

2012 SRO Retake JPM N-SA-1**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Calculate Shutdown Margin for Operating
Reactor with One Dropped Rod**SYSTEM: Control Rod Drive SystemTASK: 001-010-01-01, Calculate Shutdown Margin for
Operating Reactor with One Dropped Rod

PURPOSE:

Calculate SDM for an operating reactor with a dropped rod.

LICENSED OPERATOR NAME: _____

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES**REVISED/CHANGED BY: Pat LandersDATE: 05/06/13REVIEWED BY: Don DeanDATE: 05/08/13

SRO Reviewer

APPROVED BY: Kyle GarnishDATE: 05/13/13

Supervisor-Operations Training

| | | | |
|---------------------------|---|---------------------|---|
| Facility: | Ginna | Task No.: | 001-010-01-01 |
| Task Title: | <u>Calculate Shutdown Margin for Operating Reactor with One Dropped Rod</u> | JPM No.: | <u>2012 SRO Retake N-SA-1</u> |
| K/A Reference: | 001 A4.11 3.5/4.1 | Alternate Path | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | Ability to manually operate and/or monitor in the control room: Determination of SDM | Time Critical | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| | | Category: | RO/SRO |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | _____ | Actual Performance: | <u>X</u> |
| Classroom | <input checked="" type="checkbox"/> | Simulator | _____ |
| | | Plant | _____ |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- Twenty (20) minutes ago, the plant was at 90% when rod K-7 dropped fully into the core.
 - Power was reduced to 75% per ER-RCC.1, RETRIEVAL OF A DROPPED RCC
 - Last RCS loop B boron sample, taken 30 minutes ago, was 950 ppm
 - Current burnup is 10,000 MWD/MTU
 - Tavg is 568°F
 - Bank C is at 225 steps
 - Bank D is at 195 steps
 - Rod K-7 remains on the bottom. All other control rods are operable

- Task Standard:
- Properly performs all calculations. Reads power defect to +/- 50 pcm. Calculated SDM required to be +/- 50 pcm of answer key calculated SDM. Determines that the calculated SDM is adequate.
 - Per ITS 3.1.4, the SDM verification must be completed within 1 hr of the rod misalignment. Given the Initial Condition time of "20 minutes ago," the candidate has 40 minutes to complete the SDM calculation. The JPM was validated at 20 minutes.

Required Materials: Calculator and clear ruler

General References: O-3.2, SHUTDOWN MARGIN FOR AN OPERATING REACTOR, Rev 03600

Handouts: O-3.2, SHUTDOWN MARGIN FOR AN OPERATING REACTOR, Rev 03600

- Initiating Cue:
- The Shift Manager has directed you to perform a SDM calculation for present plant conditions per O-3.2, SHUTDOWN MARGIN FOR AN OPERATING REACTOR
 - Assume all Independent Verification checks are completed when required
 - This is a time-critical JPM

Validation Time: 20 min (05/07/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

- Violation of Federal Regulations
- Core design limit challenge
- Tech Spec Violation
- Inability to determine reactor core shutdown

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.
- Make available a copy of O-3.2, SDM for an Operating Reactor, to the Operator at the appropriate cue.
- **Write current date and time on board and refer student to it for JPM use.**
- Calculate SDM for use as answer key standard.
- Ensure calculator available for use by the Operator.
- **This JPM is intended to be administered in the classroom to multiple examinees**

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. Verbalize when you consider your performance of the JPM complete.
6. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

N/A

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a ✓)

Start Time: _____

Performance Step: 1

Read PRECAUTIONS section of procedure.

Procedure Step:**Step 4.1****Standard:**

Reads PRECAUTION

Evaluator CUE:

None

Evaluator NOTE:**Provide examinee with a clean copy of O-3.2****Comment:****Performance Step: 2**

COMPLETE signature block for all personnel performing this procedure.

Procedure Step:**Step 5.1****Standard:**

Prints, signs, and initials the signature block

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 3 PERFORM page check of this procedure.

Procedure Step: **Step 5.2**

Standard: Performs page check (18 pages)

Evaluator CUE: None

Comment:

Performance Step: 4 Verify reactor in Mode 1 or Mode 2 with Keff greater than or equal to 1.0.

Procedure Step: **Step 5.3**

Standard: Verifies reactor in Mode 1 at 75% power, based upon initial conditions

Evaluator CUE: None

Comment:

Performance Step: 5 NOTE prior to step 6.1.

Procedure Step: **NOTE prior to step 6.1**

Standard: Reads the NOTE.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 6 CHECK Tavg is at program Tavg \pm 1.5 °F.

Procedure Step: Step 6.1

Standard:

- Calculates Tavg value for 75% power: $574^{\circ}\text{F} - 547^{\circ}\text{F} = 27^{\circ}\text{F } \Delta T$ ($\times .75 = 20.25^{\circ}\text{F} + 547^{\circ}\text{F} = 567.3^{\circ}\text{F}$)
- Verifies that the given initial condition value of Tavg (568°F) is within 0.75°F of program band.

Evaluator CUE: None

Comment:

Performance Step: 7 Record cycle burnup

Procedure Step: Step 6.3

Standard: Records burnup given from initial conditions of MWD/MTU value.

Evaluator CUE: None

Evaluator NOTE: Correct value is 10,000 MWD/MTU

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 8 Obtain last loop B boron sample results from on-duty RP AND
record date, time, and concentration of sample.

Procedure Step: Step 6.4

Standard: Records boron concentration from initial conditions given.

Evaluator CUE: None

Evaluator NOTE: Correct value is 950 ppm

Comment:

Performance Step: 9 Record reactor power level.

Procedure Step: Step 6.5

Standard: Records power level from initial conditions given

Evaluator CUE: None

Evaluator NOTE: Correct value is 75% power

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 10 Record Bank C and D positions.


Procedure Step: Step 6.6

Standard: Records Bank C/D positions from initial conditions given.

Evaluator CUE: None

Evaluator NOTE: Correct values: C = 225 steps, D = 195 steps

Comment:

 **Performance Step: 11** Determine total Power Defect using the appropriate Total Power Defect attachment. Use Att.2, Figure 5-20 (BOL); Att.3, Figure 5-21 (MOL); OR Att.4, Figure 5-22 (EOL), using the boron concentration recorded in Step 6.4 and the power level recorded in step 6.5.

Procedure Step: Step 6.7

Standard:

- ☒ Determines Total Power Defect using Figure 5-21 (MOL); boron concentration (950 ppm), and power level (75%)
- Records Total Power Defect

Evaluator CUE: None

Evaluator NOTE: Answer = (+1735) pcm \pm 50 pcm = 1685 – 1785 pcm

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 12 Read NOTE prior to Step 6.8.

Procedure Step: NOTE

Standard: Reads the NOTE.

Evaluator CUE: None

Comment:

Performance Step: 13 Determine Control Rod negative reactivity available for insertion upon reactor trip from ARO position assuming the most reactive rod remains stuck at full out position using Attachment 1 and the current burnup from Step 6.3.

Procedure Step: Step 6.8.1

Standard:

- Uses Attachment 1 and burnup to determine rod worth minus stuck rod value
- Records Rod worth – Stuck Rod worth

Evaluator CUE: None

Evaluator NOTE: With burnup of 10000, Rod worth – stuck rod = -4596 pcm

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 14 Determine integral rod worth from the rod position recorded in step 6.6 to the full out position using the appropriate Integral Rod Worth column (BOL, MOL, EOL) in Attachment 5.

Procedure Step: Step 6.8.2

Standard:

- Uses correct MOL column in Table 6-4 to determine bank worth to full out value
- Records Bank Worth to Full Out

Evaluator CUE: None

Evaluator NOTE: For Bank D at 195 steps, answer is 70 pcm

Comment:

Performance Step: 15 Read NOTE and CAUTION prior to Step 6.8.3

Procedure Step: Step 6.8.3

Standard: Reads Note and Caution.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 16 Determine reduction in control rod reactivity due to known stuck (untrippable), a dropped (fully inserted), or misaligned low control rods.

Procedure Step: Step 6.8.3 and 6.8.4


Standard:

- Uses preceding NOTE to determine reduction due to dropped rod equal to 250 pcm
- Records dropped rod reactivity

Evaluator CUE: None

Evaluator NOTE: Stuck = 0 pcm, Dropped = 250 pcm, Misaligned = 0 pcm

Comment:

 **Performance Step: 17** Determine the total available control rod negative reactivity.

Procedure Step: Step 6.8.5

Standard:  Tabulates values from steps 6.8.1, 6.8.2, and 6.8.4 to arrive at final value.

Evaluator CUE: None

Evaluator NOTE: Total available control rod negative reactivity = $(-4596) + (+70) + (+250) = -4276$ pcm

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 18** Calculate the Shutdown Margin

Procedure Step: Step 6.9

Standard:

- [Y] Adds negative reactivity added by control rods to positive reactivity added by Power Defect (Steps 6.6.5 + 6.7)
- Records Shutdown Margin

Evaluator CUE:

Evaluator NOTE: $(-4276 \text{ pcm}) + (+1735 \text{ pcm}) = (-2541 \text{ pcm}) \pm 50 \text{ pcm} =$
Answer range of (-2491) to $(-2591) \text{ pcm}$

Comment:

Performance Step: 19 Determine required Shutdown Margin

Procedure Step: Step 6.10

Standard:

- Determines required SDM using Attachment 6.0, Figure COLR-2, Required Shutdown margin and current boron concentration (950 ppm)
- Records required Shutdown Margin

Evaluator CUE: None

Evaluator NOTE: With 2 loops in operation, required SDM = -1300 pcm

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 20 _____ Verify the SDM requirements are satisfied by the value calculated in Step 6.9 being more negative than the required SDM in Step 6.10.

Procedure Step: **Step 6.11**

Standard:

- Operator compares actual SDM more negative than required SDM; SDM requirements satisfied.
- Initials step to confirm SDM requirements are satisfied

Evaluator CUE:

Evaluator NOTE: **(-2541 pcm) is > (-1300 pcm) and that the SDM is satisfied**

Comment:

Terminating Cue: **"No further action required."**

Stop Time: _____

JPM VERIFICATION OF COMPLETION

JR001.003, Rev. 2**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** **Calculate Shutdown Margin for Operating Reactor with One Dropped rod****TASK:** 001-010-01-01, Calculate shutdown Margin for Operating Reactor with One Dropped Rod.

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTEViolation of safety procedures will result in failure of the JPM. **[FB0471]**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?

☐ YES ☐ NO
(If yes, provide comments below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORYEVALUATOR'S
SIGNATURE: _____

DATE: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Twenty (20) minutes ago, the plant was at 90% when rod K-7 dropped fully into the core.
- Power was reduced to 75% per ER-RCC.1, RETRIEVAL OF A DROPPED RCC
- Last RCS loop B boron sample, taken 30 minutes ago, was 950 ppm
- Current burnup is 10,000 MWD/MTU
- Tavg is 568°F
- Bank C is at 225 steps
- Bank D is at 195 steps
- Rod K-7 remains on the bottom. All other control rods are operable

INITIATING CUE:

- The Shift Manager has directed you to perform a SDM calculation for present plant conditions per O-3.2, SHUTDOWN MARGIN FOR AN OPERATING REACTOR
- Assume all Independent Verification checks are completed when required
- This is a time-critical JPM

2012 SRO RETAKE EXAM JPM N-SA-2 (Classroom)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Determine Time to Boil for a Loss of Shutdown
Cooling**SYSTEM: Conduct of OpsTASK: 344-001-04-02: Perform calculations to determine the
Plant Status (e.g. Fluid Flow/heat balance, Quadrant
Power Tilts, Shutdown Margin, etc.)**PURPOSE:**

Determine Time to Boil for a Loss of Shutdown Cooling

CANDIDATE NAME: _____**JOB PERFORMANCE MEASURE****LICENSED OPERATOR TRAINING****REVISION/CHANGES**REVISED/CHANGED BY: Scott ReedDATE: 3/19/13REVIEWED BY: Don DeanDATE: 05/08/13

SRO Reviewer

APPROVED BY: Kyle GarnishDATE: 05/13/13

Supervisor-Operations Training

| | | | |
|---------------------------|--|---------------------|---|
| Facility: | Ginna | Task No.: | 344-001-04-02 |
| Task Title: | Perform calculations to determine the Plant Status (e.g. Fluid Flow/heat balance, Quadrant Power Tilts, Shutdown Margin, Etc.) | JPM No.: | <u>2012 Retake N-SA-2</u> |
| K/A Reference: | G2.1.25 (RO 3. 9/ SRO 4.2) Ability to interpret reference materials , such as graphs, curves, tables, etc | Alternate Path: | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Time Critical: | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Category: | <u>SRO-Only</u> |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | _____ | Actual Performance: | <u>X</u> |
| Classroom | <input checked="" type="checkbox"/> | Simulator | _____ |
| | | Plant | _____ |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant is in Mode 5 for a refueling outage
 - The plant has been shutdown for 25 hrs
 - The pressurizer is solid with LTOP in service
 - RCS temperature is 140°F
 - The Ginna Defense-In-Depth computer program used to calculate time to boil and core uncover is unavailable

- Task Standard: Properly performs all calculations and transposes answers onto CUE sheet:
- Condition 1 Time to Boil is determined to be 2.46 hrs.
 - Condition 2 Time to Boil is determined to be .43 hrs (25.96 min +0.1 / -0.0 min)

Required Materials: Pen/ pencil

General References: IP-OUT-2, OUTAGE RISK MANAGEMENT Rev 01901

Handouts: IP-OUT-2, OUTAGE RISK MANAGEMENT

Initiating Cue:

- The Shift Manager has directed you to determine the Time to Boil per IP-OUT-2, OUTAGE RISK MANAGEMENT, given a Loss of RHR and the following two sets of conditions:

1. For present plant conditions,

AND

2. Exactly four (4) days from now based on the following conditions:

- RCS level will be reduced to 64 inches
- RCS temperature will be lowered to 100°F
- PRZR manway will be removed

- Record the Time-To-Boil for the two conditions on the cue sheet below

Validation Time: 8 minutes (4/05/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

- Violation of Federal Regulations
- Tech Spec Violation

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step
- Make available a copy of IP-OUT-2 to the candidate at the appropriate cue.
- Ensure candidate understands to put information on cue sheet.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

- N/A

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a √)

Start Time: _____

Performance Step: 1

Reviews the copy of IP-OUT-2, OUTAGE RISK MANAGEMENT, provided.

Procedure Step:

N/A

Standard:

Demonstrates knowledge that latest procedure revision is obtained through FCMS

Evaluator CUE:

Provide Operator a copy of IP-OUT-2

Comment:**Performance Step: 2**

Candidate reviews the Table of Contents.

Procedure Step:

IP-OUT-2, Table of Contents

Standard:

Candidate determines that Attachment E, Time to Boil and Core Uncovery, will be required for necessary determinations.

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 3 Determines for condition 1 (current) that Pressurizer is Full and Attachment E, Page 5 of 11 will be required

Procedure Step: Attachment E, Page 5 of 11

Standard: Identifies Attachment E, Page 5 of 11 will be required to determine 'Time to Reach Saturation with Pressurizer Full and RCS Closed' from Procedure and Initial Conditions given.

Evaluator CUE: None

Comment:

✓ **Performance Step: 4** Determine Time to Reach Saturation (boil) for condition (1)

Procedure Step: Attachment E, Page 5 of 11

Standard:

- [✓] Determines Time to Saturation (boil) for condition (1) is 2.46 hours using 25 hrs time after Shutdown, and Trcs 140°F
- Records time on Cue sheet for Condition 1

Evaluator CUE: None

Comment:

Performance Step: 5 Determines for condition (2), Loop Level at 64" and with PRZR manway open that Attachment E, Page 7 of 11 will be required.

Procedure Step: Attachment E, Page 7 of 11

Standard: Identifies Attachment E, Page 7 of 11 will be required to determine 'Time to Reach Saturation with 64" and RCS Open' from Initial Conditions given.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 6** Determine Time to Reach Saturation (boil) for condition (2)

Procedure Step:

Attachment E, Page 7 of 11

Standard:

- [✓] Using the current 25 hrs after shutdown, and adding 4 days (96 hrs), determines time after shutdown is 121 hrs.
- [✓] Determines Time to Saturation (boil) for condition (1) is 0.43 hours (25.96 min +0.1 / -0.0 min) using 120 hrs time after shutdown, and Trcs 100°F
 - Records time on Cue sheet for Condition 2

Evaluator CUE:

None

Comment:

Terminating Cue:

When student hands in cue sheet with times: **“JPM is complete.”**

Stop Time: _____

JPM VERIFICATION OF COMPLETION

2012 SRO RETAKE EXAM – JPM-N-SA-2 (Classroom)

LICENSED OPERATOR NAME: _____

JOB PERFORMANCE MEASURE:

**Determine Time to Boil for a Loss of
Shutdown Cooling**

TASK: 344-001-04-02 Perform calculations to determine the
Plant Status (e.g. Fluid Flow/heat balance, Quadrant
Power Tilts, Shutdown Margin, Etc.)

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES: _____

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?

☐ YES ☐ NO
(If yes, provide comments
below)

COMMENTS: _____

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

EVALUATOR'S
SIGNATURE: _____

DATE: _____

[illegible]

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant is in Mode 5 for a refueling outage
- The plant has been shutdown for 25 hrs
- The pressurizer is solid with LTOP in service
- RCS temperature is 140°F
- The Ginna Defense-In-Depth computer program used to calculate time to boil and core uncover is unavailable

INITIATING CUE:

- The Shift Manager has directed you to determine the Time to Boil per IP-OUT-2, OUTAGE RISK MANAGEMENT, given a Loss of RHR and the following two sets of conditions:
 1. For present plant conditions,

AND

2. Exactly four (4) days from now based on the following conditions:
 - RCS level will be reduced to 64 inches
 - RCS temperature will be lowered to 100°F
 - PRZR manway will be removed
- Record the Time-To-Boil for the two conditions on the cue sheet below

2012 SRO RETAKE EXAM JPM N SA-3 (Classroom)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****A-52.4, Control of Limiting Conditions for
Operation Evaluation**SYSTEM: Technical SpecificationsTASK: 300-003-03-02, Control of Limiting Conditions for
Operation Evaluation

PURPOSE:

The intent of the JPM is to have the candidate evaluate Limiting Conditions for Operation for a single component failure affecting BOTH SAFW trains and document using the appropriate paperwork (A-52.4, Control of Limiting Conditions for Operating Equipment).

CANDIDATE NAME: _____

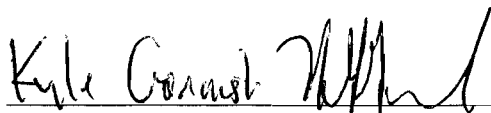
JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:**
Rev 0 – New JPMREVISED/CHANGED BY: Pat LandersDATE: 5/08/13

REVIEWED BY:

Don DeanDATE: 5/08/13

SRO Reviewer

APPROVED BY:



Supervisor-Operations Training

DATE: 5/13/13**Master Copy**

| | | | |
|---------------------------|---|---------------------|---|
| Facility: | Ginna | Task No.: | 300-003-03-02 |
| Task Title: | <u>Control of Limiting Conditions for Operation Evaluation</u> | JPM No.: | <u>2012 Retake N-SA-3</u> |
| K/A Reference: | G 2.2.23 (RO 3.1/ SRO 4.6) | Alternate Path | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | Ability to track Technical Specification limiting conditions for operation | Time Critical | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Category: | <u>SRO</u> |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | _____ | Actual Performance: | <u>X</u> |
| Classroom | <input checked="" type="checkbox"/> | Simulator | _____ |
| | | Plant | _____ |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- Plant is operating at 100% power
 - Electricians are preparing to perform a PM on MOV-9746, Emergency Discharge MOV for SAFW Pump 'D' under Work Order #C92144243
 - MOV-9746 is closed and its breaker is tagged OPEN
 - The HCO has logged MOV-9746 INOPERABLE in the official record
 - No other equipment is currently Out of Service.
 - A "What if" risk assessment in EOOS has been performed and it was determined that the highest PRF color is yellow and the highest top level system status color is yellow. Values match IWS expected risk

Task Standard: Properly fill out A-52.4, Attachment 1 Sections 1.0 through 6.0

Required Materials: None

- General References:
- A-52.4, CONTROL OF LIMITING CONDITIONS FOR OPERATING EQUIPMENT Rev 14400
 - Technical Specifications Amendment 112
 - A-52.3 SAFETY FUNCTION DETERMINATION PROGRAM, Rev 5
 - A-52.4, Attachment 1 KEY
- Handouts:
- Attachments 1 and 2 of A-52.4, Control of Limiting Conditions for Operating Equipment Rev 14400
 - A-52.4, Control of Limiting Conditions for Operating Equipment Rev 14400
 - Set of Technical Specifications **(Available for Reference)**
 - EPIP-1.0, GINNA STATION EVENT EVALUATION AND CLASSIFICATION, Rev.04800 **(Available for Reference)**
 - CNG-NL-1.01-1004, REGULATORY REPORTING, Rev. 00500 **(Available for Reference)**
- Initiating Cue:
- The Shift Manager requests that you, the CRS, fill out and submit the required A-52.4 paperwork for performing maintenance on MOV-9746 at time 0800 on today's date
- Time Critical Task No
- Validation Time: 14 Minutes (5/07/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

Technical Specification violation

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

N/A

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a ✓)

Start Time: _____

✓ **Performance Step: 1** Reviews LCO 3.7.5.

