

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-A01

Rev. 0

Initiating Cues:

- You have just arrived in the control room at the beginning of your shift. Take necessary actions required for a shift turnover as the BOP.
- I will act as the off going BOP.

Initial Conditions:

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-A01 TITLE: RO Shift Turnover

START TIME: [REDACTED]

- STEP 1 ___ Performance Steps: Prior to conducting the control board walkdown, it is recommended that the oncoming licensed operators review the following:
- OPS Form 2619A-4, "Shift Turnover Report" (Autolog)
 - ODI Form 6.15-6, "Work Control Turnover Report"
 - SM Log
 - Night Order Log (for any new Night Orders)
 - Radwaste Log Book (Auto Log)
 - Radwaste Night Order Book

GRADE ___ ___ Standards: *Examinee reviews provided copy of the SM log (auto Log Printout) and states he would also need to review the shift turnover report, the work control turnover report, the night order log, the radwaste log book and the radwaste night order book.*

- Cue:
- **If examinee does not ask for or list documents he needs to review, prompt him by asking him what documents he needs to review.**
 - **After he lists the documents he needs to review, provide the attached copy of the SM auto log for his review.**
 - **If he does not recognize you as the off-going US, remind him that you are and are able to provide information about plant status.**

Comments: U2 OP 2200.1 is an information level of use.

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**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A01 TITLE: RO Shift Turnover

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STEP 2       Performance Steps: Walk down appropriate control boards *with* off-going operators.  
Discussions should include but *not* be limited to the following:

- Unusual events that occurred during last 24 hours
- Inoperable equipment and ACTION Statements, including surveillance requirements
- Reasons for annunciator alarms
- Tagged equipment, including any surveillance or equipment work in progress at time of shift relief and turnover
- Running equipment and train alignments
- The status of systems, equipment, alignments, controllers, and annunciators
- Plant evolutions in progress and or planned
- Potentially hazardous activities or conditions reported during the previous shift
- Unusual events within the last 24 hours
- Significant surveillances completed or carried over
- Significant Work activities, including restorations, completed or carried over (SRO)
- The status of any outstanding Radwaste Release permits (SRO)
- Temporary modifications (jumpers) installed since the previous shift

Discuss results of any administrative reviews or audits (SRO)

GRADE           Standards: *During the review of the SM log the examinee should recognize that there is a potential problem with taking the 'B' AFW pump out of service when Facility 2 is protected. The examinee may also ask why both AFW pumps are out of service at the same time. Facility 2 is protected and 'A' AUX Feed pump out for PMs as described in the 0730 entry. The 109 and 1110 entries are related to the 'B' Aux Feed pump.*

Cue: **If necessary, indicate that control board walkdown is to be simulated.**

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

STOP TIME:

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-A01

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: A01

Initiating Cues:

- You have just arrived in the control room at the beginning of your shift. Take necessary actions required for a shift turnover as the BOP.
- I will act as the off going BOP.

Initial Conditions:

|          |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |         |
|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|
| 07/01/00 | 0730 | Shift Hours: 07-19, Tuesday, SM: H. Williamson, US: J. Hoagland, WCSRO: J. Fillion, SPO: M. Lettrich, PPO J. Jorinscay, STA:M. Strollo, U/I: K. Dingle (US), TB: G. Chaudé, AB: L. Swadley, FL/FBA: M. Pucel. Plant in Mode:1, Rx power: 100 % , MWe: 904, Control Rods: ARO, Blowdown: 45gpm (#1), 45gpm (#2), RCS Circulation: RCPs, Tave: 571, Onsite Power: NSST, Pzr Level: 65%, SFP Lvl: 36' 10", TSAS: 3.4.11b act a (PZR vent path isolated), 3.3.3.9b act 2 (RM-4262), 3.7.1.2 act a ('A' Aux Feed pump out for PM's) TRMs: F.3.1.a.1 & F.3.1.a.2 (Fire Barriers), B.3.1 (U-2 fire pump), Also see Impairment sheet. Facility 2 Protected. | clairjj | myerstm |
| 07/01/00 | 0810 | RM-8132 is secured to change out Charcoal and Particulate filters for Chemistry. Table 3.3-13 No Action Required due to that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations, or sampling.                                                                                                                                                                                                                                                                                                                                                                   | clairjj | myerstm |
| 07/01/00 | 0817 | Chemist returned RM-8132 to service, flow 3.25 CFM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | clairjj | myerstm |
| 07/01/00 | 0825 | Entered TSAS 3.7.6.1b. Both trains of Control Room ventilation Inoperable while testing door 249. With both trains of Control Room ventilation Inoperable immediately suspend the movement of fuel assemblies within the Spent Fuel Pool and the movement of shielded casks over the Spent Fuel Pool cask laydown area. Restore at least one Inoperable train to Operable status within 1 hour, or be in Hot Standby within the next 6 hours, and cold shutdown within the following 30 hours                                                                                                                                                       | clairjj | myerstm |
| 07/01/00 | 0840 | Exited TSAS 3.7.6.1b. Door testing complete. Both trains of Control Room ventilation are Operable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | clairjj | myerstm |
| 07/01/00 | 0845 | Released the following AWOs to the WIN Team: M2-00-12193 Replace gasket on LS-5331 ( 2B feedwater heater low level alarm )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | clairjj | myerstm |
| 07/01/00 | 0930 | Commenced Discharge of TK-10 to LIS. Level 86%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | clairjj | myerstm |
| 07/01/00 | 1000 | Traveling screens placed in Manual slow for greasing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | clairjj | myerstm |
| 07/01/00 | 1049 | Shift Manager accepted 06-12 portion of 2619A-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | clairjj | myerstm |
| 07/01/00 | 1109 | Placed 'B' Aux Feed pump out of service forPMs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | clairjj | myerstm |
| 07/01/00 | 1110 | Released AWO M2-00-08904 'B' Aux Feed pump PMs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | parre   | myerstm |



# JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **Determine Shutdown Margin**

ID Number: JPM-A08

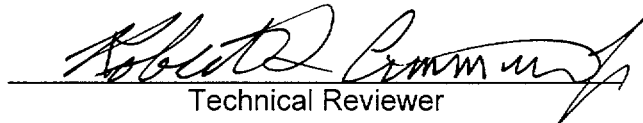
Revision: 0

II. Initiated:

  
\_\_\_\_\_  
Fred Nygard  
Developer

6/15/2000  
\_\_\_\_\_  
Date

III. Reviewed:

  
\_\_\_\_\_  
Technical Reviewer

6/15/00  
\_\_\_\_\_  
Date

IV. Approved:

\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date

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

6/20/00  
\_\_\_\_\_  
Date



## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number:           JPM-A08          

Rev.           0          

Initiating Cues:

- The Unit Supervisor has directed you to verify adequate SDM for the first full hour immediately following the plant trip, taking advantage of the Xenon worth modification option, in accordance with OP 2208.

Initial Conditions:

- The plant has tripped from 100% steady-state equilibrium power. It is expected to startup in approximately 8 hours.
- The trip was uncomplicated and normal temperature and pressure are being maintained.
- Chemistry Department has sampled the RCS and determined the boron concentration to be 1176 ppm.
- Reactor Engineering has indicated core average burnup is 2000 MWD/MTU.

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. As necessary use Data Sheet to verify parameters used.



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A08      TITLE: Determine Shutdown Margin

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STEP 3       Performance Steps: RECORD present RCS boron concentration, date, and time and SIGN "Determined By" section.

GRADE       Standards:      *Examinee records present RCS boron concentration, date, and time on OPS Form 2208-13 and signs form.*

Cue:

Comments:

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STEP 4 Performance Steps: If xenon worth modification is applicable (i.e., post trip or shutdown), PERFORM the following once every hour for a maximum of 24 hours:
a) RECORD date and time
b) Refer To OPS Form 2208-5 and DETERMINE Inverse Boron Worth at present burnup.
c) RECORD Inverse Boron Worth in column "A."

GRADE Standards: *Examinee identifies that xenon worth modification is applicable and uses burnup to determine inverse boron worth on OPS Form 2208-5 and records in column "A" on OPS Form 2208-13 (also date and time).
Tolerance is ± 0.2 ppm/% $\Delta K/K$.*

Cue:

Comments: As necessary Refer to Data Sheet for value.

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A08 TITLE: Determine Shutdown Margin

- STEP 5 Performance Steps: NOTE: When determining the smallest xenon reactivity worth expected to occur at any time during the next 1 hour periods, the following should be considered:
- If xenon is building in, the value at the beginning of the hour should be used.
 - If xenon is decaying, the value at the end of the hour should be used.
1. Refer To one of the following and DETERMINE the *smallest* xenon reactivity worth expected within the hour being evaluated:
 - "Xenon-Samarium Post Trip Report" (printed automatically on special typer following trips)
 - OPS Form 2208-4
 - "XENON-SAMARIUM DEMAND" PPC program
 - Reactor Engineering
 2. RECORD xenon reactivity worth in column "B."

GRADE ___ Standards: *Examinee reads note and determines that xenon is building in. Using OPS Form 2208-4, examinee determines the xenon reactivity worth value at the beginning of the hour and records in column "B" on OPS Form 2208-13.*
Tolerance is $\pm 0.1\% \Delta K/K$.

Cue: **If asked which source to use, suggest OPS Form 2208-4.**

Comments: Xenon value will be 100% power equilibrium xenon.
As necessary Refer to Data Sheet for value.

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A08 TITLE: Determine Shutdown Margin

STEP 6 Performance Steps: CALCULATE Boron Equivalent of Xenon Reactivity Worth as follows and RECORD in column "C":
Boron Equivalent of Xenon Reactivity Worth = (Inverse Boron Worth) x (Xenon Reactivity Worth)

GRADE ___ Standards: *Examinee multiplies column "A" (Inverse Boron Worth) times column "B" (Xenon Reactivity Worth) and records Boron Equivalent of Xenon in column "C" on OPS Form 2208-13.*

Cue:

Comments: As necessary Refer to Data Sheet for value.
Question the examinee as to how this result was obtained.
This question does not constitute a critical component of this step.

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STEP 7       Performance Steps: CALCULATE Xenon Corrected Required Shutdown Boron Concentration as follows:  
1. RECORD the *lowest expected* RCS  $T_{AVG}$  in the next hour.  
2. Refer To OPS Form 2208-12 and DETERMINE required shutdown boron concentration.  
3. RECORD required shutdown boron concentration in column "D."  
4. CALCULATE and RECORD in column "E":  
    • *Xenon Corrected Required Shutdown Boron Concentration = Required Shutdown Boron Concentration - Boron Equivalent of Xenon Reactivity Worth*  
5. SIGN "Calculated By" column.

GRADE \_\_\_       Standards: *Examinee records data ( $T_{avg}$  as 532°F), subtracts Boron Equivalent of Xenon Reactivity Worth determined in step 6 from the Required Shutdown Boron Concentration determined in step 2 and signs OPS Form 2208-13. **Tolerance is +50/-15 ppm.***

Cue:

Comments: As necessary Refer to Data Sheet for value.  
Question examinee as to how this result was obtained.  
This question does not constitute a critical component of this step.

