

JPM NO. 6

**EMERGENCY BORATION USING ONOP-CVCS-3  
(ALTERNATE PATH)**

**Job Performance Measure Exam**

**Submitted By** : Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

**Task ID:** 004\*017\*01\*01

**Description:** EMERGENCY BORATE THE RCS AS PER ONOP- CVCS-3 (ALTERNATE PATH)

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

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

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide

access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

THE REACTOR HAS JUST TRIPPED. THE 31 BORIC ACID TRANSFER PUMP IS ALIGNED TO THE BLENDER. ALL ACTIONS IN E-0, STEPS 1-4 AND ES-0.1 STEPS 1 AND 2 HAVE BEEN COMPLETED.

**Task Standards :**

EMERGENCY BORATE IN ACCORDANCE WITH ONOP CVCS-3  
K&A #: SYSTEM 004 CHEMICAL AND VOLUME CONTROL; A 4.18 ABILITY TO OPERATE AND MONITOR IN THE CONTROL ROOM THE EMERGENCY BORATE VALVES  
IMPORTANCE FACTORS: RO=4.3 SRO=4.1

**Tools Needed:**

SIMULATOR: IC-10, 11, OR 12, 100% POWER  
MAL CRF4A ACT,2,H8,0  
MAL CRF4B ACT,2,N13,0  
MAL CRF4C ACT,2,D8,0  
MAL RPS1A ACT  
RUN 180  
ACKNOWLEDGE AND RESET ANNUNCIATORS

**Initiating Cues :**

YOU ARE DIRECTED TO EMERGENCY BORATE UNTIL THE REQUIRED AMOUNT OF BORIC ACID HAS BEEN INJECTED INTO THE RCS IN ACCORDANCE WITH ONOP-CVCS-3, UP TO AND INCLUDING STEP 3B

**Safety Considerations :**

NONE

**Consequences of Inadequate Performance:**

INADEQUATE SHUTDOWN MARGIN, POSSIBLE REACTOR RESTART



- 5 **Element :**  
PLACE CH-LCV-112B IN OPEN
- Standards :**  
PUTS SWITCH CH-LCV-112B  
IN OPEN POSITION
- Conditions :**  
CH-LCV-112B OPENS
- Comments :**
- Critical Task?** Y
- Satisfactory** **Unsatisfactory**
- 
- 6 **Element :**  
WHEN CH-LCV-112B OPENS  
CLOSE CH-LCV-112C
- Standards :**  
CLOSES CH-LCV-112C WHEN  
CH-LCV-112B OPENS
- Conditions :**  
CH-LCV-112C CLOSES
- Comments :**
- Critical Task?** N
- Satisfactory** **Unsatisfactory**
- 
- 7 **Element :**  
CHECK M/U CONTROLS  
IN STOP
- Standards :**  
VERIFIES M/U CONTROL  
SWITCH IN STOP
- Conditions :**  
M/U IS STOPPED
- Comments :**
- Critical Task?** Y
- Satisfactory** **Unsatisfactory**
- 
- 8 **Element :**  
TRANSFER RUNNING CHG  
PUMP TO MANUAL AND  
RAISE SPEED TO MAX
- Standards :**  
TAKES PUMP TO MANUAL  
AND RAISES SPEED TO MAX
- Conditions :**  
PUMP SPEED IS MAXIMIZED IN  
MANUAL CONTROL
- Comments :**
- Critical Task?** Y
- Satisfactory** **Unsatisfactory**

- |    |  |   |  |
|----|--|---|--|
| 9  | <b>Element :</b><br>CHECK PRESSURIZER<br>PRESSURE LESS THAN 2335     | <b>Standards :</b><br>OBSERVE PRESSURIZER<br>PRESSURE LESS THAN<br>2335 | <b>Conditions :</b><br>AS READ- PRESS<2235 |
|    | <b>Comments :</b>  |   |  |
|    | <b>Critical Task?</b> N  |   |  |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |  |
| 10 | <b>Element :</b><br>CHECK REACTOR CRITICAL                           | <b>Standards :</b><br>OBSERVES REACTOR<br>SUBCRITICAL                   | <b>Conditions :</b><br>REACTOR IS CRITICAL |
|    | <b>Comments :</b>  |   |  |
|    | <b>Critical Task?</b> N  |   |  |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |  |
| 11 | <b>Element :</b><br>CHECK RCS TEMPERATURE<br>GREATER THAN 500 DEG. F | <b>Standards :</b><br>OBSERVES RCS TEMP IS<br>GREATER THAN 500 DEG.     | <b>Conditions :</b><br>AS READ ON PANEL    |
|    | <b>Comments :</b>  |   |  |
|    | <b>Critical Task?</b> N  |   |  |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |  |
| 12 | <b>Element :</b><br>CHECK RCS TEMPERATURE<br>GREATER THAN 540 DEG. F | <b>Standards :</b><br>OBSERVES RCS TEMP IS<br>GREATER THAN 540 DEG.     | <b>Conditions :</b><br>AS READ ON PANEL    |
|    | <b>Comments :</b>  |   |  |
|    | <b>Critical Task?</b> N  |   |  |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |  |

13 **Element :**  
 CHECK ALL RODS FULLY  
 INSERTED  
**Comments :**

**Standards :**  
 OBSERVES 3 RODS  
 STUCK OUT

**Conditions :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

14 **Element :**  
 IF MORE THAN ONE ROD IS  
 GREATER THAN OR EQUAL  
 TO 20 STEPS, THEN  
 INCREASE RCS BORON  
 CONCENTRATION 145  
 PPM/ROD FOR EACH  
 ADDITIONAL STUCK ROD  
 GREATER THAN ONE AS  
 FOLLOWS:  
 USING RWST - EXPECTED  
 TIME OF 57 MINUTES/ROD  
**Comments :**

**Standards :**  
 FOR 3 STUCK RODS  
 BORATION TIME IS  
 57MIN/ROD GREATER  
 THAN ONE; BORATION  
 TIME = 114 MIN

**Conditions :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

17 **Element :**  
 NOTIFY JPM EVALUATOR  
 THAT JPM IS COMPLETE  
**Comments :**

**Standards :**  
 REPORTS JPM  
 COMPLETE

**Conditions :**  
 CUE: JPM IS COMPLETE

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

EMERGENCY BORATION COMPLETED

2-Sep-2003

***Job Performance Measure Exam***

Page: 1

JPM NO. 7

**INITIATE A BLEED AND FEED OF THE RCS  
(ALTERNATE PATH)**

**Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

Task ID: 000\*013\*05\*01

Description: INITIATE A BLEED AND FEED OF THE RCS  
(alternate path)

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

Start Time \_\_\_\_\_ Stop Time: \_\_\_\_\_

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

A LOSS OF FEEDWATER HAS OCCURRED. STEPS 1-4 OF E-0 ARE COMPLETE. A TRANSITION TO ES-0.1 WAS MADE AT STEP 4. A TRANSITION TO FR-H.1 WAS THEN MADE DUE TO A RED PATH ON THE HEAT SINK CSF. THE FOLD OUT PAGE REQUIREMENTS FOR BLEED AND FEED ARE MET.

**Task Standards :**

K&A #: EPE 05 Loss of Secondary Heat Sink: EA2.1 Ability to determine and interpret the following; Facility conditions and selection of appropriate procedures during abnormal and emergency conditions.  
RO 3.4 SRO 4.4  
Applicability: RO & SRO  
RCS BLEED AND FEED INITIATED AND VERIFIED PER FR-H.1  
Estimated Completion Time: 20 minutes

**Tools Needed:**

**Initiating Cues :**

YOU ARE DIRECTED TO PERFORM THE STEPS 9-13 OF FR-H.1 TO ESTABLISH BLEED AND FEED COOLING OF THE RCS.

