM

1/18/05

Date

III. Reviewed:

  
Daniel A. Pantalone

Technical Reviewer

1/24/05

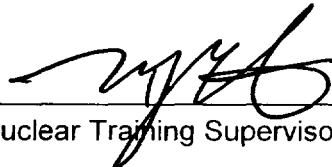
Date

IV. Approved:

N/A

User Department Supervisor

Date



Nuclear Training Supervisor

1/27/05

Date

**SUMMARY OF CHANGES**

| A/I & Date | DESCRIPTION | REV/CHANGE |
|------------|-------------|------------|
|            |             |            |
|            |             |            |
|            |             |            |

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-S7 Rev. 0

Task Title: **Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger**

System: Plant Service – Reactor Building Closed Cooling Water

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 30 minutes

Task No.(s): NUTIMS # 076-01-043

Applicable To: SRO X RO X PEO \_\_\_\_\_

K/A No.: 008 A4.01 K/A Rating: 3.3/3.1

Method of Testing:

Simulated Performance: \_\_\_\_\_ Actual Performance: X

Location:

Classroom: \_\_\_\_\_ Simulator: X In-Plant: \_\_\_\_\_

Task Standards: The examinee places "B" RBCCW Pump and Heat Exchanger in service in place of "A" RBCCW Pump and Heat Exchanger.

Required Materials OP 2330A, RBCCW System, Sections 4.1, 4.2 and 4.16.

(procedures,equipment): OP 2326A, Service Water System, Sections 4.9 and 4.11

General References:

**\*\*\*\*\* READ TO THE EXAMINEE \*\*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S7

Rev. 0

Initiating Cues:

- You are the SPO.
- Preventive Maintenance is scheduled on the "A" RBCCW Heat Exchanger and Pump.
- The US directs you to place the "B" RBCCW pump and "B" RBCCW HX in service and to remove the "A" RBCCW pump and "A" RBCCW HX from service per OP 2330A, sections 4.2 (Pump first) and OP 2326A section 4.9.
- I will act as the US/PEO as needed

Initial Conditions:

- "A" & "C" RBCCW Pumps and Heat Exchangers are in service
- Bus 24E is aligned to Bus 24C.
- "B" RBCCW Pump breaker (A504) racked up.
- The SIAS/LNP Actuation Signal HS 6119D (A504) is in the BLOCK position.
- The "B" RBCCW HX is presently being used for minimum flow for "A" Service Water header.
- Injection temperature is 44°F.
- All other plant conditions are normal.

Simulator Requirements:

Initialize to any IC with:

- A normal RBCCW lineup ("A" & "C" pumps and heat exchangers in service; "B" RBCCW Heat Exchanger used for minimum flow for "A" Service Water header)
- Bus 24E aligned to Bus 24C.
- SIAS/LNP Actuation Signal HS 6119D (A504) in the BLOCK position.

Insert a malfunction to cause fouling of the "B" RBCCW Heat Exchanger after it is placed in service. (SW03B @ 100% on BT-47, ramp in at 10 sec.)

---

\*\*\*\*\* NOTES TO EXAMINER \*\*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

START TIME: \_\_\_\_\_

STEP 1             Performance Steps:

Verify the following:

- "B" RBCCW Pump switch is in Pull-To-Lock. (C-06)
- "RBCCW PP B HDR B SUCT, RB-211D," is closed and "RBCCW PP B HDR A SUCT, RB-211C," is open (C-06)
- "HDR B HX-B OUT, RB-4.1D," is closed (C-06)

GRADE               Standards:

Examinee observes:

- The "B" RBCCW pump handswitch is in the Pull-To-Lock position.
- The green light for "RBCCW PP B HDR B SUCT, RB-211D," is lit.
- The red light for "RBCCW PP B HDR A SUCT, RB-211C," is lit.
- The green light for "HDR B HX-B OUT, RB-4.1D," is lit.

Cue:  

Comments: The examinee may dispatch a PEO to locally monitor the pump swap.

~~~~~

STEP 2      X Performance Steps: Verify open PP DIS HDR A/B X-TIE, RB-251A. (C-06).

GRADE        X Standards:

*Examinee places the handswitch for PP DIS HDR A/B X-TIE, RB-251A, in the open position and observes the red light lit.*

Cue:  

Comments: PP DIS HDR A/B X-TIE, RB-251A, may be open or closed initially. If the valve is initially open, the examinee will only observe the red light lit.

~~~~~



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 3         Performance Steps: Log into TS 3.7.3.1

GRADE           Standards:    *Examinee informs the US of the need to log into TSAS 3.7.3.1.*

Cue:    **US acknowledges the need to enter TSAS 3.7.3.1**

Comments:

~~~~~

STEP 4      X   Performance Steps: Start "RBCCW PP B." (C-06)

GRADE        X   Standards:    *Examinee momentarily places the "B" RBCCW Pump handswitch in the Start position and observes the red light for the "B" RBCCW Pump is lit.*

Cue:    **If asked, report as the PEO that the pump is running normally.**

Comments:

~~~~~

STEP 5         Performance Steps: Check alarm RBCCW PUMP B SIAS/LNP START MANUALLY BLOCKED" (AA-20, C-06/07) lit.

GRADE           Standards:    *Examinee observes alarm RBCCW PUMP B SIAS/LNP START MANUALLY BLOCKED" (AA-20, C-06/07) is lit.*

Cue:    *Examinee reports that the alarm is lit.*

Comments:

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 6         Performance Steps: Check the following for the "B" RBCCW Pump:

- Normal running amps (36 to 44 amps)
- Pump discharge pressure (105 to 135 psig)

GRADE         Standards: *Examinee observes the following indications on C-06 for the "B" RBCCW Pump:*

- Normal running amps of 36 to 44 amps
- Pump discharge pressure of 105 to 135 psig

Cue: **If the examinee reports low amperage or high discharge pressure, inform him/her that this is normal for two pumps running together.**

Comments:

~~~~~

STEP 7         Performance Steps: Close "A" RBCCW Pump Discharge Stop, 2-RB-3A

GRADE         Standards: *Examinee directs a PEO to close "A" RBCCW Pump Discharge Stop, 2-RB-3A.*

Cue: **Booth Operator – Set CCR06 to 0%. When directed as the PEO, report that "A" RBCCW Pump Discharge Stop, 2-RB-3A is closed.**

Comments: It would normally take 1-2 minutes to close "A" RBCCW Pump Discharge Stop, 2-RB-3A.

~~~~~

STEP 8      X   Performance Steps: Stop "A" RBCCW PP A" and place switch in Pull-To-Lock. (C06)

GRADE           X   Standards: *Examinee places the "A" RBCCW Pump handswitch in the Pull-To-Lock position and observes pump amps lower to "0" and the green light is lit.*

Cue:

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 9    X    Performance Steps: Place "SIAS/LNP Actuation Signal HS 6119D" (A504) is in the NORMAL position.

GRADE \_\_\_\_ X    Standards:    *Examinee directs a PEO to place SIAS/LNP Actuation Signal HS 6119D (A504) is in the NORMAL position and observes the following:*

- "RBCCW PUMP B SIAS/LNP START MANUALLY BLOCKED" annunciator clears.
- RBCCW HDR A FLOW HI annunciator is NOT lit.

