

Job Performance Measure

Review a Completed SRV Actuation Report

JPM Number: JPM444Revision Number: 04Date: 8/19/2020

Developed By: Bill Kiser / 8/19/20
Instructor: Print / Sign Date

Reviewed By: _____ / _____
SME or Instructor: Print / Sign Date

Reviewed By: _____ / _____
Operations Representative: Print / Sign Date

Approved By: _____ / _____
Training Department: Print / Sign Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

| | |
|-----------------------------------|----------------------|
| Procedure: <u>CPS 3831.01</u> | Revision: <u>6d</u> |
| Procedure: <u>CPS 3831.01D002</u> | Revision: <u>6</u> |
| Procedure: <u>CPS 9056.02</u> | Revision: <u>29c</u> |
| Procedure: <u>CPS 9056.02C001</u> | Revision: <u>28</u> |
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

| Revision # | Summary |
|-------------------|--|
| 00 | New JPM number (old 3831.0102) |
| 01 | 2/22/11 – Updated for procedure revisions. |
| 02 | 8/25/15 – Updated to new JPM template. |
| 03 | 11/6/17 – Updated to new JPM template. Updated procedure references. |
| 04 | 8/19/20 – Updated to new JPM template. Updated procedure references. |

SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

CPS 9056.02, Safety/Relief Valve Actuation Test was completed during steady state operations at approximately 80% power.

CPS 3831.01, Safety Relief Valve Report has been completed.

INITIATING CUE

As the CRS, you are to review CPS 3831.01, Safety Relief Valve Report. If the report can NOT be approved, then correct or note any deficiencies found.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will review a completed SRV Actuation Report and identify errors on CPS 3831.01D002 Actuation Log blocks 305, 306 and 309.

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|--|--|---|--------------------------|--------------------------|-----------------------|
| CUE | Provide the examinee with the following marked up procedures and attached diagrams: <ul style="list-style-type: none"> • Initiating Cue (last page of JPM) • JPM Attachments 1-4 (pages 10 – 13) <ul style="list-style-type: none"> ○ SRV Tailpipe Temperature Graph ○ IRM/APRM PPC Screenshot ○ SPDS Summary Display PPC Screenshot ○ SPDS RPV, PRI-CNMT and H₂ PPC Screenshot • CPS 9056.02 Safety/Relief Valve Actuation Test • CPS 9056.02C001 Safety/Relief Valve Manual Actuation Checklist • CPS 3831.01 Safety Relief Valve Report • CPS 3831.01D002 Actuation Log | | | | |
| NOTE: JPM steps 1 - 5 can be performed in any order. | | | | | |
| *01 | Reviews blocks 302 - 305 of CPS 3831.01D002 Actuation Log. | Examinee determines that the type of actuation recorded in block 305 is incorrectly entered as "A" and should be "B". | <input type="checkbox"/> | <input type="checkbox"/> | — |
| CUE | If the examinee reports the error, cue him/her to complete the review of the report. If the examinee asks for a copy of CPS 4009.01 Inadvertent Opening Safety Relief Valve, inform him/her that the off-normal procedure is being completed by another operator. | | | | |

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|-------------|--|--|--------------------------|--------------------------|----------------|
| *02 | Reviews block 306 of CPS 3831.01D002 Actuation Log. | Examinee determines that the cause/reason for actuation recorded in block 306 is incorrectly entered as "E" and should be "C". | <input type="checkbox"/> | <input type="checkbox"/> | — |
| CUE | If the examinee reports the error, cue him/her to complete the review of the report. | | | | |
| *03 | Reviews blocks 307 - 309 of CPS 3831.01D002 Actuation Log. | Examinee determines that the time for tailpipe temperature to return to normal recorded in block 309 is incorrectly entered as "95 min" (tailpipe temperature has not yet returned to normal). | <input type="checkbox"/> | <input type="checkbox"/> | — |
| 04 | Reviews blocks 310 – 314 of CPS 3831.01D002 Actuation Log. | Examinee determines that block 314 is correctly entered as "N/A" (based on the fact that the SRV passed the acceptance criteria of CPS 9056.02) and <u>could</u> be annotated as "A" and/or "E" (based on seat leakage). | <input type="checkbox"/> | <input type="checkbox"/> | — |
| 05 | Reviews blocks 315 – 316 of CPS 3831.01D002 Actuation Log. | Examinee determines that block 316 is incorrectly entered as "No" and should be annotated as "Yes Note 1 (or equivalent)". | <input type="checkbox"/> | <input type="checkbox"/> | — |
| CUE | JPM is complete. | | | | |