**References :**

| <b>ID</b> |        | <b>Description</b>                      | <b>Review Date</b> | <b>Ref Flag</b> |
|-----------|--------|---|--------------------|-----------------|
| EOP       | FR-H.1 | RESPONSE TO LOSS OF SECONDARY HEAT SINK |                    | X               |

**Safety Considerations :**

**Consequences of Inadequate Performance:**

**Performance Checklist :**

- |   |   |   |                     |
|---|---|---|---------------------|
| 1 | <b>Element :</b><br>OBTAIN AND REVIEW COPY<br>OF FR-H.1<br><b>Comments :</b><br><br><b>Critical Task?</b> N | <b>Standards :</b><br>OBTAINED AND REVIEW<br>COPY OF FR-H.1                             | <b>Conditions :</b> |
|   | <b>Satisfactory</b>   | <b>Unsatisfactory</b>   |                     |
| 2 | <b>Element :</b><br>MANUALLY ACTUATE SI<br><b>Comments :</b><br><br><b>Critical Task?</b> Y                 | <b>Standards :</b><br>BOTH SI PUSHBUTTONS<br>DEPRESSED                                  | <b>Conditions :</b> |
|   | <b>Satisfactory</b>   | <b>Unsatisfactory</b>   |                     |
| 3 | <b>Element :</b><br>CHECK ALL MSIV'S CLOSED<br><b>Comments :</b><br><br><b>Critical Task?</b> N             | <b>Standards :</b><br>SWITCHES SET TO TRIP;<br>GREEN LIGHTS ON AND<br>RED LIGHTS OFF    | <b>Conditions :</b> |
|   | <b>Satisfactory</b>   | <b>Unsatisfactory</b>   |                     |
| 4 | <b>Element :</b><br>STOP ALL RCPS<br><b>Comments :</b><br><br><b>Critical Task?</b> Y                       | <b>Standards :</b><br>SWITCHES ROTATED TO<br>TRIP;GREEN LIGHTS ON<br>AND RED LIGHTS OFF | <b>Conditions :</b> |
|   | <b>Satisfactory</b>   | <b>Unsatisfactory</b>   |                     |

**Element :**  
5 VERIFY RCS FEED PATH  
**Standards :**  
SEE STEPS 6 & 7 BELOW  
**Conditions :**  
**Comments :**  
**Critical Task?** N  
**Satisfactory** **Unsatisfactory**

**Element :**  
6 CHECK HHSI PUMPS - ANY  
RUNNING  
**Standards :**  
VERIFIED RUNNING;RED  
LIGHTS ON AND GREEN  
LIGHTS OFF  
**Conditions :**  
**Comments :**  
**Critical Task?** N  
**Satisfactory** **Unsatisfactory**

**Element :**  
7 VERIFY SI VALVE  
ALIGNMENT  
**Standards :**  
1. VERIFY SAFEGUARDS  
VALVE OFF NORMAL  
ALARM CLEAR  
2.. ENSURE BIT  
DISCHARGE VALVES  
1835A & B OPEN  
3. ENSURE BIT INLET  
VALVES 1852A & B  
OPEN  
4. ENSURE 856J, 856H,  
856C, 856E OPEN  
**Conditions :**  
**Comments :**  
**Critical Task?** N  
**Satisfactory** **Unsatisfactory**

**Element :**  
8 ESTABLISH RCS BLEED  
PATH  
**Standards :**  
SEE STEPS 9 THROUGH  
11 BELOW  
**Conditions :**  
**Comments :**  
**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
9 CHECK BOTH PRZR PORV  
BLOCK VALVES - POWER  
AVAILABLE  
**Comments :**

**Standards :**  
OBSERVE INDICATING  
LIGHTS PORV BLOCK  
VALVES - ON

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
10 CHECK BOTH BLOCK  
VALVES OPEN  
**Comments :**

**Standards :**  
OBSERVE RED LIGHTS -  
ON

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
11 OPEN BOTH PORVS  
  
**Comments :**

**Standards :**  
ROTATE SWITCHES TO  
OPEN; OBSERVE ONE  
PORV DOES NOT OPEN

**Conditions :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Element :**  
12 VERIFY ADEQUATE RCS  
BLEED PATH  
**Comments :**

**Standards :**  
SEE STEPS 13 & 14  
BELOW

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

13 **Element :**  
ALL PRZR PORVS AND  
BLOCK VALVES - OPEN  
**Comments :**

**Standards :**  
OBSERVE ONE PORV  
DOES NOT OPEN

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

14 **Element :**  
INSTALL HEAD VENT  
VALVE FUSES AND OPEN  
ALL REACTOR HEAD VENT  
VALVES  
**Comments :**

**Standards :**  
INSTALL FUSES;OPEN  
HEAD VENT VALVES

**Conditions :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

15 **Element :**  
GO TO ATTACHMENT 3 TO  
ESTABLISH FEED FROM  
SECONDARY PLANT

**Standards :**  
CHECK ANY  
CONDENSATE PUMPS  
RUNNING, OBSERVE  
NONE RUNNING AND  
NONE AVAILABLE.  
RETURN TO PROCEDURE  
STEP IN EFFECT.

**Conditions :**  
CUE: NO CONDENSATE  
PUMPS AVAILABLE

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

BLEED AND FEED ESTABLISHED WITH REACTOR HEAD VENTS OPEN

JPM NO. 8

**DEPRESSURIZE THE RCS TO REFILL THE PRESSURIZER**

**Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

**Task ID:** 010\*010\*05\*01

**Description:** USE A PZR PORV VALVE TO  
DEPRESSURIZE THE RCS

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

Start Time \_\_\_\_\_ Stop Time: \_\_\_\_\_

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**General Comments (For Evaluator Use):**

**Task Conditions:**

A STEAM GENERATOR TUBE RUPTURE HAS OCCURRED IN 32 SG. E-3 IS COMPLETED THROUGH STEP 15; 32 SG IS ISOLATED AND RCS COOLDOWN IS COMPLETED.

**Task Standards :**

RCS STABLE AT REQUIRED PRESSURE.  
Applicability: RO & SRO  
Estimated Completion Time: 15 minutes

**Tools Needed:**

**Initiating Cues :**

YOU ARE DIRECTED TO DEPRESSURIZE THE RCS IN ACCORDANCE WITH E-3

**References :**

| <b>ID</b> | <b>Description</b>           | <b>Review Date</b> | <b>Ref Flag</b> |
|-----------|------------------------------|--------------------|-----------------|
| EOP E-3   | STEAM GENERATOR TUBE RUPTURE |                    | X               |

**Safety Considerations :**

**Consequences of Inadequate Performance:**

PROLONGED RCS TO S/G INVENTORY LOSS, GREATER POSSIBILITY OF LIFTING A S/G SAFETY WITH RADIOACTIVITY IN THE S/G



5 **Element :**  
DETERMINE AVAILABILITY  
OF NORMAL PZR SPRAY

**Standards :**  
OBSERVE THE  
FOLLOWING;- BOTH PZR  
SPRAY VALVES ARE  
CLOSED;- #34 RCP IS  
RUNNING

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

6 **Element :**  
INITIATE PRZR SPRAY  
WITH MAXIMUM  
ALLOWABLE SPRAY FLOW

**Standards :**  
ATTEMPT TO OPEN  
SPRAY VALVES USING  
MASTER OR INDIVIDUAL  
CONTROLLERS ON  
FLIGHT PANEL;SPRAY  
VALVES FAIL TO OPEN.

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

7 **Element :**  
GO TO STEP 20 OF E-3

**Standards :**  
EXITS STEP 18 AND  
PROCEEDS TO STEP 20 OF  
E-3.

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

8 **Element :** \* DEPRESSURIZE RCS  
 USING PRZR PORV TO  
 MINIMIZE BREAK FLOW AND  
 REFILL PRZR  
**Standards :** PERFORM STEPS 9 & 10  
 BELOW  
**Conditions :**  
**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

9 **Element :** PRESSURIZER PORVS AT  
 LEAST ONE AVAILABLE  
**Standards :** DETERMINES AT LEAST  
 ONE PZR PORV BLOCK  
 VALVE IS OPEN OR  
 OPENS USING  
 RED/GREEN INDICATING  
 LIGHTS;DETERMINES AT  
 LEAST ONE PZR PORV  
 HAS POWER AVAILABLE  
 USING RED/GREEN  
 INDICATING LIGHTS  
**Conditions :**  
**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

10 **Element :** OPEN ONE PZR PORV  
**Standards :** 1. CONTROL SWITCH SET  
 TO OPEN POSITION 2.  
 RED LIGHT ON GREEN  
 LIGHT OFF 3. CHECKS  
 RCS PRESSURE  
 DECREASING  
**Conditions :**  
**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

11 **Element :** CHECK IF CONDITIONS ARE MET TO STOP DEPRESSURIZATION  
**Standards :** SEE STEPS 12 - 15  
**Conditions :**  
**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

12 **Element :** RCS PRESSURE LESS THAN RUPTURED SG PRESSURE  
**Standards :** CHECKS RCS PRESSURE IS LESS THAN RUPTURED SG PRESSURE  
NOTE: IT MAY BE POSSIBLE THE FIRST OR SECOND TIME THROUGH FOR PRESSURE TO BE STILL ABOVE THE SG PRESSURE BUT IT WILL COME BELOW SG PRESSURE  
**Conditions :** THIS IS AN "AND STATEMENT WITH ITEM 13 "OR" ITEM 14 "OR" ITEM 15 "OR" ITEM 16  
**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

13 **Element :** CHECK PRESSURIZER LEVEL >14% OR  
**Standards :** CHECKS PZR LEVEL >14% NOTE: IT MAY BE POSSIBLE THE FIRST OR SECOND TIME THROUGH FOR PRESSUREIZER LEVEL TO BE STILL LOW BUT IT WILL COME ABOVE 14%  
**Conditions :** THIS IS AN "AND STATEMENT WITH ITEM 12  
**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