Cue: **Booth Operator – CCR40 set to Normal. When directed, as the PEO, report that the "SIAS/LNP Actuation Signal HS 6119D" (A504) is in the NORMAL position.**

Comments:

~~~~~

STEP 10    \_\_\_\_    Performance Steps: Exit Tech Spec 3.7.3.1

GRADE \_\_\_\_    \_\_\_\_    Standards:    *Examinee informs the US of the need to exit TSAS 3.7.3.1.*

Cue: **US acknowledges the need to exit TSAS 3.7.3.1**

Comments:

~~~~~

STEP 11    \_\_\_\_    Performance Steps: Open "A" RBCCW Pump Discharge Stop, 2-RB-3A.

GRADE \_\_\_\_    \_\_\_\_    Standards:    *Examinee directs a PEO to open "A" RBCCW Pump Discharge Stop, 2-RB-3A.*

Cue: **Booth Operator – Set CCR06 to 100%. When directed, as the PEO, report that "A" RBCCW Pump Discharge Stop, 2-RB-3A is open.**

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 12    \_\_\_    Performance Steps: Verify "A" RBCCW header flow on FI-6035 greater than or equal to 6,000 gpm and less than 8,000 gpm.

GRADE \_\_\_    Standards:    *Examinee observes FI-6035 and determines that "A" RBCCW header flow is greater than or equal to 6,000 gpm and less than 8,000 gpm. (Approximately 6300 gpm)*

Cue:

Comments: Closing PP DIS HDR A/B X-TIE, RB-251A, is NOT required. The "B" RBCCW Heat Exchanger is NOT in service.

~~~~~

STEP 13    \_\_\_    Performance Steps: Perform the following to ensure correct flow through RM-6038:

- Throttle "B" RBCCW Pump RE Flow Stop, 2-RB-41, as required to set flow indicated on FI-6313 to greater than or equal to one gpm.
- Throttle "C" RBCCW Pump RE Flow Stop, 2-RB-39, as required to set flow indicated on FI-6314 to greater than or equal to one gpm.
- Verify flow indicated on FI-6038 is between 2.0 and 4.5 gpm.

GRADE \_\_\_    Standards:    *Examinee directs a PEO to:*

- *Throttle "B" RBCCW Pump RE Flow Stop, 2-RB-41, as required to set flow indicated on FI-6313 to greater than or equal to one gpm.*
- *Throttle "C" RBCCW Pump RE Flow Stop, 2-RB-39, as required to set flow indicated on FI-6314 to greater than or equal to one gpm.*
- *Verify flow indicated on FI-6038 is between 2.0 and 4.5 gpm.*

Cue: **When directed, as the PEO report that radiation monitor flows have been set as requested.**

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 14    \_\_\_ Performance Steps: Refer to OP 2326A, "Service water System", and establish Service water flow through the "B" RBCCW Heat Exchanger.

GRADE \_\_\_    Standards: *Examinee obtains OP 2326A, "Service water System", and selects section 4.9, Placing "B" RBCCW Heat Exchanger in Service and Removing "A" RBCCW Heat Exchanger From Service".*

Cue: **Provide OP 2326A, Service Water, when requested.**

Comments:

~~~~~

STEP 15    \_\_\_ Performance Steps: Ensure the following are closed:

- "B" Service Water Header to "B" RBCCW Heat Exchanger, 2-SW-7A
- "B" RBCCW Heat Exchanger to "B" Discharge Header, 2-SW-10A.

GRADE \_\_\_    Standards: *Direct a PEO to verify the following valves are closed:*

- "B" Service Water Header to "B" RBCCW Heat Exchanger, 2-SW-7A
- "B" RBCCW Heat Exchanger to "B" RBCCW Discharge Header, 2-SW-10A.

Cue: **As the PEO, report that 2-SW-7A and 2-SW-10A are closed.**

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 16    \_\_\_ Performance Steps: Open the following:

- "A" Service Water Header to "B" RBCCW Heat Exchanger, 2-SW-7B
- "B" RBCCW Heat Exchanger to "A" Discharge Header, 2-SW-10B.

GRADE \_\_\_    Standards: *Direct a PEO to verify the following valves are open:*

- "A" Service Water Header to "B" RBCCW Heat Exchanger, 2-SW-7B
- "B" RBCCW Heat Exchanger to "A" RBCCW Discharge Header, 2-SW-10B.

Cue: **As the PEO, report that 2-SW-7B and 2-SW-10B are open.**

Comments:

~~~~~

STEP 17    \_\_\_ Performance Steps: At "B" RBCCW Heat Exchanger temperature controller, TIC-6307, ensure the following:

- Mode switch in "A" (inside controller)
- Temperature control knob set greater than 200°F.

GRADE \_\_\_    Standards: *Direct a PEO to perform the following:*

- Ensure the mode switch is in "A" (inside controller)
- Set the temperature control knob to greater than 200°F.

Cue: **Booth Instructor – Set CCR03 to 95. As the PEO, inform the examinee that the temperature controller is in automatic and set to 200°F.**

Comments:

~~~~~

STEP 18    \_\_\_ Performance Steps: Ensure "B" RBCCW Heat Exchanger temperature control valve is in either "Summer Valve, 2-SW-8.1B" or "Winter Valve, 2-SW-246".

GRADE \_\_\_    Standards: *Examinee directs the PEO to ensure the "B" RBCCW temperature control valve is in the "Winter" mode.*

Cue: **Booth Operator – Ensure SWR09 is set to Winter. Report that the temperature control valve is in the Winter Mode.**

Comments:

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 19         Performance Steps: Log into TS Action Statement 3.7.4.1

GRADE         Standards:    *Examinee informs the US of the need to enter TSAS 3.7.4.1.*

Cue:    **Acknowledge the need to enter TSAS 3.7.4.1.**

Comments:

~~~~~

STEP 20      X   Performance Steps: Open "B" RBCCW Heat Exchanger SW Outlet, 2-SW-9B.

GRADE           X   Standards:    *Examinee directs the PEO to open "B" RBCCW Heat Exchanger SW Outlet, 2-SW-9B.*

Cue:    **Booth Operator – SWR24 set to 100%. When directed, as the PEO, report that "B" RBCCW Heat Exchanger SW Outlet, 2-SW-9B is open.**

Comments:

~~~~~

STEP 21      X   Performance Steps: Slowly lower "B" RBCCW Heat Exchanger temperature control knob to setting specified by the Control Room.

GRADE           X   Standards:    *Examinee directs the PEO to slowly lower the "B" RBCCW Heat Exchanger TCV to 75°F.*

Cue:    **Booth Instructor – Set CCR03 to 75. As the PEO, inform the examinee that the temperature controller has been set to 75°F.**

Comments:

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 22         Performance Steps: Refer to OP 2330A, Reactor Building Closed Cooling Water System," and shift RBCCW loads from "A" RBCCW Heat Exchanger to "B" RBCCW Heat Exchanger.