Procedure Step: **TECHNICAL SPECIFICATIONS, LCO 3.7.5**

- Standard:**
- [✓] Documents the plant will be in LCO 3.7.5, Auxiliary Feedwater Systems MODES 1, 2, and 3
 - [✓] Documents Limiting Conditions of Operation with both SAFW trains inoperable.
 - See attached KEY (A-52.4, Attachment 1)

Evaluator CUE: None

- Evaluator NOTE:**
- Inoperable component MOV-9746 makes both SAFW Trains inoperable as defined by Figure B-3.7.5-2
 - **It is NOT critical for Candidate to complete performance steps in order**

Comment:

Performance Step: 2 1.0, INOPERABILITY

Procedure Step: **A-52.4, Attachment 1, Section 1.0, steps 1), 2), 3), 4), and 5)**

- Standard:**
- See attached KEY
 - Proceeds to step 6

Evaluator CUE: None

- Evaluator NOTE:**
- **Work Order in Step 3 will be placed in section 6.0**
 - **Candidate may fill in section 4.0 for equipment deemed inoperable at this time for performance step 10.0**

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 3 **Perform** loss of Safety function determination PER Attachment 2

Procedure Step: **A-52.4, Attachment 1, Step 6**

Standard: Proceeds to Attachment 2

See attached KEY

Evaluator CUE: None

Comment:

Performance Step: 4 Have any of the following supporting system LCO's been entered? YES/ NO

Procedure Step: **A-52.4 Attachment 2, Step 1.0**

Standard:

- Circles NO in step 1.0
- Proceeds to step 2.0

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 5

- Has only one (1) LCO been entered ? (i.e. total # of LCOs in effect is only 1) YES/ NO.
- IF YES AND Question #1 was answered NO, THEN the single LCO provides necessary ACTIONS.
- Return to Attachment 1 and checks of 'Loss of Safety Function Determination box

Procedure Step:**A-52.4 Attachment 2, Step 2.0****Standard:**

- Circles YES in step 2.0
- Determines that the single LCO provides necessary ACTIONS
- Return to Attachment 1 section 1.0, step 7)

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 6

PERFORM a “what if” risk assessment in EOOS for inoperable equipment IAW 5.2.E:

If equipment is being removed for **planned** maintenance, **Verify** EOOS PRF color and value match IWS expected risk:

If color **AND** value match IWM schedule expected risk, then continue with this Attachment.

EOOS highest PRF color:

green ☐ /yellow ☐ / orange ☐ /red ☐

EOOS highest top level system status color:

green ☐ /yellow ☐ / orange ☐ /red ☐

Procedure Step:

A-52.4, Attachment 1, Section 1, Step 7) and 8)

Standard:

- Checks the “what if” risk assessment box in step 7)
- Checks box for color and value match with IWM schedule expected risk
- Marks both yellow boxes in step 8).

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 7 If equipment being removed from service is due to **emergent** maintenance issues, THEN PERFORM the following

Procedure Step: **A-52.4, Attachment 1, Section 1, Step 9)**

Standard: Recognizes that steps are due to planned maintenance and N/A's boxes

Evaluator CUE: None

Comment:

√ **Performance Step: 8** REQUIRED ACTIONS:

Procedure Step: **A-52.4, attachment 1, Section 2.0**

Standard: [√] Fills out the REQUIRED ACTIONS table (Attachment 1, step 2.0) in accordance with the attached key

Evaluator CUE: See the attached Key with similar wording and times

Comment:

JPM VERIFICATION OF COMPLETION

√ **Performance Step: 9** REQUIREMENTS IF REQUIRED ACTIONS/ COMPLETION
TIMES ARE NOT MET:

Procedure Step: **A-52.4, Attachment 1, Section 3.0**

Standard: [√] Fills out the REQUIRED ACTIONS Table in accordance with
the attached key

Evaluator CUE: **See the attached Key with similar wording and times**

Comment:

Performance Step: 10 Declaration of Inoperable Equipment

Procedure Step: **A-52.4, Attachment 1, Section 4.0**

Standard: Declare equipment inoperable (logged in official record
from initial conditions)

Candidate signs for Equipment deemed inoperable, Date
and time

Evaluator CUE: • **See the attached Key**

Evaluator NOTE: **Candidate may have performed this in performance step 2.0**

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 11 NOTIFICATION and REPORTING

- _____
- 1) EVALUATE the need to report PER EPIP-1-0
 - 2) EVALUATE the need to report PER CNG-NL-1.01-1004
 - 3) EVALUATE the need to notify the duty Chemistry Tech
 - 4) IF this is non-scheduled outage for this piece of equipment, THEN SUBMIT an A-52.16

Procedure Step: A-52.4, Attachment 1, Section 5.0

- Standard:**
- 1) Not an Emergency Classification event
 - 2) Not a Reportable event
 - 3) Duty Chemistry Tech does not need to be informed
 - 4) Planned maintenance, not a component failure

Evaluator CUE: • See the attached Key

Comment:

Terminating CUE: After Section 5.0, NOTIFICATION and REPORTING is complete: "Evaluation of this JPM is complete."

Stop Time: _____

JPM VERIFICATION OF COMPLETION

2012 SRO RETAKE EXAM-JPM-N-SA-3 (Classroom)**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** Control of Limiting Conditions for Operation Evaluation**TASK:** 300-003-03-02, Control of Limiting Conditions for Operation Evaluation

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/IN ACTIONS OR PROCEDURAL QUALITY?☐ YES ☐ NO
(If yes, provide comments
below)**COMMENTS:**

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY**EVALUATOR'S
SIGNATURE:** _____**DATE:** _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Plant is operating at 100% power
- Electricians are preparing to perform a PM on MOV-9746, Emergency Discharge MOV for SAFW Pump 'D' under Work Order #C92144243
- MOV-9746 is closed and its breaker is tagged OPEN
- The HCO has logged MOV-9746 INOPERABLE in the official record
- No other equipment is currently Out of Service.
- A "What if" risk assessment in EOOS has been performed and it was determined that the highest PRF color is yellow and the highest top level system status color is yellow. Values match IWS expected risk

INITIATING CUE:

- The Shift Manager requests that you, the CRS, fill out and submit the required A-52.4 paperwork for performing maintenance on MOV-9746 at time 0800 on today's date

2012 SRO RETAKE EXAM JPM N-SA-4 (Classroom)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Review & Approve Radioactive Waste
Discharge/Release Permit**SYSTEM: Liquid RadwasteTASK: 341-012-03-03: Approve Radioactive Waste
Discharge/Release Permit**PURPOSE:**

To evaluate the ability to review a prepared discharge permit and determine if there are any errors preventing its approval.

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES**REVISED/CHANGED BY: Scott Reed DATE: 04/05/13REVIEWED BY: Don Dean DATE: 04/05/13
SRO ReviewerAPPROVED BY: Kyle Garnish DATE: 04/05/13
Supervisor-Operations Training

Facility: Ginna Task No.: 341-012-03-03

Task/JPM Title: Approve Radioactive Waste Discharge/Release Permit JPM No.: 2012 Retake JPM SA-4

K/A Reference: 2.3.6 (RO 2.0 / SRO 3.8) Alternate Path Yes ☐ No ☒
Ability to approve release permits. Time Critical Yes ☐ No ☒
Category: SRO

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:

- The plant is at 100% power
- The A Monitor Tank is being readied for release
- No additional actions have been take

Task Standard: Identify discrepancies on discharge permit and all critical tasks evaluated as satisfactory.

Required Materials: Attached Key.

General References:

- S-3.4K: Releasing Monitor Tank A or B to Discharge Canal, Rev 03002
- CH-700, Liquid Waste Batch Release, Rev. 00601, Attachment 3

Handouts:

- CH-700, Liquid Waste Batch Release, Rev. 00601, Attachment 3 submittal
- CH-700, Liquid Waste Batch Release, Rev. 00601

Initiating Cue:

- Review the release permit and approve if acceptable. If unacceptable, document the reason(s) why on this cue sheet

Time Critical Task: No

Validation Time: 16 minutes (4/3/13)

SIMULATOR SETUP

N/A

(Denote Critical Steps with a ✓)

START TIME: _____

Performance Step: 1 LIQUID WASTE RELEASE FORM

Procedure Step: Attachment 3 of CH-700

Standard:

- Reviews release form.
- Identifies the sample time is greater than 12 hours.
- Identifies R-18 is OOS and that LINE-UP VERIFIED BY should not be N/A.

EXAMINER CUE: Hand the Examinee the marked up copy of:

- 1) CH-700, Liquid Waste Batch Release, Rev. 00601, Attachment 3, LIQUID WASTE RELEASE FORM, and
- 2) CH-700, Liquid Waste Batch Release, Rev. 00601

Comment:

✓ **Performance Step: 2** Answer the questions on the JPM CUE SHEET.

Standard:

- [✓] Documents that the sample time is greater than 12 hours. (CH-700 step 6.10.4)
- [✓] Documents that with R-18 being OOS the LINE-UP VERIFIED BY would be required. (CH-700 step 6.10.2.2)

EXAMINER NOTE:

Comment:

Terminating Cue: (When examinee returns JPM to the Examiner) "Evaluation of this JPM is complete."

STOP TIME: _____

JPM CUE SHEET

2012 SROI RETAKE JPM SA-4**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** **Review & Approve Radioactive Waste
Discharge/Release Permit****TASK:** 341-012-03-03: Approve Radioactive Waste
Discharge/Release Permit

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:**DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/IN ACTIONS OR PROCEDURAL QUALITY?**☐ YES ☐ NO
(If yes, provide comments
below)**COMMENTS/GRADING:**1. All discrepancies listed on JPM CUE sheet SATISFACTORY? ☐ YES ☐ NO

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY**EVALUATOR'S
SIGNATURE:** _____**DATE:** _____

LIQUID WASTE BATCH RELEASE

CH-700
Revision 00601
Page 53 of 63

Page 1 of 3

ATTACHMENT 3, LIQUID WASTE RELEASE FORM

DATE: TODAY'S DATE 1000PERMIT NO.: L-2013040TANK: MONITOR TANK ASAMPLE DATE/TIME: YESTERDAY 1800

GAMMA SCAN FILE: _____

pH: 6.70 CONDUCTIVITY: _____ BORON: 1.68E3 NH₃: _____ N₂H₄: _____
TOTAL SPECIFIC ACTIVITY 1.510E-1 μ Ci/ml mCi: 4.344E3 FRACTION OF ECL 1.510E-2TYPE OF DILUTION: CIRC WATER / SERVICE WATERNUMBER OF PUMPS: 2RECIRC GATE OPEN: 0 %DILUTION WATER FLOW: 3.400E5 gpmMAX GALLONS DUE TO BORON: 7.600E5RELEASE EXTENDS INTO 2nd DAY: YMAX GALLONS DUE TO BORON (2nd DAY): _____MAXIMUM RELEASE RATE 9.000E1 gpm AT 1/10 LIMITANALYST Ram MCHEMISTRY SUPERVISION [Signature]TANK ISOLATION PROCEDURE NO. 5-3.4KRADIATION MONITOR (R-18) ON OOSALARM SET 7.20E4 cpmALARM POINT 7.200E4 cpm

AUTHORIZED BY SHIFT MANAGER _____

LINE-UP VERIFIED BY N/A***CHEMISTRY APPROVAL REQUIRED IF RELEASE IS NOT STARTED BEFORE TODAY'S DATE 0600 ***
CHEMISTRY APPROVAL REQUIRED IF RELEASE IS INTERRUPTED FOR > 2 HOURS

| DATE | TIME | DILUTION RATE (gpm) | TANK LEVEL (GALLONS) | OPERATOR INITIALS |
|-------|-------|------------------------|-------------------------|----------------------|
| START | _____ | _____ | _____ | _____ |
| STOP | _____ | _____ | _____ | _____ |

MONITOR READINGS:
BEFORE RELEASE _____ cpm DURING RELEASE _____ cpm *AFTER FLUSH _____ cpm

*FLUSH REQUIRED AFTER RELEASE IF MONITOR READS > BEFORE + 10%

SHIFT MANAGER COMPLETING RELEASE _____

DATE/TIME _____

2012 SROI RETAKE EXAM JPM-N-SA5**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Event Classification**
_____SYSTEM: Emergency Plan Implementation ProceduresTASK: 340-001-05-02, Event Classification

PURPOSE:

Evaluate plant conditions and classify an event in accordance with the Nuclear Emergency Response Plan.

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:**

1. Updated for latest procedures and format

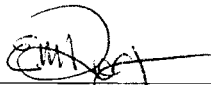
REVISED/CHANGED BY: Pat LandersDATE: 05/09/13

REVIEWED BY:

Don DeanDATE: 5.10.13

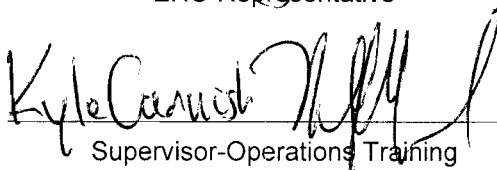
SRO Reviewer

REVIEWED BY:

DATE: 5.13.13

ERO Representative

APPROVED BY:


Supervisor-Operations TrainingDATE: 5/13/13

| | | | |
|---------------------------|---|---------------------|---------------------------|
| Facility: | Ginna | Task No.: | 340-001-05-02 |
| Task Title: | <u>Event Classification</u> | JPM No.: | <u>2012 Retake N-SA-5</u> |
| K/A Reference: | K/A 2.4.41 (2.9 / 4.6) Knowledge of the emergency action level thresholds and classifications | Alternate Path | Yes No <u>X</u> |
| | | Time Critical | Yes <u>X</u> No |
| | | Category: | <u>SRO Only</u> |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | _____ | Actual Performance: | <u>X</u> |
| Classroom | <u>X</u> | Simulator | _____ |
| | | Plant | _____ |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- 30 minutes ago, a large steamline break occurred inside containment which resulted in a reactor trip and Automatic SI
 - Prior to the accident, the plant had been at full power for 185 days
 - Coincident with the automatic SI, both CKT 7T and 767 were lost
 - EDG 1A started and immediately energized Bus 14
 - EDG 1B failed to start automatically but was started locally and Bus 16 was energized within 8 minutes of the SI actuation
 - Containment Pressure peaked at 31 PSIG and is lowering slowly
 - Containment radiation levels are normal (none elevated or in alarm)
 - RCS cold leg temperatures have stabilized at 265°F
 - Wind speed is 15 mph at elevation 33'
 - Wind direction at elevation 33' is from the North at 350 degrees
 - Temperature is 58°F at elevation 33' and 56°F at elevation 250'

- Task Standard:
- Determine the proper EAL classification within 15 minutes AND
 - Properly complete Attachment 3a of EPIP-1-5

Required Materials: Pencil and dry-erase marker

- General References:
- EPIP-1-0, GINNA STATION EVENT EVALUATION AND CLASSIFICATION, Rev 04800
 - EAL wall chart, Rev 04800
 - EAL Technical Basis Document, Rev 04800
- Handouts:
- EPIP-1-0, GINNA STATION EVENT EVALUATION AND CLASSIFICATION, or
 - EAL Wall Chart, AND
 - EPIP-1-5, NOTIFICATIONS
- Initiating Cue:
- Using EPIP-1-0 or the EAL wall chart, classify this event
 - Provide both the classification level and EAL number on this Cue Sheet
 - WHEN you have completed the Event Classification, complete the NEW YORK STATE RADIOLOGICAL EMERGENCY DATA FORM (Part 1), Attachment 3a
 - This is a time-critical JPM – the time will start when you tell me you understand the initial conditions

Validation Time: 9 Minutes (5/07/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

Misclassification of event could hinder timely activation of support functions and notification of offsite organizations.

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.
- This is a time critical (15 minute + 15 minute) JPM.
- Make available a copy of EPIP-1-0 (or the EAL wall chart) to the Operator at the appropriate cue
- **Provide the candidate with the EAL Technical Basis document, if requested.**

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

N/A

(Denote Critical Steps with a √)

Start Time: _____

| | |
|-------------------------------------|--|
| Performance Step: 1 _____ | Operator reviews initial conditions and procedures to determine plant conditions |
|-------------------------------------|--|

| | |
|------------------------|-----|
| Procedure Step: | N/A |
|------------------------|-----|

| | |
|------------------|------|
| Standard: | None |
|------------------|------|

| | |
|-----------------------|--|
| Evaluator CUE: | Provide Operator a copy of EPIP-1-0 and the EAL Wallchart |
|-----------------------|--|

| | |
|-----------------|--|
| Comment: | |
|-----------------|--|

| | |
|-------------------------------------|---------------------------------------|
| Performance Step: 2 _____ | Reviews Sections 1-5 of the procedure |
|-------------------------------------|---------------------------------------|

| | |
|------------------------|-------------------------------|
| Procedure Step: | EPIP-1-0, Sections 1-5 |
|------------------------|-------------------------------|

| | |
|------------------|----------------------------------|
| Standard: | Reads Precautions in Section 4.0 |
|------------------|----------------------------------|

| | |
|-----------------------|------|
| Evaluator CUE: | None |
|-----------------------|------|

| | |
|-----------------|--|
| Comment: | |
|-----------------|--|

Performance Step: 3 Identify the initiating conditions using either the guidelines of the EAL wall chart or Attachment 1 of EPIP-1-0

Procedure Step: 6.1.2

Standard: Determines which method to use for EAL classification

Evaluator CUE: None

Comment:

✓ **Performance Step: 4** Assess given plant conditions and determine event classification using either Attachment 1 or EAL wall chart

Procedure Step: 6.1.2

Standard: ✓ Determines event classification is ALERT due to a RED path on RCS Integrity CSFST, EAL 1.4.1

Evaluator CUE: None

Evaluator NOTE:

- Since the accident occurred 30 minutes ago, and cold leg temperatures have been reduced by >100°F within 60 minutes to <284°F, this meets the RED path entry condition for the Integrity CSFST and FR-P.1 should be entered.
- The loss of both offsite power circuits satisfies the UE conditions of EAL 6.1.1, but this is a lower classification level.
- Candidate may consider an ALERT condition on EAL 6.1.3, Available safeguard train AC power reduced to a single EDG for > 15 min, but the 'B' EDG was started and energized Bus 16 in 8 minutes.

Comment:

Stop Time: _____ Classification Time (Stop time – Start time): _____ minutes

✓ **Performance Step: 5** Complete time-critical classification within 15 minutes

Procedure Step: N/A

Standard: [✓] Completes assessment of conditions and classifies the event within 15 minutes from the start of the JPM

Evaluator CUE: PLEASE CONTINUE with EPIP-1-5, Attachment 3a

Comment:

✓ **Performance Step: 6** **EPIP 1-5, Attachment 3a, Block 3**
_____ 3. Classification:
A. UNUSUAL EVENT
B. ALERT
C. SITE AREA EMERGENCY
D. GENERAL EMERGENCY
E. EMERGENCY TERMINATED
F. RECOVERY

Procedure Step: Block 3

Standard:

- ✓ Circles "B. ALERT"
- Does NOT check the "information changed" box

EXAMINER CUE: Provide candidate with the EPIP 1-5 Attachment 3a as soon as he has made the EAL determination.

Comment:

| | | |
|------------|----------------------------|---|
| √ _____ | Performance Step: 7 | Classification Time: Emergency Classification declared at: Date _____ Time _____ |
| | Procedural Step: | Block 4 |
| | Standard: | <ul style="list-style-type: none">• √ Fills in the Date and Time of the classification• Does NOT check the "information changed" box |
| | Evaluator CUE: | None |
| | Comment: | |

| | | |
|------------|----------------------------|--|
| √ _____ | Performance Step: 8 | Release of Radioactive Materials due to the Classification Event: A. No release B. Release BELOW federal limits <input type="checkbox"/> to atmosphere <input type="checkbox"/> to water C. Release BELOW federal limits <input type="checkbox"/> to atmosphere <input type="checkbox"/> to water D. Unmonitored release |
| | Performance Step: | Block 5 |
| | Standard: | <ul style="list-style-type: none">• Reads Instructions (Att.3) for Block 5 on p15• Reviews Tables in Block 5 for potential release paths• [√] Circles "A. No Release" in Block 5• Does NOT check the "information changed" box |
| | Examiner CUE: | None |
| | Examiner NOTE: | <ul style="list-style-type: none">• P9 is referenced in Block 5, but provides only the warning and high alarm setpoints (have on hand if asked to provide) |
| | Comment: | |

✓ **Performance Step: 9** PROTECTIVE ACTION RECOMMENDATIONS ARE ONLY
REQUIRED AT A GENERAL EMERGENCY CLASSIFICATION.