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A08 TITLE: Determine Shutdown Margin

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STEP **8**       Performance Steps: Report that SDM for the first hour, post-trip, has been verified adequate.

GRADE          Standards:      *Examinee states SDM reported adequate (verified) for the first hour, post-trip.*

Cue: Acknowledge report.

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

STOP TIME:



JPM ID NUMBER: JPM-A08 TITLE: Determine Shutdown Margin

**DATA SHEET**

The values for this data sheet must be determined and verified using the current OPS Forms in OP 2208. The data on this sheet may be updated as necessary if the data in OP 2208 changes.

RCS Boron Concentration: 1176 ppm

| <u>PERFORMANCE STEP</u>                       | <u>VALUE</u>                                      | <u>FORM AND REV. #</u>     |
|-----------------------------------------------|---------------------------------------------------|----------------------------|
| Step 2: Required Shutdown Boron Concentration | 1309 ppm                                          | OPS Form 2208-12 (Rev. 19) |
| Step 4: Inverse Boron Worth                   | 123.9 ppm/% $\Delta K/K$                          | OPS Form 2208-5 (Rev.17)   |
| Step 5: Xenon Reactivity Worth                | 2.530 % $\Delta K/K$                              | OPS Form 2208-4 (Rev. 37)  |
| Step 6: Boron Equivalent of Xenon             | Value in step 4 times value in step 5 = 313.5 ppm | N/A                        |
| Step 7: Required Shutdown Boron Concentration | Value in step 2 minus value in step 6 = 995.5 ppm | N/A                        |

Values Determined by: Fred Nygard

Date 05/30/2000

Values Verified by: *Robert C. Cunningham*

Date 6/15/00

**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-A08

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): 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: A08

### Initiating Cues:

- The Unit Supervisor has directed you to verify adequate SDM for the first full hour immediately following the plant trip, taking advantage of the Xenon worth modification option, in accordance with OP 2208.

### Initial Conditions:

- The plant has tripped from 100% steady-state equilibrium power. It is expected to startup in approximately 8 hours.
- The trip was uncomplicated and normal temperature and pressure are being maintained.
- Chemistry Department has sampled the RCS and determined the boron concentration to be 1176 ppm.
- Reactor Engineering has indicated core average burnup is 2000 MWD/MTU.

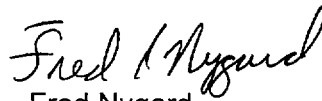
JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **RO Clearance Implementation - Tag Placement**

ID Number: JPM-A06

Revision: 0

II. Initiated:

  
\_\_\_\_\_  
Fred Nygard  
Developer

6/13/2000  
\_\_\_\_\_  
Date

III. Reviewed:

  
\_\_\_\_\_  
Technical Reviewer

6/15/00  
\_\_\_\_\_  
Date

IV. Approved:

\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date

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

6/20/00  
\_\_\_\_\_  
Date

## JOB PERFORMANCE MEASURE WORKSHEET

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

JPM Number: JPM- A06                      Rev. 0

Task Title: Hang Danger and Caution Tags

System: Administrative

Time Critical Task: Yes  No

Validated Time (minutes): 15

Task No.(s): 119-01-028

Applicable To:      SRO       RO       PEO

K/A No.: 2.2.13      K/A Rating: 3.6/3.8

Method of Testing:

Simulated Performance:       Actual Performance:

Location:

Classroom:       Simulator:       In-Plant:

Task Standards:

At the completion of this JPM, the examinee will start to hang tags but will recognize an abnormal condition and stop and notify the tagging authority.

Required Materials

(procedures,equipment):

- WC2 "Tagging"
- A training only clearance 2-1154-00 (attached)
- Copy of tags associated with 2-1154-00 (attached)
- P&ID 25203 26011 Sh 1
- OP 2388J

General References:

WC-2, Section 1.6 (Rev.4, Ch.2 )

**\*\*\*\* 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-A06          

Rev.           0          

Initiating Cues:

- The WC SRO has directed you to place the tags for the attached clearance.

Initial Conditions:

- The attached clearance is for an AWO that provides for inspection and possible replacement of the 'A' AFW pump coupling.

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**

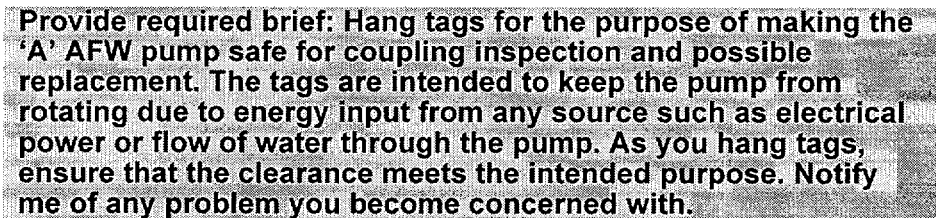
JPM ID NUMBER: JPM- A06 TITLE: Clearance Implementation - Tag Placement

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START TIME: 

- STEP 1 Performance Steps: BRIEF Tag Hanger as follows:
- Describe purpose of clearance and conditions that should be established within the clearance boundary for safe performance of work
  - Emphasize areas where work will occur (this helps ensure all work areas are drained and depressurized)
  - Discuss any non-standard steps in the clearance order

GRADE \_\_\_ Standards: *No action by the examinee*

Cue:  Provide required brief: Hang tags for the purpose of making the 'A' AFW pump safe for coupling inspection and possible replacement. The tags are intended to keep the pump from rotating due to energy input from any source such as electrical power or flow of water through the pump. As you hang tags, ensure that the clearance meets the intended purpose. Notify me of any problem you become concerned with.