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: Review a Completed SRV Actuation Report

JPM Number: JPM444

Revision Number: 04

Task Number and Title: 383101.01, Complete Control Room actions to document data on failures and actuations of the Safety Relief Valves in the Main Steam System and to generate reports required by the Nuclear Regulatory Commission.

Task Standard: The examinee will review a completed SRV Actuation Report and identify errors on CPS 3831.01D002 Actuation Log blocks 305, 306 and 309.

K/A Number and Importance:

| K/A System | K/A Number | Importance (RO/SRO) | |
|------------|------------|---------------------|-----|
| Generic | 2.1.18 | 3.6 | 3.8 |

Suggested Testing Environment: Classroom

Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

| | |
|-------------------------------|----------------------|
| Procedure: <u>CPS 3831.01</u> | Revision: <u>6d</u> |
| <u>CPS 3831.01D002</u> | Revision: <u>6</u> |
| <u>CPS 9056.02</u> | Revision: <u>29c</u> |
| <u>CPS 9056.02C001</u> | Revision: <u>28</u> |

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 20 minutes

Actual Time Used: _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

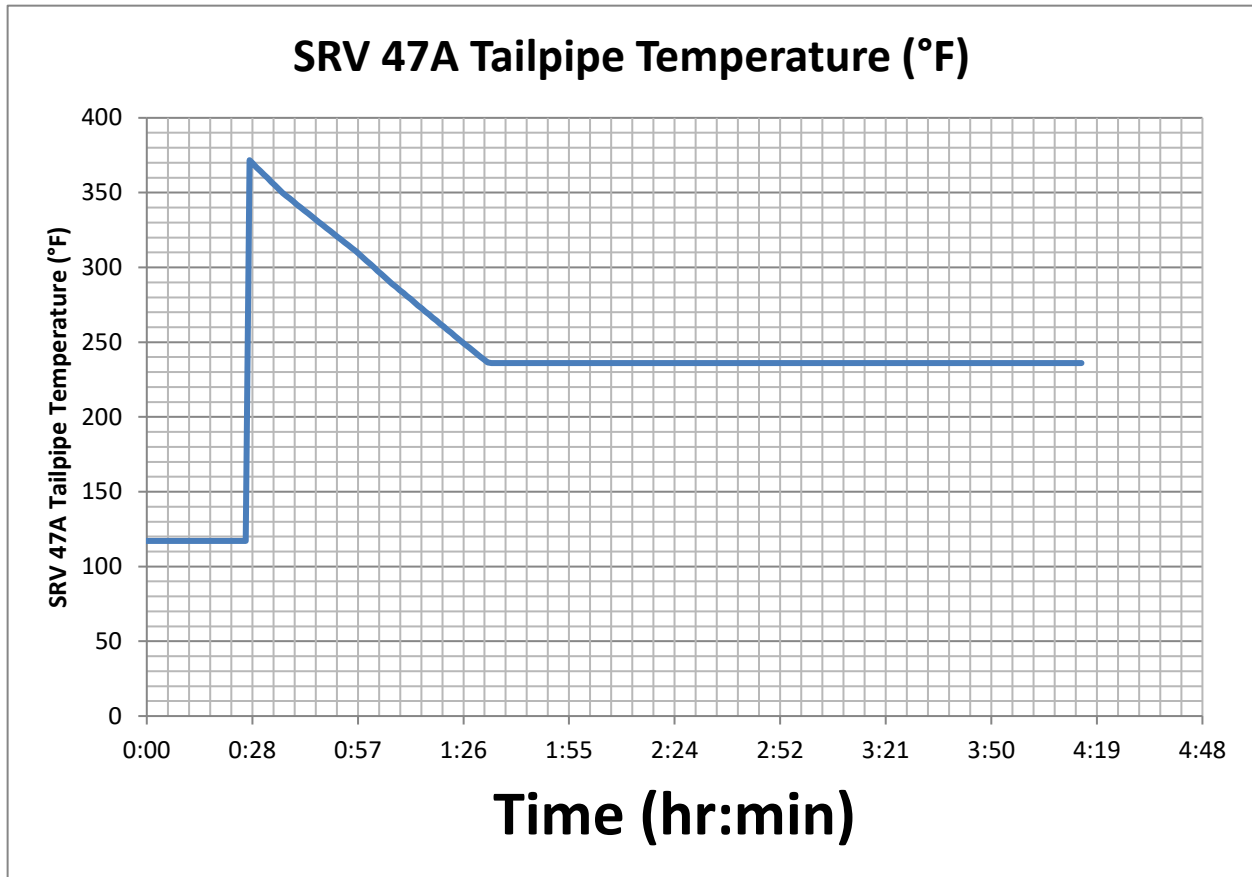
The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