Procedure Step: Block 6 Instructions

Standard:

- Locates block 6 of EPIP 1-5, Attachment 3a
- References Instructions for Block 6 in Att.3
- [✓] Circles 'A' (No need for Protective Actions outside the site boundary)
- Does NOT check the "information changed" box

Evaluator CUE: None

Comment:

✓ **Performance Step: 10** EAL Number

Procedure Step: Block 7

Standard:

- [✓] Fills in "1.4.1" in the EAL Number box, as classified previously
- Does NOT check the "information changed" box

Evaluator CUE: None

Comment:

√ **Performance Step: 11** Reactor Status

Procedure Step: Block 8

Standard:

- [√] Circles 'B' Shutdown
- Fills in "Today" as the date and "30 minutes ago + Time to Classify" for time of S/D from the Initial Conditions
- Does NOT check the "information changed" box

Evaluator CUE: None

Evaluator NOTE: The time to be entered is the time that THE REACTOR WAS SHUTDOWN, and would include the current time MINUS the "30 minutes ago" given in the initial conditions plus the time it took to classify.

Comment:

√ **Performance Step: 12** Wind Speed:

Procedure Step: Block 9

Standard:

- √ Fills in 15 mph at elevation 33 ft from Initial Conditions
- Does NOT check the "information changed" box

Evaluator CUE: None

Comment:

√ **Performance Step: 12** Wind Direction:

Procedure Step: Block 10

Standard:

- [√] Fills in 350 degrees at elevation 33 ft from Initial Conditions
- Does NOT check the "information changed" box

Evaluator CUE: None

Comment:

√ **Performance Step: 13** Stability Class:

Procedure Step: Block 11

Standard:

- Fills in 56°F and 58°F values from Initial Conditions
- √ Calculates - 2° (56-58°) ΔT
- √ Determines UNSTABLE (Bravo) stability class from number line
- Does NOT check the "information changed" box

Evaluator CUE: None

Comment:

Terminating Cue: Once the Stability Classification is made: **No further actions are required.**

Stop Time: _____

2012 SROI NRC Retake JPM SA-5**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** Event Classification**TASK:** 340-001-05-02, Event Classification

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:**DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?**☐ YES ☐ NO
(If yes, provide comments
below)**COMMENTS:****CLASSIFICATION *****START TIME:** _____ **FINISH TIME:** _____ **DURATION:** _____**NOTIFICATION *****START TIME:** _____ **FINISH TIME:** _____ **DURATION:** _____

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ * SATISFACTORY ☐ UNSATISFACTORY**EVALUATOR'S
SIGNATURE:** _____**DATE:** _____

* In addition to the correct EAL classification, JPM duration for BOTH classification and NOTIFICATION must be < 15 minutes each

INITIAL CONDITIONS:

- 30 minutes ago, a large steamline break occurred inside containment which resulted in a reactor trip and Automatic SI
- Prior to the accident, the plant had been at full power for 185 days
- Coincident with the automatic SI, both CKT 7T and 767 were lost
- EDG 1A started and immediately energized Bus 14
- EDG 1B failed to start automatically but was started locally and Bus 16 was energized within 8 minutes of the SI actuation
- Containment Pressure peaked at 31 PSIG and is lowering slowly
- Containment radiation levels are normal (none elevated or in alarm)
- RCS cold leg temperatures have stabilized at 265°F
- Wind speed is 15 mph at elevation 33'
- Wind direction at elevation 33' is from the North at 350 degrees
- Temperature is 58°F at elevation 33' and 56°F at elevation 250'

INITIATING CUE:

- Using EPIP-1-0 or the EAL wall chart, classify this event
- Provide both the classification level and EAL number on this Cue Sheet
- WHEN you have completed the Event Classification, complete the NEW YORK STATE RADIOLOGICAL EMERGENCY DATA FORM (Part 1), Attachment 3a
- This is a time-critical JPM – the time will start when you tell me you understand the initial conditions

EAL Classification Level: _____

EAL Classification Number: _____

2012 SROI RETAKE EXAM JPM-N-A (Simulator)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Establish 100/0 Lineup on Circuit 767 (Power 12A and
12B Buses from Ckt 767)**SYSTEM: AC Electrical Distribution SystemTASK: 062-021-01-01, Lineup the Electrical Distribution System

PURPOSE:

Transfer the electric plant from 50/50 Normal to 100/0 Lineup on Circuit 767

NRC EXAM MAT'L**JOB PERFORMANCE MEASURE****LICENSED OPERATOR TRAINING****REVISION/CHANGES:**

1. Rev 0 is a new JPM

REVISED/CHANGED BY:

Pat LandersDATE: 04/05/13

REVIEWED BY:

Don Dean Don Dean
SRO ReviewerDATE: 4-5-13

APPROVED BY:

Kyle Groush W. Howard
Supervisor-Operations TrainingDATE: 4/5/13**Master Copy**

Facility: Ginna Task No.: 062-021-01-01

Task Title: Establish 100/0 Electric Lineup on Circuit 767 JPM No.: 2012 Retake N-A

K/A Reference: 062 A4.01 3.3 / 3.1 Alternate Path: Yes ☒ No ☐
Ability to manually operate and/or Time Critical: Yes ☐ No ☒
monitor in the control room: All
breakers (including available
switchyard)

Category: RO/SRO

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: _____ Actual Performance: X
Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant is operating at 100% power
 - The Electric Plant is currently in a 50/50 NORMAL lineup
 - RG&E ECC has requested that the plant be placed in a 100/0 lineup on Circuit 767 for scheduled maintenance on offsite Circuit 7T later today
 - An A-52.12 for removal of Circuit 7T is being prepared

Task Standard: Transfer 4160V buses from a 50/50 NORMAL Lineup to 100/0 Lineup on Circuit 767, recognize failure of breaker to auto trip, and implement Attachment 1 of O-6.9.2.

Required Materials: None

General References: O-6.9.2, ESTABLISHING AND/OR TRANSFERRING OFFSITE POWER TO BUS 12A / BUS 12B Rev 02200

Handouts: O-6.9.2, ESTABLISHING AND/OR TRANSFERRING OFFSITE POWER TO BUS 12A / BUS 12B Rev 02200 (marked up)

Initiating Cue:

- The CRS directs you to establish a 100/0 Electric Plant alignment per O-6.9.2 ESTABLISHING AND/OR TRANSFERRING OFFSITE POWER TO BUS 12A / BUS 12B, Section 6.3
- The SM and RG&E ECC have approved performance of this bus re-alignment.

Validation Time: 19 minutes (4/04/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

Loss of power to 4160V Bus 12A.

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

Indicate reason for unsatisfactory performance in the comment section below each step.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

- Reset in **IC-19** or any at-power Initial Condition
- Ensure the electric plant is in a Normal 50/50 electric plant lineup

NOTE:

The simulator electrical model (in 2013) does not have the capability to fail the auto trip feature of 52/12AY when 52/12BY is closed in. Having the 52/12AY synchroscope also ON, however, defeats this interlock and would prevent the breaker from opening. Since there is only one (1) synchroscope handle, however, and is being used to close the 52/12BY breaker, a "software work around" must be accomplished by opening an Event and Schedule file:

1. Open Event in the Events box:
 - Enter **x05i115a** in the Event Code box
 - Type "Trigger on 12A ALT Synch Switch taken to ON position" in the Description box (optional)
2. Open Event 2 in the Events box:
 - Enter **jbk 12by & ! x05i115a** in the Event Code box
 - Type "Remove Override EDS29 when " in the Description box (optional)
3. SAVE the Event with a file name of your choice. (**Event "N-A" on exam stick**)
4. Open and LEAVE OPEN the file you just saved.
5. Build a new Schedule file box:
6. Enter the following in the Schedule box:

| Insert | Pause | @Time | Event | Action (type <u>exactly</u>) | Description |
|--------------------------|--------------------------|-------|-------|---------------------------------|---------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | | 1 | insert override ovr-eds29 to 1 | |
| <input type="checkbox"/> | <input type="checkbox"/> | | 2 | remove override ovr-eds29 | |
| <input type="checkbox"/> | <input type="checkbox"/> | 0 | | Insert override OVR-EDS69D to 0 | 12AY Trip signal |
| <input type="checkbox"/> | <input type="checkbox"/> | 0 | | Insert override OVR-EDS69G to 0 | 12AY Pull-to-stop signal |
| <input type="checkbox"/> | <input type="checkbox"/> | 0 | | Insert override OVR-EDS69F to 0 | 12AY Norm Aft Trip signal |

7. SAVE the schedule file you just created. (**"Schedule N-A" on exam stick**)
8. Open and RUN the schedule file.

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a √)

Start Time: _____

Performance Step: 1 Verifies the appropriate section of O-6.9.2 to be performed.

Procedure Step:

Table of Contents and Section 6.3

Standard:

- Reviews Sections 1.0 through 5.0 of O-6.9.2
- Notes in Section 2.1 that the Subsections of Section 6 can be performed as necessary, and subsections NOT performed may be marked N/A.

Evaluator CUE:

None

Evaluator NOTE:

Provide examinee with a copy of O-6.9.2, marked up TO Step 6.3

Comment:

Performance Step: 2 **ESTABLISH** Offsite Power to 12A Bus using Circuit 767 as follows:

MARK BUS 12A NORMAL FEED FROM 7T, 52/12AY,
breaker initial position:

- OPEN. ☐
- CLOSED **X**

Procedure Step:

6.3.1.1

Standard:

- Verifies BUS 12A NORMAL FEED FROM 7T, 52/12ABY is closed: red light ON and green light OFF
- Checks box that breaker is CLOSED

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 3 **VERIFY CLOSED CIRCUIT BKR 76702 34 KV BUS**

Procedure Step: **6.3.1.2**

Standard:

- Locates Breaker 76702 34 KV BUS indication
- Verifies red light ON and green light OFF.

Evaluator CUE: None

Comment:

 **Performance Step: 4** **TURN ON BUS 12A ALT FEED FROM 767, 52/12BY, SYNCHROSCOPE.**

Procedure Step: **6.3.1.3**

Standard: [] Turn ON the synch switch for Bus 12A ALT Feed from 767

Evaluator CUE: None

Evaluator NOTE: The operator may inform you that J-6, 4KV MAIN OR TIE BREAKER TRIP, and L-20, 12A XFMR OR 12A BUS TROUBLE, will alarm after closing Bus 12A Normal Feed breaker

Comment:

JPM VERIFICATION OF COMPLETION


Performance Step: 5
NOTE identifies that annunciators J-6 and L-20 will alarm after performing the next step, AND to complete steps 6.3.1.5 thru 6.3.1.7 without delay after closing in.

Procedure Step: NOTE prior to 6.3.1.4

Standard: Reads the NOTE

Evaluator CUE: None

Comment:

 **Performance Step: 6**
CLOSE BUS 12A ALT FEED FROM 767, 52/12BY

Procedure Step: 6.3.1.4

Standard:

-  Closes 52/12BY breaker
- Verify breaker Red light ON and Green light OFF

Evaluator CUE: None

Evaluator NOTE: Closing this ALTERNATE feed breaker SHOULD automatically trip the Normal feed breaker and result in J-6, 4KV Main or Tie Breaker Trip

Comment:

Performance Step: 7
Acknowledges annunciators J-6, 4KV MAIN OR TIE BREAKER TRIP, and L-20, 12 XFMR OR 12A BUS TROUBLE.

Procedure Step: N/A

Standard:

- Notes that J-6 did NOT alarm (since breaker did not trip)
- References the previous NOTE

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 8
IF Bus 12A NORMAL FEED FROM 7T, 52/12AY, was initially OPEN, then VERIFY breaker is OPEN AND RESET (Green light illuminated, White light EXTINGUISHED). OTHERWISE, mark this step N/A.

Procedure Step: 6.3.1.5

Standard:

- Verifies 52/12AY was initially CLOSED, AND
- Marks this step N/A

Evaluator CUE: None

Comment:

NRC EXAMINER: ALTERNATE PATH BEGINS WITH THE NEXT STEP

Performance Step: 9
IF Bus 12A NORMAL FEED FROM 7T, 52/12AY, was initially CLOSED, then perform the following:

- a. Verify breaker OPENED (green and white lights – LIT
- b. Place Bus12A NORMAL FEED FROM 7T, 52/12AY, control switch to TRIP and then to AUTO
- c. Verify the breaker is OPEN and RESET (green light LIT, white light OFF)

Procedure Step: 6.3.1.6

Standard:

- Verify breaker did NOT OPEN (red light still LIT)
- Place Bus 12A NORMAL FEED FROM 7T, 52/12AY, control switch to TRIP and then to AUTO
- Verify the breaker is OPEN and RESET (green light LIT, white light OFF)

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 10** IF Bus 12A NORMAL FEED FROM 7T, 52/12AY, is NOT OPEN, THEN immediately perform Attachment 1, 7T/Bus 12A Circulating Current Contingency Action. OTHERWISE, mark this step N/A.

Procedure Step: 6.3.1.7

Standard:

- [X] Recognizes that the NORMAL FEED 52/12AY breaker did NOT open
- Goes to Attachment 1

Evaluator CUE: None

Comment:

Performance Step: 11 CAUTION: This attachment is only performed as directed when breaker 52/12AY is NOT OPEN.

Procedure Step: ATT-1, CAUTION prior to Step 1.0

Standard: Reads CAUTION, confirms this is the correct action based on 52/12AY not opening

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 12 **VERIFY** Bus 12A NORMAL FEED FROM 7T, 52/12AY, is **NOT**
_____ OPEN

Procedure Step: **ATT-1, Step 1.0**

Standard: Checks 52/12AY breaker is still closed (red light ON, green light OFF)

Evaluator CUE: None

Comment:

Performance Step: 13 **VERIFY** CLOSED BUS 12A ALT FEED FROM 767, 52/12BY

Procedure Step: **2.0**

Standard: Verifies that ALT FEED from 767, 52/12BY, is CLOSED (in Step 6.3.1.4)

Evaluator CUE: None

Comment:

Performance Step: 14 **VERIFY** BUS 12A VOLTMETER 4160V indicates approximately
_____ 4000 VOLTS

Procedure Step: **3.0**

Standard: Verifies BUS 12A VOLTMETER reads ~4000 VOLTS

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 15 **VERIFY CLOSED CIRCUIT BREAKER 7T1352 34 KV BUS**

Procedure Step: **4.0**

Standard: Verifies 7T1352 34 KV BUS supply breaker is CLOSED

Evaluator CUE: None

Comment:

Performance Step: 16 **NOTE:**

- Next step SHOULD automatically trip BUS 12A ALT FEED FROM 767, 52/12BY
- Performance of next step will cause MCB alarm J-6, 4KV MAIN or TIE BREAKER TRIP, to illuminate

Procedure Step: **NOTE prior to Step 5.0**

Standard: Reads NOTE

Evaluator CUE: None

Comment:

✓ **Performance Step: 17** **TURN OFF BUS 12A ALT FEED FROM 767, 52/12BY, SYNCHROSCOPE AND REMOVE handle**

Procedure Step: **5.0**

- Standard:**
- [✓] TURNS OFF BUS 12A ALT FEED FROM 767, 52/12BY, SYNCHROSCOPE
 - Removes handle

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 18 **VERIFY BUS 12A ALT FEED FROM 767, 52/12BY, OPENS**
(Green light ILLUMINATED, White light ILLUMINATED)

Procedure Step: **6.0**

Standard: Checks MCB indications for 52/12BY: green light LIT, white light LIT

Evaluator CUE: None

Comment:

Performance Step: 19 **PLACE BUS 12A ALT FEED FROM 767, 52/12BY, control**
switch to TRIP and THEN to AUTO

Procedure Step: **7.0**

Standard: • Places the switch for breaker BUS 12A ALT FEED FROM 767, 52/12BY, to the TRIP position and then to AUTO

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 20 _____ **VERIFY** BUS 12A ALT FEED FROM 767, 52/12BY, is OPEN and RESET(Green light ILLUMINATED, White light EXTINGUISHED)

Procedure Step: 8.0
Standard: Verifies that green light is ON, white light is OFF

Evaluator CUE: None

Comment:

Performance Step: 21 _____ **PLACE** BUS 12A NORMAL FEED FROM 7T, 52/12AY, control switch to CLOSE **AND THEN** to AUTO

Procedure Step: 9.0
Standard:

- Places the switch for breaker BUS 12A NORMAL FEED FROM 7T, 52/12AY, to the CLOSE position and then to AUTO
- Verifies that RED light is ON, white light is OFF

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 22 _____ **VERIFY BUS 12A NORMAL FEED FROM 7T, 52/12AY, is CLOSED and RESET (Red light ILLUMINATED, White light EXTINGUISHED)**

Procedure Step: 10.0
Standard: Verifies that red light is ON, white light is OFF

Evaluator CUE: None

Comment:

Terminating Cue: "No further action is required."

Stop Time: _____

JPM VERIFICATION OF COMPLETION

JR062.027, Rev. 0

LICENSED OPERATOR NAME: _____

JOB PERFORMANCE MEASURE: Establish 100/0 Lineup on Circuit 767 (Power
12A and 12B Buses from Ckt 767)TASK: 062-021-01-01, Lineup the Electrical Distribution
System

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?☐ YES ☐ NO
(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORYEVALUATOR'S
SIGNATURE: _____

DATE: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant is operating at 100% power
- The Electric Plant is currently in a 50/50 NORMAL lineup
- RG&E ECC has requested that the plant be placed in a 100/0 lineup on Circuit 767 for scheduled maintenance on offsite Circuit 7T later today
- An A-52.12 for removal of Circuit 7T is being prepared

INITIATING CUE:

- The CRS directs you to establish a 100/0 Electric Plant alignment per O-6.9.2 ESTABLISHING AND/OR TRANSFERRING OFFSITE POWER TO BUS 12A / BUS 12B, Section 6.3
- The SM and RG&E ECC have approved performance of this bus re-alignment

JPM VERIFICATION OF COMPLETION

2012 SRO RETAKE EXAM JPM N-B (Simulator)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Place Standby AFW System in Service per FR-H.1**SYSTEM: Standby AFWTASK: 061-003-01-01, Perform Lineups of the
Auxiliary Feedwater System (MCB)**PURPOSE:**

To evaluate the ability to place the Standby Aux Feedwater system in service and cross-connect when normal AFW flow is not available.

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:****1. 03/29/13 - D**REVISED/CHANGED BY: Pat Landers DATE: 04/05/13REVIEWED BY: Don Dean DATE: 04/05/13
SRO ReviewerAPPROVED BY: Kyle Garnish DATE: 04/05/13
Supervisor-Operations Training

JPM VERIFICATION OF COMPLETION

Facility: Ginna Task No.: 061-003-01-01

Task Title: Place Standby AFW System In Service per FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK JPM No.: JR061.001

K/A Reference: E05 EA1.1 (4.1 / 4.0) Ability to operate and/or monitor the following as they apply to the Loss of Secondary Heat Sink: Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features

Alternate Path: YES ☐ NO ☒ X
Time Critical: YES ☐ NO ☒ X
Category: RO/SRO

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant was at power when both Main Feedwater Pumps tripped
 - Bus 16 has an overcurrent fault
 - The A Motor Driven Auxiliary Feedwater Pump is removed for maintenance
 - The Turbine Driven Auxiliary Feedwater Pump has steam supplied from both the A and B Steam Generators, but is not supplying feedwater. Mechanical Maintenance is investigating the problem
 - After transitioning from E-0, REACTOR TRIP or SAFETY INJECTION to ES-0.1, REACTOR TRIP RESPONSE, the STA determined that a RED path condition existed on the HEAT SINK CSFST
 - The crew is responding per FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK, and has completed the procedure up to step 5

Task Standard: The 'C' SAFW Pump started with a flowpath to the 'A' S/G established.

Required Materials: None

JPM VERIFICATION OF COMPLETION

- General References:
- ATT-5.1, SAFW, Rev 01002
 - ATT-22.0, RESTORING FEED FLOW, Rev 00600
 - FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK, Revision 04002
- Handouts:
- FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK (marked up to Step 5)
 - ATT-5.1, SAFW
 - ATT-22.0, RESTORING FEED FLOW
- Initiating Cue:
- The CRS has directed you to complete steps 5 and 6 of FR-H.1 to feed the 'A' S/G utilizing the 'C' SAFW pump.
- Time Critical Task: No
- Validation Time: 10 Minutes (04/05/13)

JPM VERIFICATION OF COMPLETION

SIMULATOR SETUP**Malfunctions:**

- Reset to **IC-19**, then go to RUN
- Ensure 'A', 'C', and 'D' SW pumps running
- Take 'A' MDAFW pump out of service: place 'A' MDAFW pump in Pullstop and close MOV-4007. Place CAUTION tags on switches for both components.
- To fail TDAFW pump, insert **MALF FDW12, 0 RPM**
- To trip Bus 16, set **EDS04B** true on **Trigger 1**.
- To trip both MFPs, set **FDW02A** and **FDW02B** true on **Trigger 1**. Insert **Trigger 1**. (This will trip the reactor and initiate the procedural response)
- Ensure BOTH Tavg values are < 550°F prior to FREEZE
- AFTER Step 4 of FR-H.1 has been completed (Stop both RCPs), **FREEZE** the simulator and take shapshot.