GRADE              Standards:    *Examinee obtains OP 2330A, Reactor Building Closed Cooling Water System," and refers to Section 4.16*

Cue:

Comments:

~~~~~

STEP 23         Performance Steps: If "A" RBCCW Pump is operating, perform the following:

- Verify HDR BHX-B OUT, RB-4.1D is closed.
- Open PP DIS HDR A/B X-TIE, RB-251A.

GRADE              Standards:    • *Examinee states that "A" RBCCW Pump is NOT in operation; therefore, this step is NOT applicable.*

Cue:

Comments: This step is not applicable. "A" RBCCW Pump is NOT in operation.

~~~~~

STEP 24      X   Performance Steps: Open HDR A HX-B OUT, RB-4.1C

GRADE           X   Standards:    *Examinee opens HDR A HX-B OUT, RB-4.1C, and observes the associated red light is lit.*

Cue:

Comments:

~~~~~



### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 25         Performance Steps: Monitor header "A" flow on FI-6035 to ensure it remains stable.

GRADE              Standards:    *Examinee monitors flow on FI-6035 and observes stable flow at approximately 6300 gpm.*

Cue: *[Faint audio cue text]*

Comments:

~~~~~

STEP 26      X   Performance Steps: Close HDR A HX-A OUT, RB-4.1A.

GRADE           X   Standards:    *Examinee closes HDR A HX-A OUT, RB-4.1A and observes the associated green light is lit.*

Cue: *[Faint audio cue text]*

Comments: When RB-4.1A is closed, the malfunction to foul the "B" RBCCW Heat Exchanger will be inserted.

~~~~~

STEP 27         Performance Steps: If required, Refer to OP 2326A, Service Water System, and isolate service water flow to "A" RBCCW Heat Exchanger.

GRADE              Standards:    *Examinee determines that the "A" RBCCW Heat Exchanger should NOT be isolated at this time.*

Cue: **If the examinee asks the US whether to isolate the "A" RBCCW Heat Exchanger at this time, inform him/her that the heat exchanger will be isolated later by the work control group.**

Comments:

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## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 28    X    Performance Steps: When rising temperature on "A" header RBCCW or lowering Service Water flow through "B" RBCCW Heat Exchanger is observed, inform the US.

GRADE \_\_\_\_    X    Standards:

- *Examinee observes rising "A" RBCCW header temperature and/or lowering Service Water flow through the "B" RBCCW Heat Exchanger and informs the US.*
- *Examinee will recommend swapping back to the "A" RBCCW Heat Exchanger.*

Cue:

- **If asked, as the PEO, report 60 psid across the "A" RBCCW Heat Exchanger.**
- **When examinee reports a rising temperature in "A" RBCCW header or lowering Service Water flow through the "B" RBCCW Heat Exchanger, ask for a recommendation, if NOT already provided.**
- **When examinee provides the recommendation to swap back to the "A" RBCCW Heat Exchanger, direct the examinee to proceed.**

Comments: The examinee may NOT notice the malfunction until the RBCCW HX TEMP HI annunciator alarms. This does NOT constitute a failure.

~~~~~

STEP 29    X    Performance Steps: Open HDR A HX-A OUT, RB-4.1A.

GRADE \_\_\_\_    X    Standards: *Examinee opens HDR A HX-A OUT, RB-4.1A, and observes the associated red light is lit.*

Cue: *Open HDR A HX-A OUT, RB-4.1A.*

Comments:

~~~~~

STEP 30    X    Performance Steps: Open HDR A HX-A OUT, RB-4.1A.

GRADE \_\_\_\_    X    Standards: *Examinee opens HDR A HX-A OUT, RB-4.1A, and observes the associated red light is lit.*

Cue: *Open HDR A HX-A OUT, RB-4.1A.*

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat Exchanger in Service and Removing "A" RBCCW Pump and Heat Exchanger

---

STEP 31    X    Performance Steps: Open HDR A HX-A OUT, RB-4.1A.

GRADE \_\_\_\_ X    Standards:    *Examinee opens HDR A HX-A OUT, RB-4.1A, and observes the associated red light is lit.*

Cue:

Comments:

~~~~~

STEP 32    X    Performance Steps: Open HDR A HX-A OUT, RB-4.1A.

GRADE \_\_\_\_ X    Standards:    *Examinee opens HDR A HX-A OUT, RB-4.1A, and observes the associated red light is lit.*

Cue:

Comments:

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STEP 33    X    Performance Steps: Open HDR A HX-A OUT, RB-4.1A.

GRADE \_\_\_\_ X    Standards:    *Examinee opens HDR A HX-A OUT, RB-4.1A, and observes the associated red light is lit.*

Cue:

Comments:

~~~~~

STEP 34    \_\_\_\_    Performance Steps: Monitor header "A" flow on FI-6035 to ensure it remains stable.

GRADE \_\_\_\_ \_\_\_\_    Standards:    *Examinee monitors flow on FI-6035 and observes stable flow at approximately 6300 gpm.*

Cue:

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S7

TITLE: Placing "B" RBCCW Pump and Heat  
Exchanger in Service and Removing "A"  
RBCCW Pump and Heat Exchanger

---

STEP 35    X    Performance Steps: Close HDR A HX-B OUT, RB-4.1C

GRADE \_\_\_\_ X    Standards:    *Examinee closes HDR A HX-B OUT, RB-4.1C, and  
observes the associated red light is lit.*

Cue:

Comments:

~~~~~

Comments:    **After this step is completed, the JPM is considered complete.**

STOP TIME: \_\_\_\_\_

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-S7

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 30

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM ID Number: JPM-S7

Initiating Cues:

- You are the SPO.
- Preventive Maintenance is scheduled on the "A" RBCCW Pump and Heat Exchanger.
- The US directs you to place the "B" RBCCW pump and "B" RBCCW HX in service and to remove the "A" RBCCW pump and "A" RBCCW HX from service per OP 2330A, sections 4.2 (Pump first) and OP 2326A section 4.9.
- I will act as the US/PEO as needed

Initial Conditions:

- "A" & "C" RBCCW Pumps and Heat Exchangers are in service
- Bus 24E is aligned to Bus 24C.
- "B" RBCCW Pump breaker (A504) racked up.
- The SIAS/LNP Actuation Signal HS 6119D (A504) is in the BLOCK position.
- The "B" RBCCW HX is presently being used for minimum flow for "A" Service Water header.
- All other plant conditions are normal.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: Change the Alarm Setpoint of the SJAE RM 5099

ID Number: JPM-S8

Revision: 0

II. Initiated:

  
Daniel A. Pantalone

Developer

Provide all  
handouts at  
the start of  
the JPM

01/24/05

Date

III. Reviewed:

  
Duffy Ashey

Technical Reviewer

1/26/05  
Date

IV. Approved:

N/A

User Department Supervisor

Date

  
Nuclear Training Supervisor

1/27/05  
Date

## SUMMARY OF CHANGES

A/I & Date	DESCRIPTION	REV/CHANGE
01/19/2005 (DAP)	Developed new JPM.	0



### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2                      Examinee: \_\_\_\_\_

JPM Number: JPM-S8                      Rev. 0

Task Title: Operate the SJAE RM. (RM-5099)

System: Radmonitor

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 20

Task No.(s): NUTIMS # 073-01-050

Applicable To:      SRO X      RO X      PEO \_\_\_\_\_

K/A No.: 071 A4.25      K/A Rating: 3.2/3.2

#### Method of Testing:

Simulated Performance: \_\_\_\_\_      Actual Performance: X

#### Location:

Classroom: \_\_\_\_\_      Simulator: X      In-Plant: \_\_\_\_\_

#### Task Standards:

The examinee will adjust the setpoint of the Steam Jet Air Ejector Radmonitor as specified on the attached SP2833-007.