14 **Element :** CHECK PPESSURIZER LEVEL >73%  
**Standards :** CHECKS PRESSURIZER LEVEL >73% NOTE: PRESSURIZER LEVEL SHOULD REMAIN BELOW 73%  
**Conditions :** THIS IS AN "OR" STATEMENT WITH ITEM 12

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

15 **Element :** CHECK RCS SUBCOOLING <40 DEG F  
**Standards :** CHECKS RCS SUBCOOLING <40 DEG F NOTE: RCS SUBCOOLING SHOULD REMAIN ABOVE 40 DEG F  
**Conditions :** THIS IS AN "OR" STATEMENT WITH ITEM 12

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

16 **Element :** CLOSE PORV  
**Standards :** CHECKS GREEN LIGHT ON AND RED LIGHT OFF CHECKS RCS PRESSURE INCREASING  
**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

RCS PRESSURE < SG PRESSURE AND PRZR LEVEL >14% OR; PRZR LEVEL >73% OR; RCS SUBCOOLING BASED ON CETS <40F

JPM NO. 9

**START A REACTOR COOLANT PUMP AS PER SOP-RCS-1**

**Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

Task ID: 003\*006\*03\*01

Description: START A REACTOR COOLANT PUMP AS PER SOP-RCS-1

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

Start Time \_\_\_\_\_ Stop Time: \_\_\_\_\_

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

THE PLANT IS IS HOT STANDBY AND PREPARATIONS ARE BEING MADE FOR PLANT STARTUP. #31 REACTOR COOLANT PUMP HAS BEEN RE-BALANCED AND THE PUMP IS ALIGNED TO BE STARTED. THE PUMP WAS STOPPED 4 HOURS AGO. #32,#33,#34 RCPs ARE IN SERVICE

**Task Standards :**

K&A #: SYSTEM 003 REACTOR COOLANT PUMP

A4.03 MANUALLY OPERATE IN THE CONTROL ROOM LUBE OIL AND LIFT PUMP MOTOR CONTROLS; RO=2.8 SRO=2.5

A4.06 MANUALLY OPERATE AND/OR MONITOR IN THE CONTROL ROOM RCP PARAMETERS; RO=2.9 SRO=2.9

K&A #: SYSTEM 062 AC ELECTRICAL DISTRIBUTION; A 4.01 ABILITY TO OPERATE BREAKERS FROM THE CONTROL ROOM

IMPORTANCE FACTORS: RO=3.3 SRO=3.1

Applicability: RO & SRO

START 31 RCP IN ACCORDANCE WITH SOP-RCS-1.

Estimated Completion Time: 15 minutes

**Tools Needed:**

SIMULATOR: IC-5, HOT STANDBY, EOL

TRIP THE REACTOR TO INSERT THE SHUTDOWN BANKS

SECURE 31 RCP

ENSURE THE STATOR WINDING TEMPERATURE RECORDER IS IN SERVICE

**Initiating Cues :**

YOU ARE DIRECTED TO START THE 31 RCP PER SOP-RCS-1. PROCEDURE PREREQUISITES ARE COMPLETE, AND UNIT LOG VERIFIED TO ENSURE RCP ROTATION REQUIREMENTS ARE SATISFIED.

**References :**

| ID  | Description                                | Review Date | Ref Flag |
|-----|--|-------------|----------|
| SOP | RCS-1<br>REACTOR COOLANT PUMP<br>OPERATION |             | X        |

**Safety Considerations :**

**Consequences of Inadequate Performance:**

DAMAGE TO RCP

**Performance Checklist :**

- |   |   |   |  |
|---|---|---|--|
| 1 | <b>Element :</b><br>OBTAIN AND REVIEW SOP<br>RCS-01<br><b>Comments :</b>  | <b>Standards :</b><br>OBTAIN AND REVIEW<br>SOP RCS-01         | <b>Conditions :</b>  |
|   | <b>Critical Task?</b> N   |   |  |
|   | Satisfactory  | Unsatisfactory  |  |
| 2 | <b>Element :</b><br>REVIEW THE UNIT LOG<br>FOR RCP ROTATING HISTORY<br><b>Comments :</b>                                      | <b>Standards :</b><br>CANDIDATE ATTEMPTS<br>TO REVIEW THE LOG | <b>Conditions :</b><br>Cue: RCP BUMPING AND<br>BARRING IS NOT REQUIRED |
|   | <b>Critical Task?</b> N   |   |  |
|   | Satisfactory  | Unsatisfactory  |  |
| 3 | <b>Element :</b><br>VERIFY 31 RCP STANDPIPE<br>LEVEL OFF NORMAL LIGHT<br>IS EXTINGUISHED. (PANEL<br>SAF)<br><b>Comments :</b> | <b>Standards :</b><br>OBSERVE LIGHT NOT<br>ILLUMINATED        | <b>Conditions :</b>  |
|   | <b>Critical Task?</b> N   |   |  |
|   | Satisfactory  | Unsatisfactory  |  |
| 4 | <b>Element :</b><br>VERIFY 31 RCP OIL LEVEL<br>OFF NORMAL LIGHT IS<br>EXTINGUISHED. (PANEL<br>SAF)<br><b>Comments :</b>       | <b>Standards :</b><br>OBSERVE LIGHT NOT<br>ILLUMINATED        | <b>Conditions :</b>  |
|   | <b>Critical Task?</b> N   |   |  |
|   | Satisfactory  | Unsatisfactory  |  |



**Satisfactory**

**Unsatisfactory**

**Element :**  
 9 VERIFY METAL IMPACT  
 MONITOR SYSTEM  
 ANNUNCIATOR  
 EXTINGUISHED (PANEL SGF)  
**Comments :**

**Standards :**  
 OBSERVE ANNUNCIATOR  
 NOT LIT

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 10 VERIFY SEAL INJECTION  
 FLOW IS 6-12 GPM ON  
 FI-144A.

**Standards :**  
 OBSERVE SEAL  
 INJECTION FLOW IS  
 BETWEEN 6 AND 12 GPM  
 ON 31 RCP

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 11 VERIFY SEAL INJECTION  
 TEMPERATURE IS 60 TO 150  
 DEG. AS READ ON TI-140,  
 VCT OUTLET  
 TEMPERATURE.

**Standards :**  
 OBSERVE SEAL  
 INJECTION TEMPERATURE  
 IS BETWEEN 60-150 DEG  
 F.

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 12 VERIFY VCT PRESSURE,  
 PI-139, IS 15-60 PSIG

**Standards :**  
 OBSERVE VCT PRESSURE  
 BETWEEN 15-60 PSIG

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

13 **Element :**  
 VERIFY SEAL RETURN FLOW  
 IS IN ACCEPTABLE RANGE  
 PER ATTACHMENT 1, RCP  
 #1 SEAL NORMAL  
 OPERATING RANGE  
**Comments :**

**Standards :**  
 REFER TO ATTACHMENT  
 1 OBSERVE LEAKOFF  
 FLOW RATE IN NORMAL  
 RANGE FOR CURRENT  
 PLANT CONDITIONS

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

14 **Element :**  
 VERIFY RCS  
 PRESSURE-TEMPERATURE  
 LIMITS ARE MET PER  
 GRAPH RCS-1C, REACTOR  
 COOLANT PUMP OPERATING  
 LIMITS CURVE.  
**Comments :**

**Standards :**  
 COMPARE RCS  
 PRESSURE AND  
 TEMPERATURE TO  
 GRAPH RCS-1C FOR  
 ALLOWABLE RCP  
 OPERATION

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

15 **Element :**  
 PERFORM STEPS 4.1.3-4.1.11  
**Comments :**

**Standards :**  
 DETERMINES THESE STEPS  
 ARE NOT APPLICABLE

**Conditions :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

16 **Element :** ENSURE MOTOR START TIMES PER SOP-EL-004A ARE MET  
**Standards :** REVIEWS UNIT LOG  
**Conditions :** Cue: Motor Start Times Are Met per SOP-EL-004A  
**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

17 **Element :** SELECT NOISE MONITOR FOR 31 RCP. (ROS DESK)  
**Standards :** ROTATE SWITCH TO 31 RCP  
**Conditions :** NOISE MONITOR NOT FUNCTIONAL IN SIMULATOR  
 CUE: NOISE WILL REMAIN WELL WITHIN EXPECTED RANGE DURING THIS EVOLUTION  
**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

18 **Element :** SELECT SHAFT AND FRAME VIBRATION RECORDER FOR 31 RCP (RACK C-11)  
**Standards :** ROTATE BOTH SHAFT AND FRAME VIBRATION RECORDER SWITCHES TO 31 RCP  
**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 19 DISPATCH OPERATOR TO VC TO INSPECT RCP LIFT SYSTEM FOR LEAKS PRIOR TO AND AFTER START