Procedures:

- Placekeep the Control Room laminated copy of E-0 through Step 4
- Note that ES-0.1 will not be place-kept because CSFSTs were monitored when E-0 was exited, and FR-H.1 has been entered
- Placekeep the Control Room copy of FR-H.1 through step 4.

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a )

Start Time: _____.

Performance Step: 1
_____ Obtain copy of FR-H.1, RESPONSE to LOSS of SECONDARY HEAT SINK

Procedure Step: N/A
Standard: Obtains/ reviews first four (4) steps of marked-up FR-H.1

Evaluator CUE: None

Evaluator NOTE: Provide student with a marked-up copy of FR-H.1

Comments:

Performance Step: 2
_____ Reset SI If Actuated

Procedure Step: FR-H.1, Step 5

Standard:

- Recognizes that SI has NOT occurred
- Goes to Step 6

Evaluator CUE: None

Evaluator NOTE: During a Safety Injection, MOV thermal overload relays are bypassed. The thermal overloads are put back in service by resetting Safety Injection. Therefore, if K-6 is extinguished, SI is RESET. In this event, no SI has occurred.

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 3 Try to establish SAFW flow to at least one intact S/G:
_____ a. Perform the following:
 1) Align SAFW system for operation (Refer to ATT-5.1,
 ATTACHMENT SAFW)

Procedure Step: **FR-H.1, Step 6a**

Standard: Refers to Attachment 5.1.

Evaluator CUE: **Provide a copy of ATT-5.1**

Evaluator NOTE: **SAFW controls and indications are on the back of the MCB Panel.**

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 4
_____ CAUTION: If selected S/G Wide Range Level less than 50 Inches (100 Inches Adverse CNMT), THEN refer to Attachment 22.0, Restoring Feed Flow, prior to starting SAFW Pump

Procedure Step: ATT-5.1, CAUTION prior to Step A)

Standard: Reads CAUTION prior to Step A)

Evaluator CUE: None

Evaluator NOTE:

- 'A' and 'B' wide range levels will be ~180" in this JPM setup
- Examiner should be standing by with a copy of ATT-22.0

Comment:

Performance Step: 5
_____ If SW is not available to SBAFW, THEN go to ER-AFW.1 ALTERNATE WTER SUPPLY TO THE AFW PUMPS, to operate SAFW on city water supply.

Procedure Step: ATT-5.1, Step A)

Standard:

- Verifies SW is available by verifying PI-2060 and 2061 indicate approximately 70 psig OR by the number of running SW pumps and absence of SW isolation.
- Does NOT go to ER-AFW.1

Evaluator CUE: None

Evaluator NOTE: SW header pressure meters are on the front of the center vertical section of MCB, right side

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 6 Align SAFW Pump C to selected S/G as follows:
_____ 1) Ensure SI Reset

Procedure Step: **ATT-5.1, Step B) 1)**

Standard: Observes K-6, THERMAL OVERLOAD RELAY BYPASSED extinguished, **OR** vocalizes that SI has not occurred

Evaluator CUE: None

Evaluator NOTE: **SI was extinguished previously in Step 5 of FR-H.1, AND SI has not occurred in this initial condition.**

Comment:

Performance Step: 7 Ensure the following valves open:

- MOV-9701A, SAFW PUMP C DISCHARGE VLV
- MOV-4616, AUX BLDG SW ISOL VLV
- MOV-9704A, SAFW PUMP C ISOL VLV

Procedure Step: **ATT-5.1, Step B) 2)**

Standard: Verifies Red light is lit for the following valves:

- MOV-9701A, SAFW PUMP C DISCHARGE VLV (Back of MCB)
- MOV-4616, AUX BLDG SW ISOL VLV (Front of MCB)
- MOV-9704A, SAFW PUMP C ISOL VLV (Back of MCB)

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 8 Open MOV-9629A, SAFW PUMP C SUCTION VLV

Procedure Step: ATT-5.1, B) 3)

Standard:

- (1) Returns to front of MCB and observes the Red light lit for the A, C and D Service Water pumps
- Observes the Red light LIT for MOV-9629A, SAFW PUMP 'C' SUCTION VLV

Evaluator CUE: None

Comment:

Performance Step: 9 Verify at least 1 SW pump running

Procedure Step: ATT-5.1, B) 4)

Standard:

- Returns to front of MCB and observes the Red light lit for the A, C and D Service Water pumps
- Observes approximately 55 psig on PI-2160 and 2161, SW Header Pressure.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 10 NOTE: Perform Step 5a to feed 'A' S/G OR Step 5b to feed 'B' S/G

Procedure Step: ATT-5.1, NOTE prior to Step B) 5a)

Standard:

- Recalls from Initiating CUE that the direction provided was to feed the 'A' S/G
- Goes to Step 5a for further guidance

Evaluator CUE: None

Evaluator NOTE: Background document for FR-H.1 has the crew select and feed ONE S/G at a TIME. Initiating Cue was to feed 'A' S/G.

Comment:

Performance Step: 11 To feed S/G 'A', go to Step 6.

Procedure Step: ATT-5.1, B) 5a)

Standard: Goes to Step 6

EXAMINER CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 12 Restore SAFW flow as directed by procedure in effect.

Procedure Step: ATT-5.1, Step B) 6)

Standard: Transitions back to FR-H.1, Step 6.a.2)

Evaluator CUE: None

Comment:

Performance Step: 13 Determine SAFW flow requirements per ATT-22.0,
ATTACHMENT RESTORING FEED FLOW

Procedure Step: FR-H.1, Step 6.a.2)

Standard: Refers to ATT-22.0

Evaluator CUE: Provide candidate with ATT-22.0

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 14
_____**CAUTION**

Feed flow rates should be controlled to prevent excessive RCS cooldown and associated RCS pressure and inventory reduction.

NOTE:

- This attachment provides the desired feed flow rate when restoring feed flow to a S/G during FR-H.1
- If feedwater is restored via main feedwater or condensate the following may be used to indicate flow to the S/G:
- S/G feedwater flow meters (MCB)
- S/G feedwater flow recorders (MCB)
- S/G feedwater flow (PPCS Point ID F0466, F0467, F0476, F0477)
- S/G feedwater RTD temperature lowers (PPCS Point ID T2096, T2097)

Procedural Step:

ATT-22.0, NOTE and CAUTION prior to Step 1

Standard:

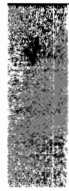
Reads CAUTION and NOTES prior to Step 1

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION



Performance Step: 15 Check affected S/G Loop RCS Temperature:

- a. Tavg in the affected loop less than 550°F
- b. Fill affected S/G as necessary to restore level
- c. Go to Step 3

Procedure Step: ATT-22.0, Step 1

Standard:

- Checks MCB meters (TI-401 & TI-402 for Loop 'A') or PPCS for RCS average temperature, determines Tavg < 550°F
- ~~Does NOT determine that there are no flow restrictions on restoring AFW flow~~
- Does NOT start the SAFW pump in this attachment
- Returns to FR-H.1, Step 6.a.3) after making flow determination

Evaluator CUE: None

Evaluator NOTE:

- FR-H.1, Step 6.a.2) had candidate determine the flow requirements in ATT-22.0 prior to starting the SAFW pump. After making the determination of flow restrictions, the candidate returns to FR-H.1, Step 6.a.3) to start the SAFW pump.
- Even IF Tavg was > 550°F, feed and bleed is NOT required due to WR levels > 120", and Step 2 RNO will direct filling as desired to restore S/G levels (i.e., still no flow restrictions).

Comment:

JPM VERIFICATION OF COMPLETION



Performance Step: 16 Start selected SAFW pump(s)

Procedure Step: FR-H.1, Step 6.a.3)

Standard:

- **SAFW Pump to the START position (RED light illuminated)**
- Verifies SAFW flow on FI04084B automatically throttles to between 215 – 280 GPM

Evaluator CUE: None

Evaluator NOTE: Candidate was directed to start the 'C' SAFW pump in Initiating Cue

Comment:

Terminating Cue: After SAFW flow is verified: "Evaluation on this JPM is complete."

Stop Time: _____.

JPM VERIFICATION OF COMPLETION

2012 SROI RETAKE JPM-B**LICENSED OPERATOR NAME:****JOB PERFORMANCE MEASURE:****Place Standby AFW System in Service per
FR-H.1****TASK:** 061-003-01-01, Perform Lineups of the Auxiliary
Feedwater System (MCB)

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?☐ YES ☐ NO
(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORYEVALUATOR'S
SIGNATURE: _____

DATE: _____

CRITICAL STEP BASES

[illegible]

INITIAL CONDITIONS:

- The plant was at power when both Main Feedwater Pumps tripped
- Bus 16 has an overcurrent fault
- The A Motor Driven Auxiliary Feedwater Pump is removed for maintenance
- The Turbine Driven Auxiliary Feedwater Pump has steam supplied from both the A and B Steam Generators, but is not supplying feedwater. Mechanical Maintenance is investigating the problem
- After transitioning from E-0, REACTOR TRIP or SAFETY INJECTION to ES-0.1, REACTOR TRIP RESPONSE, the STA determined that a RED path condition existed on the HEAT SINK CSFST
- The crew is responding per FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK, and has completed the procedure up to step 5

INITIATING CUE:

- The CRS has directed you to complete steps 5 and 6 of FR-H.1 to feed the 'A' S/G utilizing the 'C' SAFW pump

2012 SROI RETAKE EXAM JPM-N-C (Simulator)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Place Letdown in Service**
_____SYSTEM: Chemical and Volume Control SystemTASK: 004-004-02-04, Place Letdown in Service

PURPOSE:

Respond to a failure of PCV-135 in AUTO when placing Normal Letdown in service.

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:****Rev 1: Updated procedures and moved critical steps.**REVISED/CHANGED BY: Pat LandersDATE: 04/05/13REVIEWED BY: Don DeanDATE: 04/05/13

SRO Reviewer

APPROVED BY: Kyle GarnishDATE: 04/05/13

Supervisor-Operations Training

| | | | |
|---------------------------|---|---------------------|---------------------------|
| Facility: | Ginna | Task No.: | 004-004-02-04 |
| Task Title: | <u>Place Letdown in Service</u> | JPM No.: | <u>JR004.012</u> |
| K/A Reference: | 004 A4.05 (3.6 / 3.1) Ability to manually operate and/or monitor in the control room: Letdown pressure and temperature control valves | Alternate Path | Yes <u>X</u> No <u> </u> |
| | | Time Critical | Yes <u> </u> No <u>X</u> |
| | | Category: | <u>RO/SRO</u> |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | _____ | Actual Performance: | <u>X</u> |
| Classroom | _____ | Simulator | <u>X</u> |
| | | Plant | _____ |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant is at power with the normal letdown system secured
 - Excess letdown is in service with one Charging Pump in operation
 - The letdown line has been isolated for 40 minutes and was not drained
 - A flush is NOT required
 - The setpoint of TCV-130 has been verified by FCMS points SP-3771 and SP-3758 to be 100°F

Task Standard: Letdown PCV-135 is in MANUAL and maintaining ~250 psig, or letdown is isolated due to a failure of PCV-135 to respond in AUTO.

Required Materials: None

General References: S-3.2E, PLACING IN OR REMOVING FROM SERVICE NORMAL LETDOWN/EXCESS LETDOWN, Revision 02603

Handouts: S-3.2E, PLACING IN OR REMOVING FROM SERVICE NORMAL LETDOWN/EXCESS LETDOWN, Revision 02603 (Marked up copy)

- Initiating Cue:
- The Shift Manager directs you to return Normal Letdown to service per Section 6.3 of S-3.2E, PLACING IN OR REMOVING FROM SERVICE NORMAL LETDOWN/EXCESS LETDOWN, using the 40 GPM orifice
 - After Normal Letdown is in service, remove Excess Letdown from service
 - If an auto makeup occurs, the other board operator will monitor the auto makeup using S-3.1, BORON CONCENTRATION CONTROL

Validation Time: 18 minutes (4/04/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

- Lifting of the letdown line relief valve, RV-203
- Possible damage to letdown line

SAFETY CONSIDERATIONS:

Rotating equipment

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.
- Make available a copy of S-3.2E to the Operator at the appropriate cue, signed off/initial per setup notes.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

- Select **IC-19**, 100% MOL, or ANY at-power IC
- Remove Normal Letdown from service per Section 6.2 of S-3.2E
- Place Excess Letdown in service per Section 6.1 of S-3.2E
- Shift to single running charging pump ('A") in AUTO in step 6.1.13
- Ensure VCT level is at ~35%
- Insert **MALF CVC07A, 0% open, Trigger 1**. (Letdown pressure control valve PCV-135 failure with MANUAL control available)

PROCEDURAL MARKUPS:

- Markup the procedure Sections 6.1, 6.2, and 6.5

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a √)

Start Time: _____

Performance Step: 1 Performs page check of S-3.2E procedure provided

Procedure Step: N/A
Standard: Reviews the procedure

Evaluator CUE: **Provide Operator with a clean copy of S-3.2E**

Comment:

Performance Step: 2 Review Table of Contents of procedure to ensure correct section
_____ to be performed.

Procedure Step: **Table of Contents**
Standard: Identifies section 6.3, Placing Normal Letdown In Service, is
required per the Initiating Cue.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 3 Review PRECAUTIONS AND LIMITATIONS section of
_____ procedure.

Procedure Step: **4.0**

Standard: N/A

Evaluator CUE: None

Comment:

Performance Step: 4 Reviews PREREQUISITES section of procedure.

Procedure Step: **Section 5.0, PREREQUISITES**

Standard: Ensures PREREQUISITES section of procedure is completed

Evaluator CUE: None

Evaluator NOTE: **Initial Conditions have provided information that the
setpoint of TCV-130 has been verified to be 100°F**

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 5 Placing Normal Letdown In Service

Procedure Step: **NOTE and CAUTIONS prior to Step 6.3.1**

Standard: N/A

Evaluator's Cue: None

Evaluator NOTE: **From the Initial Conditions, flush is not required based on isolation time. Letdown line has been isolated for 40 minutes and has not been drained. Section 6.5 of procedure should be "N/A."**

Comment:

Performance Step: 6 Determine if a flush is required:

- If the letdown line has been isolated for less than one hour perform section 6.4 and N/A section 6.5, with the permission of the Shift Manager or Control Room Supervisor.
- If the letdown line has been isolated for greater than one hour perform section 6.5 and N/A section 6.4, with the permission of the Shift Manager or Control Room Supervisor.

Procedure Step: **6.3.1**

Standard:

- Determines flush NOT required based on isolation time and Initial Conditions provided
- Recognizes that Section 6.5 should be "N/A"
- Proceeds to section 6.4, RESTORE LETDOWN WITHOUT A FLUSH

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 7 **ENSURE** letdown is secured **PER** Section 6.2 prior to restoring.

Procedure Step: **6.4.1.1**

Standard: Proceeds to section 6.2, Removing Normal Letdown From Service

Evaluator CUE: None

Evaluator NOTE:

- **Securing Normal letdown places the charging pumps in Manual, while establishing Excess letdown returns them to Auto.**
- **Since the candidate is simply reviewing the previously completed “removing letdown from service” steps, he/she is going to find (in the step below) that the running charging pump has been returned to Auto (seemingly contrary to the step sequence) when Excess letdown was placed in service.**

Comment:

Performance Step: 8 **PLACE** Charging Pumps in MANUAL.

Procedure Step: **6.2.1**

Standard: Place 'A' Charging Pump Speed Controller in MANUAL.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 9
_____**ENSURE CLOSED** Letdown Orifice isolation valves.

- ☐ AOV-200A
- ☐ AOV-200B
- ☐ AOV-202

Procedure Step:**6.2.2****Standard:**

Verifies associated MCB valve control switches in CLOSE, green lights ON, red lights OFF.

Evaluator CUE:

None

Comment:**Performance Step: 10**
_____**CLOSE** LTDN ISOLATION VLV RHR to NRHX, AOV-427.**Procedure Step:****6.2.3****Standard:**

Verifies MCB valve control switch for AOV-427 in CLOSE (green light ON, red light OFF).

Evaluator CUE:

None

Evaluator NOTE:**Taking Normal Letdown OOS previously has closed AOV-427****Comment:**

JPM VERIFICATION OF COMPLETION

Performance Step: 11 NOTE prior to Step 6.2.4

Procedure Step: NOTE prior to Step 6.2.4

Standard: Observes NOTE

Evaluator CUE: None

Comment:

Performance Step: 12 **REDUCE** charging flow while throttling closed charging flow to Regenerative Heat Exchanger HCV-142 to maintain greater than 20" RCP labyrinth seal ΔP .

Procedure Step: **6.2.4**

Standard: Observes labyrinth seal ΔP and MCB HCV-142 controller at 100% demand.

Evaluator CUE: None

Evaluator NOTE: **Candidate may adjust charging speed to maintain labyrinth seal ΔP greater than 20 inches.**

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 13 **CLOSE LETDOWN ISOL VLV RHR TO NRHX AOV-371.**

Procedure Step: **6.2.5**

Standard: Observes MCB valve control switch in CLOSE, green light ON, and red light OFF.

Evaluator CUE: None

Comment:

Performance Step: 14 **Read Caution prior to Step 6.2.6.**

Procedure Step: CAUTION prior to Step 6.2.6

Standard: Observes CAUTION

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 15 **PLACE NRHX LTDN OUTLET TEMP (TI-130) TCV-130 in**
_____ **MANUAL/ CLOSED.**

Procedure Step: **6.2.6**

Standard:

- Observes MCB TCV-130 controller selected to MANUAL with a closed demand signal;
- Returns to section **6.4.1.2**

Evaluator CUE: None
Comment:

Performance Step: 16 **IF** charging flowpath to Loop B COLD Leg is desired
_____ **(preferred method),**
THEN PERFORM the following:

- ENSURE CLOSED** CHARGING VLV RHX TO LOOP B HOT, AOV-392A.
- OPEN** CHARGING VLV RHX TO LOOP B COLD LEG AOV-294.

Procedure Step: **6.4.1.2**

Standard: Determines charging flowpath should be to (normal) Loop B COLD Leg.

Evaluator CUE: **If requested, feedback charging flowpath to Loop B COLD leg is desired.**

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 17 _____ a. **ENSURE CLOSED** CHARGING VLV RHX TO LOOP B HOT, AOV-392A.

Procedure Step: 6.4.1.2 a

Standard: - Observes MCB valve control switch in CLOSE, green light ON, red light OFF.

Evaluator CUE: None

Comment:

Performance Step: 18 _____ **OPEN** CHARGING VLV RHX TO LOOP B COLD LEG AOV-294

Procedure Step: 6.4.1.2 b

Standard: Verifies that AOV-294 is already open: red light ON, green light OFF

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 19 **START** a second Charging Pump at minimum speed.

Procedure Step: **6.4.2**

Standard:

- Ensure associated pump controller demand to minimum;
- Rotates pump control switch to START;
- Verifies red light ON, green light OFF, red flag visible, and charging flow rising on MCB FI128C.

Evaluator CUE: **If requested, feedback “AO reports pump is ready to start and all personnel are clear of the pump.”**

Comment:

Performance Step: 20 Read CAUTION prior to step 6.4.3

Procedure Step: **CAUTION prior to Step 6.4.3**

Standard: Determines CAUTION is not applicable since AOV-392A flowpath is not aligned.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 21** **SLOWLY OPEN** charging flow to Regenerative Heat Exchanger HCV-142 to reduce labyrinth seal ΔP to - 40".

Procedure Step: 6.4.3

Standard: [✓] Slowly raises HCV-142 controller demand to open valve and reduce MCB labyrinth seal delta P to ~40 inches (PI131/124).

Evaluator CUE: None

Comment:

Performance Step: 22 **ADJUST** Charging Pump speed while maintaining - 40" labyrinth seal ΔP UNTIL HCV-142 is fully OPEN.

Procedure Step: 6.4.4

Standard:

- Alternately adjusts charging pump speed and opens HCV-142 until HCV-142 is full open with ~40 inches labyrinth seal delta P (PI131/124).

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 23** **ESTABLISH** greater than or equal to 22 gpm charging line flow.

Procedure Step: 6.4.5

Standard: [✓] Monitors MCB charging flow indication (FI126B) and adjusts charging pump speed to greater than or equal to 22 gpm charging line flow..

Evaluator CUE: None

Comment:

✓ **Performance Step: 24** IF placing 40 GPM orifice in service
THEN **PERFORM** the following:

1. **PLACE** LOW PRESS LTDN PRESS PCV-135 in MANUAL at - 40% open.

Procedure Step: 6.4.6.1

Standard:

- [✓] Places PCV-135 controller in MANUAL and
- [✓] Opens valve to ~40% as determined by controller output indication.