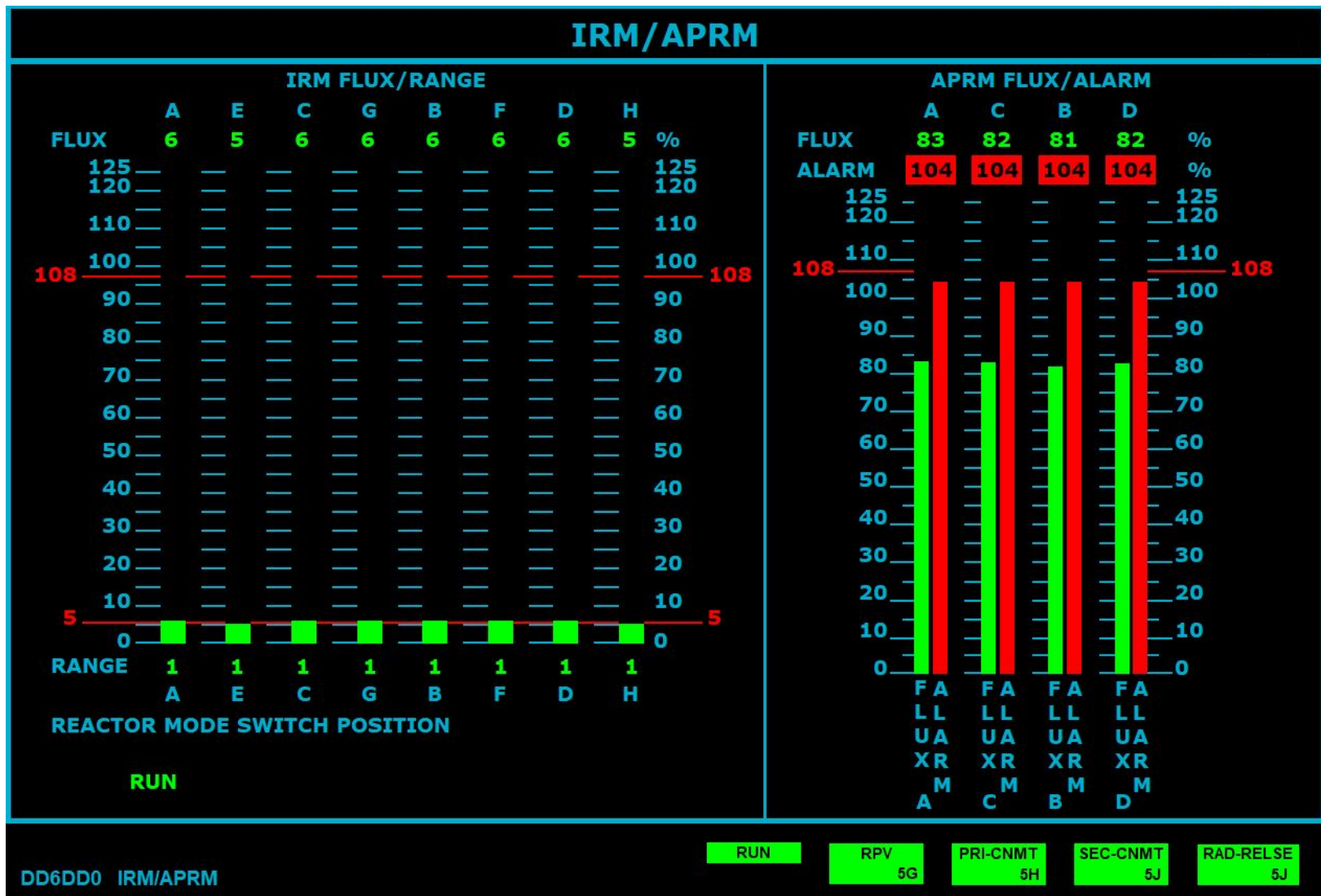
Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