**Standards :**  
 OPERATOR IS DISPATCHED TO VC

**Conditions :**  
 Cue: Report Operator Is In VC and There Are No Leaks and You Are Standing By

**Comments :**

**Critical Task?** N  
 Satisfactory Unsatisfactory

**Element :**  
 20 START THE BEARING LIFT PUMP FOR 31 RCP

**Standards :**  
 TURN SWITCH TO START FOR THE 31 RCP BEARING LIFT PUMP

**Conditions :**

**Comments :**

**Critical Task?** Y  
 Satisfactory Unsatisfactory

**Element :**  
 21 VERIFY MINIMUM BEARING LIFT OIL DISCHARGE PRESSURE OF 500 PSIG. (PANEL SAF)

**Standards :**  
 OBSERVE RCP BEARING LIFT PRESSURE WHITE PERMISSIVE LIGHT ILLUMINATED

**Conditions :**

**Comments :**

**Critical Task?** N  
 Satisfactory Unsatisfactory

**Element :**  
 22 WAIT 2 MINUTES OR LONGER PRIOR TO STARTING RCP.

**Standards :**  
 WAIT 2 MINUTES

**Conditions :**  
 CUE: 2 MINUTES HAVE ELAPSED

**Comments :**

**Critical Task?** N  
 Satisfactory Unsatisfactory

**Element :** **Standards :** **Conditions :**

23 REVIEW ONOP-RCS-5 RCP MALFUNCTIONS      REVIEW ONOP-RCS-5 FOR EMERGENCY TRIP CRITERIA.

Comments :

Critical Task?      N

Satisfactory

Unsatisfactory

24 Element :  
ADJUST 6.9KV VOLTAGE PRIOR TO RCP START AND AFTER STARTING CURRENT DECAYS, AS FOLLOWS:  
STATION OPERATOR AT STA AUX TR TAP CHANGER CONTROL SWITCH (FCR)

Standards :  
STATION AN OPERATOR AT TAP CHANGER

Conditions :  
CUE: OPERATOR IS STATIONED AT THE TAP CHANGER (FCR)

Comments :

Critical Task?      N

Satisfactory

Unsatisfactory

25 Element :  
REVIEW BUS VOLTAGE REQUIREMENTS OF SOP EL-11

Standards :  
REVIEW SOP EL-11 AND STATE TARGET VOLTAGE (HIGH END OF RANGE - SAFEGUARDS BUS < 498VAC; SAT < 7200V)

Conditions :

Comments :

Critical Task?      N

Satisfactory

Unsatisfactory

- |    |  |   |   |
|----|--|---|---|
| 26 | <b>Element :</b><br>PLACE STA AUX TR TAP<br>CHANGER CONTROL SWITCH<br>IN MANUAL AND ADJUST<br>BUS VOLTAGE TO HIGH<br>END OF NORMAL RANGE<br><b>Comments :</b><br><br><b>Critical Task?</b> N | <b>Standards :</b><br>COORDINATE VOLTAGE<br>ADJUSTMENT TO<br>STATED TARGET                                      | <b>Conditions :</b><br>CUE: VOLTAGE ADJUSTED<br>IN MANUAL TO THE HIGH<br>END OF NORMAL RANGE  |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |   |
| 27 | <b>Element :</b><br>WHEN STARTING CURRENT<br>HAS DECAYED TO NORMAL,<br>RETURN BUS VOLTAGE TO<br>NORMAL<br><br><b>Comments :</b><br><br><b>Critical Task?</b> N                               | <b>Standards :</b><br>DIRECT RETURN OF<br>BUS VOLTAGE TO 6.9<br>KV WHEN STARTING<br>CURRENT DECAYS TO<br>NORMAL | <b>Conditions :</b><br>(WHEN DIRECTED AND<br>STARTING CURRENT DECAYS<br>TO NORMAL AFTER RCP<br>START) CUE: BUS VOLTAGE<br>ADJUSTED TO NORMAL VALUE<br>OF AT LEAST 6.9 KV. |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |   |
| 28 | <b>Element :</b><br>START 31 RCP<br><br><b>Comments :</b><br><br><b>Critical Task?</b> Y   | <b>Standards :</b><br>SELECT START ON 31<br>RCP SWITCH  | <b>Conditions :</b>   |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |   |
| 29 | <b>Element :</b><br>CHECK STARTING CURRENT<br>DISSIPATES WITHIN 30<br>SECONDS<br><b>Comments :</b><br><br><b>Critical Task?</b> N  | <b>Standards :</b><br>OBSERVE STARTING<br>CURRENT   | <b>Conditions :</b>   |
|    | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |   |

- 30 **Element :**  
MONITOR EMERGENCY  
SHUTDOWN PARAMETERS  
LISTED IN REACTOR  
COOLANT PUMP EMERGENCY  
TRIP CRITERIA  
**Comments :**
- Standards :**  
OBSERVE EMERGENCY  
SHUTDOWN  
PARAMETERS
- Conditions :**
- Critical Task?** N
- Satisfactory** **Unsatisfactory**
- 
- 31 **Element :**  
ENSURE STATION  
AUXILIARY TRANSFORMER  
TAP CHANGER IN AUTO  
**Comments :**
- Standards :**  
DIRECTS TAP CHANGER  
TO BE RETURNED TO  
AUTO
- Conditions :**  
CUE: TAP CHANGER IS  
RETURNED TO AUTO
- Critical Task?** N
- Satisfactory** **Unsatisfactory**
- 
- 32 **Element :**  
ADJUST CHARGING AND  
LETDOWN AS NECESSARY TO  
ENSURE RCS PRESSURE  
DOES NOT EXCEED  
LIMITATIONS OF ITS  
FIGURE 3.4-12.1,  
MAXIMUM ALLOWABLE  
NOMINAL PORV SETPOINT  
FOR LTOP  
**Comments :**
- Standards :**  
RCS PRESSURE DOES  
NOT EXCEED LIMITS OF  
ITS FIGURE 3.4-12.1,  
MAXIMUM ALLOWABLE  
NOMINAL PORV  
SETPOINT FOR LTOP
- Conditions :**  
THIS WILL ONLY BE A  
CONCERN FOR STARTING AN  
RCP FROM COLD  
CONDITIONS
- Critical Task?** N
- Satisfactory** **Unsatisfactory**

33 **Element :** WHEN RCP HAS RUN FOR AT LEAST ONE MINUTE AFTER STARTING CURRENT HAS DISSIPATED, STOP BEARING LIFT PUMP

**Standards :** WAIT ONE MINUTE AFTER STARTING CURRENT HAS DISSIPATED, THEN SELECT STOP FOR 31 RCP BEARING LIFT PUMP

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory** **Unsatisfactory**

34 **Element :** CHECK WHETHER 31 RCP EXCEED ALERT VALUE FOR VIBRATION; 3 MILS FRAME, 15 MILS SHAFT

**Standards :** OBSERVES 31 RCP VIBRATION MONITOR

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory** **Unsatisfactory**

**Terminating Cues :**

RCP HAS BEEN STARTED IN ACCORDANCE WITH SOP-RCS-1.

**JPM NO. 10**

**INITIATE CONTAINMENT SPRAY  
(ALTERNATE PATH)**

**Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

**Task ID:** 026\*A\*004\*001

**Description:** INITIATE CONTAINMENT SPRAY

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

Start Time \_\_\_\_\_ Stop Time: \_\_\_\_\_

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

THE PLANT HAS EXPERIENCED A LARGE LOSS OF COOLANT ACCIDENT, A PLANT TRIP AND SAFETY INJECTION HAS OCCURRED

**Task Standards :**

CONTAINMENT SPRAY HAS BEEN MANUALLY INITIATED VIA RESPONSE NOT OBTAINED ACTIONS IN STEP 9 OF E-0

K&A #: SYS 026 CONTAINMENT SPRAY; A4.01- ABILITY TO MANUALLY OPERATE OR MONITOR FROM THE CONTROL ROOM: CSS CONTROLS RO-4.5, SRO- 4.3

Applicability: RO & SRO

Estimated Completion Time: 10 minutes

**Tools Needed:**

NONE

**Initiating Cues :**

YOU ARE DIRECTED BY THE CRS TO COMPLETE STEP 9 OF E-0, "REACTOR TRIP OR SAFETY INJECTION"

**References :**

| ID  |     | Description                      | Review Date | Ref Flag |
|-----|-----|----------------------------------|-------------|----------|
| EOP | E-0 | REACTOR TRIP OR SAFETY INJECTION |             | X        |

**Safety Considerations :**  
NONE

**Consequences of Inadequate Performance:**

OVERPRESSURIZATION AND FAILURE OF CONTAINMENT, LEADING TO INCREASED DOSE TO THE PUBLIC

**Performance Checklist :**

| 1 | Element :                 | Standards :          | Conditions : |
|---|---------------------------|----------------------|--------------|
|   | OBTAIN AND REVIEW EOP E-0 | OBTAIN A COPY OF E-0 |              |

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 2 CHECK THAT CONTAINMENT PRESSURE HAS REMAINED LESS THAN 22 PSIG

**Standards :**  
 MONITORS CONTAINMENT PRESSURE AND DETERMINES THAT RESPONSE NOT OBTAINED ACTIONS ARE REQUIRED

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 3 ENSURE CONTAINMENT SPRAY HAS STARTED