Comments:  
~~~~~

- STEP 2 Performance Steps: REVIEW the clearance for all applicable approvals and authorizations.

GRADE ___ Standards: *Examinee reviews clearance and determines that all approvals and authorizations are complete.*

Cue:

Comments: Will D. Is the approver for the boundary and the tags have been authorized.

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**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM- A06 TITLE: Clearance Implementation - Tag Placement

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STEP 3     X Performance Steps: IF at any time during the performance of step 1.6.4 [Step 4 of this JPM] any of the following occur, STOP and NOTIFY the Tagging Authority:

- Proper position can *not* be determined
- If equipment is found in "other than expected" state
- If step can *not* or should *not* be performed as written
- Action does *not* meet response
- If desired conditions are *not* met or undesired conditions are encountered, stop tagging sequence.

GRADE \_\_\_     X Standards:     *Examinee review the clearance. At some point in the process, either before he leaves to hang the tags or during the process of hanging the tags, he should recognize step 2 of the clearance is incorrect and Stop and notify the Tagging.*     *Italics*

Cue:

Comments: Ensure examinee does not actually hang the tags on plant equipment. The recognition of the need to stop and report may not occur until the next JPM step.



**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM- A06      TITLE: Clearance Implementation - Tag Placement

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- STEP 4      \_      Performance Steps: With clearance order (or copy) in hand, PERFORM isolation in the sequence given on the clearance order as follows:
- a. PERFORM isolation in the sequence given on the clearance order.
  - b. INITIAL and DATE each step as it is completed.
  - c. OBSERVE the following guidelines:
    - Do *not* hang tags of different color on same component
    - Do *not* hang more than one blue tag on a component
    - Do *not* hang yellow tags with conflicting caution on component
    - Do *not* hang red tag on closed breaker
    - Tags will be conspicuously posted so that component can *not* be operated without tag being seen
    - Except for panel tags, tie-wraps will be used whenever possible
    - The use of adhesive hangers on cubicle doors to attach tags when breaker is removed is allowed
    - If possible, two people shall perform switching orders involving the switchyard, as directed by Transmission System dispatch authority
    - SRO has confirmed component is correct
    - Do *not* hang a tag on installed equipment if the label is missing
    - If tag description and label do *not* match, do *not* hang tag on the component unless tag hanger and SRO have confirmed the component is correct

- GRADE \_\_\_      \_      Standards: *With clearance order (or copy) in hand, PERFORM isolation in the sequence given on the clearance order as follows:* *Italics*
- a. *PERFORM isolation in the sequence given on the clearance order.*
  - b. *INITIAL and DATE each step as it is completed.*
  - c. *OBSERVE the following guidelines:*
    - *Do not hang tags of different color on same component*
    - *Do not hang more than one blue tag on a component*
    - *Do not hang yellow tags with conflicting caution on component*
    - *Do not hang red tag on closed breaker*
    - *Tags will be conspicuously posted so that component can not be operated without tag being seen*
    - *Except for panel tags, tie-wraps will be used whenever possible*
    - *The use of adhesive hangers on cubicle doors to*

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM- A06

TITLE: **Clearance Implementation - Tag Placement**


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- attach tags when breaker is removed is allowed*
- *If possible, two people shall perform switching orders involving the switchyard, as directed by Transmission System dispatch authority*
  - *SRO has confirmed component is correct*
  - *Do not hang a tag on installed equipment if the label is missing*
- If tag description and label do not match, do not hang tag on the component unless tag hanger and SRO have confirmed the component is correct*

Cue:

Comments: This JPM step may not be performed if the error is recognized before proceeding to the field to hang tags.

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

**STOP TIME:** 

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM- A06

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): 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: A06

Initiating Cues:

- The WC SRO has directed you to place the tags for the attached clearance.

Initial Conditions:

- The attached clearance is for an AWO that provides for inspection and possible replacement of the 'A' AFW pump coupling.

CLEARANCE ORDER SHEET

PAGE NO. 1  
Additional Pages \_\_\_\_\_  
06/01/00 04:05

|                                         |                            |                                                      |                                                                      |
|-----------------------------------------|----------------------------|------------------------------------------------------|----------------------------------------------------------------------|
| 1. Clearance Number<br><b>2-1154-00</b> | 2. Date<br><b>06/01/00</b> | 3. AWO Number (or "Multiple")<br><b>M2-00-123456</b> | 4. Contact Person (or "Multiple")<br><b>SHIFT MANAGER/UNIT SUPER</b> |
|-----------------------------------------|----------------------------|------------------------------------------------------|----------------------------------------------------------------------|

|                                                                                        |                                      |
|----------------------------------------------------------------------------------------|--------------------------------------|
| 5. Equipment<br><b>P9A, "A" AUXILIARY FEEDWATER PUMP ASSEMBLY (MTR HTR BKR LH51-6)</b> | 8. Tag Lift Sheet Attached _____ Yes |
|----------------------------------------------------------------------------------------|--------------------------------------|

|                                                          |                                                   |
|----------------------------------------------------------|---------------------------------------------------|
| 6. REASON TAGGED<br><b>'A' PUMP OUTAGE (FEG 2322X11)</b> | 9. Additional AWOs Under This Clearance _____ Yes |
|                                                          | 10. Partial Restoration _____ Yes                 |

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| 7. SPECIAL INSTRUCTIONS/CAUTION | 11. Prepared By<br><b>KENNETH G. TRUESDALE</b> |
|---------------------------------|------------------------------------------------|

| 12a.<br>Step<br>No. | 12b. Equipment Identification And Nomenclature And Location                                                                                                            | 12c. Tag Placed/ Verification<br>Action Complete |      |      |      |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------|------|------|
|                     |                                                                                                                                                                        | Date                                             | Init | Date | Init |
| 1                   | RACK DOWN, RACKED DOWN, and RED TAG, <u>A307</u> .<br>4.16KV BREAKER - P9A AUXILIARY FEEDWATER PUMP 24C3-2<br>LOC: TB 31'6" LOWER SWITCHGEAR, BUS 24C                  |                                                  |      |      |      |
| 2                   | CLOSE, CLOSED, and RED TAG, <u>2-FW-9B</u> .<br>"B" AUX FEED PUMP DISCHARGE STOP VALVE<br>LOC: TB 4'6" , "B" AUX FEED PUMP                                             |                                                  |      |      |      |
| 3                   | CLOSE, CLOSED, and RED TAG, <u>2-FW-52B</u> .<br>"A" AUX FEED PUMP RECIRCULATION STOP VALVE<br>LOC: TB 1'6" TURBINE, ABOVE "A" AFP                                     |                                                  |      |      |      |
| 4                   | CLOSE, CLOSED, and RED TAG, <u>2-CN-29A</u> .<br>"A" AUX FEED PUMP SUCTION ISOLATION<br>LOC: TB 1'6" AUX FEED PUMP ROOM,                                               |                                                  |      |      |      |
| 5                   | CLOSE, CLOSED, and RED TAG, <u>2-FIRE-94A</u> .<br>"A" AUX FEED PUMP EMERGENCY FIRE WATER SUPPLY VALVE<br>LOC: TB 1'6" , "A" AUX FEED PUMP                             |                                                  |      |      |      |
| 6                   | N/A, N/A, and YELLOW TAG, <u>P9A-HS</u> .<br>HANDSWITCH FOR "A" AUXILIARY FEEDWATER PUMP, P9A<br>LOC: CB 36'6" CONTROL ROOM, C05<br><br>CAUTION: BREAKER IS RED TAGGED |                                                  |      |      |      |

|                                                                                                                                                                          |                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 13a. Clearance correct and equipment may be isolated<br>SM/US notified for power block. Boundary Approved By: <b>WILL WILL</b><br>Authorized To Be Hung By: <b>D. D.</b> | 13b. Date<br><b>06/01/00</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|

Note 1 Initial position for Blue Tags. N/A if position not required

**TRAINING AND EXAM USE ONLY - -NOT FOR OPERATION**

C/O #: 2-1154-00      #: 5

EQUIPMENT: 2-FIRE-94A

A AUX FEED PUMP  
EMERGENCY FIRE WATER  
SUPPLY VALVE

**CLOSED**

Reason Tagged:  
A PUMP OUTAGE (FEG  
2322X11)

**RED TAG  
WORK IN PROGRESS  
IN PLANT ONLY**

Equipment: P9A-HS  
HANDSWITCH FOR "A"  
AUXILIARY FEEDWATER PUMP,  
P9A  
Reason Tagged:  
A PUMP OUTAGE (FEG  
2322X11)

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

\_\_\_\_\_  
TAG NO.  
\_\_\_\_\_  
VISIBLE FOR  
\_\_\_\_\_

**YELLOW  
CAUTION TAG**

C/O #: 2-1154-00 \*: 2

EQUIPMENT: 2-FW-9B

B AUX FEED PUMP  
DISCHARGE STOP VALVE

**CLOSED**

Reason Tagged:  
A PUMP OUTAGE (FEG  
2322X11)

**RED TAG  
WORK IN PROGRESS  
IN PLANT ONLY**

C/O #: 2-1154-00 \*: 1

EQUIPMENT: A307

4.16KV BREAKER - P9A  
AUXILIARY FEEDWATER PUMP  
24C3-2

**RACKED DOWN**

Reason Tagged:  
AUXILIARY FEEDWATER PUMP  
2322X11)

**RED TAG  
WORK IN PROGRESS  
IN PLANT ONLY**

C/O #: 2-1154-00 \*: 4

EQUIPMENT: 2-CN-29A

A AUX FEED PUMP SUCTION  
ISOLATION

**CLOSED**

Reason Tagged:

C/O #: 2-1154-00 \*: 3

EQUIPMENT: 2-FW-52B

A AUX FEED PUMP  
RECIRCULATION STOP VALVE

**CLOSED**

Reason Tagged:

# JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **Calculate a new SG Blowdown Radiation Monitor Setpoint**

ID Number: JPMA07

Revision: 0

II. Initiated:



F. Nygard

Developer

6/15/2000

Date

III. Reviewed:



Technical Reviewer

6/15/00

Date

IV. Approved:

\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date



Nuclear Training Supervisor

6/20/00

Date





## JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPMA07

Rev. 0

Initiating Cues:

- The Unit Supervisor has directed you to calculate a new SG Blowdown RM (RM-4262) setpoints, as specified in OP 2383C.

Initial Conditions:

- 4 Circulating Water Pumps are operating.
- Current reading on RM 4262 is 3200 cpm
- The SG Blowdown RM (RM-4262) has alarmed due to slowly rising activity in the SGs and blowdown (25 gpm/SG), automatically isolated 30 minutes ago.