Attachment 1: SRV Tailpipe Temperature Graph

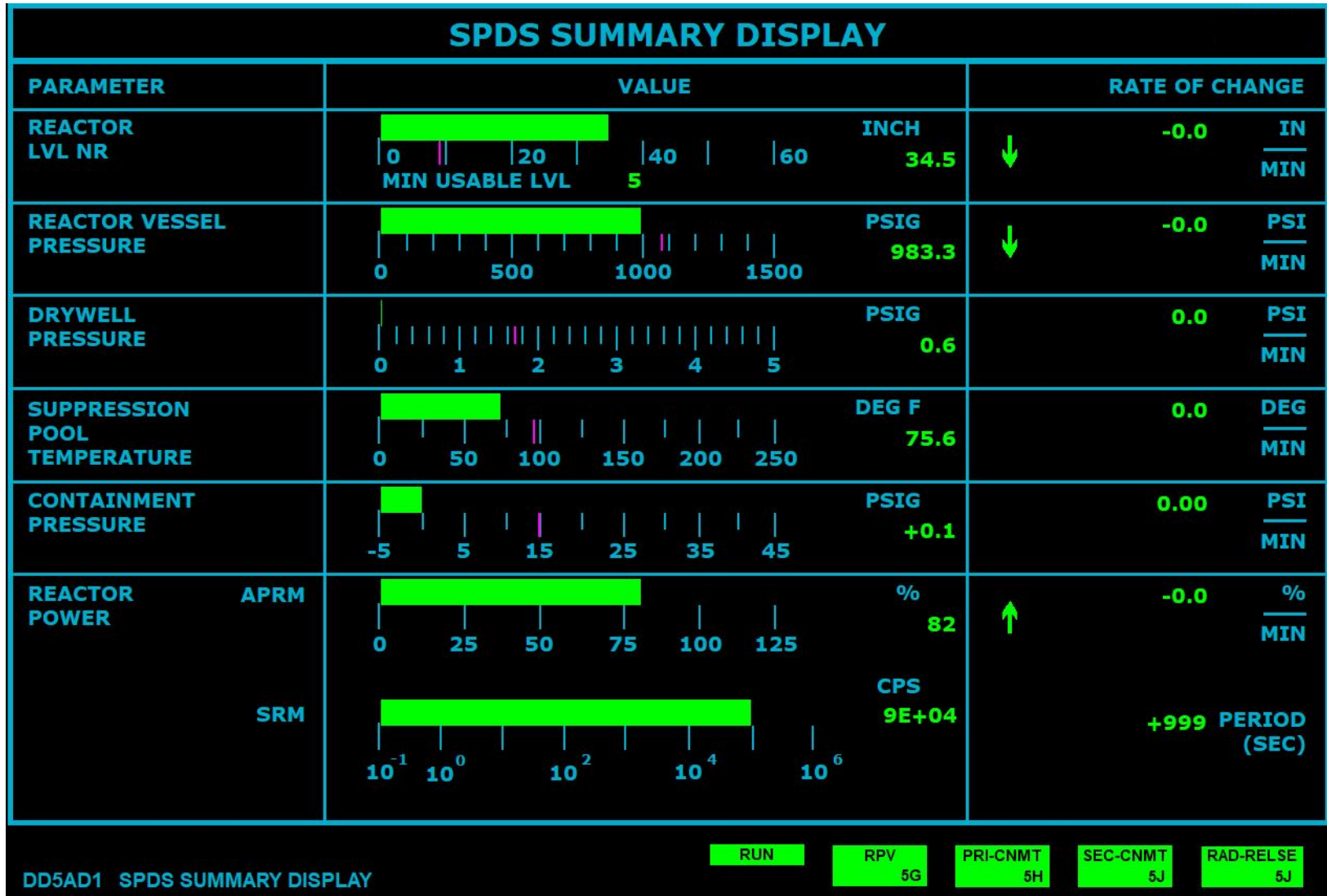


Attachment 2: IRM/APRM PPC Screenshot

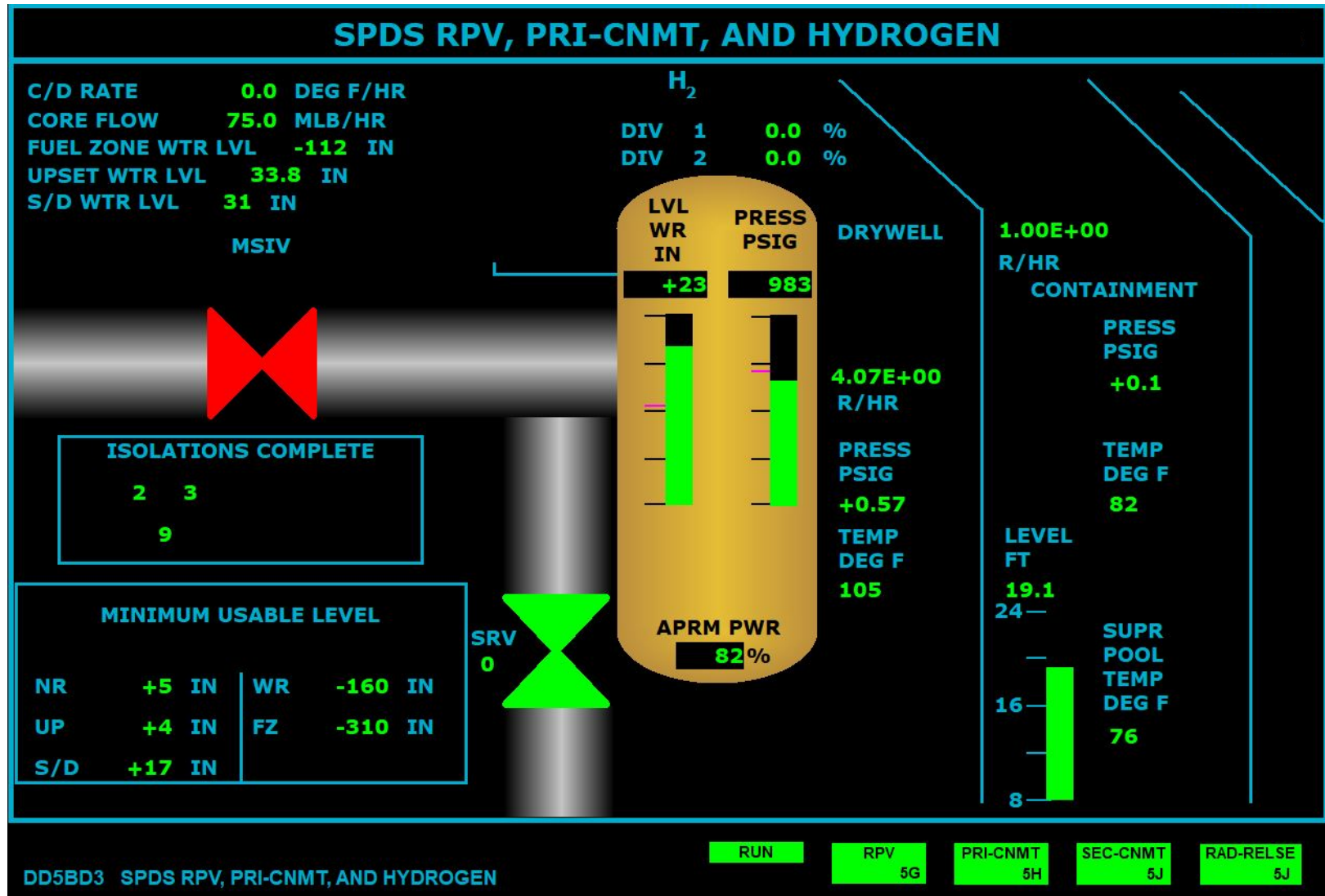


SRRS: 3D.100; There are no retention requirements for this section

Attachment 3: SPDS Summary Display PPC Screenshot



Attachment 4: SPDS RPV, PRI-CNMT and H₂ PPC Screenshot



INITIAL CONDITIONS

CPS 9056.02, Safety/Relief Valve Actuation Test was completed during steady state operations at approximately 80% power.