**Standards :**  
 RECOGNIZES CONTAINMENT SPRAY HAS NOT INITIATED

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Element :**  
 4 MANUALLY INITIATE CONTAINMENT SPRAY

**Standards :**  
 ATTEMPTS TO MANUALLY INITIATE CONTAINMENT SPRAY- RECOGNIZES IT DOES NOT START

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Element :**  
 5 MANUALLY START CONTAINMENT SPRAY PUMPS AND ALIGN VALVES

**Standards :**  
 MANUALLY STARTS 31 AND 32 CONTAINMENT SPRAY PUMPS AND OPENS VALVES 866-A&B, (CS DISCH ISOL) AND 876 A&B (NAOH EDUCTORS)

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

|  |  |  |
|--|--|--|
| <b>Element :</b><br>6 VERIFY CONTAINMENT<br>ISOLATION PHASE B<br>VALVES ARE CLOSED | <b>Standards :</b><br>MANUALLY INITIATES A<br>PHASE B ISOLATION SIGNAL<br>(MAY MANUALLY CLOSE THE<br>SEVEN VALVES) | <b>Conditions :</b><br>Note: The CCW Phase B<br>Valves are- AC-FCV-625,<br>CH-MOV-222, AC-789, AC-769<br>AC-797,AC-784, AC-786 |
|--|--|--|

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

|  |  |                     |
|--|--|---------------------|
| <b>Element :</b><br>7 STOP ALL RCPS<br><b>Comments :</b> | <b>Standards :</b><br>STOPS 31,32,33,34 RCPS | <b>Conditions :</b> |
|--|--|---------------------|

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

CONTAINMENT SPRAY AND PHASE B ARE ACTUATED AND RCPS ARE STOPPED

2-Sep-2003

# ***Job Performance Measure Exam***

Page: 1

JPM NO. 11

**TRANSFER 6.9KV BUSES 1 THRU 4 TO THE UNIT AUX**

## **Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

Task ID: 080\*001\*03\*01

Description: TRANSFER 6.9KV BUSES 1 THRU 4 TO THE UNIT AUX

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

Start Time \_\_\_\_\_ Stop Time: \_\_\_\_\_

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

THE MAIN GENERATOR HAS BEEN SYNCHRONIZED TO THE GRID AND APPROXIMATELY 40 MWS HAVE BEEN PICKED UP.

**Task Standards :**

K&A #: SYSTEM 063 DC ELECTRICAL DISTRIBUTION; A4.01 OPERATE MAJOR BREAKERS  
IMPORTANCE FACTORS: RO=3.3 SRO=3.1

Applicability: RO & SRO

6900V BUS NO.1, 2, 3, 4 NORMAL FEED BREAKERS ARE CLOSED.;6900V BUS NO 1-5, 2-5, 3-6, 4-6TIE BREAKERS ARE OPENED.; MW/VAR LOADING CAUTION OBSERVED.

Estimated Completion Time: 20 minutes

**Tools Needed:**

**Initiating Cues :**

YOU ARE DIRECTED TO TRANSFER 6.9KV BUSES 1, 2, 3 & 4 TO THE UNIT AUXILIARY TRANSFORMER PER SOP-EL-5.

**References :**

| <b>ID</b> |      | <b>Description</b>                 | <b>Review Date</b> | <b>Ref Flag</b> |
|-----------|------|------------------------------------|--------------------|-----------------|
| SOP       | EL-5 | OPERATION OF ON-SITE POWER SOURCES |                    | X               |

**Safety Considerations :**

**Consequences of Inadequate Performance:**  
LOSS OF THE APPLICABLE ELECTRICAL BUS

**Performance Checklist :**

- |   |  |   |                     |
|---|--|---|---------------------|
| 1 | <b>Element :</b><br>OBTAIN & REVIEW<br>PROCEDURE SOP-EL-5<br><b>Comments :</b><br><br><b>Critical Task?</b> N  | <b>Standards :</b><br>CANDIDATE REVIEWS<br>SOP-EL-5, SECTION 4.3  | <b>Conditions :</b> |
|   | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |                     |
| 2 | <b>Element :</b><br>OBSERVE CAUTION BEFORE<br>STEP 4.3.1<br><b>Comments :</b><br><br><b>Critical Task?</b> N   | <b>Standards :</b><br>VERIFIES GENERATOR<br>LOAD < 40 MW AND<br>VARS AT ZERO  | <b>Conditions :</b> |
|   | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |                     |
| 3 | <b>Element :</b><br>ENSURE <100 VOLTS<br>DIFFERENCE BETWEEN<br>STATION AND UNIT<br>AUXILIARY<br>TRANSFORMERS<br><b>Comments :</b><br><br><b>Critical Task?</b> N | <b>Standards :</b><br>AS NECESSARY ADJUST<br>MTG VOLTAGE OR; AS<br>NECESSARY ADJUST<br>UNIT AUXILIARY<br>TRANSFORMER TAP<br>CHANGER IN MANUAL | <b>Conditions :</b> |
|   | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |                     |
| 4 | <b>Element :</b><br>PLACE 6900 BUS NO 1<br>SYNCHROSCOPE IN BUS 1<br>UNIT<br><b>Comments :</b><br><br><b>Critical Task?</b> Y                                     | <b>Standards :</b><br>ROTATE SWITCH TO BUS<br>1 UNIT POSITION   | <b>Conditions :</b> |
|   | <b>Satisfactory</b>  | <b>Unsatisfactory</b>   |                     |

5 **Element :** IF SYNCHROSCOPE IS AT 12:00 POSITION, CLOSE 6900V BUS NO 1 NORMAL FEED BREAKER

**Standards :** OBSERVE SYNCHROSCOPE AT 12:00 POSITION ROTATE BUS 1 NORMAL FEED BREAKER TO CLOSE; RED LIGHT ON; GREEN LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

6 **Element :** OPEN 6900V BUS 1-5 TIE BREAKER

**Standards :** ROTATE 6900 BUS 1-5 TIE BREAKER SWITCH TO TRIP; GREEN LIGHT ON; RED LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

7 **Element :** PLACE BUS NO 1 SYNCHROSCOPE IN OFF

**Standards :** ROTATE SYNCHROSCOPE SWITCH TO OFF

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 8 IF 480V BUS 2A & 3A  
 NORMAL FEED BREAKERS  
 ARE CLOSED THEN ENSURE  
 480V BUS 2A-3A TIE  
 BREAKER IS OPEN

**Standards :**  
 VERIFIES BUS 2A  
 NORMAL FEED CLOSED;  
 VERIFIES BUS 3A  
 NORMAL FEED CLOSED;  
 VERIFIES BUS 2A-3A  
 TIE BREAKER OPENED

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 9 ENSURE <100 VOLTS  
 DIFFERENCE BETWEEN  
 STATION AND UNIT  
 AUXILIARY  
 TRANSFORMERS

**Standards :**  
 AS NECESSARY ADJUST  
 MTG VOLTAGE OR; AS  
 NECESSARY ADJUST  
 UNIT AUXILIARY  
 TRANSFORMER TAP  
 CHANGER IN MANUAL

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :**  
 10 PLACE 6900 BUS NO 2  
 SYNCHROSCOPE IN BUS  
 2-UNIT.

**Standards :**  
 ROTATE SYNCHROSCOPE  
 TO BUS 2- UNIT  
 POSITION

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

11 **Element :** IF SYNCHROSCOPE IS AT 12:00 POSITION, THEN CLOSE 6900V BUS 2 NORMAL FEED BREAKER.