- RM-4262 has been placed in "ALARM DEFEAT" and the local alarm has been silenced.
- SG sample results are as follows:
  - #1 SG =  $6.95 \times 10^{-7}$   $\mu\text{Ci/ml}$
  - #2 SG =  $5.57 \times 10^{-6}$   $\mu\text{Ci/ml}$

Simulator Requirements:

- NA

---

\* \* \* \* **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: JPMA07

TITLE: Calculating a New SG Blowdown Radiation Monitor Setpoint

---

START TIME:

STEP 1       Performance Steps:

NOTES:

1. The *alarm* setpoint for RM-4262 is based on MPC limit of  $3 \times 10^{-7}$   $\mu\text{Ci/ml}$  for Iodine 131. To be conservative, the MPC limit is reduced by a factor of ten to  $3 \times 10^{-8}$   $\mu\text{Ci/ml}$ .
2. To be conservative and eliminate the need to frequently change alarm setpoints (i.e., stopping circulating water pumps), the flow value of 200,000 gpm for 2 circulating water pumps and 700 gpm for maximum blowdown is used for *alarm* setpoint calculation. Using these values yields a dilution factor of 286 and a high limit of  $8.5 \times 10^{-6}$  mCi/ml.

Refer To Attachment 4 and PERFORM the following:

- a) Refer To the most recent calibration curve for SG blowdown radiation monitor, RM-4262, (Radiation Monitor Setpoint Book) and CONVERT high limit from  $\mu\text{Ci/ml}$  to cpm.
- b) ROUND converted number down to closest scale mark and RECORD.
- c) OBSERVE current radiation monitor reading and RECORD.
- d) MULTIPLY current radiation monitor reading by 5.
- e) ROUND value down to nearest scale mark and RECORD.
- f) SELECT *lower* value of (the two) and ENTER "High Alarm Setpoint."

If SG blowdown radiation monitor reading is still above *alarm* setpoint, Go To (other Section).

GRADE            Standards:

*Examinee reads notes and refers to SG blowdown RM Calibration curve (supplied) and converts high limit specified on Att. 4 ( $8.5E-6$   $\mu\text{Ci/ml}$ ) to cpm, rounds down to nearest scale mark and records.*

*Examinee also observes current reading (in cpm), multiplies value times 5 and rounds down to nearest scale mark and records.*

*The examinee should determine that the "converted high limit" is the lower of the two and it is necessary to Refer to Att. 5 to calculate a higher setpoint.*

Cue:  If JPM is not being performed at RM 4262,, indicate that the cpm scale marks can be obtained from the vertical axis of the calibration curve.

Comments: The "fixed" high limit ( $8.5E-6$   $\mu\text{Ci/ml}$ ), converts to  $\sim 1,500$  cpm, which is rounded down to the closest scale mark of 1000 cpm.

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPMA07

TITLE: Calculating a New SG Blowdown Radiation Monitor Setpoint

---

STEP 2       Performance Steps: NOTES:

1. The maximum allowed *alarm* setpoint for RM-4262, is based on the following:
  - 10% of MPC limit for Iodine 131 ( $10\% \times 3 \times 10^{-7} \mu\text{Ci/ml} = 3 \times 10^{-8} \mu\text{Ci/ml}$ )
  - SG blowdown flow rate
  - The number of running circulating water pumps
  - Current calibration curve for RM-4262
2. If SG blowdown radiation monitor reading is still above *alarm* setpoint determined in (other Section), a higher alarm setpoint may be calculated and used. If any of the above conditions change, *alarm* setpoint must be recalculated based on actual conditions.

If SG blowdown radiation monitor reading is still above *alarm* setpoint, Refer To Attachment 5 and CALCULATE higher setpoints as follows:

- a) CALCULATE circulating water flow as follows:  
*Circulating Water Flow = #Running Circulating Water Pumps x 100,000 gpm.*
- b) CALCULATE dilution factor as follows and RECORD:  
*DF = Circulating Water Flow / Blowdown Flow*

GRADE          Standards:

*Examinee reads notes and observes number of running CW pumps, total SG blowdown flow (given), and calculates dilution factor on Att. 5.*

Cue:

Comments:

## PERFORMANCE INFORMATION

JPM ID NUMBER: JPMA07

TITLE: Calculating a New SG Blowdown Radiation Monitor Setpoint

---

- STEP 3       Performance Steps: DETERMINE "High Alarm Setpoint" limit as follows:
- a) CALCULATE high limit as follows:  
*High Limit = DF x 3 x 10<sup>-8</sup> μCi/ml*
  - b) Using most recent RM-4262 calibration curve, CONVERT high limit from μCi/ml to cpm.
  - c) ROUND converted number down to closest scale mark and RECORD.
  - d) OBSERVE current RM-4262 reading and RECORD.
  - e) MULTIPLY current reading by 5.
  - f) ROUND down to nearest scale mark and RECORD.
  - g) SELECT *lower* value of (the two) and ENTER "High Alarm Setpoint."

GRADE \_\_\_       Standards: *Examinee calculates new higher alarm setpoint for RM-4262 using Att. 5 by multiplying DF times 3 x 10<sup>-8</sup> μCi/ml and converts to cpm using calibration curve. The value is then rounded down to closest scale mark on RM-4262 module.*  
*Examinee also observes current reading (in cpm), multiplies value times 5 and rounds down to nearest scale mark and records.*  
*The examinee should determine that the "5 times Current Reading" is the lower of the two and should be the new alarm setpoint.*

Cue:

Comments: The calculated high limit (~2.4E-4 μCi/ml), converts to ~50,000 cpm. With an actual reading of ~3,200 cpm, the desired alarm should be ~16,000 cpm which is the rounded DOWN to 10,000 cpm.



**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPMA07

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): 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: A07

Initiating Cues:

- The Unit Supervisor has directed you to calculate a new SG Blowdown RM (RM-4262) setpoints, as specified in OP 2383C.

Initial Conditions:

- 4 Circulating Water Pumps are operating.
- Current reading on RM 4262 is 3200 cpm
- The SG Blowdown RM (RM-4262) has alarmed due to slowly rising activity in the SGs and blowdown (25 gpm/SG), automatically isolated 30 minutes ago.
- RM-4262 has been placed in "ALARM DEFEAT" and the local alarm has been silenced.
- SG sample results are as follows:
  - #1 SG =  $6.95 \times 10^{-7}$   $\mu\text{Ci/ml}$
  - #2 SG =  $5.57 \times 10^{-6}$   $\mu\text{Ci/ml}$



Attachment 4

Normal SG Blowdown Radiation Monitor, RM 4262, Setpoint Calculation

(Sheet 1 of 1)

|                        |                                                                |                               |  |
|------------------------|----------------------------------------------------------------|-------------------------------|--|
| 1. High Alarm Setpoint | A. High Limit                                                  | 8.5 x 10 <sup>-6</sup> µCi/ml |  |
|                        | B. Converted High Limit<br>(Convert to cpm<br>from Cal. Curve) | <u>1000</u><br>cpm            |  |
|                        | C. Current Reading                                             | <u>3200</u><br>cpm            |  |
|                        | D. 5 times Current Reading                                     | <u>10 000</u><br>cpm          |  |
|                        | E. High Alarm Setpoint<br>(The <u>lowest</u> of B or D.)       | <u>1000</u><br>cpm            |  |
| 2. Alert Setpoint      | A. High Alarm Setpoint                                         | _____                         |  |
|                        | B. Conversion Factor                                           | <u>0.75</u>                   |  |
|                        | C. Alert Setpoint<br>(A. times B.)                             | _____<br>cpm                  |  |
| 3. Fail Setpoint       | A. Current Reading                                             | _____                         |  |
|                        | B. Fail Setpoint<br>(A. divide by 5.)                          | _____<br>cpm                  |  |

\_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Performed by Sign/Print

Level of Use  
**C**ontinuous

STOP THINK ACT REVIEW

# JPMAD7 DATA

## Attachment 5

### Elevated SG Blowdown Radiation Monitor, RM 4262, Setpoint Calculation

(Sheet 1 of 1)

|    |                        |                                                          |                                                             |
|----|------------------------|----------------------------------------------------------|-------------------------------------------------------------|
| 1. | Circulating Water Flow | A. Number of running Circulating Water Pumps             | <u>4</u>                                                    |
|    |                        | B. Flow per Pump                                         | <u>100,000 gpm</u>                                          |
|    |                        | C. Circulating Water Flow (A. times B.)                  | <u>400,000</u><br>Total Flow                                |
| 2. | Dilution Factor        | A. Circulating Water Flow                                | <u>400,000</u>                                              |
|    |                        | B. Blowdown Flow                                         | <u>50</u>                                                   |
|    |                        | C. Dilution Factor (DF) (A. divided by B.)               | <u>8000</u><br>DF                                           |
| 3. | High Alarm Setpoint    | A. Dilution Factor                                       | <u>8000</u>                                                 |
|    |                        | B. ODCM Limit                                            | <u><math>3 \times 10^{-8} \mu\text{Ci/ml}</math></u>        |
|    |                        | C. High Limit (A. times B.)                              | <u><math>2.4 \times 10^{-4}</math></u><br>$\mu\text{Ci/ml}$ |
|    |                        | D. Converted High Limit (Convert to cpm from Cal. Curve) | <u>50,000</u><br>cpm                                        |
|    |                        | E. Current Reading                                       | <u>3200</u><br>cpm                                          |
|    |                        | F. 5 times Current Reading                               | <u>10000</u><br>cpm                                         |
|    |                        | G. High Alarm Setpoint (The lowest of D or F.)           | <u>10000</u><br>cpm                                         |
| 5. | Alert Setpoint         | A. High Alarm Setpoint                                   | <u>10000</u>                                                |
|    |                        | B. Conversion Factor                                     | <u>0.75</u>                                                 |
|    |                        | C. Alert Setpoint (A. times B.)                          | <u>7000</u><br>cpm                                          |
| 6. | Fail Setpoint          | A. Current Reading                                       | <u>3200</u>                                                 |
|    |                        | B. Fail Setpoint (A. divide by 5.)                       | <u>700</u><br>cpm                                           |

\_\_\_\_\_  
Date                      Time                      Performed by Sign/Print

|                                    |
|------------------------------------|
| Level of Use<br><b>C</b> ontinuous |
|------------------------------------|

STOP      THINK      ACT      REVIEW

OP 2383C  
Rev. 11CHG2  
33 of 33

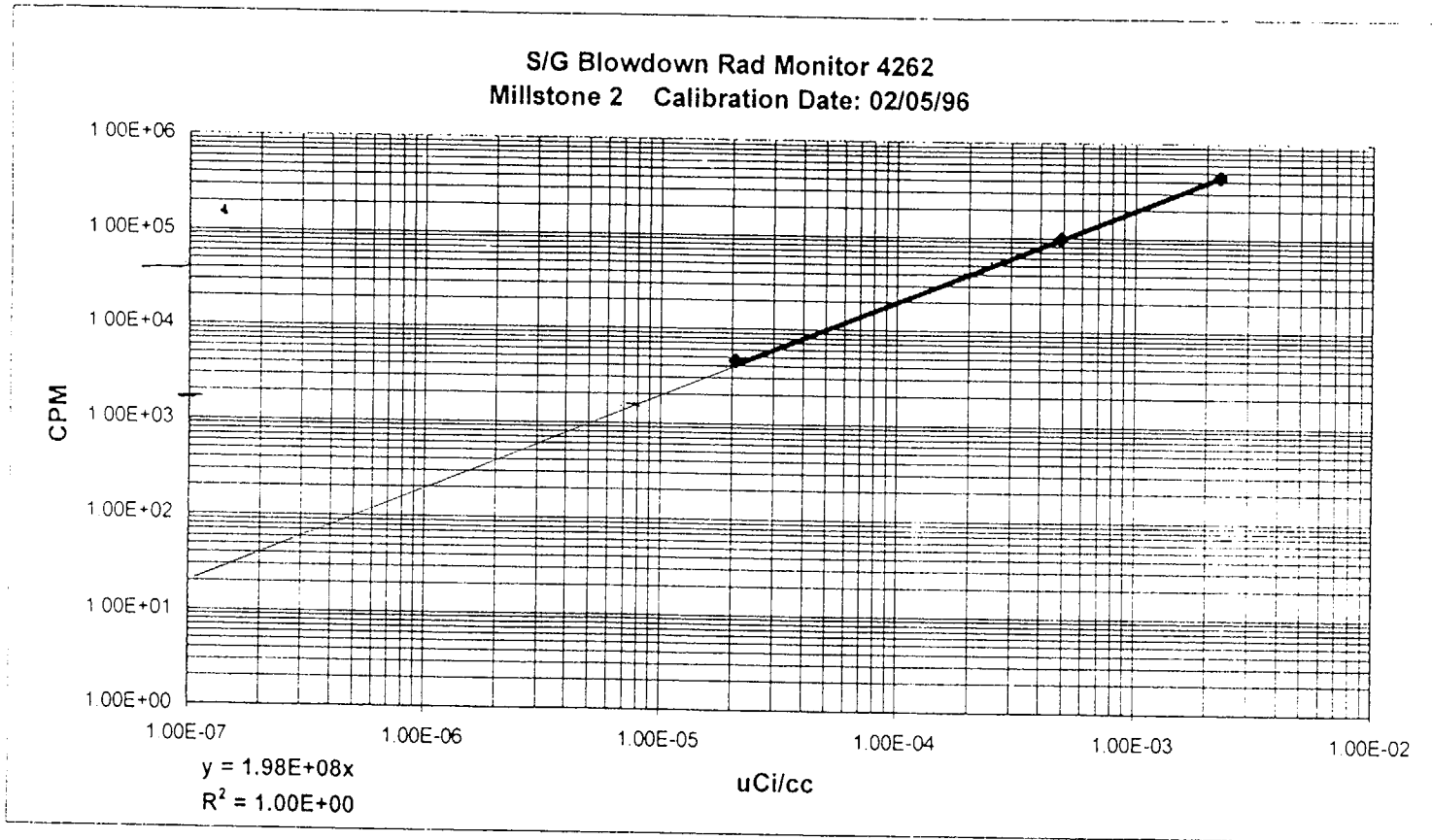
# S/G Blowdown Rad Monitor 4262

Millstone 2

Calibration Date: Feb-96

| $\mu\text{Ci/cc}$ | CPM      |
|-------------------|----------|
| 2.07E-05          | 4.60E+03 |
| 4.89E-04          | 9.96E+04 |
| 2.27E-03          | 4.50E+05 |

Response Factor =  $1.98\text{E}+08 \text{ CPM}/\mu\text{Ci/cc}$   
Previous response factor =  $1.77\text{E}+08 \text{ CPM}/\mu\text{Ci/cc}$   
 $r = 0.9995$



**COPY**

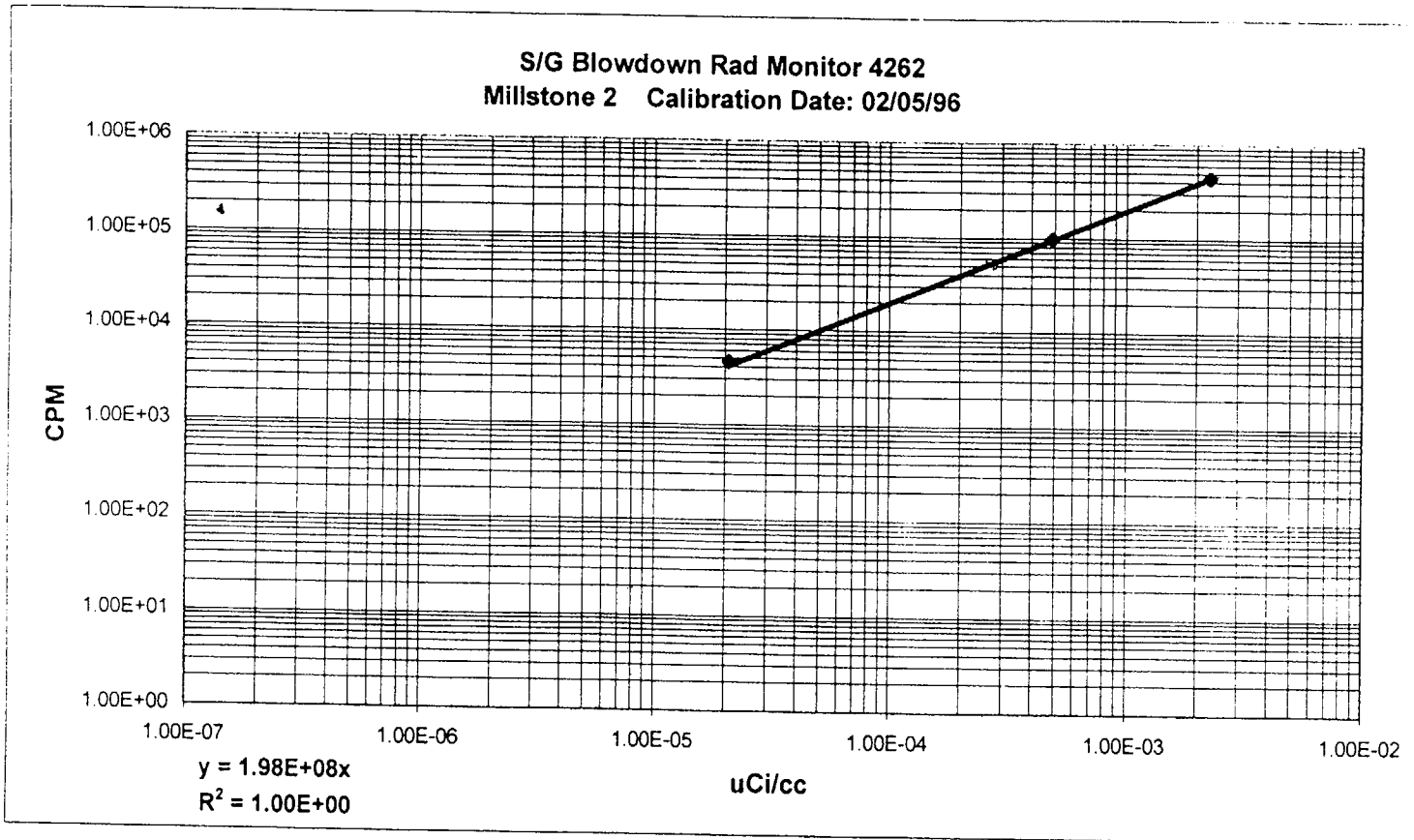