CPS 3831.01, Safety Relief Valve Report has been completed.

INITIATING CUE

As the CRS, you are to review CPS 3831.01, Safety Relief Valve Report. If the report can NOT be approved, then correct or note any deficiencies found.

SAFETY RELIEF VALVE REPORT

SCOPE OF REVISION:

- **EDITORIAL:** Procedure references and title updates.
- ① Specific Rev. 6a [Baker]: EDITORIAL - IR 554876, updated appendix A failure reports from Nuclear Plant Reliability Data System (NPRDS) to the current Equipment Performance and Information Exchange System (EPIX).
- ② Specific Rev. 6b [Leffel]: EDITORIAL - IR 2390620 corrected a typo in the step referenced in the NOTE prior to step 8.2.
- ③ Specific Rev. 6c [J. Delaney]: EDITORIAL - IR 2530316-49 - Removed references to ITS 5.6.4 which has been deleted from Tech. Specs.
- ④ Specific Rev. 6d [J. Delaney]: Mngt Request - Removed references to reporting SRV challenges per LS-AA-2003 (superseded by PI-AA-2003) - Safety Eval for License Amendment 165 states that reporting challenges to SRVs to the NRC is adequately addressed by reporting requirements in 10 CFR 50.73. Corrected typo - no rev marks used.

FOR TRAINING
ONLY

REFERENCE USE

ORIGINATOR: *Thomas J. Landin*
CLASS CODE: *NNNN***SQR:** *N/A***APPROVAL DATE:** *04/02/04***CURRENT CHANGES TO GENERAL REVISION**

| | Change # | Date | List of Affected Pages |
|---|-----------------|-------------|-------------------------------|
| ① | 6a | 09/16/10 | 1, 5 |
| ② | 6b | 10/21/14 | 1, 3 |
| ③ | 6c | 03/14/17 | 1, 2, 4 |
| ④ | 6d | 01/09/19 | 1 - 4 |
| ⑤ | | | |

1.0 **PURPOSE**

Document data on failures and actuations of the Safety Relief Valves (SRV's) in the Main Steam System and to generate reports required by the Nuclear Regulatory Commission (NRC).

③

2.0 **DISCUSSION/DEFINITIONS**

④ ①

2.1 SRV actuations shall be reported to the NRC by the means of 10CFR50.73, Licensee Event Report System.

CPS 3831.01D002, Actuation Log shall be initiated when a SRV lifts, either manually or automatically.

An SRV failing to lift when required shall be considered and reported as an actuation event.

2.2 Each actuation shall be recorded by type according to the following letter codes from Appendix A.

A - Type A shall include all automatic actuation's which result from non-operator initiated energization of the A or B solenoid.

B - Type B shall be remote manual actuation's. This shall include all personnel initiated actuation's resulting in the energization of the A or B solenoid.

C - Type C shall be an actuation resulting from the pressure within the Reactor Pressure Vessel (RPV) exceeding the spring tension of the SRV.

2.3 Each actuation shall be further classified by the cause or reason for the actuation according to the following letter code from Appendix A.

A - Reason or Cause A shall be an actuation which is the result of pressure within the RPV exceeding the (electrical or spring) setpoint.

B - Reason or Cause B shall be an automatic or manual initiation of Automatic Depressurization System (ADS).

C - Reason or Cause C shall be an actuation which results from the proper performance of an approved and authorized Surveillance or Test procedure.

D - Reason or Cause D shall be an actuation of an SRV outside of the normal controls of actuation instruments, logic circuits, or procedures.

E - Reason or Cause E shall be a manual actuation for relief of pressure within the RPV.

3.0 **RESPONSIBILITY**

3.1 Operations Department Head is the responsible for the proper implementation of this procedure.

3.2 Plant Engineering is responsible for review and preparation of Plant Report.

~~4.0~~**PRECAUTIONS** - None~~5.0~~**PREREQUISITES**

Notify SMngt prior to logging a new actuation event or failure.