Evaluator CUE: ***** Insert MALF CVC07A, 0% Open on Trigger 1 *****

Evaluator NOTE:

Comment:

JPM VERIFICATION OF COMPLETION

☒ **Performance Step: 25** IF placing 40 GPM orifice in service

THEN PERFORM the following:

2. **PLACE** NRHX LTDN OUTLET TEMP (TI-130)
TCV-130 in MANUAL at -40% open.

Procedure Step: 6.4.6.2

Standard:

- ☒ Places TCV-130 controller in MANUAL
- ☒ Opens valve ~40% as determined by controller output indication.

Evaluator CUE: None

Comment:

☒ **Performance Step: 26** **OPEN** LETDOWN ISOL VLV RHR TO NRHX

AOV-371.

Procedure Step: 6.4.8

Standard:

- ☒ Rotates AOV-371 MCB control switch to OPEN
- Verifies red light ON, green light OFF

Evaluator CUE: None



Comment:

JPM VERIFICATION OF COMPLETION

 **Performance Step: 27** **PLACE LTDN LOOP B COLD LEG TO RHX AOV-427 to OPEN and THEN to AUTO.**

Procedure Step: 6.4.9

Standard:

-  Rotates AOV-427 MCB control switch to OPEN
- Verifies red light on, green light off.
-  Rotates switch to AUTO

Evaluator CUE: None

Comment:

Performance Step: 28 Step 6.4.11 **SHOULD** be performed promptly after Step 6.4.10 to prevent overpressurization of letdown line

Procedure Step: NOTE prior to 6.4.10

Standard: Observes note prior to 6.4.10

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 29** **OPEN** desired Letdown orifice valve AOV-200A, AOV-200B, or AOV-202 **AND**
MARK AOV's not opened N/A.

- AOV-200A
- AOV-200B
- AOV-202

Procedure Step: 6.4.10

Standard:

- [✓] Rotates AOV-200A or B control switch to OPEN
- Verifies red light ON, green light OFF

Evaluator CUE: If requested, direct AOV-200A be placed in service.

Evaluator NOTE: Candidate should proceed to next step without delay.

Comment:

Performance Step: 30 **ADJUST** LOW PRESS LTDN PRESS PCV-135 to achieve Letdown pressure of -250 psig on PI-135.

Procedure Step: 6.4.11

Standard: Adjusts PCV-135 controller to ~250 (+/- 20) psig (PI135) without alarming annunciators A-3, A-4, A-11, A-12 or A-19

Evaluator CUE: None

Comment:

NRC EXAMINER: ALTERNATE PATH BEGINS WITH THE NEXT STEP

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 31** PLACE LOW PRESS LTDN PRESS, PCV-135 IN AUTO.

Procedure Step: 6.4.12

Standard:

- Places PCV-135 controller in AUTO;
- [✓] Determines PCV-135 failure using MCB letdown line pressure indication, PI-135, and/or AR-11 or AR-A-3 alarm annunciation.

Evaluator's Cue:

- If requested, direct Operator to place PCV-135 in MANUAL and control pressure to ~250 (+/- 20) psig.
- Note that Operator may use guidance contained with AR-A-11 and/or AR-A-3 to respond to failure.

Comment:

✓ **Performance Step: 32** Place PCV-135 in MANUAL; control pressure at ~250 (+/- 20) psig. or isolates letdown

Procedure Step: Previous Step 6.4.11

Standard:

- [✓] Places PCV-135 in MANUAL;
- Controls pressure at ~250 (+/- 20) psig, OR
- [✓] Isolates letdown by closing AOV-427, LETDOWN ISOLATION VLV RHR to NRHX

Evaluator CUE: None

Evaluator NOTE: Either action above is an acceptable response

Comment:

Terminating Cue: "No further action required."

Stop Time: _____

JPM VERIFICATION OF COMPLETION

JR004.012, Rev. 0**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** Place Letdown in Service**TASK:** 004-004-02-04, Place Letdown in Service

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/IN ACTIONS OR PROCEDURAL QUALITY?

☐ YES ☐ NO
(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

**EVALUATOR'S
SIGNATURE:** _____

DATE: _____

JPM VERIFICATION OF COMPLETION

CRITICAL STEP BASES

CRITICAL STEP: “Those steps that, when not **performed correctly**, in the **proper sequence**, and/or **at the proper time**, will **prevent the system from functioning properly** or **preclude successful completion of the task**.” (ES-603, pp 2-3)

[illegible]

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant is at power with the normal letdown system secured
- Excess letdown is in service with one Charging Pump in operation
- The letdown line has been isolated for 40 minutes and was not drained
- A flush is NOT required
- The setpoint of TCV-130 has been verified by FCMS points SP-3771 and SP-3758 to be 100°F

INITIATING CUE:

- The Shift Manager directs you to return Normal Letdown to service per Section 6.3 of S-3.2E, PLACING IN OR REMOVING FROM SERVICE NORMAL LETDOWN/EXCESS LETDOWN, using the 40 GPM orifice
- After Normal Letdown is in service, remove Excess Letdown from service
- If an auto makeup occurs, the other board operator will monitor the auto makeup using S-3.1, BORON CONCENTRATION CONTROL

2012 SROI RETAKE JPM-N-D**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Perform Immediate Actions of E-0 with SI**SYSTEM: Reactor Protection SystemTASK: 012-003-05-01, Perform Immediate Actions of E-0 with SI**PURPOSE:**

To confirm that the operator is able to successfully complete the Immediate Action requirements of E-0, Reactor Trip or Safety Injection, from memory AND take additional procedural action per ES-603.

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:****Rev.1: Reformatted simulator setup and removed critical step designation from performance steps 1, 2, 6, and 8.****Rev.2: Added details to performance step 12**REVISED/CHANGED BY: Pat LandersDATE: 04/04/13REVIEWED BY: Don DeanDATE: 04/05/13SRO ReviewerAPPROVED BY: Kyle GarnishDATE: 04/05/13Supervisor-Operations Training

JPM VERIFICATION OF COMPLETION

| | | | |
|---------------------------|--|---------------------|------------------------|
| Facility: | Ginna | Task No.: | 012-003-05-01 |
| Task Title: | <u>Perform Immediate Actions of E-0 with SI</u> | JPM No.: | <u>2012 Retake N-D</u> |
| K/A Reference: | EPE007 EA2.02 (4.3 / 4.6) Ability to determine or interpret the following as they apply to a reactor trip: Proper actions to be taken if the automatic safety functions have not taken place. | Alternate Path | Yes X No |
| | | Time Critical | Yes No X |
| | | Category: | <u>RO/SRO</u> |
| Examinee: | | NRC Examiner: | |
| Facility Evaluator: | | Date: | |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | | Actual Performance: | <u>X</u> |
| Classroom | Simulator <u>X</u> | Plant | |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant is stable at 100 percent power.
 - No equipment is out of service.

Task Standard: Successfully complete all Immediate Actions in E-0 from memory AND perform required actions for failed component in Att.-27.0.

Required Materials: None

- General References:
- E-0, REACTOR TRIP OR SAFETY INJECTION, Rev 04500
 - Att.-27.0, AUTOMATIC ACTION VERIFICATION, Rev 00200

- Handouts:
- E-0, marked up to Step 6 circled (perform ATT-27.0)
 - Att.-27.0 (when directed by E-0, Step 6)

JPM VERIFICATION OF COMPLETION

Initiating Cue:

- You are the HCO assigned the monitoring function.

Validation Time: 6 min (4/04/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

Timelines and assumptions made in UFSAR are invalidated.

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.
- ***Per ES-603, Section C.1.d, JPMs that test the immediate action steps are acceptable. However, JPMs should not solely test IA steps, and should include testing additional steps or items that are not from memory.***

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

JPM VERIFICATION OF COMPLETION

SIMULATOR SETUP

- **IC-19** 100% MOL
- Insert **MALF GEN08**, [**'A'** D/G], Autostart failure
- Insert **MALF RPS11-B1**, [**Isol signal only**], CI failure AOV-5738
- Insert **MALF RPS11-B2**, [**Isol signal only**], CI failure AOV-5737
- Insert **MALF RPS11-E3**, [**Isol signal only**], CI failure AOV-5735
- Insert **MALF RPS11-E4**, [**Isol signal only**], CI failure AOV-5736

After the individual has taken the watch:

- **SIS01**, [**Train B**], Inadvertent SI train "B" only, **Trigger 1**
- **EDS01A**, Loss of circuit 7T, **Trigger 1**

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a ✓)

Start Time: _____

Performance Step: 1 Verify Reactor Trip

Procedure Step:

Step 1 (IA)

Standard:

- Check at least one train of Reactor trip breakers open Trip A and/or Trip B indicating lights green
- Checks MRPI indicating all rods on the bottom
- Checks Neutron flux lowering (IR Current NI-35B, NI-36B) (IR SUR NI-35D, NI-36D)

Evaluator CUE:

None

Comment:

Performance Step: 2 Verify Turbine Stop Valves - CLOSED.

Procedure Step:

Step 2

Standard:

- Checks both Turbine Stop Valves (SVL and SVR) indicate Closed (GREEN) on EH valve status panel

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 3** _____ Verify both trains of AC Emergency Buses energized to at least 440 Volts.

Procedure Step:

Step 3

Standard:

- [✓] Checks Bus 14 and Bus 18 buses are deenergized
- Checks Bus 16 and Bus 17 voltmeters >440 Volts

Evaluator CUE:

None

Comment:

✓ **Performance Step: 4** _____ Attempt to start the "A" Diesel Generator

Procedure Step:

Step 3 RNO

Standard:

- [✓] Depresses the "A" Diesel Generator start push button
- Verifies the "A" diesel starts and loads buses 14 and 18

Evaluator CUE:

None

Evaluator NOTE:

The MALF inserted was Auto-start failure ONLY

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 5 Verify both trains of AC Emergency Buses energized to at least 440 Volts.

Procedure Step: **Step 3**
Standard:

- Checks Bus 14 and Bus 18 voltmeters >440 Volts
- Checks Bus 16 and Bus 17 voltmeters >440 Volts

Comment:

Performance Step: 6 Check if SI is actuated:
_____ a. Any SI Annunciator - LIT

Procedure Step: **Step 4.a**
Standard:

- Verifies no SI annunciator is lit by checking D-19, D- 21, D-22 and D-28 extinguished.

Evaluator CUE: None

Evaluator NOTE: **The referenced annunciators relate to plant parameter inputs to auto SI. The "Inadvertent SI on Train A" malfunction does not result in any of these alarms.**

Comment:

JPM VERIFICATION OF COMPLETION

| | |
|-------------------------------------|---|
| Performance Step: 7 _____ | Manually actuate SI and CI |
| | |
| Procedure Step: | Step 4.a RNO |
| Standard: | Checks various SI set point conditions <ul style="list-style-type: none">• <input checked="" type="checkbox"/> Operator recognizes that only "A" train of SI has started• <input checked="" type="checkbox"/> Depresses the SI and CI manual push buttons to actuate both trains |
| Evaluator CUE: | None |
| Comment: | |

| | |
|-------------------------------------|--|
| Performance Step: 8 _____ | Check if SI is actuated: <ul style="list-style-type: none">b. SI sequencing – BOTH TRAINS STARTED |
| | |
| Procedure Step: | Step 4.b |
| Standard: | <ul style="list-style-type: none">• Checks BOTH SI trains have actuated (multiple indications).• Operator should announce that "Immediate Actions Are Complete" |
| Evaluator CUE: | IF the student stops after the four (4) IA steps are completed, inform him "CRS has directed that you continue in E-0." |
| Evaluator NOTE: | Previous experience with only IA JPMs may condition the students to stop after Step 4 is completed. |
| Comment: | |

JPM VERIFICATION OF COMPLETION

Performance Step: 9

- Verification of Steps 1-4 using the procedure
- Verification that CNMT spray is not required (Step 5)
- Performance of Att.27, AUTOMATIC ACTION VERIFICATION (Step 6)

Procedure Step:**Steps 5 & 6****Standard:**

None

Evaluator CUE:

- “The CRS has verified the Immediate Action steps and completed Step 5.”
- “You have been directed to perform ATT-27.0”
- Hand the candidate ATT-27.0, Attachment Automatic Action Verification

Comment:

Performance Step: 10

Verify SI and RHR pumps running

Procedure Step:**ATT-27.0, Step 1****Standard:**

- Checks that all SI pumps – RUNNING
- Checks both RHR pumps - RUNNING

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 11 Verify CNMT RECIRC fans Running

Procedure Step: **ATT-27.0, Step 2**

Standard:

- Checks all fans – RUNNING
- Charcoal filter dampers green lights – Extinguished

Evaluator CUE: None

Comment:

Performance Step: 12 Check if Main Steamlines Should Be Isolated:

- a. Any MSIV – OPEN
- b. CNMT pressure – LESS THAN 18 PSIG
- c. Check if any MSIV should be isolated:
 - Low Tavg (545°) AND high steam flow (0.5×10^6 lb/hr) from either S/G, or
 - High-high steam flow (4.4×10^6 lb/hr) from either S/G
- d. Verify MSIV closed on affected S/G

Procedure Step: **ATT-27.0, Step 3**

Standard:

- Recognizes that MSIVs are closed ('A' closed on the loss of 'B' Instrument Bus and 'B' closed on HI-HI steam flow + SI when all of the steam demand shifted to 'B' S/G)
- Goes to Step 4

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 13** Verify MFW Isolation:

- a. MFW pumps – TRIPPED
- b. MFW Isolation valves – CLOSED
- c. S/G blowdown and sample valves - CLOSED

Procedure Step: ATT-27.0, Step 4

Standard:

- Recognizes that both MFPs are tripped
- Recognizes Both MFW isolation valves are closed
- [✓] Recognizes that 'A' and 'B' S/G Sample valves are open. (CI STATUS LIGHTS DIM)
- [✓] Takes S/G blow down and sample valve isolation switch to CLOSE (CI STATUS LIGHTS BRIGHT)

Evaluator CUE: None

Comment:

Terminating CUE: No further actions are required.

Stop Time: _____

JPM VERIFICATION OF COMPLETION

JR012.012, Rev. 2

LICENSED OPERATOR NAME: _____

JOB PERFORMANCE MEASURE: Perform Immediate Actions of E-0 with SITASK: 012-003-05-01, Perform Immediate Actions of E-0 with SI

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?

☐ YES ☐ NO
(If yes, provide comments below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

DATE: _____

EVALUATOR'S
SIGNATURE: _____

CRITICAL STEP BASES

[illegible]

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant is stable at 100 percent power
- No equipment is out of service

INITIATING CUE:

- You are the HCO assigned the monitoring function

2012 SRO RETAKE EXAM JPM N-E (Simulator)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Evaluate CNMT Spray Flow Requirements During
E-1 Performance**SYSTEM: Containment SprayTASK: 026-008-05-01: Secure Containment Spray**PURPOSE:**

To determine the ability of the examinee to assess plant conditions and equipment configuration to determine whether containment spray flow can be reduced per the procedural requirements of E-1, Loss of Reactor or Secondary Coolant

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES**

REVISED/CHANGED BY:

Pat LandersDATE: 03/28/2013

REVIEWED BY:

Don Dean Du DeanDATE: 4.5.13

SRO Reviewer

APPROVED BY:

Kyle Gannish
Supervisor-Operations TrainingDATE: 4/5/13**Master Copy**

Facility: Ginna Task No.: 026-008-05-01

Task Title: Secure Containment Spray JPM No.: 2012 Retake N-E

K/A Reference: 026 A4.01 (4.5 / 4.3) Alternate Path: YES ☐ NO ☒
CNMT Spray System: Ability to manually operate and/or monitor in the control room: CSS controls Time Critical: YES ☐ NO ☒
Category: RO/SRO

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: _____ Actual Performance: X
Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:

- Plant has experienced a large break LOCA
- The crew has completed E-0, REACTOR TRIP or SAFETY INJECTION, and is at Step 13 of E-1, LOSS OF REACTOR OR SECONDARY COOLANT.

Task Standard: Both CS Pumps secured with system controls and valves properly aligned.

Required Materials: A marked up copy of E-1 completed to Step 13 available in the simulator.

General References: E-1, LOSS OF REACTOR OR SECONDARY COOLANT, Revision 04100

Handouts: E-1, pages 1-14, marked up to and including Step 12

Initiating Cue:

- Perform Step 13 of E-1.
- Another board operator will respond to alarms NOT associated with the task.

Time Critical Task: No

Validation Time: 8 Minutes

SIMULATOR SETUP

- Reset to **IC-19** or any at-power Initial Condition
- Insert **MALF RCS03A** (Loop A hot leg DBA), **RCS03B** (Loop A cold leg DBA), **RCS03C** (Loop B hot leg DBA), OR **RCS03D** (Loop B cold leg DBA)
- Perform and placekeep the actions of **E-0**, transition to E-1, and **complete the actions of E-1 up to and including Step 12**
- Allow simulator to run **until CNMT pressure is < 4 psig and D-28, CNMT PRESSURE 4 PSI**, is extinguished

NOTE: Use of a large (e.g., 5000-6000 gpm) break may save time in bringing CNMT pressure down below 4 psig assumed in the initial cue.

(Denote Critical Steps with a √)

Start Time: _____.

Performance Step: 1 _____ Reviews marked-up procedure and FOLDOUT page

Procedure Step: **E-1 Steps 1-12**

Standard: N/A

Examiner CUE: None

Examiner NOTE: **Provide a copy of E-1, Step 13 (Pgs. 1-14), properly place-kept up to Step 13**

Comment:

Performance Step: 2 _____ Monitor if CNMT Spray Should Be Stopped:
a. CNMT spray pumps – ANY RUNNING

Procedure Step: **E-1, Step 13.a**

Standard:

- Observes red light LIT for each of two (2) CS pumps
- Observes CS flow on FI-930

Examiner CUE: None

Examiner NOTE: **Provide a copy of E-1, Step 13 (Pgs. 1-14), properly place-kept up to Step 13**

Comment:

√

Performance Step: 2

Monitor if CNMT Spray Should Be Stopped:

- a. CNMT Spray Pumps – ANY RUNNING
- b. Determine number of CNMT spray pumps required from table:

| CNMT PRESSURE | CNMT RECIRC FANS RUNNING | CNMT SPRAY PUMPS REQUIRED |
|---|--------------------------|---------------------------|
| GREATER THAN 60 PSIG | - | 2 |
| BETWEEN 4 PSIG AND 60 PSIG AND RISING | - | 2 |
| BETWEEN 4 PSIG AND 60 PSIG AND LOWERING | 0 or 1 | 2 |
| | 2, 3, or 4 | 1 |
| LESS THAN 4 PSIG | - | 0 |

Procedure Step:**Step 13.b****Standard:**

- Identifies that CNMT pressure is less than 4 PSIG on PI-944, PI-945, PI-947, & PI-949 and lowering and observes D-28, CNMT PRESSURE 4 PSI, extinguished
- Determines four (4) CRFs are running by observing red lights LIT
- [√] Using the values for CNMT pressure and the number of CNMT Recirc Fans running, determines 0 CNMT Spray Pumps are required

Examiner CUE:

None

Evaluator NOTE:

Any combination of CNMT pressure indicators is acceptable to determine the value/trend of CNMT pressure.

Comment:

NRC EXAMINER: ALTERNATE PATH BEGINS WITH THE NEXT STEP

Performance Step: 3 Monitor if CNMT Spray Should Be Stopped:
_____ c. CNMT spray pumps running – EQUAL TO NUMBER REQUIRED

Procedure Step: Step 13.c

Standard:

- Observes 2 CS pumps running using the red light LIT for each pump.
- Recalls no CS pumps are required per Table in step 13.b.
- Proceeds to step 13.c. RNO

Evaluator CUE: None

Comment:

✓ **Performance Step: 4** Stop CNMT spray pumps as necessary to meet table requirements:
_____ IF CNMT spray pump is to be stopped, THEN perform the following:
1) Place CNMT Spray Pump in PULL STOP

Procedure Step: Step 13.c.1) RNO

Standard: [✓] Rotates handles counter-clockwise and then pulls out to the locked position on EACH of the following pumps:

- [✓] CS Pump A
- [✓] CS Pump B

Evaluator CUE: None

Comment:

| | | |
|------------|----------------------------|--|
| ✓ _____ | Performance Step: 5 | IF CNMT pressure < 4 psig, THEN perform the following: a. Place NaOH Tank outlet valve switches to OPEN <ul style="list-style-type: none">• AOV-836A• AOV-836B |
| | Procedure Step: | Step 13.c.2)a) RNO |
| | Standard: | [✓] Rotates EACH switch clockwise to the OPEN position: <ul style="list-style-type: none">• [✓] AOV-836A• [✓] AOV-836B |
| | Evaluator CUE: | None |
| | Evaluator NOTE: | Considered critical because it properly aligns the valves in the event that CS Pumps must be manually started should CNMT pressure start to rise. |
| | Comment: | |

| | | |
|------------|----------------------------|--|
| ✓ _____ | Performance Step: 6 | Reset CNMT spray |
| | Procedure Step: | Step 13.c.2)b) RNO |
| | Standard: | <ul style="list-style-type: none">• [✓] Depresses the CNMT Spray Reset green pushbutton on the vertical section of MCB• Checks that A-27, CNMT SPRAY, has cleared |
| | Evaluator CUE: | None |
| | Comment: | |

✓ **Performance Step: 7** Close discharge valves for idle CNMT Spray Pump:

- CS Pump 'A'
 - MOV-860A
 - MOV-860B
- OR-
- CS Pump 'B'
 - MOV-860C
 - MOV-860D

Performance Step: E-1, Step 13.c.2)c) RNO

Standard:

[✓] Closes (GREEN light LIT) each of the four (4) valves associated with the two (2) idle CNMT Spray Pumps by rotating switches for each valve counter-clockwise:

- [✓] MOV-860A
- [✓] MOV-860B
- [✓] MOV-860C
- [✓] MOV-860D

Evaluator CUE: None

Evaluator NOTE: Considered critical because this action ensures containment isolation.