# S/G Blowdown Rad Monitor 4262

Calibration Date: Feb-96

## Millstone 2

| $\mu\text{Ci/cc}$ | CPM      |
|-------------------|----------|
| 2.07E-05          | 4.60E+03 |
| 4.89E-04          | 9.96E+04 |
| 2.27E-03          | 4.50E+05 |

Response Factor =  $1.98\text{E}+08$  CPM/ $\mu\text{Ci/cc}$   
Previous response factor =  $1.77\text{E}+08$  CPM/ $\mu\text{Ci/cc}$   
 $r = 0.9995$



**COPY**

RO Exam  
Administrative Topic A.4

Administrative Topics Outline Statement: Question to test knowledge of the four NRC levels of activation for the emergency plan. K/A 2.4.29 Knowledge of the emergency plan. 2.6/3.0

Question:

List the NRC classification designations for the 4 levels of Emergency Plan activation starting with the least severe to the most severe.

Answer:

The examinee's response must include the following classifications listed in the following order (from least severe to most severe).

- Unusual Event
- Alert
- Site Area Emergency
- General Emergency

The examinee's response may also include, the State of Connecticut's classification designations that corresponds to the NRC classification.

| <u>NRC</u>            | <u>Connecticut</u>  |
|-----------------------|---------------------|
| • (none)              | Echo                |
| • Unusual Event       | Delta 1 and Delta 2 |
| • Alert               | Charlie 1           |
| • Site Area Emergency | Charlie 2           |
| • General Emergency   | Bravo and Alpha     |

Reference: EPIP 4400

Administrative Topics Outline Statement: Question to test actions required when exiting a contaminated area, in full PCs, during an emergency evacuation. K/A 2.4.29  
Knowledge of the emergency plan. 2.6/3.0

Question:

You are in a contaminated area in full anti-contamination protective clothing after just completing a valve lineup verification when an announcement is made to evacuate the site via the south access points. Describe how you will exit the contaminated area.

Answer:

The examinee should include the following points in the response.

Proceed to the contaminated area exit and remove only the outer boots and gloves at the step off pad. Then exit the RCA and proceed to the exit point where a Health Physics Technician will assist in exiting the area.

The examinee may indicate that the exit point or evacuation point may be announced over the public address system.

Reference: RPM 5.2.2 and Plant Access Training Manual Chapter 9.

JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: SRO Shift Turnover

ID Number: JPM-A02

Revision: 0

II. Initiated:



Fred Nygard  
Developer

06/13/2000  
Date

III. Reviewed:




Robert D. Cummings  
Technical Reviewer

6/15/00  
Date

IV. Approved:

\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date



Nuclear Training Supervisor

6/20/00  
Date

**JOB PERFORMANCE MEASURE WORKSHEET**

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

JPM Number:           JPM-A02                                Rev.     0    

Task Title:     **SRO Shift Turnover**    

System:     Administrative    

Time Critical Task:   Yes        No     X    

Validated Time (minutes):     10    

Task No.(s):     NUTIMS 119-02-030    

Applicable To:         SRO     **SRO**       RO         PEO     

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

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 SRO should perform a review of documents and find incorrect information related to a shift turnover.

Required Materials

(procedures,equipment):

- OPS Form 2669A-4, "Shift Turnover Report"
- Shift Manager Log (Auto Log)
- Daily Work plan and the work Control turnover report
- Night Order Book
- Radwaste Log Book (Auto Log)
- Radwaste Night Order Book

General References:

U2 COP 200.1 "Conduct of Operations", Section 1.19 (Rev.3,Ch.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-A02                  

Rev.           0          

Initiating Cues:

- You have just arrived in the control room at the beginning of your shift. Take necessary actions required for a shift turnover as the US.
- I will act as the off going US.

Initial Conditions:

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-A02 TITLE: SRO Shift Turnover

---

START TIME: 

- STEP 1      \_\_\_ Performance Steps: Prior to conducting the control board walkdown, it is recommended that the oncoming licensed operators review the following:
- OPS Form 2619A-4, "Shift Turnover Report"
  - ODI Form 6.15-6, "Work Control Turnover Report"
  - SM Log (Auto log)
  - Night Order Log (for any new Night Orders)
  - Radwaste Log Book (Auto log)
  - Radwaste Night Order Book

GRADE \_\_\_      Standards: *Examinee reviews provided copy of the SM log (auto Log Printout) and states he would also need to review the shift turnover report, the work control turnover report, the night order log, the radwaste log book and the radwaste night order book.*

- Cue:
- **If examinee does not ask for or list documents he needs to review, prompt him by asking him what documents he needs to review.**
  - **After he lists the documents he needs to review, provide the attached copy of the SM auto log for his review.**
  - **If he does not recognize you as the off-going US, remind him that you are and are able to provide information about plant status.**

Comments: U2 OP 200.1 is an information level of use.

~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A02 TITLE: SRO Shift Turnover

STEP 2 Performance Steps: Walk down appropriate control boards *with* off-going operators.
Discussions should include but *not* be limited to the following:

- Unusual events that occurred during last 24 hours
- Inoperable equipment and ACTION Statements, including surveillance requirements
- Reasons for annunciator alarms
- Tagged equipment, including any surveillance or equipment work in progress at time of shift relief and turnover
- Running equipment and train alignments
- The status of systems, equipment, alignments, controllers, and annunciators
- Plant evolutions in progress and or planned
- Potentially hazardous activities or conditions reported during the previous shift
- Unusual events within the last 24 hours
- Significant surveillances completed or carried over
- Significant Work activities, including restorations, completed or carried over (SRO)
- The status of any outstanding Radwaste Release permits (SRO)
- Temporary modifications (jumpers) installed since the previous shift

Discuss results of any administrative reviews or audits (SRO)

GRADE Standards: *During the review of the SM log the examinee should recognize that there is an emission error of not entering the Technical Specification LCO action statement 3.7.1.2 action b. because of: 'A' AUX Feed pump out for PMs as described in the 0730 entry and the 1110 entry for releasing AWO M2-00-08904 for the 'B' Aux Feed pump,*

Cue: If necessary, indicate that control board walkdown is to be simulated.

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

STOP TIME:

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-A02

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: A02

Initiating Cues:

- You have just arrived in the control room at the beginning of your shift. Take necessary actions required for a shift turnover as the US.
- I will act as the off going US.

Initial Conditions:

07/01/00	0730	Shift Hours: 07-19, Tuesday, SM: H. Williamson, US: J. Hoagland, WCSRO: J. Fillion, SPO: M. Lettrich, PPO J. Jorinscay, STA:M. Strollo, U/I: K. Dingle (US), TB: G. Chaude, AB: L. Swadley, FL/FBA: M. Pucel. Plant in Mode:1, Rx power: 100 % , MWe: 904, Control Rods: ARO, Blowdown: 45gpm (#1), 45gpm (#2), RCS Circulation: RCPs, Tave: 571, Onsite Power: NSST, Pzr Level: 65%, SFP Lvl: 36' 10", TSAS: 3.4.11b act a (PZR vent path isolated), 3.3.3.9b act 2 (RM-4262), 3.7.1.2 act a ('A' Aux Feed pump out for PM's) TRMs: F.3.1.a.1 & F.3.1.a.2 (Fire Barriers), B.3.1 (U-2 fire pump), Also see Impairment sheet. Facility 2 Protected.	clairjj	myerstm
07/01/00	0810	RM-8132 is secured to change out Charcoal and Particulate filters for Chemistry. Table 3.3-13 No Action Required due to that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations, or sampling.	clairjj	myerstm
07/01/00	0817	Chemist returned RM-8132 to service, flow 3.25 CFM.	clairjj	myerstm
07/01/00	0825	Entered TSAS 3.7.6.1b. Both trains of Control Room ventilation Inoperable while testing door 249. With both trains of Control Room ventilation Inoperable immediately suspend the movement of fuel assemblies within the Spent Fuel Pool and the movement of shielded casks over the Spent Fuel Pool cask laydown area. Restore at least one Inoperable train to Operable status within 1 hour, or be in Hot Standby within the next 6 hours, and cold shutdown within the following 30 hours	clairjj	myerstm
07/01/00	0840	Exited TSAS 3.7.6.1b. Door testing complete. Both trains of Control Room ventilation are Operable.	clairjj	myerstm
07/01/00	0845	Released the following AWOs to the WIN Team: M2-00-12193 Replace gasket on LS-5331 (2B feedwater heater low level alarm)	clairjj	myerstm
07/01/00	0930	Commenced Discharge of TK-10 to LIS. Level 86%	clairjj	myerstm
07/01/00	1000	Traveling screens placed in Manual slow for greasing	clairjj	myerstm
07/01/00	1049	Shift Manager accepted 06-12 portion of 2619A-1.	clairjj	myerstm
07/01/00	1110	Released AWO M2-00-08904 for Water in Oil in 'B' Aux Feed pump.	parre	myerstm

JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: **Shift Staffing Requirements**

ID Number: JPM-A03

Revision: 0

II. Initiated:



Fred Nygard
Developer

6/14/2000

Date

III. Reviewed:



Technical Reviewer

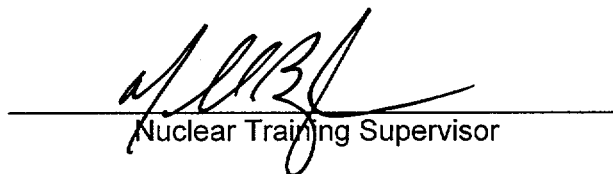
6/15/00

Date

IV. Approved:

User Department Supervisor

Date



Nuclear Training Supervisor

6/20/00

Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2 Examinee: _____

JPM Number: JPM-A03 Rev. _____

Task Title: **Maintain minimum Control Room shift complement**

System: Administrative

Time Critical Task: Yes _____ No X

Validated Time (minutes): 10

Task No.(s): NUTIMS 119-01-050

Applicable To: SRO SRO RO _____ PEO _____

K/A No.: 2.1.4 K/A Rating: 2.3/3.4

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 SRO perform the action required in the event that an RO becomes incapacitated (can not perform licensed activities).

Required Materials (procedures,equipment):

- Technical Specifications
- U2 OP 200.1 "Conduct of Operations"
- Operations Department Instructions
- FFDM 3.7 Call-In for Unscheduled Work

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-A03

Rev. 0

Initiating Cues:

- You are the shift manager. An RO on your shift becomes ill and is unable to perform licensed duties. Arrangements have already been successfully implemented to transport him to a medical facility. You are to carry out required actions to ensure staffing requirements are met.

Initial Conditions:

- Mode 1 operation.
- Your crew began its 12 hour shift at 7:00 pm
- Current time is 10:30 pm


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).

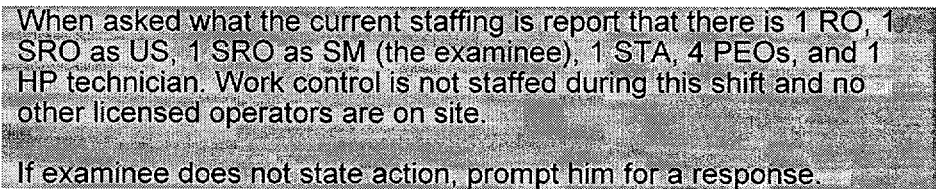
PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A03 TITLE: Shift Staffing Requirements

START TIME: 

STEP 1 Performance Steps: Evaluate current staffing level meets requirements of Technical Specifications Section 6.2 Table 6.2-1.

GRADE ___ Standards: *Examinee evaluates staffing level and determines that another RO must report within 2 hours.*

Cue: 
When asked what the current staffing is report that there is 1 RO, 1 SRO as US, 1 SRO as SM (the examinee), 1 STA, 4 PEOs, and 1 HP technician. Work control is not staffed during this shift and no other licensed operators are on site.
If examinee does not state action, prompt him for a response.

Comments: U2 OP 200.1 Section 1.8 (Level of Use Information)