~~6.0~~**LIMITATIONS**

04

~~6.1~~

SRV actuations shall be reported to the NRC by the means of 10CFR50.73, Licensee Event Report System.

~~7.0~~**MATERIALS/TEST EQUIPMENT** - None~~8.0~~**PROCEDURE****NOTE***Up to five actuation events may be recorded on each log sheet. Refer to Appendix A for applicable codes when completing blocks 305, 306, 307 and 314 on activation log.*~~8.1~~

(Record) Fill in blocks 302, 303, 304, 305, 306, 307, 308, 309, 310, and 311 of the CPS 3831.01D002, Actuation Log.

NOTE

2

If information for 8.2 becomes available after the report has been submitted, report information with a duplicate log entry and a CPS 3831.01F001, Comment Sheet indicating the availability of this new information.~~8.2~~

(Record) Fill in blocks 312, 313, 314 and 315 of the CPS 3831.01D002 ACTUATION LOG, if available at the time of reporting or enter "not available" when completing the log. Additional data may be entered later for cross reference.

8.0 **PROCEDURE** (cont'd)**NOTE**

Date and time on CPS 3831.01F001, Comment Sheet shall match those of the associated actuation event log entry.

~~8.3~~

(Record)

If CPS 3831.01F001, Comment Sheet is completed for this log entry, indicate "YES" in block 316.

If a comment sheet was not completed, indicate "NO" in block 316.

~~8.4~~

Operations transmit the original log sheets and associated comment sheets to Records Management Group (RMG) and a copy to Plant Engineering for their plant report preparation.

9.0 **ACCEPTANCE CRITERIA** - None10.0 **FINAL CONDITIONS** - None11.0 **REFERENCES**

④③① 11.1 10CFR50.73, Licensee Event Reporting System

12.0 **APPENDICES**

A. ACTUATION EVENTS CODES

13.0 **DOCUMENTS**

CPS 3831.01F001, Comment Sheet

CPS 3831.01D002, Actuation Log

APPENDIX A**ACTUATION EVENTS CODES****NOTE**

For each actuation event, select the appropriate code corresponding to the block number on CPS 3831.01D002, Actuation Log.

①

| BLOCK # | DESCRIPTION | CODES (Select One) |
|----------------|---|--|
| 305 | Type of Actuation | A. Automatic B. Remote Manual C. Spring |
| 306 | Cause/Reason for Actuation | A. Overpressure B. ADS C. Test D. Inadvertent (Accidental, Spurious) E. Manual Relief |
| 307 | Reactor Operating Condition Prior to Lift (LER Codes) | C. Routine Startup D. Routine Shutdown E. Steady State Operation F. Load Changes During Routine Operation G. Shutdown (Hot or Cold) Except Refueling H. Refueling |
| 314 | Failure-Reports | <p style="text-align: center;">(Select as Many as Applicable)</p> A. Failure of any Part of Valve Assembly - SRV Report Required B. No Failures Occurred C. LER Submitted - Give LER Number in Block # 315 D. Equipment Performance and Information Exchange System (EPIX) will Be Submitted E. Failure |

ACTUATION LOG

SCOPE OF REVISION:

- Updated format.

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ONLY

ROUTINE USE

ORIGINATOR: *Brant Chambers*

CLASS CODE: *NNNN1*

APPROVAL

SEP 28 1998

DATE:

| <i>CHANGE NO.</i> | <i>DATE</i> | <i>PAGES</i> |
|-------------------|-------------|--------------|
| ① _____ | _____ | _____ |
| ② _____ | _____ | _____ |
| ③ _____ | _____ | _____ |
| ④ _____ | _____ | _____ |

5

Plant Docket No. 50-461

ACTUATION LOGNOTE

Includes all IN-SERVICE tests.