**Standards :** OBSERVE SYNCHROSCOPE AT 12:00 POSITION ROTATE BUS 2 NORMAL FEED BREAKER TO CLOSE, RED LIGHT ON; GREEN LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

12 **Element :** OPEN 6900V BUS 2-5 TIE BREAKER

**Standards :** ROTATE 6900 BUS 2-5 TIE BREAKER SWITCH TO TRIP; GREEN LIGHT ON; RED LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

13 **Element :** PLACE BUS NO 2 SYNCHROSCOPE IN OFF

**Standards :** ROTATE SYNCHROSCOPE SWITCH TO OFF

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

14 **Element :** IF 480V BUS 2A & 3A NORMAL FEED BREAKERS ARE CLOSED THEN ENSURE 480V BUS 2A-3A TIE BREAKER IS OPEN

**Standards :** VERIFIES BUS 2A NORMAL FEED CLOSED; VERIFIES BUS 3A NORMAL FEED CLOSED; VERIFIES BUS 2A-3A TIE BREAKER OPEN

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

15 **Element :** ENSURE <100 VOLTS DIFFERENCE BETWEEN STATION AND UNIT AUXILIARY TRANSFORMERS

**Standards :** AS NECESSARY ADJUST MTG VOLTAGE OR; AS NECESSARY ADJUST UNIT AUXILIARY TRANSFORMER TAP CHANGER IN MANUAL

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

16 **Element :** PLACE 6900 BUS NO 3 SYNCHROSCOPE IN BUS 3 UNIT

**Standards :** ROTATE SYNCHROSCOPE SWITCH TO BUS 3 UNIT POSITION

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

17 **Element :** IF SYNCHROSCOPE IS AT 12:00 POSITION, THEN CLOSE 6900V BUS 3 NORMAL FEED BREAKER

**Standards :** OBSERVE SYNCHROSCOPE AT 12:00 POSITION; ROTATE BUS 3 NORMAL FEED TO CLOSE; RED LIGHT ON, GREEN LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

18 **Element :**  
OPEN 6900V BUS 3-6 TIE  
BREAKER

**Standards :**  
ROTATE 6900 BUS 3-6  
TIE BREAKER SWITCH TO  
TRIP; GREEN LIGHT ON,  
RED LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

19 **Element :**  
PLACE BUS NO 3  
SYNCHROSCOPE IN OFF

**Standards :**  
ROTATE SYNCHROSCOPE  
TO OFF

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

20 **Element :**  
ENSURE <100 VOLTS  
DIFFERENCE BETWEEN  
STATION AND UNIT  
AUXILIARY  
TRANSFORMERS

**Standards :**  
AS NECESSARY ADJUST  
MTG VOLTAGE OR; AS  
NECESSARY ADJUST  
UNIT AUXILIARY  
TRANSFORMER TAP  
CHANGER IN MANUAL

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

21 **Element :**  
PLACE 6900 BUS NO 4  
SYNCHROSCOPE IN BUS 4  
UNIT

**Standards :**  
ROTATE SYNCHROSCOPE  
SWITCH TO BUS 4 UNIT  
POSITION

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

22 **Element :** IF SYNCHROSCOPE IS AT 12:00 POSITION, THEN CLOSE 6900 BUS 4 NORMAL FEED BREAKER

**Standards :** OBSERVE SYNCHROSCOPE AT 12:00 POSITION; ROTATE BUS 4 NORMAL FEED TO CLOSE; RED LIGHT ON, GREEN LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

23 **Element :** OPEN 6900 BUS 4-6 TIE BREAKER

**Standards :** ROTATE 6900 BUS 4-6 TIE BREAK SWITCH TO TRIP; GREEN LIGHT ON, RED LIGHT OFF

**Conditions :**

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

24 **Element :** PLACE BUS NO 4 SYNCHROSCOPE IN OFF

**Standards :** ROTATE SYNCHROSCOPE SWITCH TO OFF

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

25 **Element :** WHEN TRANSFER IS COMPLETE, ENSURE UNIT AND STATION AUXILIARY TRANSFORMER TAP CHANGERS IN AUTO

**Standards :** OBSERVE TAP CHANGERS IN AUTO

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

2-Sep-2003

***Job Performance Measure Exam***

Page: 1

**Terminating Cues :**

BUSES 1, 2, 3 & 4 TRANSFERRED TO UNIT AUXILIARY TRANSFORMER.

2-Sep-2003

**Job Performance Measure Exam**

Page: 1

JPM NO. 12

**REMOVE AN INTERMEDIATE RANGE CHANNEL FROM  
SERVICE**

**Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003  
**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

**Task ID:** 015\*005\*01\*01

**Description:** REMOVE AN INTERMEDIATE RANGE CHANNEL FROM SERVICE

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

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

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

THE REACTOR IS SHUTDOWN. INTERMEDIATE RANGE CHANNEL N-35 (N-36) NEEDS TO BE TAKEN OUT OF SERVICE FOR MAINTENANCE

**Task Standards :**

K&A #: System 015 Nuclear Instrumentation System: A4.02 Ability to operate and / or monitor in the Control Room; NIS indicators RO 3.9 SRO 3.9

Applicability: RO & SRO

THE INTERMEDIATE RANGE CHANNEL WAS REMOVED FROM SERVICE WITHOUT A REACTOR TRIP OR UNNECESSARY ALARMS. INSTRUMENT AND CONTROL POWER FUSES REMOVED

Estimated Completion Time: 25 minutes

2-Sep-2003

# ***Job Performance Measure Exam***

Page: 1

**Tools Needed:**

None

**Initiating Cues :**

YOU ARE DIRECTED TO REMOVE INTERMEDIATE RANGE CHANNEL N-35 (N-36) FROM SERVICE IN ACCORDANCE WITH SOP-NI-1, ATTACHMENT 5

**References :**

| <b>ID</b> | <b>Description</b>                              | <b>Review Date</b> | <b>Ref Flag</b> |
|-----------|---|--------------------|-----------------|
| SOP NI-1  | EXCORE NUCLEAR INSTRUMENTATION SYSTEM OPERATION |                    | X               |

**Safety Considerations :**

None

**Consequences of Inadequate Performance:**

CAN GENERATE A REACTOR TRIP SIGNAL

**Performance Checklist :**

|                            |                      |                     |
|----------------------------|----------------------|---------------------|
| <b>Element :</b>           | <b>Standards :</b>   | <b>Conditions :</b> |
| 1 OBTAIN & REVIEW SOP-NI-1 | SOP-NI-1 IS REVIEWED |                     |

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

|  |                        |  |
|--|------------------------|--|
| <b>Element :</b>   | <b>Standards :</b>     | <b>Conditions :</b>  |
| 2 PLACE THE LEVEL TRIP SWITCH FOR THE AFFECTED CHANNEL IN BYPASS | LEVEL TRIP IS BYPASSED | Lamps On The NIS Drawers Will Not Illuminate Unless Control Power Is Available |

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

|  |   |   |
|--|---|---|
| <b>Element :</b>   | <b>Standards :</b>  | <b>Conditions :</b>                               |
| 3 CHECK THE FOLLOWING:<br>LEVEL TRIP BYP LAMP-ON<br>IR TRIP BYP LAMP- ON<br>NIS TRIP BYP ALARM- ANNC | LEVEL TRIP BYP LAMP- ON<br>IR TRIP BYP LAMP- ON<br>NIS TRIP BYP ALARM- ANNC | FOR IR TRIP BYP LAMP CIRCLES 1 OR 2 AS APPLICABLE |

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

|   |                                   |                     |
|---|-----------------------------------|---------------------|
| <b>Element :</b>  | <b>Standards :</b>                | <b>Conditions :</b> |
| IF REACTOR TRIP BKRS CLOSED, BLOCK IR HIGH FLUX TRIP AND ROD STOP | DETERMINES STEP IS NOT APPLICABLE |                     |

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

5 **Element :** DE-ENERGIZE THE AFFECTED CHANNEL BY REMOVING THE INSTRUMENT AND CONTROL POWER FUSES  
**Standards :** REMOVES INSTRUMENT AND CONTROL POWER FUSES  
**Conditions :**  
**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

6 **Element :** CHECK THE FOLLOWING: "NIS IR ALARM" ON PANEL FDF "IR HIGH FLUX ROD STOP" ALARM ON PANEL SBF-1  
**Standards :** CHECKS "NIS IR ALARM" "IR HIGH FLUX ROD STOP ALARM"  
**Conditions :**  
**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Element :** CHECK THE FOLLOWING "IR LOSS OF COMPENSATING VOLTAGE", CIRCLES 1 OR 2 "IR LOSS OF DETECTOR VOLTAGE"  
**Standards :** CHECKS THE FOLLOWING ON SBF-1: "IR LOSS OF COMPENSATING VOLTAGE" "IR LOSS OF DETECTOR VOLTAGE"  
**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

INTERMEDIATE RANGE N-35 (36) WAS REMOVED FROM SERVICE IN ACCORDANCE WITH SOP-NI-1 ATTACHMENT 5

JPM NO. 13

**LOCAL OPERATION OF ATMOSPHERIC STEAM DUMP  
VALVES (ALTERNATE PATH)**

**Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

**Task ID:** 039\*004\*04\*04

**Description:** LOCAL OPERATION OF ATMOSPHERIC STEAM DUMP VALVES (ALTERNATE PATH)

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

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

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

A FIRE OCCURRED IN THE CONTROL BUILDING RESULTING IN A CONTROL ROOM EVACUATION.

COMMUNICATION IS ESTABLISHED WITH THE RO VIA RADIO.

31 (32, 33, 34) SG PRESSURE IS 1040 PSIG.

**Task Standards :**

ESTABLISH LOCAL CONTROL OF 31 (32, 33, 34) ATMOSPHERIC STEAM DUMP VALVES AND DECREASE 31 (32, 33, 34) SG PRESSURE TO 1005 PSIG IN ACCORDANCE WITH SOP-ESP-1. K&A #: APE 068 CONTROL ROOM EVACUATION; AA1.01 S/G ATMOSPHERIC RELIEF VALVE OPERATION

IMPORTANCE FACTOR: RO=4.3 SRO=4.5

Applicability: NPO, RO & SRO

Estimated Completion Time: 15 minutes

**Tools Needed:**

ADJUSTABLE WRENCH

FLASHLIGHT

**Initiating Cues :**

YOU ARE DIRECTED BY THE CRS TO ESTABLISH LOCAL CONTROL OF 31 (32, 33, 34) SG ATMOSPHERIC AND DECREASE PRESSURE TO 1005 PSIG IN ACCORDANCE WITH SOP-ESP-1. NO SG ATMOSPHERICS HAVE FAILED OPEN.