#### Required Materials

(procedures, equipment):

- SP2833-007 "SJAE Radmonitor MR 5099 & PPC Alarm Setpoint Change Request.
- OP2383C Rev.012-02 "Radiation Monitor Alarm Setpoint Control.

#### General References:

#### **\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-S8

Rev. 0

Initiating Cues: The US has assigned you to change the setpoint of the SJAE Radmonitor (RM5099) in accordance with OP 2383C, "Radiation Monitor Alarm Setpoint Control", section 4.1.

Initial Conditions: The latest RCS samples have indicated a rise in RCS gaseous isotopic results. Due to this rise in fission product gasses, chemistry has requested a change to the SJAE RM (RM 5099) setpoint.

- Chemistry has provided an approved "SJAE Radmonitor Setpoint Change Request, SP-2833-007.
- The Radiation Monitor System Engineer has referenced EN-21235 and verified that the new setpoint does not exceed the maximum setpoint.
- The S/G Blowdown Radmonitor (RM-4262) is in service.

Simulator Requirements:

- Any IC in Mode 1 or 2 with the Steam Jet Air Ejector System in service.
- Ensure the S/G Blowdown Radmonitor is in service.
- Insert Remote Function, RMR37A (RI5099) to allow changing the alarm setpoint of RM-5099 from RC-14.

---

### \*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S8

**TITLE: Change the Setpoint of the SJAЕ RM 5099**

START TIME: 14:00

STEP 1      X   Performance Steps: OBTAIN keys for the following (Operations key locker):

- RI-5099 "NORM/SUPV." switch on RC-14D.
- RADMONITOR BYPASS, HS 5099E" switch on RC-14A.

GRADE        X   Standards: *The examinee retrieves the two keys from the key locker by C-21 and takes them around to RC-14.*

Cue: \_\_\_\_\_

Comments:

STEP 2     X Performance Steps: As appropriate, PLACE "RADMONITOR BYPASS, HS 5099E" switch to "RM 5099 OUT" or "BOTH OUT."

GRADE        X   Standards: *The examinee inserts the key into HS5099E, and places HS5099E switch on RC-14A to "RM 5099 OUT" position.*

Cue: \_\_\_\_\_

Comments:

STEP 3               Performance Steps: IF "RADMONITOR BYPASS, HS 5099E" switch is in "BOTH OUT," Refer To REMODCM IV.C.1 and DETERMINE applicability.

GRADE \_\_\_\_ Standards: *HS 5099E is not in "BOTH OUT" per the previous step.  
The REMODCM IV.C.1 does not have to be referenced.*

Cue:

Comments: This step is not applicable.

STEP 4     X   Performance Steps: PLACE RI-5099 "NORM/SUPV." switch to "SUPV."

GRADE \_\_\_\_ X Standards: *The examinee inserts the key into the "NORM/SUPV." switch, selects "SUPV", and observes the red SUPV MODE light is lit.*

Cue:

Comments:

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S8

TITLE: Change the Setpoint of the SJAE RM 5099

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~~~~~

STEP 5     X   Performance Steps: Using SP 2833-007, "SJAE Radiation Monitor RM 5099 & PPC Alarm Setpoint Change Request," ENTER new alarm setpoint.

- a. PRESS "CH 1."
- b. PRESS "0," "0," "9."
- c. PRESS "ITEM."
- d. Enter new value using scientific notation.
- e. PRESS "ENTER"
- f. PRESS "CH.1."

GRADE       X   Standards:    *At RC-14D, the examinee performs the following steps on the RM-5099 insert.*

- X                                - PRESS "CH 1."
- X                                - PRESS 099 and observes 009 on the display.
- X                                - PRESS the "ITEM." Button and observe the button is lit when pressed and light goes out when button is released.
- X                                - Press 412+02 and observes 4.12 E2 on the display.
- X                                - PRESS "ENTER" and observe 4.12 E<sup>2</sup>
- X                                - PRESS "CH1 and observe present radiation monitor reading of 9.80 E<sup>1</sup>.

Cue:        -    Provide the examinee with SP 2833-07, "SJAE Radiation Monitor RM 5099 & PPC Alarm Setpoint Change Request."

Comments:    If an error is made while entering information into the RM-5099 Insert, the CLEAR button may be used to start over.

~~~~~

STEP 6     X   Performance Steps: PRESS C/S" button and VERIFY button is lit.

GRADE                               Standards:    *The examinee:*

- X                                - presses the C/S button
- X                                - verifies the button lights.

Cue:        *Provide the examinee with the C/S button and the VERIFY button.*

Comments:

~~~~~

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S8

TITLE: Change the Setpoint of the SJAE RM 5099

STEP 7     X     Performance Steps: WHEN 1 minute has elapsed, VERIFY the following:

- C/S" light is not lit
  - LED channel activity resumes
  - CH 1" light is lit
- IF "CH 1" light is not lit and "ERROR" light is lit,  
NOTIFY I&C Department.

GRADE     X     Standards:

- *Examinee waits one minute and observes the C/S light go out.*
- *Examinee observes normal operation of the RM-5099 Insert.*
- *Examinee verifies the CH 1 light is lit.*

Cue:

Comments:

~~~~~

STEP 8     X     Performance Steps: IF desired to display alarm setpoint, PERFORM the following:

- a. PRESS CH 1."
- b. ENTER item number 0," 0," 9."
- c. PRESS ITEM."
- d. PRESS CH. 1."

GRADE     X

Standards:     *At RC-14D, the examinee performs the following steps on the RM-5099 insert.*

- *Press CH 1 and observes no change.*
- *Press 009 and observe 009 on the display.*
- *Press the ITEM button and observe the button is lit when pressed and light goes out when button is released.*
  - o *Observe display change to current alarm setpoint of 4.12 E+2.*
- *Press CH1 and observe current radiation monitor reading of 9.80 E+1.*

Cue:     It is desired.

Comments:

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### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-S8

TITLE: Change the Setpoint of the SJAE RM 5099

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STEP 9    X    Performance Steps: PLACE RI-5099 NORM/SUPV." switch to NORM."

GRADE \_\_\_\_ X    Standards:    *The examinee places RI-5099 Normal/Supv. Key switch in the NORMAL position and observes the red SUPV MODE light go out.*

Cue:

Comments:

~~~~~

STEP 10    X    Performance Steps: As appropriate, PLACE RADMONITOR BYPASS, HS 5099E" switch to RM 4262 OUT" or NORMAL."