~~~~~

STEP 2       Performance Steps: Determine which operator to call in.

GRADE \_\_\_     Standards:    *Determine which operator to call in by referring to:*

- *Operations Shift Schedule*
- *Work Control and Training Schedule*
- *Active License List*
- *Overtime List*

*Selects an RO with an active license who will not exceed overtime limits*

*The US or SM could call for the operations manager or assistant operation manager to provide assistance in calling in personnel.*

Cue:   
Provide the above lists, as attached to this JPM.

Comments: ODI 2-OPS 2.03 "Overtime", ODI 2-OPS-1.18 "Maintaining Active NRC Licenses", NGP 1.09 "Overtime Controls for All Personnel at Millstone Station"

~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A03 TITLE: Shift Staffing Requirements

STEP 3 _ Performance Steps: Contact the individual selected to support unscheduled work. Ask individual the following questions:

- Have you consumed any alcoholic beverages within the past 5 hours?
- Have you consumed any alcoholic beverages that may affect your ability to perform assigned duties?
- Have you taken any medications or drugs that may affect your ability to perform assigned duties?

GRADE ___ Standards: *Contact the individual selected to support unscheduled work. Ask individual the following questions:*

- *Have you consumed any alcoholic beverages within the past 5 hours?*
- *Have you consumed any alcoholic beverages that may affect your ability to perform assigned duties?*

Have you taken any medications or drugs that may affect your ability to perform assigned duties?

Cue: **Answer to all three questions is "No"**

Comments: FFDM 3.7 Call-In for Unscheduled Work

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

STOP TIME: **██████████**

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-A03

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: A03

Initiating Cues:

- You are the shift manager. An RO on your shift becomes ill and is unable to perform licensed duties. Arrangements have already been successfully implemented to transport him to a medical facility. You are to carry out required actions to ensure staffing requirements are met.

Initial Conditions:

- Mode 1 operation.
- Your crew began its 12 hour shift at 7:00 pm
- Current time is 10:30 pm

Unit 2 Operations Department Personnel Roster June 7, 2000

SHIFT					
	A	B	D	E	F
SM	Truesdale, Ken	Myers, Steve	Myers, Tom	Williamson, H.	Kunze, Jim
US	Weiso, Mike	Chapin, Cliff	Claire, John	Fillion, John	Armour, Rich
US	Rossi, Anthony	Zorn, Carl	Doboe, Sandra	Hoagland, Jim	Duffy, Howard
US/UI					Ewers, Martin
CO	Brown, Jason	Muldoon, Mike	Hall, Tim	Howes, Scott	Daskam, Jon
CO	Perkins, Todd	Sikorski, Pat	Sanders, Cathy	Jorinscay, Jim	Gaynier, Brian
CO	Seacor, Ed	Cox, Richard	Ferguson, Bruce	Lettrich, Matt	Mausteller, L.
PEO	Harris, Andy	Pieper, Pat	Furiosi, Michael	Chaude, Gene	Hambly, Pat
PEO	Griffin, Chip	Bowen, Russ	Baker, Gerry	Swadley, Larry	Zummo, Jamie
PEO	Gonya, Bill	Eckenrode, B.	Aument, Scott	Pucel, Marc	Stilphen, Jim
PEO	Carter, Colette	Orf, Buster			Garza, Marcos
PEO/UI	Hoxie, Greg	Hobbs, Kevin	McBeth, Roger	Searle, Herb	Chatfield, Dave
PEO/UI				Goldsmith, Dick	Riley, John

WC-SRO	Dubay, Ted	Nelson, Larry			
Ops Asst	Moriarty, Tom	Rein, John			
SM Quals	Parrette, Randil				
WC-PEO	Dukette, Henry	Kostopoulos, N.	Carroll, Rich		
FIN Team	Smith, Tony	Wilkins, Brycc			
LOUT	Haff, Zack	Seacor, Ed	Ferguson, Bruce		
LOIT	Strickland, Pete	Chesnutt, Will	Dingle, Kevin	Funk, Doug	Wasylik, John
	Jacobs, Dave	Spakowski, Tina	Samson, Andy	Donch, Eric	Snyder, Pete
	Miles, Bill	Beebe, Jeff			

DAY STAFF			
Ops Manager	Hagan, Dan (SRO)		
Assistant Ops Manager	Baker, Steve (SRO)		
Ops Tech.	Cassidy, Pat		
Unit Coordinator	Mullin, Mike (SRO)		
Admin. Staff	Lafaille, Joan	Swanson, Shannon	O'Neill, Diane
NOTES:			
1. For changes in status, please contact Shannon Swanson x4483 (or email: swanssr)			
2. Distribution: D. Hagan		P. Cassidy	Control Room
S. Baker		J. Lafaille	Work Control
			Training (T. Grilley)
			Security (FAX to 5558)

Post # 7 Date 6/7/00 # of pages 11
 Fax Note R7673
 To Jim Grilley
 Fax # 2671
 From Shannon
 Phone #

Millstone Unit 2 Training and Work Control

Rev. 2	11-Jun SUN	12-Jun MON	13-Jun TUE	14-Jun WED	15-Jun THU	16-Jun FRI	17-Jun SAT
09-Jun	WORK CONTROL & RELIEF CREW						
WC-SRO		T Dubay	T Dubay	T Dubay	T Dubay	T Dubay	
WC-SRO		L Nelson	L Nelson	L Nelson	L Nelson	L Nelson	
WC-SRO		-	S Myers	S Myers	S Myers	S Myers	
WC-SRO		-	C Chapin	C Chapin	C Chapin	C Chapin	
WC-SRO		-	C Zorn	C Zorn	C Zorn	C Zorn	
Ops Asst		A Guelbart	A Guelbart	A Guelbart	A Guelbart	A Guelbart	
Ops Asst		-	-	J Rein	J Rein	J Rein	
WC-US/UJ		-	-	G Hoxie	-	-	
WC-CO		Z Haff	Z Haff	Z Haff	Z Haff	Z Haff	
WC-CO		B Ferguson	B Ferguson	B Ferguson	B Ferguson	B Ferguson	
WC-CO		-	M Muldoon	M Muldoon	M Muldoon	M Muldoon	
WC-CO		-	P Sikorski	P Sikorski	P Sikorski	P Sikorski	
WC-CO		-	R Cox	R Cox	R Cox	R Cox	
WC-PEO		-	P Pieper	P Pieper	P Pieper	P Pieper	
WC-PEO		-	R Bowen	R Bowen	R Bowen	R Bowen	
WC-PEO		-	B Eckenrode	B Eckenrode	B Eckenrode	B Eckenrode	
WC-PEO		-	B Orf	B Orf	B Orf	B Orf	
WC-PEO		-	K Hobbs	K Hobbs	K Hobbs	K Hobbs	
WC-TAG		Kostopoulos	Kostopoulos	-	-	Kostopoulos	
WC-TAG		-	-	R Carroll	R Carroll	R Carroll	
RAD-PEO		H Dukette	H Dukette	H Dukette	H Dukette	H Dukette	
FIN Team		T Smith	T Smith	T Smith	T Smith	T Smith	
FIN Team		B Wilkens	B Wilkens	B Wilkens	B Wilkens	B Wilkens	
PILOT WEEK TRAINING							
Personnel not Available							
SM	-	-	-	H Williamson	H Williamson	H Williamson	H Williamson
US	M Ewers	M Ewers	M Ewers	M Ewers	M Ewers	M Ewers	M Ewers
CO	B Gaynier	B Gaynier	B Gaynier	B Gaynier	B Gaynier	B Gaynier	B Gaynier
CO	E Seacor	E Seacor	E Seacor	E Seacor	E Seacor	E Seacor	E Seacor
CO	-	S Howes	S Howes	-	-	-	-
CO	-	-	-	M Lettrich	M Lettrich	M Lettrich	M Lettrich
CO	-	-	-	T Perkins	-	-	-
CO	-	-	-	-	-	-	L Maustollor
PEO	-	-	-	-	-	J Stiphen	-
PEO	-	-	-	L Swadley	L Swadley	L Swadley	L Swadley

Approved:

Millstone Unit 2 Operations Shift Schedule

Rev 2	11-Jun SUN	12-Jun MON	13-Jun TUE	14-Jun WED	15-Jun THU	16-Jun FRI	17-Jun SAT
09-Jun	DAY SHIFT (0700 - 1900)						
SM	H Williamson	H Williamson	H Williamson	J Kunze	J Kunze	J Kunze	T Myers
STA	M Strollo	M Strollo	M Strollo	T Arnett	T Arnett	T Arnett	J Huff
US	J Hoagland	J Hoagland	J Hoagland	R Armour	R Armour	R Armour	J Claire
WC-SRO	J Fillion	J Fillion	J Fillion	H Duffy	H Duffy	H Duffy	S Doboo
CO	S Howes	-	-	-	-	-	-
CO	J Jorinscay	J Jorinscay	J Jorinscay	J Daskam	J Daskam	J Daskam	T Hall
CO	M Lettrich	M Lettrich	M Lettrich	L Mausteller	L Mausteller	L Mausteller	C Sanders
PEO	G Chaude	G Chaude	G Chaude	J Zummo	J Zummo	J Zummo	G Baker
PEO	-	-	-	M Garza	M Garza	M Garza	-
PEO	L Swadley	L Swadley	L Swadley	P Hambly	P Hambly	P Hambly	S Aument
PEO	M Pucel	M Pucel	M Pucel	J Stilphen	J Stilphen	-	M Furiosi
PEO U/I	H Searle	H Searle	H Searle	D Chatfield	D Chatfield	D Chatfield	R McBeth
	NIGHT SHIFT (1900 - 0700)						
SM	T Myers	T Myers	T Myers	K Truesdale	K Truesdale	K Truesdale	K Truesdale
STA	J Huff	J Huff	J Huff	M Ciccone	M Ciccone	M Ciccone	M Ciccone
US	J Clair	J Clair	J Clair	M Weiso	M Weiso	M Weiso	M Weiso
WC-SRO	S Doboo	S Doboo	S Doboo	A Rossi	A Rossi	A Rossi	A Rossi
CO	T Hall	T Hall	T Hall	J Brown	J Brown	J Brown	J Brown
CO	C Sanders	C Sanders	C Sanders	C Sanders	T Perkins	T Perkins	T Perkins
PEO	G Baker	G Baker	G Baker	G Griffin	G Griffin	G Griffin	G Griffin
PEO	S Aument	S Aument	S Aument	A Harris	A Harris	A Harris	A Harris
PEO	M Furiosi	M Furiosi	M Furiosi	W Gonya	W Gonya	W Gonya	W Gonya
PEO	-	-	-	C Carter	C Carter	C Carter	C Carter
PEO U/I	R McBeth	R McBeth	R McBeth	-	-	-	-

Post # 6/9 # of pages 2
 Fax No R7673
 To Jackie
 Fax # 2671
 From Shannon
 Phone # 4483

June 14, 2000

To: Shift Managers

From: Operations Manager

Subject: Active License List

For the purpose of this JPM the Unit 2 Operations Department Roster dated June 7 show who have active licenses as follows:

- All personnel shown in the SM and US positions have active SRO licenses.
- All persons shown in the CO positions on the have active RO licenses.

Exempt Personnel Overtime List

For purpose of this JPM, all personnel have equal amounts of overtime.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-A04

Rev. 0

Initiating Cues:

- As the Tagging authority, you need to Review and Approve Clearance 2-1154-00.

Initial Conditions:

- Plant is in Mode 1
- FLS requests clearance to prevent any possible rotation of pump.
- The attached clearance is for an AWO that provides for inspection and possible replacement of the 'A' AFW pump coupling.

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- A04

TITLE: SRO Review and Authorize Safety Tagging

X

- c. *Determines that clearance compromises the operability of other required equipment by recognizing that step number 2 of the clearance will result in both AFW pumps being tagged out of service..*
- d. *IF clearance is a blue tag clearance, ENSURE all work is assigned to a single Contact Person. Recognize that this is not a blue tag clearance.*
- e. *REVIEW effects of clearance on indications, instruments or controls and need for compensatory actions.*
- f. *VERIFY completeness and sequencing of steps.*
- g. *VERIFY correct tag selection for all work package(s).*
- h. *Unless required by procedure, ENSURE blue tags are not hung on redundant trains of operable safety related equipment.*

NOTE

This step applies when tagging alters the operation of the system or component.

—

- i. *Prior to hanging tags, a 10CFR50.59 Safety Evaluation Screening is required if equipment or portions of systems meet the following conditions:*
 - *Considered operable or available*

AND

 - *Operated in a manner not in accordance with applicable procedures*
- j. *DOCUMENT the 10CFR50.59 Safety Evaluation Screening or Safety Evaluation in the clearance by adding a note to the "NOTES" section of the clearance OR a text step in the clearance.*

IF tagging is performed as part of a Temp Mod, ASSIGN an SM/US to the clearance and DOCUMENT the Temp Mod as the reason

Cue: If examinee does not use load list, ask why. Acceptable response is that tagging data base used to print clearance automatically prints correct breaker.

Comments: WC-2 is an information level of use procedure.

~~~~~

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-A04 TITLE: SRO Review and Authorize Safety Tagging

---

STEP 2       Performance Steps: IF review indicates a deficiency, PERFORM one of the following:  
a. NOTIFY a Tag Control Coordinator and RESOLVE the problem.  
b. RETURN clearance to a Tag Control Coordinator for resolution

GRADE \_\_\_       Standards: *Examinee notifies and/or returns the clearance to the Tag Control Coordinator for problem resolution.*

Cue: *As the Tag Control coordinator, accept the returned clearance or notification. If examinee states that problem must be resolved, but does not state who, ask who resolves the problem.*

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

STOP TIME:



VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM- A04

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: A04

Initiating Cues:

- As the Tagging authority, you need to Review and Approve Clearance 2-1154-00.

Initial Conditions:

- The attached clearance is for an AWO that provides for inspection and possible replacement of the 'A' AFW pump coupling.

CLEARANCE ORDER SHEET

PAGE NO. 1  
 Additional Pages \_\_\_\_\_  
 06/01/00 04:05

|                                                                                                                                                                    |                                                                                                                                                                       |                                                      |                                                                      |              |                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------|--------------|------------------------------|
| 1. Clearance Number<br><b>2-1154-00</b>                                                                                                                            | 2. Date<br><b>06/01/00</b>                                                                                                                                            | 3. AWO Number (or "Multiple")<br><b>M2-00-123456</b> | 4. Contact Person (or "Multiple")<br><b>SHIFT MANAGER/UNIT SUPER</b> |              |                              |
| 5. Equipment<br><b>P9A, "A" AUXILIARY FEEDWATER PUMP ASSEMBLY (MTR HTR BKR LH51-6)</b>                                                                             |                                                                                                                                                                       |                                                      | 8. Tag Lift Sheet Attached <input type="checkbox"/> Yes              |              |                              |
| 6. REASON TAGGED<br><b>'A' PUMP OUTAGE (FEG 2322X11)</b>                                                                                                           |                                                                                                                                                                       |                                                      | 9. Additional AWOs Under This Clearance <input type="checkbox"/> Yes |              |                              |
|                                                                                                                                                                    |                                                                                                                                                                       |                                                      | 10. Partial Restoration <input type="checkbox"/> Yes                 |              |                              |
| 7. SPECIAL INSTRUCTIONS/CAUTION                                                                                                                                    |                                                                                                                                                                       |                                                      | 11. Prepared By<br><b>KENNETH G. TRUESDALE</b>                       |              |                              |
| 12a.<br>Step<br>No.                                                                                                                                                | (Note 1)<br>12b. Equipment Identification And Nomenclature And Location                                                                                               |                                                      | 12c. Tag Placed/<br>Action Complete                                  | Verification |                              |
|                                                                                                                                                                    |                                                                                                                                                                       |                                                      | Date                                                                 | Init         | Date                         |
| 1                                                                                                                                                                  | RACK DOWN, RACKED DOWN, and RED TAG, <u>A307</u> ,<br>4.16KV BREAKER - P9A AUXILIARY FEEDWATER PUMP 24C3-2<br>LOC: TB 31'6" LOWER SWITCHGEAR, BUS 24C                 |                                                      |                                                                      |              |                              |
| 2                                                                                                                                                                  | CLOSE, CLOSED, and RED TAG, <u>2-FW-9B</u> ,<br>"B" AUX FEED PUMP DISCHARGE STOP VALVE<br>LOC: TB 4'6" , "B" AUX FEED PUMP                                            |                                                      |                                                                      |              |                              |
| 3                                                                                                                                                                  | CLOSE, CLOSED, and RED TAG, <u>2-FW-52B</u> ,<br>"A" AUX FEED PUMP RECIRCULATION STOP VALVE<br>LOC: TB 1'6" TURBINE, ABOVE "A" AFP                                    |                                                      |                                                                      |              |                              |
| 4                                                                                                                                                                  | CLOSE, CLOSED, and RED TAG, <u>2-CN-29A</u> ,<br>"A" AUX FEED PUMP SUCTION ISOLATION<br>LOC: TB 1'6" AUX FEED PUMP ROOM,                                              |                                                      |                                                                      |              |                              |
| 5                                                                                                                                                                  | CLOSE, CLOSED, and RED TAG, <u>2-FIRE-94A</u> ,<br>"A" AUX FEED PUMP EMERGENCY FIRE WATER SUPPLY VALVE<br>LOC: TB 1'6" , "A" AUX FEED PUMP                            |                                                      |                                                                      |              |                              |
| 6                                                                                                                                                                  | N/A, N/A, and YELLOW TAG, <u>P9A-HS</u> ,<br>HANDSWITCH FOR "A" AUXILARY FEEDWATER PUMP, P9A<br>LOC: CB 36'6" CONTROL ROOM, C05<br><br>CAUTION: BREAKER IS RED TAGGED |                                                      |                                                                      |              |                              |
| 13a. Clearance correct and equipment may be isolated<br>SM/US notified for power block. Boundary Approved By: <b>WILL</b><br>Authorized To Be Hung By: <b>WILL</b> |                                                                                                                                                                       |                                                      | D.<br>D.                                                             |              | 13b. Date<br><b>06/01/00</b> |

Note 1 Initial position for Blue Tags. N/A if position not required

**TRAINING AND EXAM USE ONLY --NOT FOR OPERATION**

# JOB PERFORMANCE MEASURE APPROVAL SHEET

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

ID Number: JPM-A05

Revision: 0

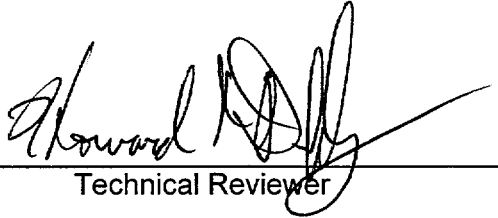
II. Initiated:



Fred Nygard  
Developer

6/15/2000  
Date

III. Reviewed:



Technical Reviewer

6/15/00  
Date

IV. Approved:

\_\_\_\_\_  
User Department Supervisor

\_\_\_\_\_  
Date



Nuclear Training Supervisor

6/20/00  
Date

**JOB PERFORMANCE MEASURE WORKSHEET**

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

JPM Number: JPM-A05                      Rev. 0

Task Title: **Determine plant conditions required to perform surveillances**

System: \_\_\_\_\_

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 prevent discharging a radioactive liquid waste discharge permit that will prevent the discharge from commencing.

Required Materials  
(procedures,equipment):

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

General References:

SP 2617A, Section 4.3.7 and 4.3.8 (Rev. 26, Ch. 4 )

**\*\*\*\* 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-A05          

Rev.           0          

Initiating Cues:

- You are the SM and you have directed that the "A" CWMT be discharged. Take action to continue preparations for the discharge.

Initial Conditions:

- Your shift is performing SP 2617A section 4.3 "Recirculating and Discharging CWMTs"
- The Rad waste PEO has completed SP 2617A steps 4.3.1 through 4.3.6 in preparation for discharging the "A" CWMT.
- "A" CWMT, CWM TK MIXER, MT-15A is not available

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-A05 TITLE: **SRO Approve a Radioactive Liquid Waste Release Permit**

---

START TIME: 

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

GRADE     Standards: *SM should review and initial Form 2864-1 as shown in the attached Key. If examinee asks for plant conditions before he initials the permit and becomes aware that the discharge should not be made, he may elect not to initial the permit.*

Cue:  Provide Chem. Form 2864-1 to the examinee.

Comments:

~~~~~

STEP 2 Performance Steps: When Chem. Form 2864-1(Discharge Permit) is authorized, SM or US Refer to OPS Form 2617A-1 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 CWMT , as specified on Chem Form 2852-1, "Unit 2 Liquid Radwaste Effluent Rad Monitor Inoperative" and Initial.