**References :**

| <b>ID</b> | <b>Description</b>                                     | <b>Review Date</b> | <b>Ref Flag</b> |
|-----------|--|--------------------|-----------------|
| SOP       | ESP-1<br>LOCAL OPERATION OF SAFE<br>SHUTDOWN EQUIPMENT |                    |                 |

**Safety Considerations :**

OBSERVE SAFETY PRECAUTIONS AND USE SAFETY PROTECTIVE CLOTHING AND EQUIPMENT

**Consequences of Inadequate Performance:**

DELTA P SI

HIGH RCS TEMPERATURE

UNCONTROLLED COOLDOWN

**Performance Checklist :**

- |   |  |   |   |
|---|--|---|---|
| 1 | <b>Element :</b><br>OBTAIN AND REVIEW<br>PROCEDURE SOP-ESP-01<br><b>Comments :</b><br><br><b>Critical Task?</b> N  | <b>Standards :</b><br>OBTAIN AND REVIEW<br>PROCEDURE SOP-ESP-001                                    | <b>Conditions :</b>   |
|   | Satisfactory   | Unsatisfactory  |   |
| 2 | <b>Element :</b><br>CLOSE VALVE NO.1, AIR<br>BOOSTER RELAY VALVE<br><b>Comments :</b><br><br><b>Critical Task?</b> Y   | <b>Standards :</b><br>TURN VALVE #1 90 DEG.<br>CLOCKWISE  | <b>Conditions :</b><br>Cue: Valve No. 1 Handle Is<br>Perpendicular To Pipe      |
|   | Satisfactory   | Unsatisfactory  |   |
| 3 | <b>Element :</b><br>VERIFY VALVE NO.2, VENT,<br>IS CLOSED<br><b>Comments :</b><br><br><b>Critical Task?</b> N  | <b>Standards :</b><br>VERIFIES VALVE #2 IS<br>CLOSED  | <b>Conditions :</b><br>Cue: Valve is Perpendicular To Pipe                      |
|   | Satisfactory   | Unsatisfactory  |   |
| 4 | <b>Element :</b><br>VERIFY VALVE NO.3, N2<br>SUPPLY HEADER PRESSURE<br>GAUGE ISOLATION VALVE,<br>IS OPEN<br><b>Comments :</b><br><br><b>Critical Task?</b> N | <b>Standards :</b><br>ROTATE HANDWHEEL<br>CLOCKWISE, VERIFY<br>MOVEMENT THEN RETURN<br>TO FULL OPEN | <b>Conditions :</b><br>Cue: Valve Handle Moves Freely In<br>Clockwise Direction |
|   | Satisfactory   | Unsatisfactory  |   |



- |    |  |   |  |
|----|--|---|--|
| 9  | <b>Element :</b><br>VERIFY ADEQUATE N2<br>PRESSURE   | <b>Standards :</b><br>CHECK N2 PRESSURE<br>AND ENSURE IT IS AT<br>LEAST 45 PSIG | <b>Conditions :</b><br>Cue: N2 Pressure is 30 psig   |
|    | <b>Comments :</b>  |   |  |
|    | <b>Critical Task?      Y</b>   |   |  |
|    | <b>Satisfactory</b>  |   | <b>Unsatisfactory</b>  |
|    |  |   |  |
| 10 | <b>Element :</b><br>CLOSE VALVE NO.4, N2<br>SUPPLY HEADER TO SG<br>MANUAL REGULATOR FOR<br>ATMOSPHERIC | <b>Standards :</b><br>TURN VALVE CLOCKWISE<br>UNTIL CLOSED                      | <b>Conditions :</b><br>Cue: N2 Supply Valve #4 Stops<br>Turning in the Clockwise Direction |
|    | <b>Comments :</b>  |   |  |
|    | <b>Critical Task?      Y</b>   |   |  |
|    | <b>Satisfactory</b>  |   | <b>Unsatisfactory</b>  |
|    |  |   |  |
| 11 | <b>Element :</b><br>CONNECT BACK-UP N2<br>BOTTLE TO QUICK<br>DISCONNECT AT VALVE<br>NO.4               | <b>Standards :</b><br>SHOWS HOW TO CONNECT<br>BACKUP N2 BOTTLE                  | <b>Conditions :</b><br>Cue: Quick Disconnect is Connected                                  |
|    | <b>Comments :</b>  |   |  |
|    | <b>Critical Task?      Y</b>   |   |  |
|    | <b>Satisfactory</b>  |   | <b>Unsatisfactory</b>  |

**Element :**

ALIGN BACK-UP N2 BOTTLE FOR USE;  
-OPEN N2 BOTTLE ISOLATION  
-ADJUST N2 BOTTLE REGULATOR TO 50 PSIG  
-OPEN MANUAL VALVE DOWNSTREAM OF REGULATOR

**Standards :**

B/U N2 BOTTLE VALVE IS OPENED & ADJUSTED TO 50 PSIG, MANUAL VALVE DOWNSTREAM OF REGULATOR IS OPENED

**Conditions :**

Cue: Back-Up N2 Bottle Isolation Valve Stops Rotating Counter-Clockwise  
Cue: Regulator Indicator Reads 50 psig  
Cue: Manual Valve Downstream of Regulator Rotated Counter-Clockwise Until Valve Stops Turning

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

13

**Element :**

MAINTAIN ALL FOUR SG AT APPROXIMATELY THE SAME PRESSURE (A PRESSURE DIFFERENCE OF 125 PSID BETWEEN SGS WILL ACTUATE SAFETY INJECTION)

**Standards :**

VERIFIES PRESSURE IN ALL 4 S/Gs WITHIN 125 PSIG OF EACH OTHER

**Conditions :**

Cue: All S/G Pressures Are 1040 ps

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

14 **Element :**  
 IF DESIRED TO OPEN OR THROTTLE OPEN SG ATMOSPHERIC, THEN SLOWLY INCREASE DIAPHRAGM PRESSURE USING VALVE NO.7, MANUAL REGULATOR USED FOR CONTROLLING ATMOSPHERIC, UNTIL DESIRED VALVE POSITION IS OBTAINED

**Standards :**  
 VALVE #7 IS ROTATED CLOCKWISE UNTIL STEAM NOISE IS HEARD

**Conditions :**  
 Cue: Audible Steam Flow Noises Can Be Heard From The Elevation Above and 31 (32, 33, 34) S/G is 1005 Psig and Decreasing

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Element :**  
 IF DESIRED TO CLOSE OR THROTTLE SG ATMOSPHERIC, THEN: ADJUST VALVE NO. 7, MANUAL REGULATOR USED FOR CONTROLLING ATMOSPHERIC.  
 - IF NECESSARY, OPEN VALVE NO.2, VENT, UNTIL DESIRED POSITION IS OBTAINED.

**Standards :**  
 VALVE #7 IS ADJUSTED IN THE COUNTER CLOCKWISE DIRECTION TO ACHIEVE DESIRED VALVE POSITION

**Conditions :**  
 Cue: 31(32, 33, 34) S/G Pressure Decrease Slows and Stabilizes at 1005 Psig

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

BACKUP N2 IS IN USE AND 31 (32, 33, 34) SG IS BEING MAINTAINED AT 1005 PSIG IN ACCORDANCE WITH SOP-ESP-1.