GRADE \_\_\_\_ X    Standards:    *The examinee locates HS 5099E key switch, and places it in the NORMAL position.*

Cue:

Comments:

~~~~~

STEP 11    \_\_\_\_    Performance Steps: RETURN keys (Operations key locker).

GRADE \_\_\_\_ \_\_\_\_    Standards:    *The examinee returns the two keys to the Ops Key Locker.*

Cue:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-S8

TITLE: Change the Setpoint of the SJAE RM 5099

---

STEP 12    X    Performance Steps: Using SP 2833-007, "SJAE Radiation Monitor RM 5099 & PPC Alarm Setpoint Change Request," ENTER new values into PPC as follows:

- a. OPEN PPC screen N16 - CHEM.
- b. ENTER value for steam jet air ejector instrument background.
- c. ENTER value for SJAE DP.
- d. ENTER value for RCS total gas activity.
- e. ENTER value for RM 5099 response factor.
- f. EXIT application.

GRADE \_\_\_\_ X    Standards:    *Using SP 2833-007, "SJAE Radiation Monitor RM 5099 & PPC Alarm Setpoint Change Request," the examinee performs the following.*

- \_\_\_\_ X    a. *Opens PPC screen N16-CHEM on any available PPC Console.*
- \_\_\_\_ X    b. *Enters the instrument background value of 124 cpm.*
- \_\_\_\_ X    c. *Enters SJAE DP value of 0.35 Inches of Water.*
- \_\_\_\_ X    d. *Enters the Total Gaseous Activity value of 1.113 uCi/CC.*
- \_\_\_\_ X    e. *Enters the RM-5099 Response Factor value of 7.450E-7 cpm/uCi/cc.*
- \_\_\_\_ X    f. *Exits the application by pressing the ENTER key and closing the present PPC page.*

Cue:

Comments:    When the appropriate data has been entered into the PPC, the JPM is complete. Exiting the application is NOT a requirement for completion of this JPM.

~~~~~  
Comments:    **After this step is completed, the JPM is considered complete.**

STOP TIME: \_\_\_\_\_

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-S8

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No \_\_\_\_\_

Validated Time (minutes): \_\_\_\_\_

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:



## EXAMINEE HANDOUT

JPM Number: JPM-S8

Rev. 0

Initiating Cues: The US has assigned you to change the setpoint of the SJAE Radmonitor (RM5099) in accordance with OP 2383C, "Radiation Monitor Alarm Setpoint Control", section 4.1.

Initial Conditions: The latest RCS samples have indicated a rise in RCS gaseous isotopic results. Due to this rise in fission product gasses, chemistry has requested a change to the SJAE RM (RM 5099) setpoint.

- Chemistry has provided an approved "SJAE Radmonitor Setpoint Change Request, SP-2833-007.
- The Radiation Monitor System Engineer has referenced EN-21235 and verified that the new setpoint does not exceed the maximum setpoint.
- The S/G Blowdown Radmonitor (RM-4262) is in service.

CL 3/14/05

PLANT  
JPM's.

## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **Removing Section 201B-2, of Battery Charger 201B , From Service**

ID Number: JPM-P1

Revision: 0

II. Initiated:

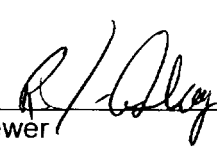
  
Daniel A. Pantalone

Developer

03-03-05

Date

III. Reviewed:

  
R. J. Ashley

Technical Reviewer

3/7/05  
Date

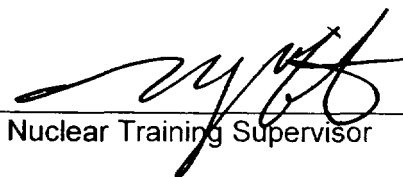
IV. Approved:

N/A

User Department Supervisor

N/A

Date

  
Nuclear Training Supervisor

3/9/05  
Date

## **SUMMARY OF CHANGES**

| <b>A/I &amp; Date</b> | <b>DESCRIPTION</b>                                                                                                                   | <b>REV/CHANGE</b> |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 10/15/2004<br>(DAP)   | Developed new JPM.                                                                                                                   | 0                 |
| 03/03/2005<br>(DAP)   | Changed to use Charger 201B-1 instead of 201A-1. 201A-1 has too many obstructions in the plant. 201B-1 has no physical obstructions. | 0                 |
|                       |                                                                                                                                      |                   |

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM- P-1 Rev. 0

Task Title: Removing Section 201B-2, of Battery Charger 201B , From Service

System: 125 Volt Vital DC

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 12

Task No.(s): NUTIMS # 063-01-093 (MP2 063-11-01-04)

Applicable To: SRO X RO X PEO X

K/A No.: 063 K1.03 K/A Rating: 2.9/3.5

#### Method of Testing:

Simulated Performance: X Actual Performance: \_\_\_\_\_

#### Location:

Classroom: \_\_\_\_\_ Simulator: \_\_\_\_\_ In-Plant: X

Task Standards: At the completion of this JPM, battery charger section 201B-2 will be removed from service in accordance with 2345C section 4.14

Required Materials OP-2345C section 4.14  
(procedures,equipment):

General References: OP-2345C

#### **\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM- P-1

Rev. 0

Initiating Cues: The US has directed you to remove battery charger section 201B-2 from service, in preparation for preventive maintenance.

Initial Conditions: Battery Charger 201B is operating with both sections in service.

Simulator Requirements: N/A

---

### \*\*\*\*\* NOTES TO EXAMINER \*\*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM- P-1

TITLE: **Removing Section 201B-2, of Battery  
Charger 201B, From Service**

---

START TIME: \_\_\_\_\_

STEP 1      \_\_\_\_ Performance Steps:                      ENSURE total charger "DC OUTPUT"  
current less than 400 amps.

GRADE \_\_\_\_      Standards:                      *Examinee observes "DC OUTPUT" ammeter on the  
Termination Cabinet.*

Cue:      **Amperage is < 400 amps.**

Comments:

~~~~~

STEP 2      \_\_\_\_ Performance Steps: PLACE "MODE SEL." Switch in "DIS. B"

GRADE \_\_\_\_      Standards:                      - *Examinee indicates the following on the  
"Termination Cabinet":*  
- *the "MODE SEL." switch is being turned to the  
"DIS B." position.*  
- *the "BATTERY CHARGER 201B-2 ALARMS  
DISABLED" red light lights*  
- *the "CURRENT SHARING DISABLED" red  
light lights.*

Cue:                      - "MODE SEL." Switch is in the "DIS B." position  
- "BATTERY CHARGER 201B-2 ALARMS DISABLED" red  
light is lit.  
- "CURRENT SHARING DISABLED" red light is lit..

Comments:

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM- P-1

TITLE: **Removing Section 201B-2, of Battery  
Charger 201B, From Service**

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STEP 3       X   Performance Steps: PLACE breaker "201B AC INPUT TO BATTERY  
CHARGER 201B-2" in OFF.

GRADE \_\_\_\_   X   Standards:     *Examinee locates the correct breaker on the Termination  
Cabinet and simulates pulling down on the breaker.*

Cue:    Breaker is in "OFF"

Comments:

~~~~~

STEP 4       X   Performance Steps: PLACE breaker "201B-2 DC OUTPUT TO BATTERY  
BUS BREAKER D0202" in OFF.