Terminating Cue: After closing the four discharge valves or when the operator proceeds to Step 14: Evaluation on this JPM is complete.

Stop Time: _____

2012 SRO RETAKE EXAM JPM N-E (Simulator)**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** **Evaluate CNMT Spray Flow Requirements
During E-1 Performance****TASK:** 026-008-05-01: Secure Containment Spray

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:**DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/IN ACTIONS OR PROCEDURAL QUALITY?**☐ YES ☐ NO
(If yes, provide comments
below)**COMMENTS:**

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY**EVALUATOR'S
SIGNATURE:** _____**DATE:** _____

CRITICAL STEP: “Those steps that, when not performed correctly, in the proper sequence, and/or at the proper time, will prevent the system from functioning properly or preclude successful completion of the task.” (ES-603, pp 2-3)

2012 SROI Retake NRC JPM E

INITIAL CONDITIONS:

- Plant has experienced a large break LOCA
- The crew has completed E-0, REACTOR TRIP or SAFETY INJECTION, and is at Step 13 of E-1, LOSS OF REACTOR OR SECONDARY COOLANT.

INITIATING CUE:

- Perform Step 13 of E-1.
- Another board operator will respond to alarms NOT associated with the task.

2012 SROI RETAKE JPM N-F (Simulator)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Startup the Containment Mini Purge and
Terminate Upon Indications of HIGH Radiation**SYSTEM: Containment Purge SystemTASK: 029-007-01-01, Startup the Containment Mini Purge**PURPOSE:**

Place the Containment Mini-Purge in operation in accordance with S-23.2.2, Containment Mini-Purge System Operation, then recognize that a high radiation reading on R-14, Plant Vent Noble Gas, requires that the mini-purge lineup be secured.

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:****Rev 1: Converted from a normal startup of the system to an ALTERNATE path JPM.**REVISED/CHANGED BY: Pat Landers DATE: 04/05/13REVIEWED BY: Don Dean DATE: 04/05/13
SRO ReviewerAPPROVED BY: Kyle Garnish DATE: 05/13/13
Supervisor-Operations Training

| | | | |
|---------------------------|---|---------------------|---------------------------|
| Facility: | Ginna | Task No.: | 029-007-01-01 |
| Task Title: | <u>Startup the Containment Mini Purge</u> | JPM No.: | <u>JR029.001</u> |
| K/A Reference: | 029 A2.03 (2.7 / 3.1) CNMT Purge System: Ability to predict the impacts of the following malfunctions or operations on the CNMT purge system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Startup operations and the associated valve lineups | Alternate Path: | Yes <u>X</u> No <u> </u> |
| | | Time Critical: | Yes <u> </u> No <u>X</u> |
| | | Category: | <u>RO/SRO</u> |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | _____ | Actual Performance: | <u> X </u> |
| Classroom | _____ | Simulator | <u> X </u> |
| | | Plant | _____ |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The Unit is operating at 100% power.
 - A routine Containment entry is scheduled for tomorrow.
 - A Containment Mini-Purge Release has been initiated by Radiation Protection (RP)
 - SM and RP approvals have been received
 - All RMS channels are operating normally
 - Nitrogen venting from the SI Accumulators is NOT in progress

Task Standard: Mini-purge is secured after R-14 indicates an Alarm condition.

Required Materials: None.

- General References:
- S-23.2.3, CONTAINMENT MINI-PURGE SYSTEM OPERATION, Rev 12
 - AR-E-16, RMS PROCESS MONITOR HIGH ACTIVITY, Rev 11
 - AR-RMS-14, R14 VENT GAS, Rev 8

Handouts: S-23.2.3

- Initiating Cue:
- The Shift Manager directs you to place the Containment Mini-Purge System in service in accordance with S-23.2.3, CONTAINMENT MINI-PURGE SYSTEM OPERATION

Validation Time: 13 minutes (04/04/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

Possible release greater than approved release limits.

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.
- Make available a copy of S-23.2.3 to the Operator at the appropriate cue.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues, the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

- **IC-19**, but ANY at-power IC will work
- Verify Containment Mini-Purge System is secured in selected IC
- Set **Trigger 30** conditional on taking the CNMT Mini-Purge Supply Blower to START: set **x08i074b ==1**
- Set **MALF RMS02F, 1.3E05, 20 second ramp, 0 second delay** on **Trigger 30** (The HIGH alarm setpoint for R-14, per P-9, is **1.2E5** and the release rate limit is 3.0E5.)

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a 🚨)

Start Time: _____

Performance Step: 1 _____ Reviews Initial Conditions and Initiating Cue, obtains a current revision of S-23.2.3.

Procedure Step: N/A

Standard: N/A

Evaluator CUE: **Provide Operator a copy of S-23.2.3.**

Comment:

Performance Step: 2 _____ Containment Radiation Monitoring R-11 or R-12 are operating.

Procedure Step: **3.1**

Standard: Confirms via RMS panel indications that both R-11 and R-12 are operating.

Evaluator CUE: None

Evaluator NOTE: **Candidate may take time to set up PPCS displays to trend RMS values and/or CNMT pressure.**

Comment:

Performance Step: 3 _____ Either Auxiliary Building Iodine Radiation Monitor R-10B or R-14A is operable.

Procedure Step: **3.2**

Standard: Confirms via panel indications that R-10B or R-14A (PPCS) are operable.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 4 Auxiliary Building Radiation Monitor R-13 is operating or samples are continuously collected with auxiliary equipment.

Procedure Step: 3.3

Standard: Confirms via panel indications that R-13 is operating.

Evaluator CUE: None

Comment:

Performance Step: 5 If either R-11 or R-12 is inoperable, ensure requirements of LCO 3.6.3, Actions Note 1 are met, otherwise N/A.

Procedure Step: 3.3.1

Standard: Confirms via panel indications that both R-11 and R-12 are operable, and "N/As" this step.

Evaluator CUE: None

Comment:

Performance Step: 6 At least one containment recirculation fan is running.

Procedure Step: 3.4

Standard: Describes/points out the MCB indications for each of the four (4) CNMT RECIRC FAN switches that at least one containment recirculation fan is running (red light LIT).

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

| | |
|----------------------------|---|
| Performance Step: 7 | Plant ventilation system operating. |
| Procedure Step: | 3.5 |
| Standard: | Confirms that annunciator L-1, AUX BLDG VENT SYSTEM CONTROL PANEL, is NOT lit |
| Evaluator CUE: | When asked as AO, "Aux Bldg ventilation systems are lined up normally and operating properly." |
| Evaluator NOTE: | <p>There are no Aux Bldg plant ventilation component indications or controls available in the MCR, so candidate should:</p> <ul style="list-style-type: none">• Contact the primary AO for confirmation• Check L-1 not lit |
| Comment: | |

| | |
|----------------------------|---|
| Performance Step: 8 | Containment mini-purge release has been initiated by Radiation Protection and approved by the Shift Manager and either Radiochemist or Health Physicist. |
| Procedure Step: | 3.6, 3.7, 3.8 |
| Standard: | <p>Confirms via Initial Conditions provided that:</p> <ul style="list-style-type: none">• The mini-purge release has been initiated by Radiation Protection• SM has approved• RP approval has been obtained |
| Evaluator CUE: | If queried, confirm "mini-purge release initiated by Radiation Protection." |
| Comment: | |

JPM VERIFICATION OF COMPLETION

Performance Step: 9 Auxiliary Building Radiation Monitor R-14 is operating or grab samples are being taken at least once per 4 hours and these samples analyzed for isotopic activity within 24 hours or if RM-14A is operable a review of data from channel 5 "Low Range Noble Gas" is performed at least every 4 hours.

Procedure Step: 3.9

Standard: Observes via panel indication that R-14 is operating

Evaluator CUE: None

Comment:

Performance Step: 10 PRECAUTIONS

Procedure Step: 4.1 through 4.7

Standard:

- Reviews each Precaution
- Verifies R-11 and R-12 below release limits prior to release

Evaluator CUE: None

Evaluator NOTE: Precaution 4.5, "Secure the mini-purge system if either R-13, R-14, or R-14A goes into alarm (except during performance of PT-17.2 or PT-12.5)" is the one to be exercised during this JPM

Comment:

Performance Step: 11 Verify Mini Purge Roof Vent Isolation Valve, V-7479, locked closed.

Procedure Step: 5.1.1

Standard: Directs Secondary AO to verify V-7479 locked closed.

Evaluator CUE: When requested: "Secondary AO reports that V-7479 is locked closed."

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 12** Open Mini Purge Exhaust Valve, AOV-7970. (Inside CNMT)

Procedure Step: 5.1.2

Standard:

- [✓] Rotates AOV-7970 valve control switch to OPEN
- Verifies red light ON, green light OFF

Evaluator CUE: None

Evaluator NOTE: The mini-purge components are located BEHIND the left hand section of the MCB

Comment:

✓ **Performance Step: 13** Open Mini Purge Exhaust Valve, AOV-7971. (Outside CNMT)

Procedure Step: 5.1.3

Standard:

- [✓] Rotates AOV-7971 valve control switch to OPEN
- Verifies red light ON, green light OFF

Evaluator CUE: None

Comment:

✓ **Performance Step: 14** Open Mini Purge Supply Valve, AOV-7478. (Inside CNMT)

Procedure Step: 5.1.4

Standard:

- [✓] Rotates AOV-7478 valve control switch to OPEN
- Verifies red light ON, green light OFF

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 15** Open Mini Purge Supply Valve, AOV-7445. (Outside CNMT)

Procedure Step: 5.1.5

Standard:

- [✓] Rotates AOV-7445 valve control switch to OPEN
- Verifies red light ON, green light OFF

Evaluator CUE: None

Comment:

Performance Step: 16 NOTE: Blower discharge valve AOV-7480 will stroke open on blower start

Procedure Step: NOTE prior to Step 5.1.6

Standard: Reads NOTE

Evaluator CUE: None

SIM DRIVER: ENSURE that Trigger 30 is activated in the next step 30 seconds after the Mini-Purge Supply Blower is started

Comment:

NRC EXAMINER: ALTERNATE PATH BEGINS WITH THE NEXT STEP

JPM VERIFICATION OF COMPLETION

| | |
|--------------------------------------|--|
| Performance Step: 17 _____ | Start 1A Mini-Purge Supply System Blower and verify Containment pressure increase. (Pressure should rise in 4-5 minutes) |
| Procedure Step: | 5.1.6 |
| Standard: | <ul style="list-style-type: none">• [N] Momentarily rotates blower control switch to START• Verifies blower red light ON, green light OFF, red flag visible• Monitors MCB Containment pressure (PI-945/947/949) indication• Logs Purge START TIME _____ |
| Evaluator CUE: | None |
| Evaluator NOTE: | C-17, CONTAINMENT VENT SYSTEM, will alarm momentarily during blower start |
| Comment: | |

| | |
|--------------------------------------|--|
| Performance Step: 18 _____ | R-14 Channel Indication Rises to > 1E+05 HIGH ALARM setpoint |
| Procedure Step: | PRECAUTIONS 4.1 and 4.5 |
| Standard: | <ul style="list-style-type: none">• Recognizes that R14 is rising• Recognizes PPCS R14 alarm• Acknowledges E-16, RMS PROCESS MONITOR HIGH ALARM• Acknowledges L-1, AUX BLDG VENT SYSTEM CONTROL PANEL, due to AB Ventilation trip due to R14 alarm• Informs CRS that he is securing the Mini-Purge per the guidance provided in Precaution 4.5 for R-14 in Alarm• Goes to Section 5.2, Securing CNMT Mini-Purge |
| Evaluator CUE: | "The SM understands that you are securing the mini-purge due to an R-14 high alarm." |
| Evaluator NOTE: | Candidate may also refer to AR-E-16, then to AR-RMS-14, for direction to secure mini-purge if in progress |
| Comment: | |

JPM VERIFICATION OF COMPLETION

Performance Step: 19 _____ NOTE: If Nitrogen is being vented from the SI Accumulators, then DO NOT secure mini-purge operation

Procedure Step: Section 5.2, NOTE prior to Step 5.2.1

Standard:

- Reads NOTE, identifies that NOTE is N/A

Evaluator CUE: None
Comment:

Performance Step: 20 _____ Ensure the shutdown of containment mini-purge is authorized by:

- Shift Manager
- Health Physicist

Procedure Step: Step 5.2.1

Standard:


- Notes that previous communication to evaluator has identified the need to secure the mini-purge, and the SM has concurred

Evaluator CUE: None
Comment:

 **Performance Step: 21** _____ Stop 1A containment mini-purge supply system blower.

Procedure Step: 5.2.2

Standard:

-  Momentarily rotates MINI-PURGE SUPPLY blower control switch counter-clockwise to STOP
- Verifies blower red light OFF, green light ON, red flag not visible
- Logs Purge STOP TIME _____

Evaluator CUE: None
Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 22** Close Mini Purge Supply Valve, AOV-7478. (Inside CNMT)

Procedure Step: 5.2.3

Standard:

- [✓] Rotates AOV-7478 valve control switch counter-clockwise to CLOSE
- Verifies red light OFF, green light ON
- Checks R-14 for indication that release has been terminated

Evaluator CUE: None

Evaluator NOTE: This valve closure, OR the closure of AOV-7445 in the next step, will isolate the CNMT mini-purge supply line

Comment:

✓ **Performance Step: 23** Close Mini Purge Supply Valve, AOV-7445. (Outside CNMT)

Procedure Step: 5.2.4

Standard:

- [✓] Rotates AOV-7445 valve control switch counter-clockwise to CLOSE
- Verifies red light OFF, green light ON

Evaluator CUE: None

Evaluator NOTE: This valve closure, OR the closure of AOV-7478 in the previous step, will isolate the CNMT mini-purge supply line

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 24** Close mini-purge exhaust valve, AOV-7970. (Inside CNMT)

Procedure Step: 5.2.5

Standard:

- [✓] Rotates AOV-7971 valve control switch counter-clockwise to CLOSE
- Verifies red light OFF, green light ON

Evaluator CUE: None

Evaluator NOTE: This valve closure, OR the closure of AOV-7971 in the next step, will isolate the CNMT mini-purge exhaust line

Comment:

✓ **Performance Step: 25** Close mini-purge exhaust valve, AOV-7971 (Outside CNMT)

Procedure Step: 5.2.6

Standard:

- [✓] Rotates AOV-7971 valve control switch counter-clockwise to CLOSE
- Verifies red light OFF, green light ON

Evaluator CUE: None

Evaluator NOTE: This valve closure, OR the closure of AOV-7970 in the previous step, will isolate the CNMT mini-purge exhaust line

Comment:

Terminating Cue: "No further action is required."

Stop Time: _____

JPM VERIFICATION OF COMPLETION

JR029.001, Rev. 1

LICENSED OPERATOR NAME: _____

JOB PERFORMANCE MEASURE: Startup the Containment Mini Purge and
Terminate Upon Indications of HIGH
RadiationTASK: 029-007-01-01, Startup the Containment Mini Purge

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?

☐ YES ☐ NO
(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

EVALUATOR'S
SIGNATURE: _____

DATE: _____

JPM VERIFICATION OF COMPLETION

CRITICAL STEP BASES

CRITICAL STEP: “Those steps that, when not **performed correctly**, in the **proper sequence**, and/or **at the proper time**, will **prevent the system from functioning properly** or **preclude successful completion of the task**.” (ES-603, pp 2-3)

[illegible]

INITIAL CONDITIONS:

- The Unit is operating at 100% power.
- A routine Containment entry is scheduled for tomorrow.
- A Containment Mini-Purge Release has been initiated by Radiation Protection (RP)
- SM and RP approvals have been received
- All RMS channels are operating normally
- Nitrogen venting from the SI Accumulators is NOT in progress

INITIATING CUE:

- The Shift Manager directs you to place the Containment Mini-Purge System in service in accordance with S-23.2.3, CONTAINMENT MINI-PURGE SYSTEM OPERATION

2012 SROI RETAKE EXAM JPM-N-G (Simulator)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Defeat a Failed PRZR Pressure Channel**SYSTEM: Reactor Protection SystemTASK: 012-006-01-01, Defeat a Failed PRZR Pressure
Channel

PURPOSE:

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:**
Rev 0 – New modified JPMREVISED/CHANGED BY: Pat LandersDATE: 04/05/13

REVIEWED BY:

Don Dean Du DeanDATE: 4.5.13

SRO Reviewer

APPROVED BY:

Kyle Gurnish [Signature]
Supervisor-Operations TrainingDATE: 4/5/13**Master Copy**

JPM VERIFICATION OF COMPLETION

| | | | |
|---------------------------|--|---------------------|---|
| Facility: | Ginna | Task No.: | 012-006-01-01 |
| Task Title: | <u>Defeat a Failed PRZR Pressure Channel</u> | JPM No.: | <u>2012 Retake JPM N-G</u> |
| K/A Reference: | 012 A4.04 3.3 / 3.3 Ability to manually operate and/or monitor in the control room: Bistable, trips, reset and test switches | Alternate Path | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Time Critical | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Category: | <u>RO/SRO</u> |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | _____ | Actual Performance: | <u>X</u> |
| Classroom | _____ | Simulator | <u>X</u> |
| | | Plant | _____ |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant was operating at 100% power when PI-430 failed high due to PT-430 failure
 - The operators took actions per ER-INST.1, up to step 6.3.4
 - A Turbine Runback did not occur

Task Standard: Complete the defeat of PRZR Pressure PI-430 without error

Required Materials: Key to Protection Racks

General References: ER-INST.1, REACTOR PROTECTION BISTABLE DEFEAT AFTER INSTRUMENTATION LOOP FAILURE, Rev 03602

Handouts: ER-INST.1 (pages 1-16) and Attachment 6

JPM VERIFICATION OF COMPLETION

- Initiating Cue:
- The Shift Supervisor directs you to defeat the failed PRZR instrument channel per ER-INST.1, Attachment-6, White Channel
 - Pre-Job Brief has been completed

Time Critical Task: No

Validation Time: 15 minutes (04/04/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:

None

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

Indicate reason for unsatisfactory step performance in the comment section below each step.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

JPM VERIFICATION OF COMPLETION

SIMULATOR SETUP

- Load **IC-19**, 100%, MOL
- Insert **MALF PZR02B**, [2500 psig]

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a ✓)

Start Time: _____

Performance Step: 1 Obtain controlled copy of ER-INST.1.

Procedure Step: N/A

Standard: Obtains controlled copy of ER-INST.1.

Evaluator CUE: Provide the candidate with copy of ER-INST.1., marked up to step 6.3.4, and Attachment 6

Comment:

Performance Step: 2 IF PRZR pressure channel failure resulted in a runback, THEN PERFORM the following....