2-Sep-2003

# ***Job Performance Measure Exam***

Page: 1

JPM NO. 14

**ALIGN CITY WATER TO 31 RHR PUMP**

**Job Performance Measure Exam**

**Submitted By** Don Jackson

9/20/2003

**Date**

**Reviewed By**

**Date**

**SME Review/Validation By**

**Date**

**Approved By**

**Date**

**JPM Tasks**

**Task ID:** 005\*001\*04\*04

**Description:** ALIGN CITY WATER TO 31 RHR PUMP

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance:      Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

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

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

THE UNIT IS IN COLD SHUTDOWN ON RHR

31 RHR PUMP IS IN SERVICE

THE CCW SUPPLY TO THE RHR PUMPS HAS FAILED AND THE CR HAS ENTERED ONOP-CC-01

**Task Standards :**

CITY WATER HAS BEEN ALIGNED TO 31 RHR PUMP IN ACCORDANCE WITH SOP-ESP-01  
K&A #: APE 026 LOSS OF COMPONENT COOLING WATER (CCW); AA1.03 BACKUP TO CCW  
IMPORTANCE FACTORS: RO=3.6 SRO=3.6  
Applicability: NPO, RO & SRO  
Estimated Completion Time: 15 minutes

**Tools Needed:**

ADJUSTABLE WRENCH  
FLASHLIGHT

**Initiating Cues :**

YOU ARE DIRECTED BY THE CR TO ALIGN CITY WATER TO #31 RHR PUMP IN ACCORDANCE WITH SOP-ESP-01

**References :**

| <b>ID</b> |       | <b>Description</b>                         | <b>Review Date</b> | <b>Ref Flag</b> |
|-----------|-------|--|--------------------|-----------------|
| SOP       | ESP-1 | LOCAL OPERATION OF SAFE SHUTDOWN EQUIPMENT |                    | X               |

**Safety Considerations :**

OBSERVE RWP:RADIOLOGICAL HAZARDS CAN EXIST AT 31 RHR PUMP AND ITS ASSOCIATED SYSTEMS

**Consequences of Inadequate Performance:**

31 RHR PUMP DAMAGE OR POSSIBLE FAILURE  
OVERHEATING OF PUMP AFTER 24 HOUR PERIOD

**Performance Checklist :**

- |          |  |   |  |
|----------|--|---|--|
| <b>1</b> | <b>Element :</b><br>OBTAIN AND REVIEW<br>SOP-ESP-1   | <b>Standards :</b><br>OBTAIN AND REVIEW<br>PROCEDURE<br>SOP-ESP-001 | <b>Conditions :</b><br>Only 31# RHR Pump is Capable of<br>Being Supplied With City Water |
|          | <b>Comments :</b>  |   |  |
|          | <b>Critical Task?</b> N  |   |  |
|          | Satisfactory   | Unsatisfactory  |  |
|          |  |   |  |
| <b>2</b> | <b>Element :</b><br>CLOSE AC-736A, CC SUPPLY<br>TO 31 RHR PUMP THERMAL<br>BARRIER INLET ISOLATION                      | <b>Standards :</b><br>ROTATE VALVE CLOCKWISE<br>UNTIL CLOSED        | <b>Conditions :</b><br>Cue: Valve AC-736A Stopped<br>Rotating Clockwise                  |
|          | <b>Comments :</b>  |   |  |
|          | <b>Critical Task?</b> Y  |   |  |
|          | Satisfactory   | Unsatisfactory  |  |
|          |  |   |  |
| <b>3</b> | <b>Element :</b><br>CLOSE AC-737A CC RETURN<br>FROM 31 RHR PUMP<br>THERMAL BARRIER AND<br>SEAL HX OUTLET<br>ISOLATION. | <b>Standards :</b><br>ROTATE VALVE CLOCKWISE<br>UNTIL CLOSED        | <b>Conditions :</b><br>Cue: Valve AC-737A Stopped<br>Rotating Clockwise                  |
|          | <b>Comments :</b>  |   |  |
|          | <b>Critical Task?</b> Y  |   |  |
|          | Satisfactory   | Unsatisfactory  |  |
|          |  |   |  |
| <b>4</b> | <b>Element :</b><br>CLOSE AC-1871D, CC<br>SUPPLY TO 31 RHR PUMP<br>SEAL HX INLET ISOLATION                             | <b>Standards :</b><br>ROTATE VALVE CLOCKWISE<br>UNTIL IT IS CLOSED  | <b>Conditions :</b><br>Cue: Valve AC-1871D Stopped<br>Rotating Clockwise                 |
|          | <b>Comments :</b>  |   |  |
|          | <b>Critical Task?</b> Y  |   |  |
|          | Satisfactory   | Unsatisfactory  |  |

5 **Element :**  
 INSTALL THE EMERGENCY CITY WATER SUPPLY JUMPER (E.G. HOSE) BETWEEN MW-18-16 HOSE CONNECTION ISOLATION (LOCATED ACROSS FROM FILTER ROOM ON COLUMN) AND ONE INCH TEE LOCATED IMMEDIATELY DOWNSTREAM OF AC-736A, CC SUPPLY TO 31 RHR PUMP THERMAL BARRIER INLET ISOLATION

**Standards :**  
 INSTALLS THE JUMPER BETWEEN CITY WATER CONNECTION AND RHR TIE

**Conditions :**  
 Cue: The Jumper Is Connected Per The Step Instructions

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

6 **Element :**  
 INSTALL THE DRAIN HOSE ON THE 3/4 TEE LOCATED IMMEDIATELY DOWN STREAM OF AC-1871D, CC SUPPLY TO 31 RHR PUMP SEAL HX INLET ISOLATION (31 RHR PUMP ROOM)

**Standards :**  
 DRAIN HOSE IS INSTALLED AT THE RHR DRAIN TEE CONNECTION

**Conditions :**  
 Cue: Drain Hose Is Installed

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

7 **Element :**  
 ROUTE DRAIN HOSE TO A SUITABLE DRAIN (EG 31 RHR PUMP FLOOR DRAIN).

**Standards :**  
 DRAIN HOSE IS ROUTED TO AN APPROPRIATE FLOOR DRAIN

**Conditions :**  
 Cue: Hose Installed In Last Step Is Positioned Where You Have Said It Should Go

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

- 8 **Element :** OPEN AC-1871C, CC RETURN FROM 31 RHR PUMP SEAL HX OUTLET ISOLATION (31 RHR PUMP ROOM).  
**Standards :** LOCKING SCREWS BACKED OUT, AND VALVE IS ROTATED COUNTER CLOCKWISE UNTIL OPEN  
**Conditions :** Cue: The Valve Has Stopped Turning; Counter Clockwise

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

- 9 **Element :** OPEN MW-18-16 HOSE CONNECTION ISOLATION. (ACROSS FROM FILTER ROOM ON COLUMN).  
**Standards :** ROTATE VALVE COUNTER CLOCKWISE UNTIL FULL OPEN  
**Conditions :** Cue: Valve has Stopped Moving Counter Clockwise

**Comments :**

**Critical Task?** Y

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

CITY WATER IS ALIGNED TO 31 RHR PUMP AND IS DRAINING TO THE FLOOR

JPM NO. 15

**Terminate A Waste Gas Decay Tank Release**

**Job Performance Measure Exam**

Submitted By : Don Jackson\_

9/20/2003

Date

Reviewed By

Date

SME Review/Validation By

Date

Approved By

Date

**JPM Tasks**

**Task ID:** 071\*A4.27

**Description:** TERMINATE A WASTE GAS DECAY TANK RELEASE

Trainee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

Trainee Performance: Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_

Start Time \_\_\_\_\_ Stop Time: \_\_\_\_\_

When I tell you to begin, you are to perform the task listed above. I will describe general conditions standard(s), initiating cue(s), and answer any questions you have. I will provide access to any tools necessary to perform the task. You may use any approved reference material normally available. To satisfactory complete this task, you must perform or simulate each critical element correctly. You are to inform the examiner when you have completed the task.

**General Comments (For Evaluator Use):**

**Task Conditions:**

AN APPROVED RELEASE OF 31 SMALL GAS DECAY TANK (SGDT) HAS BEEN IN PROGRESS FOR 2 HOURS, THE CONTROL ROOM SUPERVISOR HAS DIRECTED THAT THE RELEASE OF 31 SGDT BE TERMINATED IN ACCORDANCE WITH STEP 4.2.25 OF SOP-WDS-013.

**Task Standards :**

TERMINATE A WASTE GAS DECAY TANK RELEASE  
K&A #: SYSTEM 071 WASTE GAS DISPOSAL SYSTEM ; A 4.27 OPENING AND CLOSING OF THE DECAY TANK DISCHARGE CONTROL VALVE  
IMPORTANCE FACTORS: SRO=2.7

**Tools Needed:**

**Initiating Cues :**

YOU HAVE BEEN DIRECTED TO TERMINATE THE APPROVED RELEASE OF THE 31 SGDT IN ACCORDANCE WITH STEP 4.2.25 OF SOP-WDS-013

**Safety Considerations :**

WEAR REQUIRED PERSONNEL PROTECTIVE EQUIPMENT

**Consequences of Inadequate Performance:**

IMPROPER VALVE ALIGNMENT, POTENTIAL UNCONTROLLED SGDT RELEASE



5 **Element :**  
RECORD RELEASE STOP  
DATE AND TIME , AND  
FINAL PRESSURE IN ATT. 1

**Standards :**  
RECORDS TERMINATION  
TIME AND DATE , AND FINAL  
PRESSURE IN ATT. 1

**Conditions :**

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

6 **Element :**  
PLACE PERMISSIVE SWITCH  
FOR RCV- 014 IN BLOCK  
AND REMOVE THE KEY

**Standards :**  
PLACES RCV-014 IN BLOCK  
AND REMOVES THE KEY

**Conditions :**  
Cue: RCV-014 Is In Block  
and The Key Is Removed

**Comments :**

**Critical Task?** N

**Satisfactory**

**Unsatisfactory**

**Terminating Cues :**

THE DECAY TANK RELEASE IS TERMINATED, THIS JPM IS COMPLETE