GRADE \_\_\_\_   X   Standards:     *Examinee locates the correct breaker on the Termination  
Cabinet and simulates pulling down on the breaker.*

Cue:    Breaker is in "OFF"

Comments:

~~~~~

STEP 5       X   Performance Steps: PLACE breaker "BATTERY CHARGER 201B-2 AC  
INPUT" in OFF.

GRADE \_\_\_\_   X   Standards:     *Examinee locates the correct breaker on the "Battery  
Charger 201B-2" cabinet and simulates pulling down on  
the breaker.*

Cue:    Breaker is in "OFF"

Comments:



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM- P-1

TITLE: **Removing Section 201B-2, of Battery  
Charger 201B, From Service**

---

~~~~~

STEP 6       X   Performance Steps: PLACE breaker "BATTERY CHARGER 201B-2 DC  
OUTPUT" in OFF.

GRADE          X   Standards:     *Examinee locates the correct breaker on the "Battery  
Charger 201B-2" cabinet and indicates pulling down on  
the breaker.*

Cue:    Breaker is in the OFF Position

Comments:

~~~~~

STEP 7            Performance Steps: ENSURE total charger "DC OUTPUT" current less  
than 400 amps.

GRADE               Standards:     *Examinee locates the "D.C. OUTPUT – DC AMPERES"  
meter on either the 201B-2 panel or the Termination  
Cabinet.*

Cue:    DC Amps is < 120

Comments:    **After this step is completed, the JPM is considered complete.**

STOP TIME:

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-P-1

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 12

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

**EXAMINEE HANDOUT**

JPM ID Number: JPM-P1

Initiating Cues: The US has directed you to remove battery charger section 201B-2 from service, in preparation for preventive maintenance.

Initial Conditions: Battery Charger 201B is operating with both sections in service.

SP425

JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: Loss of SDC / Vent the 'A' LPSI Pp.

ID Number: JPM-P2


Revision: 0

II. Initiated:

  
\_\_\_\_\_  
Daniel A. Pantalone  
Developer

01/25/05  
\_\_\_\_\_  
Date

III. Reviewed:

  
\_\_\_\_\_  
Duffy Ashley  
Technical Reviewer

1/26/05  
\_\_\_\_\_  
Date

IV. Approved:

N/A

\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Nuclear Training Supervisor

1/27/05  
\_\_\_\_\_  
Date

### SUMMARY OF CHANGES

| A/I & Date          | DESCRIPTION       | REV/CHANGE |
|---------------------|-------------------|------------|
| 01/18/2005<br>(DAP) | Developed new JPM | 0          |
|                     |                   |            |
|                     |                   |            |

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM- P2 Rev. 0

Task Title: Loss of SDC / Vent the 'A' LPSI Pp.

System: ECCS

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 13

Task No.(s): NUTIMS # 000-14-021 (000-016-04-04)

Applicable To: SRO X RO X PEO X

K/A No.: 005 A2.03 K/A Rating: 2.9/3.1

#### Method of Testing:

Simulated Performance: X Actual Performance: \_\_\_\_\_

#### Location:

Classroom: \_\_\_\_\_ Simulator: \_\_\_\_\_ In-Plant: X

Task Standards: At the completion of this JPM, the examinee will have simulated venting the "A" LPSI Pp. per AOP 2572, "Loss of SDC".

Required Materials AOP 2572 "Loss of SDC", step 4.15  
(procedures, equipment):

General References: AOP 2572

#### **\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-P2

Rev. 0

Initiating Cues: The US has directed you to vent the 'A' LPSI Pump per AOP 2572 "Loss of Shutdown Cooling", step 4.15.

Initial Conditions: The plant is at the center line of the hot leg to replace an RCP seal. The 'A' LPSI Pp started to show indications of air binding.

- The 'A' LPSI Pp is secured.
- RCS level has been raised and the SDC suction piping evacuated.
- The pump is placed in a safe condition and is ready to vent.
- RCS temperature is approximately 85°F.

Simulator Requirements: N/A

---

### \*\*\*\*\* NOTES TO EXAMINER \*\*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-P2

TITLE: Loss of SDC / Vent the 'A' LPSI Pp.

---

START TIME: \_\_\_\_\_

STEP 1      X Performance Steps: CONNECT vent hose to SI-21A, ("A" LPSI Pp. vent).

|             |            |                                                                                                       |
|-------------|------------|-------------------------------------------------------------------------------------------------------|
| GRADE _____ | Standards: | <i>Examinee does the following:</i>                                                                   |
| <u>X</u>    |            | 1. <i>Locates SI-21A on the "A" LPSI Pp. casing</i>                                                   |
| <u>X</u>    |            | 2. <i>Verifies SI-21A is closed.</i>                                                                  |
| <u>X</u>    |            | 3. <i>Locates the "vent pipe fitting" in the vent rig box, located at the base of the LPSI Pp.</i>    |
| <u>X</u>    |            | 4. <i>Locates the "pipe wrench" in the vent rig box, located at the base of the LPSI Pp.</i>          |
| <u>X</u>    |            | 5. <i>Simulates removing the "pipe cap" at the end of the extension pipe of SI-21A.</i>               |
| <u>X</u>    |            | 6. <i>Simulates installing the "female Camlock vent pipe fitting" on the extension pipe of SI-21A</i> |
| <u>X</u>    |            | 7. <i>Simulate connecting the Tygon Hose to the "vent pipe fitting".</i>                              |
| _____       |            | 8. <i>Simulate running and securing the Tygon Hose to a floor drain.</i>                              |

Cue:    **3. see comments below**  
         **5. pipe cap is removed**  
         **6. vent fitting is installed**  
         **7. see comments below**  
         **8. Tygon hose is secured**  
         **If the fitting will NOT couple to the Tygon tube when the examinee simulates connecting the Tygon tube to the vent fitting, tell the examinee that it doesn't couple correctly.**

Comments:    There may be several vent fittings in the box at the base of the LPSI Pump. Visually determine that the fitting selected by the examinee will couple up to the fitting on the end of the Tygon tube.

The examinee should then find the correct fitting.

~~~~~



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-P2 TITLE: Loss of SDC / Vent the 'A' LPSI Pp.

---

STEP 2     X Performance Steps: Slowly open SI-21A ("A" LPSI Pp vent)

GRADE \_\_\_\_ X Standards: *Examinee simulates cracking open SI-21A.*

Cue: **Inform the examinee that large air bubbles are visible in the water.**

Comments:    - The examinee should indicate that s/he would continue to vent until air free water is observed.  
                  - The note in the procedure defines air-free as bubbles the size of bubbles in carbonated water or soda.

~~~~~

STEP 3     X Performance Steps: Close SI-21A when air-free water is observed.

GRADE \_\_\_\_ X Standards: *The examinee simulates closing SI-21A when soda water like bubbles are observed.*

Cue: **Soda water like bubbles are observed.**

Comments:    Ensure the examinee understands the information given in the note. This may be done when the examinee asks if the bubbles are like those in soda water. If the examinee gives no indication, ask the examinee to describe the conditions that would indicate the pump is properly vented.