GRADE Standards: *Examinee reviews plant conditions and determines that the discharge is not authorized or states that the discharge and back wash operation can not be performed concurrently.*

Cue:  Provide attached description of plant condition.

Comments: Not authorized because plant conditions indicate that a backwash of the 'B' Water Box is ready to commence . OP2325D step 4.1.2 is not met because the discharge permit calculation was done for 3 circulation water pumps.

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-A05 TITLE: SRO Approve a Radioactive Liquid Waste Release Permit

~~~~~

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

**STOP TIME:** 



**VERIFICATION OF JPM COMPLETION**

Job Performance Measure No. JPM-A05

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:

## Plant Conditions

100% power, equilibrium steady state conditions

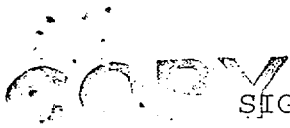
Normal Operating Temperature and Pressure

SG blowdown is 49 GPM on #1 SG and 51 GPM on #2 SG

No other discharges radioactive discharges are in progress

Procedures in Use

- SP 2617A section 4.3; Steps 4.3.1-4.3.6 have been completed for the 'A' CWMT.
  - Filtered recirculation is not being used
  - Chemistry Sample Results are acceptable
  - RM-9049 is operable
  
- OP 2325D 'Mussel Cooking and Backwashing Operations' section 4.5, steps 4.5.1 - 4.5.6 have been completed.
  
- SP13E-1 'Diesel Fuel Oil Sample Analysis'



SIGNATURE ON FILE

5-28-98

6-11-98

Approved

Approval Date

Effective Date

MILLSTONE UNIT #2

LIQUID DISCHARGE PERMIT NO. 2049

(SP30977)

Tank.....: A CWMT  
 Sampled by.....: Wm  
 TSS (ppm)..: 0.5 (AWMT limit = 45 ppm; CWMT limit = 22.5 ppm)  
 Boric acid conc= 6835 (ppm) Eff. Monitor Bkg= 3.1E+4 (cpm)  
 pH= 5.31 (>2 and <12.5)

$N_2H_4 \leq 0.35 \text{ ppm}$   
 $ETA \leq 6.5 \text{ ppb}$

| Isotope | Activity (uCi/ml) | MPC (uCi/ml) | Activity/MPC |
|---------|-------------------|--------------|--------------|
| CR-51   | 7.178E-05         | 2.000E-03    | 3.589E-02    |
| CO-58   | 3.601E-05         | 9.000E-05    | 4.001E-01    |
| CO-60   | 4.501E-06         | 3.000E-05    | 1.500E-01    |
| NB-95   | 3.431E-07         | 1.000E-04    | 3.431E-03    |
| AG-110M | 6.492E-07         | 3.000E-05    | 2.164E-02    |
| XE-133  | 2.794E-06         |              |              |
| CS-137  | 9.919E-07         | 2.000E-05    | 4.960E-02    |
| CE-141  | 9.163E-07         | 9.000E-05    | 1.018E-02    |
| H-3     | 1.080E-02         | 3.000E-03    | 3.600E+00    |
| Totals  | 1.152E-04 (@)     |              | 4.271E+00    |

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

circulating water pumps must be in operation during a discharge

During Unit 2 shutdown a min. dilution flow of 20,000 gpm is allowable with the discharge rate limited to 30.5 gpm.

Diluted gas concentration (uCi/ml) = 3.175E-09

Wm INIT

Minimum recirc time is ...: 2.0 hr w/mixer; 7.7 hr w/pump  
 Administrative quarterly release limit (Ci)...: 5.000E-02  
 Total activity released this quarter (Ci)....: 1.380E-02  
 Estimated volume this discharge (gal).....: 25000.  
 Estimated activity this discharge (Ci).....: 1.090E-02  
 Est total activity released this quarter (Ci): 2.470E-02

- (1) Reduction factor.....: 2.341E-01 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)..: 7.77E+4 (cpm) \_\_\_\_\_

Maximum approved rate.....: 350 (gpm) \_\_\_\_\_  
(Authorization required to exceed normal rate limit.)

Source check performed.....: \_\_\_\_\_

DISCHARGE

DATE/TIME                      DILUTION FLOW RATE                      INTEGRATOR READING                      DISCHARGE OPERATOR



(gpm)

(4\*DIFF=gal)

RATE (gpm)

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)

Shift Manager \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Chem Form 2864-1

Rev. 1

Page 1 of 1

## EXAMINEE HANDOUT

JPM ID Number: A05

Initiating Cues:

- You are the SM and you have directed that the "A" CWMT be discharged. Take action to continue preparations for the discharge.

Initial Conditions:

- Your shift is performing SP 2617A section 4.3 "Recirculating and Discharging CWMTs"
- The Rad waste PEO has completed SP 2617A steps 4.3.1 through 4.3.6 in preparation for discharging the "A" CWMT.
- 
- "A' CWMT, CWM TK MIXER, MT-15A is not available

JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: LOCA with Loss of Containment Barrier Classification

ID Number: JPM-006

Revision: 6

II. Initiated:

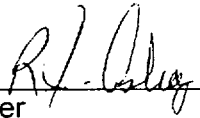
M. Cote  
Developer



10/19/99  
Date

III. Reviewed:

R. J. Ashley  
Technical Reviewer



10/19/99  
Date

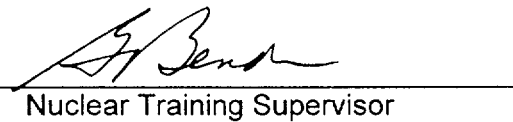
IV. Approved:

[Signature]  
User Department Supervisor



10/31/99  
Date

[Signature]  
Nuclear Training Supervisor



11/3/99  
Date

**JOB PERFORMANCE MEASURE WORKSHEET**

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

JPM Number: JPM-006 Rev. 6

Task Title: LOCA with Loss of Containment Barrier Classification

System: Emergency Plan

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

Validated Time (minutes): 15

Task No.(s): NUTIMS #000-05-205

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

K/A No.: 194001-A1.16 K/A Rating: 4.4

Method of Testing:

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

Location:

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

Task Standards: At the completion of this JPM, the examinee has classified the event as a Site Area Emergency, state posture code Charlie-Two.

Required Materials EPIP 4400  
(procedures,equipment): EPIP Form 4400-2

General References: EPIP Form 4400-2 (Rev. 4)

**\*\*\*\* 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:

- You are the on-duty SM.
- Your task is to determine the NRC and state posture code classification of the following event.

### Initial Conditions:

- The plant is at 100% power, normal operation.

### Time line:

- 0 The board operators have identified the following parameter responses:
- Letdown flow lowering
  - Containment narrow range pressure rising
  - Containment sump level rising
  - Containment particulate and gaseous radiation monitor readings going up
- 1 min. The US has directed the PPO to monitor letdown and run an RCS leak rate calculation to quantify RCS leakage.  
To help confirm the estimate, the US has also directed the SPO to pump the Containment sump down to 10% level, stop the pumps, and monitor the sump fill rate.
- 2 min. The SPO starts both Containment sump pumps.
- 4 min. Sump level is 50% and lowering when suddenly Pressurizer level and pressure start dropping rapidly. RCS temperatures are stable.
- 5 min. The US orders a manual reactor trip based on exceeding CVCS capability and enters EOP 2525, "Standard Post Trip Actions."
- 7 min. SIAS occurs and the PPO trips "A" and "C" RCPs and then starts to verify SIAS, CIAS, and EBFAS on C-01X. They report all actuations verified with the following exceptions:
- 2-SSP-16.1 under CIAS Channel 1 and 2-SSP-16.2 under CIAS Channel 2 do not have either the blue or white lights lit.
- 9 min. The SPO checks C-06 and reports both Containment sump pumps off but both 2-SSP-16.1 and 2-SSP-16.2 have dual indication (both red and green lights lit).
- 14 min. A PEO is sent to visually check 2-SSP-16.2 and reports back that the valve appears to be 25% open.
- 17 min. EOP 2525 is completed with the following conditions:
- RCS pressure at 1250 psia and lowering
  - Pressurizer level < 0%
  - Subcooling at 24°F and lowering
  - Containment pressure at 2.1# and going up
  - Containment temperature at 118°F and going up
  - Containment refuel platform area RM in alarm Containment particulate and gaseous have gone up
  - Vessel level indicates 80%



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".

**PERFORMANCE INFORMATION**

JPM ID NUMBER: JPM-006      TITLE: LOCA with Loss of Containment Barrier Classification

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

STEP 1       Performance Steps::      Classify the event.

GRADE \_\_\_       Standards:      *Classifies the event as a Site Area Emergency, state posture code Charlie-Two.*

Cue:

Comments:      Based on Loss of Two Barriers:  
                    • **RCB2**, "RCS Subcooling < 30°F"  
                    • **CNB3**, "Failure of BOTH Isolation Valves AND a Pathway to the Environment Exists."

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

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

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-006

Rev. 6

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: 006

Initiating Cues:

- You are the on-duty SM.
- Your task is to determine the NRC and state posture code classification of the following event.

Initial Conditions:

- The plant is at 100% power, normal operation.

Time line:

- 0 The board operators have identified the following parameter responses:
  - Letdown flow lowering
  - Containment narrow range pressure rising
  - Containment sump level rising
  - Containment particulate and gaseous radiation monitor readings going up
- 1 min. The US has directed the PPO to monitor letdown and run an RCS leak rate calculation to quantify RCS leakage.  
To help confirm the estimate, the US has also directed the SPO to pump the Containment sump down to 10% level, stop the pumps, and monitor the sump fill rate.
- 2 min. The SPO starts both Containment sump pumps.
- 4 min. Sump level is 50% and lowering when suddenly Pressurizer level and pressure start dropping rapidly. RCS temperatures are stable.
- 5 min. The US orders a manual reactor trip based on exceeding CVCS capability and enters EOP 2525, "Standard Post Trip Actions."
- 7 min. SIAS occurs and the PPO trips "A" and "C" RCPs and then starts to verify SIAS, CIAS, and EBFAS on C-01X. They report all actuations verified with the following exceptions:
  - 2-SSP-16.1 under CIAS Channel 1 and 2-SSP-16.2 under CIAS Channel 2 do not have either the blue or white lights lit.
- 9 min. The SPO checks C-06 and reports both Containment sump pumps off but both 2-SSP-16.1 and 2-SSP-16.2 have dual indication (both red and green lights lit).
- 14 min. A PEO is sent to visually check 2-SSP-16.2 and reports back that the valve appears to be 25% open.
- 17 min. EOP 2525 is completed with the following conditions:
  - RCS pressure at 1250 psia and lowering
  - Pressurizer level < 0%
  - Subcooling at 24°F and lowering
  - Containment pressure at 2.1# and going up
  - Containment temperature at 118°F and going up
  - Containment refuel platform area RM in alarm Containment particulate and gaseous have gone up
  - Vessel level indicates 80%