Procedure Step: ATT. 6, step 1.0

Standard:

- Recognizes that per the Initial Conditions, a runback did NOT occur
- Goes to step 2.0

Evaluator CUE: None

Comment:

Performance Step: 3 NOTE: Performing the following step will remove the affected channel from control of PORV-430 AND inputs to alarms F-2, PRESSURIZER HI PRESS 2310 PSI and F-10, PRESSURIZER LO PRESS 2205 PSI

Procedure Step: ATT.6, NOTE prior to Step 2.0

Standard: Reads NOTE

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

| | | |
|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Performance Step: 4 _____ | In the PLP PRZR PRESS AND LEVEL rack, VERIFY the PRZR pressure DEFEAT switch P/429A position. 2.1 IF P/429A is in NORMAL, THEN place P/429A to DEFEAT-2 2.2 IF P/429A is NOT in NORMAL, THEN notify the SM |
| | Procedure Step: | ATT.6, steps 2.0 – 2.3 |
| | Standard: | <ul style="list-style-type: none">• Obtains cabinet key, goes to PLP Rack, unlocks and opens• <input checked="" type="checkbox"/> Verify P/429A is in Normal position, turns DEFEAT switch counter-clockwise to DEFEAT-2 position |
| | Evaluator CUE: | None |
| | Evaluator NOTE: | P/429A is initially in the Normal position |
| | Comment: | |

| | |
|-------------------------------------|--|
| Performance Step: 5 _____ | NOTE: Performing the following step will defeat the Δ T Runback and Rodstop for the failed channel AND remove the associated Δ T input from the RIL computer. Annunciators F-30 and F-31 will clear if lit |
| Procedure Step: | ATT.6, NOTE prior to Step 3.0 |
| Standard: | Reads NOTE before performing step 3.0 |
| Evaluator CUE: | None |
| Comment: | |

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 6** In the RIL INSERTION LIMIT rack, **PLACE** T/405E DELTA T DEFEAT switch to LOOP A UNIT 2

Procedure Step: ATT.6, step 3.0

Standard:

- Unlocks the RIL Rack and opens door.
- [✓] Turns T/405E DELTA-T DEFEAT switch clockwise from Operate to LOOP A Unit 2 position
- Closes and locks door

Evaluator CUE: None

Comment:

Performance Step: 7 NOTE contains a list of bistable status lights and Annunciators that are expected to be LIT after the defeat

Procedure Step: ATT.6, NOTE prior to Step 4.0

Standard: Reads NOTE before step 4.0

Evaluator CUE: None

Comment:

Performance Step: 8 RECORD the following data:

• PRZR Pressure PI-430 2500 PSIG

• LOOP 1A-2 ΔT TEMP TI-406B 67 °F

• OT ΔT SP1 LOOP 1A-2 TEMP TI-406A 85 °F

Procedure Step: ATT.6, step 4.1

Standard: Records data from MCB indications

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 9

DETERMINE the expected post defeat Bistable proving light status and circle the expected status in table below:

Procedure Step:**ATT.6, step 4.2****Standard:**406 LOOP A-2

- OVERTEMP TRIP Light OFF IF TI-406B \geq TI-406A

430 CHANNEL 2

- HIGH PRESS TRIP Light OFF IF PI-430 $>$ 2377 psig
- LOW PRESS TRIP Light OFF IF PI-430 \leq 1873 psig
- SI Light OFF IF PI-430 \leq 1750 psig
- UNBLOCK SI Light OFF IF PI-430 $>$ 1992 psig

| Bistable | Expected Proving Light status (Circle) | Post Defeat Light Status Verified |
|----------------------------------|--|-----------------------------------|
| 406 LOOP A-2 OVERTEMP TRIP | ON OFF | |
| 430 CHANNEL 2 HIGH PRESS TRIP | ON OFF | |
| 430 CHANNEL 2 LOW PRESS TRIP | ON OFF | |
| 430 CHANNEL 2 SI | ON OFF | |
| 430 CHANNEL 2 UNBLOCK SI | ON OFF | |

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

- ✓ **Performance Step: 10** In the (WHITE) W-1 PROTECTION CHANNEL 2 rack, **PLACE** the following bistable proving switches to DEFEAT (UP) **AND** **VERIFY** the proving light status is correct per the table above.

406 LOOP A-2

- OVERTEMP TRIP

430 CHANNEL 2

- HIGH PRESS TRIP
- LO PRESS TRIP
- SI
- UNBLOCK SI

Procedure Step:

ATT.6, step 5.0

Standard:

- [✓] Pulls and lifts OVERTEMP TRIP switch (Light ON)
- [✓] Pulls and lifts HIGH PRESS TRIP switch (Light OFF)
- [✓] Pulls and lifts LOW PRESS TRIP switch (Light ON)
- [✓] Pulls and lifts LOW PRESS SI TRIP switch (Light ON)
- [✓] Pulls and lifts UNBLOCK SI switch (Light OFF)

Evaluator CUE:

None

Comment:

- Performance Step: 11** PLACE the PRZR pressure recorder switch (MCB) to position 1-3

Procedure Step:

6.0

Standard:

Places MCB recorder switch to 1-3 position

Evaluator CUE:

None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 12 **VERIFY** the bistable status lights AND Annunciators listed below
_____ are lit

Procedure Step: **7.0**

Standard: Verifies correct Bistable Status Light and Annunciator status
lights

NOTE

The following bistable status lights are expected to be lit after the DEFEAT:

- PRZR High Press PC430A (Trip)
- PRZR Lo Press PC430H (Trip)
- PRZR Lo Press PC430E (SI)
- PRZR Lo Press PC430E-1 (SI)
- OTΔT LOOP A TC406C

The following Annunciators are expected to be lit after the DEFEAT:

- F-26, PRESSURIZER HI PRESS CHANNEL ALERT 2377 PSI
- F-27, PRESSURIZER LO PRESS CHANNEL ALERT 1873 PSI
- C-27, PRESSURIZER LO PRESS SI CHANNEL ALERT 1750 PSIG
- C-28, PRESSURIZER LO PRESS SI CHANNEL ALERT 1750 PSIG
- F-23, RCS OT ΔELTA T CHANNEL ALERT

Evaluator CUE: None

Evaluator NOTE: **JPM is complete when the proper bistable indications have
been verified.**

Comment:

Terminating Cue: **"No further action is required."**

Stop Time: _____

JPM VERIFICATION OF COMPLETION

2012 Retake JPM N-G**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** Defeat a Failed PRZR Pressure Channel**TASK:** 012-006-01-01, Defeat a Failed PRZR Pressure Channel

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?

☐ YES ☐ NO
(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORY

EVALUATOR'S
SIGNATURE: _____

DATE: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant was operating at 100% power when PI-430 failed high due to PT-430 failure
- The operators took actions per ER-INST.1, up to step 6.3.4
- A Turbine Runback did not occur

INITIATING CUE:

- The Shift Supervisor directs you to defeat the failed PRZR instrument channel per ER-INST.1, Attachment-6, White Channel
- Pre-Job Brief has been completed

2012 SRO RETAKE EXAM – JPM-N-H (In plant)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Energize a Minimum of 100 KW Backup heaters
onto D/G**SYSTEM: AC Electrical Distribution SystemTASK: 062-029-05-04, Energize a Minimum of 100 KW
Backup heaters onto D/G

PURPOSE:

Restore 100 KW of backup heaters during a loss of all AC power.

JOB PERFORMANCE MEASURE**LICENSED OPERATOR TRAINING****REVISION/CHANGES:****Rev.1** - Added examiner note performance step 2REVISED/CHANGED BY: Scott ReedDATE: 3/29/13REVIEWED BY: Don Dean

SRO Reviewer

DATE: 3/29/13

APPROVED BY:

Kyle Gannish
Supervisor-Operations TrainingDATE: 4/5/13**Master Copy**

| | | | |
|---------------------------|--|-------------------------|--|
| Facility: | Ginna | Task No.: | 062-029-05-04 |
| Task Title: | <u>Energize a Minimum of 100 KW Backup heaters onto D/G</u> | | JPM No.: <u>JC010.001</u> |
| K/A Reference: | APE056 AA1.03 (3.2 / 3.3) Adjustment of ED/G load by selectively energizing PZR backup heaters. | Alternate Path | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Time Critical Category: | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <u>RO/SRO</u> |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | <input checked="" type="checkbox"/> | Actual Performance: | _____ |
| Classroom | _____ | Simulator | _____ |
| | | Plant | <input checked="" type="checkbox"/> |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant was operating at 100% power when it experienced an SI coincident with a loss of all AC power.
 - The 'B' D/G is now running and carrying approximately 1650 KW on Buses 16 and 17.
 - PRZR level is 20% and stable
 - CNMT pressure is 0.4 psig
 - SI has been RESET

Task Standard: 125 KW of pressurizer backup heaters are energized per ER-PRZR.1.

Required Materials: Hard Hat, Safety Glasses, Hearing Protection, Safety Shoes, gloves and Dosimetry.

- General References:
- ER-PRZR.1: RESTORATION OF PRZR HEATERS DURING BLACKOUT, Rev 00700
 - Drawing 03200-0122, Sheets 1 & 2
 - Drawing 03200-0123, Sheets 1 & 2

Handouts: ER-PRZR.1: RESTORATION OF PRZR HEATERS DURING
BLACKOUT, Rev 00700

Drawing 03200-0122, Sheets 2

Initiating Cue:

- The CRS has directed you to energize a minimum 100 KW of PRZR BACKUP heaters per ER-PRZR.1, Section 4.2.

Validation Time: 9 Minutes (4/03/13)

CONSEQUENCES OF INADEQUATE PERFORMANCE:
Equipment Damage

SAFETY CONSIDERATIONS:

- Radiological Hazard
- Personal Protective Equipment

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.
- Make a copy of ER-PRZR.1 available to the Operator at the appropriate cue.
- Assess Auxiliary Building for radiological and/or personnel safety concerns prior to start of JPM. **Validation on 11/20/12 showed a potential problem with the height of panel ACPDPPAB12 (located above ACPDPPAB13). Use the lower panel for both performance steps 7 and 8.**
- Proper use of H/U tools shall be exhibited for all steps.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. SIMULATE only. Do NOT actually manipulate any plant equipment.
4. Verbalize all your actions and observations while performing the JPM.
5. Where necessary, consider the examiner for peer checks as appropriate.
6. Verbalize when you consider your performance of the JPM complete.
7. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
8. Are there any questions before beginning this JPM?

SIMULATOR SETUP

N/A

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a √)

Start Time: _____

Performance Step: 1

PRECAUTIONS:

- 3.1 A minimum of 100KW of PRZR heaters should be restored within 1 hr of initiation of natural circulation to prevent loss of subcooling (ITS LCO 3.4.9)
- 3.2 PRZR level must be greater than 13% [50%] to energize PRZR heaters.
- 3.3 Continuous D/G loading should not exceed 1950 KW.
- 3.4 During accident conditions, the on-duty RP Technician should be consulted prior to entry into the controlled area.
- 3.5 The PASS surge line to the VCT may require flushing to minimize radiological hazards prior to entering the SPF Hx area.

Procedure Step:**Section 3.0****Standard:**

Reads PRECAUTIONS, compares with Initial Conditions

Evaluator CUE:

If RP is consulted per Precaution 3.4, report “No additional radiological precautions required at this time”.

Evaluator NOTE:

Provide a copy of ER-PRZR.1

Comment

JPM VERIFICATION OF COMPLETION

Performance Step: 2 Proceeds to PRZR backup heater breaker panel.

Procedure Step: N/A

Standard: Locates panel **ACDPAB12**

Evaluator CUE: None

Examiner NOTE:

- Panel is located on the AB Middle level, behind 'A' SFP heat exchanger.
- Candidate may review performance steps 3, 4, 5 and 6 prior to proceeding to Panel

Comment:

Performance Step: 3 4.2 Perform the following to restore all or part of the PRZR Backup heaters:

4.2.1 Verify SI has been reset (Annunciator K-6 clear). Reset SI if necessary.

Procedure Step: 4.2.1

Standard: Verifies that SI has been reset.

Evaluator CUE: IF candidate verifies SI is reset with the Control Room, feedback **"SI is Reset, Annunciator K-6 is clear"**.

Evaluator NOTE: SI RESET was part of the Initial Conditions

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 4 Verify Emergency D/G B is supplying Bus 16

Procedure Step: **4.2.2**

Standard: Determines from initial conditions that the 'B' D/G is supplying Bus 16 (and Bus 17)

Evaluator CUE: None

Comment:

✓ **Performance Step: 5** To energize all PRZR Backup heaters (400KW) perform the following:

- Verify Emergency D/G B load less than 1550 KW, IF NOT, then go to step 4.2.4

Procedure Step: **4.2.3, 4.2.3.1**

- Standard:**
- [✓] Determines from initiating cue that ED/G /B/ loading is 1650 KW and goes to step 4.2.4
 - Also notes from the Initiating Cue that the direction given was to energize a minimum of 100 KW of Backup heaters.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 6
_____ To energize a minimum of 125 KW of PRZR Backup heaters, perform the following:

- IF Emergency D/G B load is greater than 1825 KW, THEN evaluate plant status and reduce D/G loading to less than 1825 KW

Procedure Step: 4.2.4, 4.2.4.1
Standard: Determines from initial conditions that the 'B' D/G load is 1650 KW and therefore reducing 'B' D/G load is NOT necessary.

Evaluator CUE: IF Control Room is asked to verify, 'B' D/G load is 1650 KW and stable."

Comment:

✓ **Performance Step: 7**
_____ At ACPDPAB12, open all breakers EXCEPT Breaker Switch #4.

Procedure Step: 4.2.4.3
Standard: [✓] Simulates opening all heater breakers EXCEPT Breaker Switch #4.

Evaluator CUE:

- Due to potential safety concern with panel's elevation, after identifying the panel inform candidate that they may simulate/ describe breaker actions on provided panel arrangement drawing 03200-0122. sheet 2
- Feed back "Breaker is OFF" as the Operator simulates opening each heater breaker

Evaluator NOTE:

- Breakers in panel ACPDPA12 are identical to the breakers in ACPDPAB13 in upcoming step.
- Nearest ladder station is on the wall next to the Spent Fuel Pool DI room gate.

Comment:

JPM VERIFICATION OF COMPLETION

☒ **Performance Step: 8** At ACPDPAB13, open all breaker switches except Breaker Switch #1, #3, #6. (Total capacity available should be ~ 125 KW)

Procedure Step: 4.2.4.4

Standard: ☒ Simulates opening all heater breakers except Breaker Switch #1, #3, #6.

Evaluator CUE: Feed back "Breaker is OFF" as the Operator simulates opening each heater breaker
When reported to control room, acknowledge status of breakers.

Comment:

Terminating Cue: When all pressurizer backup heater breakers are aligned as required:
"No further Action required."

Stop Time: _____

JPM VERIFICATION OF COMPLETION

2012 SRO RETAKE EXAM – JPM-N-H (In plant)

LICENSED OPERATOR NAME: _____

JOB PERFORMANCE MEASURE: **Energize a Minimum of 100 KW Backup
heaters onto D/G**TASK: 062-029-05-04, Energize a Minimum of 100 KW
Backup heaters onto D/G

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?☐ YES ☐ NO(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORYEVALUATOR'S
SIGNATURE: _____

DATE: _____

[illegible]

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant was operating at 100% power when it experienced an SI coincident with a loss of all AC power.
- The 'B' D/G is now running and carrying approximately 1650 KW on Buses 16 and 17.
- PRZR level is 20% and stable
- CNMT pressure is 0.4 psig
- SI has been RESET

INITIATING CUE:

- The CRS has directed you to energize a minimum 100 KW of PRZR BACKUP heaters per ER-PRZR.1, Section 4.2.

GINNA STATION

CONTROLLED COPY NUMBER_____

PROCEDURE NO. ER-PRZR.1 REV. NO. 00700

RESTORATION OF PRZR HEATERS DURING BLACKOUT

Edward Groh
RESPONSIBLE MANAGER

5/11/2007
EFFECTIVE DATE

CATEGORY 1.0

REVIEWED BY:_____

THIS PROCEDURE CONTAINS 3 PAGES

ER-PRZR.1**RESTORATION OF PRZR HEATERS DURING BLACKOUT****1.0 PURPOSE:**

- 1.1 This procedure provides the instructions necessary to restore 100KW of pressurizer heaters from the emergency D/Gs to enhance natural circulation at hot standby conditions.

2.0 ENTRY CONDITIONS/SYMPTOMS:

- 2.1 **ENTRY CONDITIONS:** This procedure is entered from ATT-13.0, Attachment NC, when PRZR Heaters are desired.

3.0 PRECAUTIONS:

- 3.1 A minimum of 100 KW of PRZR heaters should be restored within 1 hour of initiation of natural circulation to prevent loss of subcooling. (ITS LCO 3.4.9)
- 3.2 PRZR level must be GREATER THAN 13% (50% adverse CNMT) to energize PRZR heaters.
- 3.3 Continuous D/G loading should not exceed 1950 KW.
- 3.4 During accident conditions, the on duty RP Technician should be consulted prior to entry into the controlled area.
- 3.5 The PASS purge line to the VCT may require flushing to minimize radiological hazards prior to entering the SFP Hx area.

4.0 **INSTRUCTIONS:**

NOTE: D/G accident loading is listed in UFSAR Table 8.3-2.

4.0.1 This procedure is divided into the following sections:

4.1 Restoring PRZR Proportional HTRs

4.2 Restoring PRZR Backup HTRs

4.1 Perform the following to restore PRZR Proportional Heaters as necessary:

4.1.1 Verify SI has been reset (Annunciator K-6 clear). Reset SI if necessary.

4.1.2 Place both spray valve controllers, PCV-431A and PCV-431B, in MANUAL and close valves.

4.1.3 Place PRZR backup heater switch to OFF.

4.1.4 Place PRZR pressure controller 431K, in MANUAL and adjust output to 60%.

4.1.5 Note Emergency D/G A wattmeter reading.

4.1.6 Place PRZR proportional heater breaker switch to TRIP.

4.1.7 Place PRZR proportional heater breaker switch to CLOSE.

4.1.8 Lower PRZR pressure controller 431K, output slowly from 60% to establish a minimum of 125 KW as indicated on D/G A wattmeter.

4.1.9 Continue to monitor D/G A loading and maintain less than 1950 KW.

4.1.10 Adjust PRZR pressure controller, 431K, as necessary to maintain RCS pressure while monitoring D/G A loading.

4.1.11 WHEN offsite power is restored, THEN restore PRZR heaters to auto operation if desired.

4.2 Perform the following to restore all or part of the PRZR Backup heaters:

4.2.1 Verify SI has been reset (Annunciator K-6 clear). Reset SI if necessary.

4.2.2 Verify Emergency D/G B is supplying Bus 16.

4.2.3 To energize all PRZR Backup heaters (400 KW) perform the following:

- 4.2.3.1 Verify Emergency D/G B load less than 1550 KW. IF NOT, THEN go to step 4.2.4.
- 4.2.3.2 Place PRZR backup heater breaker switch to ON.
- 4.2.3.3 Continue to monitor Emergency D/G B loading, and return to procedure and step in effect.
- 4.2.4 To energize a minimum of 125 KW of PRZR Backup heaters, perform the following:
 - 4.2.4.1 IF Emergency D/G B load is GREATER THAN 1825 KW, THEN evaluate plant status and reduce D/G loading to less than 1825 KW.
 - 4.2.4.2 Dispatch an AO to the PRZR backup heater breaker panel (AUX BLDG intermediate floor by SFP Hx).
 - 4.2.4.3 At ACPDPAB12 open all breaker switches EXCEPT Breaker Switch #4.
 - 4.2.4.4 At ACPDPAB13 open all breaker switches EXCEPT Breaker Switch #1, #3, and #6. (Total capacity available should be approximately 125 KW)
 - 4.2.4.5 Note Emergency D/G B wattmeter reading.
 - 4.2.4.6 Place PRZR backup heater breaker switch to ON to load heaters onto Emergency D/G B.
 - 4.2.4.7 Verify a minimum of 100 KW has been loaded on Emergency D/G B.
 - 4.2.4.8 IF this capacity does not cover heat losses from the pressurizer, THEN close additional breakers while monitoring Emergency D/G B loading.
 - 4.2.4.9 WHEN offsite power restored, THEN restore PRZR Heaters to AUTO operation by reclosing all Pressurizer Heater Breakers in ACPDPAB12 and ACPDPAB13.
- 4.3 Return to procedure and step in effect.