~~~~~

Comments:    **After this step is completed, the JPM is considered complete.**

STOP TIME: \_\_\_\_\_

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM- P2

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 13

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM Number: JPM-P2

Rev. 0

Initiating Cues: The US has directed you to vent the 'A' LPSI Pump per AOP 2572 "Loss of Shutdown Cooling", step 4.15.

Initial Conditions: The plant is at the center line of the hot leg to replace an RCP seal. The 'A' LPSI Pp started to show indications of air binding.

- The 'A' LPSI Pp is secured.
- RCS level has been raised and the SDC suction piping evacuated.
- The pump is placed in a safe condition and is ready to vent.
- RCS temperature is approximately 85°F.

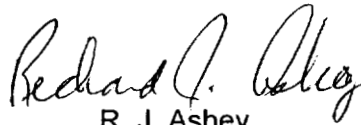
## JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: Cross-Tie Station Air With Unit 3 to Supply Unit 2 Instrument Air

ID Number: JPM-P3

Revision: 0

II. Initiated:



R. J. Ashley  
Developer

10/25/04  
Date

III. Reviewed:



Technical Reviewer

1/26/05  
Date

IV. Approved:

\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date



Nuclear Training Supervisor

1/26/05  
Date

## **SUMMARY OF CHANGES**

<b>A/I &amp; Date</b>	<b>DESCRIPTION</b>	<b>REV/CHANGE</b>
10/25/2004	Developed new JPM.	0

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-P3 Rev. 0

Task Title: Cross-Tie Station Air With Unit 3 to Supply Unit 2 Instrument Air

System: Instrument Air

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 10

Task No.(s): NUTIMS # 079-01-030

Applicable To: SRO X RO X PEO X

K/A No.: 079 A2.01 K/A Rating: 2.9/3.2

#### Method of Testing:

Simulated Performance: X Actual Performance: \_\_\_\_\_

#### Location:

Classroom: \_\_\_\_\_ Simulator: \_\_\_\_\_ In-Plant: X

#### Task Standards:

The examinee has successfully performed the alignment to allow Unit 3 to supply Unit 2 with Station Air and to permit Station Air to supply Instrument Air.

#### Required Materials

(procedures,equipment):

EOP 2525, Standard Post Trip Actions, Rev. 20, Contingency Action 19.1

#### General References:

EOP 2525, Standard Post Trip Actions, Rev. 20, Contingency Action 19.1

#### **\*\*\* READ TO THE EXAMINEE \*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-P3

Rev. 0

Initiating Cues: The Unit Supervisor has directed you to cross-tie Station Air from Unit 3 to allow Station Air to supply Instrument Air in accordance with EOP 2525, Contingency Action step 19.1.

Initial Conditions:

- Unit has tripped from 100% power.
- The RSST failed resulting in a loss of off site power.
- Both Emergency Diesels have energized their respective buses.
- Instrument Air header pressure is reading 85 psig and lowering.
- Unit 3 has informed the Unit Supervisor that they are able to supply Station Air to Unit 2.
- SA-10.1, Station Air to Instrument Air Cross-Tie, is open.

Simulator Requirements: N/A

---

### \*\*\*\* NOTES TO EXAMINER \*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, ALL critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under NO circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-P3

TITLE: Cross-Tie Station Air With Unit 3 to Supply Unit  
2 Instrument Air

---

START TIME:       

STEP 1            Performance Steps:            Ensure SA-26, SA-11.1 Outlet Bypass, is open.

GRADE               Standards:            *Examinee checks SA-26, SA-11.1 Outlet Bypass, open attempting to rotate the valve handwheel in the counter clockwise direction.*

Cue:    **SA-26 is open.**

Comments:    SA-26 is located on the 14'6' elevation of the Turbine Building near the Instrument Air Dryer.

~~~~~

STEP 2       X   Performance Steps:    Open SA-12, SA-11.1 Inlet Bypass.

GRADE          X   Standards:            *Examinee opens SA-12, SA-11.1 Inlet Bypass, by rotating the valve handwheel in the counter clockwise direction.*

Cue:    **SA-12 is open when the examinee simulates opening the valve.**

Comments:    SA-12 is located on the 14'6' elevation of the Turbine Building near the Instrument Air Dryer.

~~~~~



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-P3

TITLE: Cross-Tie Station Air With Unit 3 to Supply Unit  
2 Instrument Air

---

STEP 3     X Performance Steps: Open SAS-379, Bypass Valve for SAS-EFV-20

GRADE \_\_\_\_ X Standards:     *Examinee opens SAS-379, Bypass Valve for SAS-EFV-20, by rotating the valve handwheel in the counter clockwise direction.*

Cue:     **SAS-379 is open when the examinee simulates opening the valve.**

Comments:     SAS-379 is located on the 14'6" elevation of the Turbine Building, on the stairway by the "C" Instrument Air Compressor.

~~~~~

STEP 4     X Performance Steps: Open SAS-6, Station Air Cross-Tie to Unit 3.

GRADE \_\_\_\_ X Standards:     *Examinee opens SAS-6, Station Air Cross-Tie to Unit 3, by rotating the valve handwheel in the counter clockwise direction.*

Cue:     **SAS-6 is open when the examinee simulates opening the valve.**

Comments:     SAS-6 is located in the CFP Building Truck Bay.

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-P3

TITLE: Cross-Tie Station Air With Unit 3 to Supply Unit  
2 Instrument Air

---

STEP 5     X Performance Steps: Request Unit 3 Operations to slowly open 3-SAS-V900, Service air Cross-Tie to Unit 2.

GRADE \_\_\_\_ X Standards: *Examinee will either simulate contacting the Unit 3 Control Room or have the Unit 2 Control Room contact the Unit 3 Control Room, to have 3-SAS-V900 opened by a Unit 3 operator.*

Cue: **Unit 3 reports that an operator is on his way to open 3-SAS-V900.**

Comments: The JPM is complete when the examinee requests 3-SAS-V900 to be opened by a Unit 3 operator.

STOP TIME: \_\_\_\_\_

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-P3

Rev. 0

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 10

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

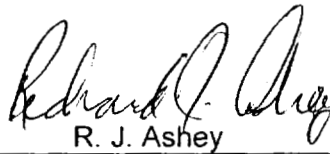
## JOB PERFORMANCE MEASURE APPROVAL SHEET

I JPM Title: Local Manual Operation of the "A" Atmospheric Dump Valve

ID Number: JPM-093

Revision: 9

II. Initiated:

  
R. J. Ashley  
Developer

1/18/05  
Date

III. Reviewed:

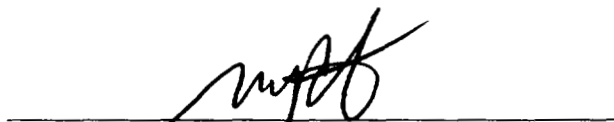
  
Technical Reviewer

1/26/05  
Date

IV. Approved:

N/A  
User Department Supervisor

                      
Date

  
Nuclear Training Supervisor

1/27/05  
Date

### JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: \_\_\_\_\_

JPM Number: JPM-093 Rev. 9

Task Title: **Local Manual Operation of the "A" Atmospheric Dump Valve**

System: Main Steam

Time Critical Task: Yes \_\_\_\_\_ No X

Validated Time (minutes): 15

Task No.(s): NUTIMS# 035-01-029

Applicable To: SRO X RO X PEO X

K/A No. 041 A2.03 K/A Rating 2.8/3.1

Method of Testing:

Simulated Performance: X Actual Performance: \_\_\_\_\_

Location:

Classroom: \_\_\_\_\_ Simulator: \_\_\_\_\_ In-Plant: X

Task Standards:

Examinee has taken local manual control of the "A" ADV and placed in to 25% open per EOP 2541, Appendix 36, ADV Local Operation.

Required Materials  
(procedures,  
equipment):

EOP 2541, Appendix 36, ADV Local Operation

General References:

EOP 2541, Appendix 36, ADV Local Operation

**\*\*\*\* READ TO THE EXAMINEE \*\*\*\***

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.*

## JOB PERFORMANCE MEASURE WORKSHEET

Initiating Cues:

- The US directs you to take local manual control of the "A" Atmospheric Dump Valve and open the valve to 25% in accordance with EOP 2541 Appendix 36.

Initial Conditions:

- A loss of I.A. has occurred in the plant.
- The plant has tripped and the decision has been made to use the "A" Atmospheric Dump Valve to remove decay heat.

Simulator Requirements:

N/A

---

\*\*\*\*\* NOTES TO EXAMINER \*\*\*\*\*

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, ALL critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under NO circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM.

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-093

TITLE: Local Manual Operation of the "A" Atmospheric Dump Valve

START TIME: \_\_\_\_\_

STEP 1    \_\_\_ Performance Steps:    Check local ambient air temperatures less than 120°F.

GRADE    \_\_\_    Standards:    *Examinee observes local thermometer (TI-8130C) in the East 38'6" penetration room to determine ambient air temperature is less than 120°F.*

*TI- 8130C is located just inside the inner door to the right.*

Cue:    **If asked, as Health Physics, state that radiological conditions are normal.  
Room temperature is as indicated.**

Comments:

~~~~~

STEP 2    \_\_\_ Performance Steps:    If local operation of the ADV is desired, refer to Attachment 36-A, Establishing Local ADV Control.

GRADE    \_\_\_    Standards:    *Examinee obtains Attachment 36-A, Establishing Local ADV Control.*

Cue:    **If requested, provide a copy of Attachment 36-A  
Establishing Local ADV Control.**

Comments:

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-093

TITLE: Local Manual Operation of the "A" Atmospheric Dump Valve

STEP 3         Performance Steps:    Establish communications with the Control Room.

GRADE              Standards:    *Examinee states that he would obtain a headset and extension, goes to the blowdown room (East 38'6";AB), plugs into maintenance jack on the stanchion next to the blowdown H.X. and gets in contact with the control room.*

Cue:    **Communications are established.**

Comments:

~~~~~

STEP 4         Performance Steps:    Ensure ADV Manual isolation valve, MS-3A is open.

GRADE              Standards:    *Examinee climbs to the ADV platform and observes ADV isolation valves, MS-3A, is fully open by stem indication and/or by stating he/she would attempt to turn the handwheel in the counter clockwise direction.*

Cue:    **MS-3A is full open.**

Comments:

~~~~~

STEP 5    X    Performance Steps:    Remove the "Vent Valve" assembly from the instrument rack located below the ADV.

GRADE         X    Standards:    *Examinee obtains the "Vent Valve" assembly by operating the quick disconnect fitting.*

*"Vent Valve" assembly is located below the valve on a gauge board and is labeled "Vent Valve".*

Cue:

Comments:

~~~~~



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-093

TITLE: Local Manual Operation of the "A" Atmospheric Dump Valve

STEP 6            Performance Steps:    Ensure the "Vent Valve" assembly is closed.

GRADE                 Standards:    *Examinee verifies the vent valve is in the closed position by turning the handwheel in the clockwise direction until it stops.*

Cue:

Comments:

~~~~~

STEP 7    X    Performance Steps:    Close the instrument air isolation valve to the ADV.

GRADE         X    Standards:    *Examinee locates the I.A. isolation for 2-MS-190A (located on the Ctmt wall behind the ADV) and states that he/she would close it position by turning the handwheel in the clockwise direction until it stops.*

Cue:    -    **Ask examinee how s/he would reach the air supply to MS-190A. The examinee should use the ladder that is chained to the cat walk.**  
             -    **I.A. isolation to 2-MS-190A is closed.**

Comments:

~~~~~

STEP 8    X    Performance Steps:    Remove the vent cap from the quick disconnect at the top of the ADV operator diaphragm.

GRADE         X    Standards:    *Examinee states that he/she would remove the cap from the quick disconnect at the top of the valve operator diaphragm.*

Cue:    **The vent cap is removed.**

Comments:

~~~~~

### PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-093

TITLE: Local Manual Operation of the "A" Atmospheric Dump Valve

STEP 9 X Performance Steps: Insert the "Vent Valve" assembly into the quick disconnect.

GRADE     X Standards: *Examinee inserts the "Vent Valve" assembly into the quick disconnect on top of the ADV operator diaphragm.*

Cue: **The vent valve is inserted.**

Comments:

~~~~~

STEP 10 X Performance Steps: Open the vent valve assembly to ensure air has been vented off the ADV operator.

GRADE     X Standards: *To vent off the air from the ADV operator, the examinee opens the vent valve on the Vent Valve assembly by turning the handwheel in the clockwise direction until it stops.*

Cue: **The air from the operator has been vented off.**

Comments:

~~~~~

STEP 11     Performance Steps: Ensure that the ADV is closed.

GRADE         Standards: *Examinee observes ADV position indicator and determines that the ADV is closed.*

Cue: **The ADV is closed.**

Comments:

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-093

TITLE: Local Manual Operation of the "A" Atmospheric Dump Valve

STEP 12 X Performance Steps: Remove the handwheel restraining device.

GRADE     X Standards: *Examinee states that he would remove the restraining device*

Cue: **Restraining device is removed.**

Comments:

~~~~~

STEP 13 X Performance Steps: Position the ADV as directed by the Control Room.

GRADE     X Standards: *Examinee states that he/she would rotate the handwheel in the **clockwise** direction to position the valve to 25% open by the local stem position indication.*

Cue: **The ADV is 25% open.**

Comments:

~~~~~

Comments: When it has been simulated that manual control has been taken and the valve is 25% open, then this JPM is complete.

STOP TIME: \_\_\_\_\_

### VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM -093

Rev. 9

Date Performed: \_\_\_\_\_

Operator: \_\_\_\_\_

Evaluator(s): \_\_\_\_\_

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.  
If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? Yes \_\_\_\_\_ No X

Validated Time (minutes): 15

Actual Time to Complete (minutes): \_\_\_\_\_

Result of JPM: \_\_\_\_\_ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

## EXAMINEE HANDOUT

JPM ID Number: 093

Initiating Cues:

- The US directs you to take local manual control of the "A" Atmospheric Dump Valve and open the valve to 25% in accordance with EOP 2541 Appendix 36.

Initial Conditions:

- A loss of I.A. has occurred in the plant.
- The plant has tripped and the decision has been made to use the "A" Atmospheric Dump Valve to remove decay heat.