END

2012 SRO RETAKE EXAM JPM N-I (In plant)**LICENSED OPERATOR****JOB PERFORMANCE
MEASURE:****Weekly Operation of Reactor Coolant Drain Tank
Pumps**SYSTEM: Chemical and Volume Control SystemTASK: 068-001-01-01, Perform transfer operations from
the RCDT and the PRT

PURPOSE:

To perform a weekly exercise of the Reactor Coolant Drain Tank Pumps IAW O-6.11,
SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET**JOB PERFORMANCE MEASURE****LICENSED OPERATOR TRAINING****REVISION/CHANGES**REVISED/CHANGED BY: Scott Reed DATE: 3-29-13REVIEWED BY: Don Dean *Don Dean* DATE: 3-29-13

SRO Reviewer

APPROVED BY: *Kyle Gannish* *Kyle Gannish* DATE: 4/5/13
Supervisor-Operations Training

Master Copy

Facility: Ginna Task No.: 068-001-01-01

Task Title: Perform transfer operations from the RCDT and the PRT JPM No.: 2012 Retake N-I

K/A Reference: 068 K1.04 (2.4 / 2.5) Alternate Path Yes ☐ No ☒
Knowledge of physical connections and/or cause effect relationships between the Liquid Radwaste system and the following systems:
Reactor drain tank

Time Critical Category: Yes ☐ No ☒
RO/SRO

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: ☒ Actual Performance: _____
Classroom ☐ Simulator ☐ Plant ☒

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant is operating at 100% power.
 - RCDT Level is 31% and stable
 - RCDT is in a normal configuration lineup
 - RCDT 'B' is tagged out for a minor PM

Task Standard: Manually pump down RCDT

Required Materials: Hard Hat, Safety Glasses, Gloves, Safety shoes, dosimetry

General References: O-6.11, SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET, Rev. 16700

Handouts: O-6.11, SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET, Rev. 16700, Attachment 15, Weekly Operation Of Reactor Coolant Drain Tank Pumps

- Initiating Cue:
- The CRS directs you to perform the weekly Operation Of Reactor Coolant Drain Tank Pumps per O-6.11, SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET

Validation Time: 7 Minutes

CONSEQUENCES OF INADEQUATE PERFORMANCE:

- Possible Pump damage/ degradation
- Possible damage to MSA Gas Analyzer

SAFETY CONSIDERATIONS:

Radiological requirements

INSTRUCTOR NOTES:

- Indicate reason for unsatisfactory performance in the comment section below each step.
- Make available a copy of O-6.11, SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET, Rev. 16700, Attachment 15, Weekly Operation Of Reactor Coolant Drain Tank Pumps.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must correctly perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your reactions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

- N/A

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a ✓)

Start Time: _____

| | |
|-------------------------------------|--|
| Performance Step: 1 _____ | Obtain a copy of O-6.11, SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET, Rev. 16700 |
|-------------------------------------|--|

| | |
|------------------------|--|
| Procedure Step: | N/A |
| Standard: | Obtains a copy of procedure from FCMS. |

| | |
|-----------------------|--|
| Evaluator CUE: | Provide Operator a copy of O-6.11, SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET, Rev. 16700. |
|-----------------------|--|

Comment:

| | |
|-------------------------------------|--|
| Performance Step: 2 _____ | Review procedure to determine correct section/ Attachment to be performed. |
|-------------------------------------|--|

| | |
|------------------------|---|
| Procedure Step: | 6.1.11 |
| Standard: | <ul style="list-style-type: none">Identifies Attachment 15, Weekly Operation of Reactor Coolant Drain Tank Pumps, required per Initiating Cue. Observes requirements of ~30% level to pump down RCDT manually |

| | |
|-----------------------|--|
| Evaluator CUE: | If asked when looking at LI-1003 on waste panel: "LI-1003 reads ~30%" |
|-----------------------|--|

| | |
|------------------------|---------------------------------|
| Evaluator NOTE: | RCDT level given in Cue. |
|------------------------|---------------------------------|

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 3 **PERFORM** this Attachment on Saturday to exercise the RCDT Pumps. This Attachment may also be performed, at any time, to lower RCDT level prior to 40%, to prevent auto pump down

Procedure Step: **ATT-15, Step 1.0**
Standard: Reviews Attachment 15, Weekly Operation Of Reactor Coolant Drain Tank Pumps.

Evaluator CUE: None

Comment:

Performance Step: 4 **IF** RCDT GAS OUTLET ISOL TO VENT HDR, V-1716A, is CLOSED, **THEN PERFORM** section 3.0
OTHERWISE, MARK this step N/A

Procedure Step: **2.0**
Standard: Determines, by checking locally, that V-1716A is open and that step does not apply. N/A's this step.

Evaluator CUE: If checked locally, feedback that "valve indicates open, stem out".

Evaluator NOTE:

- V-1716A is a Normally Open valve that would be closed only for maintenance or for leakage path isolation (e.g., Refueling OE)

Comment:

- Located AB Intermediate Level, behind SFP 'A HX (6ft)

JPM VERIFICATION OF COMPLETION

Performance Step: 5 IF RCDT GAS OUTLET ISOL TO VENT HDR, V-1716A, is OPEN, **THEN PERFORM** section 4.0
_____ **OTHERWISE, MARK** this step N/A

Procedure Step: 2.1

- Standard:**
- Determines, by checking locally, that V-1716A is open.
 - Determines that the step applies.
 - Proceeds to step 4.0, to **PERFORM** the following to exercise RCDT Pump A
 -

Evaluator CUE: If checked locally, feedback: "**V-1716A is open.**"
Comment:

✓ **Performance Step: 6** **PLACE** Switch for RCDT Pump A suction AOV-1003A to OPEN
_____ (Waste Panel).


Procedure Step: 4.1


Standard: [✓] Simulates placing the switch for RCDT Pump A suction AOV-1003A (LCV-1003) to OPEN.

- Evaluator CUE:**
- If requested, feedback: "**Switch is in the OPEN position.**"
"**Red light is LIT, Green light is Out**"
 - If verification is requested pertaining to labels, "**AOV-1003 is the same as LCV-1003**"

Comment:

JPM VERIFICATION OF COMPLETION

| | | |
|---|----------------------------|--|
|  | Performance Step: 7 | START RCDT Pump A at the Waste Panel. |
| | Procedure Step: | 4.2. |
| | Standard: | <input checked="" type="checkbox"/> Simulates STARTING RCDT Pump A (1/CDP1A-L) at the Waste Panel. |
| | Evaluator CUE: | <ul style="list-style-type: none">• Feedback: "Red light lit, Green light out"• If RCDT level checked, feedback "level lowering on LI-1003"• If Candidate informs Control Room of RCDT Pump down, acknowledge |
| | Evaluator NOTE: | When RCDT pump is started, level will begin to lower. |
| | Comment: | |

| | | |
|---|----------------------------|---|
|  | Performance Step: 8 | WHEN a level decrease is noted in RCDT level, THEN STOP RCDT Pump A. |
| | Procedure Step: | 4.3 |
| | Standard: | <ul style="list-style-type: none">• <input checked="" type="checkbox"/> Verifies level lowering on LI-1003• <input checked="" type="checkbox"/> Simulates stopping RCDT Pump A |
| | Evaluator CUE: | <ul style="list-style-type: none">• If candidate checks RCDT level, after RCDT Pump is stopped feedback "Level is 25% and stable" |
| | Evaluator NOTE: | RCDT Low Level Alarm is received at 13%. |
| | Comment: | |

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 9** **PLACE** Switch for RCDT Pump A suction AOV-1003A switch to AUTO Position.

Procedure Step: 4.4

Standard: [✓] Positions switch for AOV-1003 (LCV-1003) to AUTO
[✓] Observes valve AOV-1003A CLOSES, red light OFF.

Evaluator CUE: "Red Light OFF, Green Light ON"
If guidance is requested pertaining to labels, "AOV-1003 is the same as LCV-1003"

Evaluator NOTE: Valve AOV-1003A will open/cycle closed automatically to pump down when the switch is in AUTO
Comment:

Performance Step: 10 Report Completion of Pump exercise.

Procedure Step: N/A

Standard: Reports to CRS/Control Room that pump-down is completed

Evaluator CUE: Acknowledge communication
Comment:

Terminating Cue: When report is made to the Control Room: " This JPM is complete."

Stop Time: _____

JPM VERIFICATION OF COMPLETION

CRITICAL STEP BASES

CRITICAL STEP: "Those steps that, when not **performed correctly**, in the **proper sequence**, and/or **at the proper time**, will **prevent the system from functioning properly** or **preclude successful completion of the task**." (ES-603, pp 2-3)

| Performance Step | Procedure Step | Basis for Critical Step |
|------------------|------------------|--|
| 6 | ATT-15, step 4.1 | Required switch action(s) to perform correctly |
| 7 | ATT-15, step 4.2 | Required switch action(s) to perform correctly |
| 8 | ATT-15, step 4.3 | Required action for proper procedural sequence |
| 9 | ATT-15, step 4.4 | Required switch action(s) to perform correctly |
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JPM VERIFICATION OF COMPLETION

2012 SRO RETAKE EXAM JPM N-I (In plant)

LICENSED OPERATOR NAME: _____

JOB PERFORMANCE MEASURE: Weekly Operation of Reactor Coolant Drain
Tank PumpsTASK: 068-001-01-01 Perform transfer operations from the
RCDT and the PRT

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/IN ACTIONS OR PROCEDURAL QUALITY?☐ YES ☐ NO
(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined to be:

☐ SATISFACTORY ☐ UNSATISFACTORYEVALUATOR'S
SIGNATURE: _____

DATE: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant is operating at 100% power.
- RCDT Level is 31% and stable
- RCDT is in a normal configuration lineup
- RCDT Pump B is tagged out for a minor PM

INITIATING CUE:

- The CRS directs you to perform the weekly Operation Of Reactor Coolant Drain Tank Pumps per O-6.11, SURVEILLANCE REQUIREMENT/ROUTINE OPERATIONS CHECK SHEET

2012 SRO RETAKE EXAM JPM N-J (In-plant)

LICENSED OPERATOR

JOB PERFORMANCE
MEASURE:

Alternate SFP Cooling Systems (A to B)

SYSTEM: Spent Fuel Pool Storage and Cooling SystemTASK: 033-003-01-04, Start-up Fuel Cooling System in
different Pump/ Heat Exchanger combinations

PURPOSE:

Realign SFP Cooling System to accommodate a full core off-load.

JOB PERFORMANCE MEASURE

LICENSED OPERATOR TRAINING

REVISION/CHANGES

REVISED/CHANGED BY: Scott ReedDATE: 03/18/2013

REVIEWED BY:

Don DeanDon DeanDATE: 4-5-13

SRO Reviewer

APPROVED BY:

Kyle Garish

Supervisor-Operations Training

DATE: 4/5/13

Water Copy

| | | | |
|---------------------------|---|---------------------|---|
| Facility: | Ginna | Task No.: | 033-003-01-04 |
| Task Title: | Start up Fuel Cooling system in different Pump/ Heat Exchanger combinations. | JPM No.: | JR033.006 (New) |
| K/A Reference: | 033 G2.1.29 (RO 4.1/ SRO 4.0) Knowledge of how to conduct system lineups, such as valves, breakers, switches, etc. | Alternate Path | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Time Critical | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | | Category: | RO/SRO |
| Examinee: | _____ | NRC Examiner: | _____ |
| Facility Evaluator: | _____ | Date: | _____ |
| <u>Method of testing:</u> | | | |
| Simulated Performance: | <input checked="" type="checkbox"/> | Actual Performance: | _____ |
| Classroom | <input type="checkbox"/> | Simulator | <input type="checkbox"/> |
| | | Plant | <input checked="" type="checkbox"/> |

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

- Initial Conditions:
- The plant is Shutdown for a Refueling Outage and has just entered MODE 3.
 - Preparations are being made to accommodate an upcoming Full Core Off-Load to the SFP.
 - Initial SFP temperature is 80°F
 - SFP cooling system A just been removed from service

Task Standard: Properly performs all steps of procedure S-9 to alternate SFP Cooling Systems.

Required Materials: Hard Hat, Safety Glasses, Hearing Protection, Gloves, Safety Shoes and Dosimetry.

| | |
|---------------------|--|
| General References: | <ul style="list-style-type: none">• S-9, SFP COOLING SYSTEM OPERATION, Rev 00500.• 33013-1248 AUXILIARY COOLING SPENT FUEL POOL COOLING.• 33013-1250, 2 STATION SERVICE COOLING WATER SAFETY RELATED. |
| Handouts: | <ul style="list-style-type: none">• S-9, SFP COOLING SYSTEM OPERATION, Rev 00500 |
| Initiating Cue: | <ul style="list-style-type: none">• The CRS has requested that you continue the swap of the SFP cooling systems by placing SFP cooling system 'B' in service starting at step 6.6.4 of S-9, SFP COOLING SYSTEM OPERATION |
| Validation Time: | 15 Minutes |

CONSEQUENCES OF INADEQUATE PERFORMANCE:

- Inadequate SFP cooling for expected core off-load.
- System component damage
- Tech Spec Violation
- TRM Violation

SAFETY CONSIDERATIONS:

None

INSTRUCTOR NOTES:

- If SFP system is "Protected Equipment", contact SM for permission for performing JPM in area
- Indicate reason for unsatisfactory performance in the comment section below each step.
- Simulate all component manipulations should be stressed
- Make available a copy of S-9, SFP COOLING SYSTEM OPERATION, Rev 00500, to the Operator at the appropriate cue.

DIRECTIONS TO PERFORMER:

1. To complete the task successfully, you must perform each critical element correctly.
2. Where necessary, consider the examiner to be the CRS.
3. Verbalize all your actions and observations while performing the JPM.
4. Where necessary, consider the examiner for peer checks as appropriate.
5. When you have indicated you understand the Initial Conditions and Initiating Cues the JPM will commence.
6. Verbalize when you consider your performance of the JPM complete.
7. Are there any questions before beginning this JPM?

SIMULATOR SETUP

- N/A

JPM VERIFICATION OF COMPLETION

(Denote Critical Steps with a √)

Start Time: _____

Performance Step: 1 Obtains the working copy of S-9, SFP COOLING SYSTEM OPERATION, Rev. 00500

Procedure Step: N/A

Standard: N/A

Evaluator CUE: Provide Operator a marked-up copy of S-9, SFP COOLING SYSTEM OPERATION, Rev. 00500

Comment:

Performance Step: 2 Review applicable sections to be performed in procedure.

Procedure Step: Table of Contents

Standard: N/A

Evaluator CUE: If requested, "CRS directs placing B in service per section 6.6."

Evaluator NOTE: Candidate may N/A sections not used

Comment:

Performance Step: 3 Reviews PRECAUTIONS AND LIMITATIONS section of procedure.

Procedure Step: 4.0

Standard: Reviews PRECAUTIONS and LIMITATIONS section

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 4 Review PREREQUISITES section.

Procedure Step: **Step 5.0**

Standard: Reviews marked up section

Evaluator CUE: Completes signature block 5.1.2

Evaluator CUE: None

Evaluator NOTE: Proceeds to section 6.6 Placing SFP System B in service

Comment:

Performance Step: 5 Reads CAUTION ahead of step 6.6.6 not to exceed flow of 2500 GPM as read FI-8683

Procedure Step: **CAUTION prior to Step 6.6.4**

Standard: Verbalizes understanding of CAUTION.

Evaluator CUE: None

Comment:

JPM VERIFICATION OF COMPLETION

| | | |
|------------------------|----------------------------|--|
| ✓ | Performance Step: 6 | THROTTLE OPEN 1B SFP HX SW RETURN ISOL VLV, V-8689, until SFP HX B outlet flow, FI-8683, indicates between 1450 and 1550 GPM RECORD final flow on FI-8683 _____ GPM |
| Procedure Step: | | 6.6.4 and 6.6.5 |
| Standard: | | [✓] Simulates Throttling Open V-8689 to obtain a flow of 1450 to 1550 GPM |
| Evaluator CUE: | | As candidate throttles valve, and checks flow, feedback "Flow on FI-8683 begins to rise from 0 GPM and indicates 1500 GPM" |
| Comment: | | |

| | |
|----------------------------|---|
| Performance Step: 7 | OPEN 1B SERVICE WATER OUTLET BLOCK VALVE TO RE-20B, V-8634 |
| Procedure Step: | Step 6.6.6 |
| Standard: | Opens V-8634. |
| Evaluator CUE: | "Valve no longer turns in that direction" |
| Evaluator NOTE: | Valve is located between Operating floor between A' SW HX and B' SFP HX (5FT) |
| Comment: | |

JPM VERIFICATION OF COMPLETION

Performance Step: 8 THROTTLE SFP HX B SW OUTLET BLOCK VLV, V-8685, UNTIL SPENT FUEL POOL HEAT EXCHANGER B OUTLET TO RE-20B FLOW INDICATOR, FI-8631, indicates between 75 and 100 GPM
RECORD final flow on FI-8631 ____ GPM

Procedure Step: Step 6.6.7 and 6.6.8

Standard: Simulates opening V-8685 and verifies flow on FI-8631.

Evaluator CUE:

- “Valve is throttled OPEN”
- When candidate checks flow, “FI-8631 Indicates 90 GPM”

Evaluator NOTE: Valve 8685 is located at Aux Bldg operating floor platform near B CCW HX top of stairs

Comment:

Performance Step: 9 ENSURE a leak check of the SFP suction line is performed prior to pump start.

ENSURE a visual verification has been performed that ensures the SFP pump suctions are not blocked and SFP area is free of potential foreign material.

Procedure Step: Steps 6.6.9 and 6.6.10

Standard: Performs visual check of suction lines for leakage and verifies SFP suctions are not blocked

Evaluator CUE:

- “ No leaks are indicated”
- “ Suction lines are not blocked”
- “Spent Fuel Pool area is free of potential foreign material.”

Comment:

JPM VERIFICATION OF COMPLETION

☒ **Performance Step: 10** ENSURE OPEN LOW SUCTION ISOL VLV TO SPENT FUEL POOL RECIRC PUMPS (ALT), V-782

Procedure Step: Step 6.6.11

Standard: ☒ Simulates opening V-782.

Evaluator CUE: "Valve no longer turns in that direction"

Comment:

Performance Step: 11 ENSURE OPEN HIGH SUCTION ISOL VLV TO SPENT FUEL POOL RECIRC PUMPS (NORMAL), V-781.

Procedure Step: Step 6.6.12

Standard: Ensures V-781 OPEN

Evaluator CUE:

- If checked in closed direction **feedback "valve moves in that direction"**

Evaluator NOTE:

- "stem indicates out"

Valve will be open already at this point

Comment:

JPM VERIFICATION OF COMPLETION

✓ **Performance Step: 12** **THROTTLE CLOSED** ISOLATION GATE VALVE FROM SFP PUMP B TO SFP HEAT EXCHANGER B, V-8667, to approximately 80%-90% CLOSED.

Procedure Step: **Step 6.6.13**

Standard: [✓] Simulates closing valve to 80-90% closed.

Evaluator CUE: "Valve indicates approximately 90% closed"
Comment:

✓ **Performance Step: 13** **START** SFP Pump B.

Procedure Step: **Step 6.6.14**

Standard: [✓] Starts SFP Pump B by depressing START pushbutton. Observes 'Red' light lit

Evaluator CUE:

- "Normal pump motor Noise on startup, Red light lit"
- If candidate checks Pump pressure on PI-8672, feedback "60 psig stable "
- If Control Room is notified of pump start, **acknowledge**.

Comment:

JPM VERIFICATION OF COMPLETION


Performance Step: 14
_____ DO NOT exceed 1700 GPM as indicated on FLOW INDICATING TRANSMITTER FOR PACO7B (SPENT FUEL POOL RECIRCULATION PUMP B), FIT-8667

Procedure Step: CAUTION prior to step 6.6.15

Standard: Reads CAUTION

Evaluator CUE: None

Comment:

 **Performance Step: 15**
_____ **THROTTLE** ISOLATION GATE VALVE FROM SFP PUMP B TO SFP HEAT EXCHANGER B, V-8667, UNTIL flow is between 1100 and 1700 GPM on (SPENT FUEL POOL RECIRCULATION PUMP B), FIT-8667

Procedure Step: Step 6.6.15

Standard: [✓] Simulates throttling V-8667 to adjust flow between 1100 and 1700 GPM on FIT-8667.

Evaluator CUE:

- IF Flow is checked initially on FIT-8667 checked, feedback **“flow indicates 300 GPM”**
- After simulating throttling V-8667 open, feedback **“flow indicates 1200 GPM”**

Comment:

JPM VERIFICATION OF COMPLETION

Performance Step: 16 _____ **IF** SW system flow rate greater than 1800 GPM through B SFP heat exchanger as indicated in Step 4.4, **THEN** an evaluation **SHALL** be performed

Procedure Step: **CAUTION prior to Step 6.6.16**

Standard: Observes note and determines that SW system flow was throttled to less than 1800 GPM on FI-8683 in step 6.6.4

Evaluator CUE:

- IF Flow is re-verified on FI-8683, feedback **“flow indicates 1500 GPM”**
- If Control Room is notified of SFP cooling system B in service is made, **acknowledge**.

Evaluator NOTE: **This was checked in step 6.6.4.**

Comment:

Performance Step: 17 _____ **THROTTLE SFP HX B SW OUTLET VLV, V8689**, as required to maintain desired maintain SFP temperature.

Procedure Step: **Step 6.6.16**

Standard: Verifies SFP Temperature and determines no changes to SW flow required at this time

Evaluator CUE:

- Feedback SFP temperature is **80°F**
- If Control Room is notified of SFP cooling system B in service is made, **acknowledge**.

Evaluator NOTE: **SFP Temperature changes would take a significant amount time to occur**

Comment:

Terminating Cue: **“No further action is required.”**

Stop Time: _____

JPM VERIFICATION OF COMPLETION

2012 SRO RETAKE EXAM JPM N-J (In plant)**LICENSED OPERATOR NAME:** _____**JOB PERFORMANCE MEASURE:** Alternate SFP Cooling Systems (A to B)**TASK:** 033-003-01-04, Start-up Fuel Cooling System in
different Pump/ Heat Exchanger combinations

Time to Complete: _____

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of HU Tools.

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE
PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY?☐ YES ☐ NO(If yes, provide comments
below)

COMMENTS:

The operator's performance was evaluated against the standards contained in this JPM and determined
to be:☐ SATISFACTORY ☐ UNSATISFACTORYEVALUATOR'S
SIGNATURE: _____

DATE: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant is Shutdown for a Refueling Outage and has just entered MODE 3.
- Preparations are being made to accommodate an upcoming Full Core Off-Load to the SFP.
- SFP cooling system A just been removed from service
- Initial SFP temperature is 80°F

INITIATING CUE:

- The CRS has requested that you continue the swap of the SFP cooling systems by placing SFP cooling system 'B' in service starting at step 6.6.4 of S-9, SFP COOLING SYSTEM OPERATION