| | | | | | | |
|--|---|-----------|--|--|--|--|
| 302. | Equipment Identification Number (EIN) | B21-FO47A | | | | |
| 303. | Date of Actuation (MM/DD/YY) | XX/XX/XX | | | | |
| 304. | Time of Day (24 Hour Clock) | XX:XX | | | | |
| 305. | Type of Actuation (Code - Appendix A) | A | | | | |
| 306. | Cause/Reason for Actuation (Code - Appendix A) | E | | | | |
| 307. | Rx Operating Condition Prior to Lift (Code - Appendix A) | E | | | | |
| 308. | Rx Power Level Prior to Lift (% Rated Thermal) | 82 | | | | |
| 309. | Time for Tailpipe Temperature to Return to Normal | 95 min | | | | |
| 310. | Other Instrumentation - Number Reading and Units | N/A | | | | |
| 311. | Rx Pressure Prior to Actuation | 1013 | | | | |
| IF AVAILABLE/IF APPLICABLE (See Step 8.1.2 and accompanying NOTE.) | | | | | | |
| 312. | Reseat Pressure at Valve Closure (PSIG) | 1013 | | | | |
| 313. | Duration of this Actuation (Minutes: Seconds) | ~ 1 min | | | | |
| 314. | Failure, Reports (Code - Appendix A) | N/A | | | | |
| 315. | LER Number (5 Digit Number) | N/A | | | | |
| 316. | Comment Sheet Regarding This Actuation Attached?(Yes or No) | No | | | | |

Completed By Rocky Operator XX/XX/XX
Signature Date

REVIEW AND APPROVAL

Shift Supervision

Signature_____
Date

SAFETY/RELIEF VALVE ACTUATION TEST

SCOPE OF REVISION:

- Incorporated PDR's 99-0528 and 99-0987.
- ❶ Specific Rev. 29a [Landin]: Editorial - 1.0 updated to reflect ITS amendment for Method 1 or Method 2 SRV testing allowances. Supports C1R08.
- ❷ Specific Rev. 29b [Landin]: EDITORIAL - C1R10: 24 Month ITS Surveillance Project update.
- ❸ EDITORIAL Rev. 29c [Helton]: IR 4049579-90 - Frequency statement change for STI-17-018 to "staggered".

FOR TRAINING
ONLY

CONTINUOUS USE

ORIGINATOR: *A. E. Schultz*
CLASS CODE: *SNNI*
SQR: *N/A*
APPROVAL DATE: *SEP 20, 1999*

CURRENT CHANGES TO GENERAL REVISION

| | Change # | Date | List of Affected Pages |
|---|-----------------|-------------|-------------------------------|
| ❶ | 29a | 02/20/02 | 1, 2 |
| ❷ | 29b | 08/31/05 | 1, 2 |
| ❸ | 29c | 03/12/18 | 1, 2, 11 |
| ❹ | | | |
| ❺ | | | |

1.0

PURPOSE

- ① Provide instructions for performing ITS 'Method 1' Safety/Relief Valve (SRV) Actuation Test, including the Automatic Depressurization System (ADS) Valves.
- ① ☞ Can use ITS Method 2 instead to satisfy ITS/ISI per CPS 9061.11C022, SRV Open/Close Test Using "A" And "B" Solenoids And Slow Closure Rig.

This procedure fully satisfies:

ITS SR 3.4.4.2: SRV Relief Function Actuation

ITS SR 3.4.4.3: SRV Manual Actuation

ITS SR 3.5.1.6: ADS Automatic Actuation

ITS SR 3.5.1.7: ADS Manual Actuation

- ① ITS SR 3.6.1.6.1: LLS valve manual actuation

This procedure partial satisfies:

ITS SR 3.3.5.1.5 T4.a-h: ECCS LSF ADS 1 (A&E) functions

ITS SR 3.3.5.1.5 T5.a-g: ECCS LSF ADS 2 (B&F) functions

- ① ITS SR 3.6.1.6.2: LLS System automatic actuation (Overlaps with ITS SR 3.3.6.5.4: Relief and LLS LSF)

This procedure partial satisfies:

ISI SRV Position Indication [2 years]

2.0

DISCUSSION/DEFINITIONS

2.1

Discussion

2.1.1 Frequency «LBD-1»

- ②③ 1. Normal Frequency - 24 months staggered.
(STI - CL-17-018)
- 2. Other Trigger - CPS 3002.01, Heatup & Pressurization.

2.1.2 In this procedure the Safety/Relief valves are operated from the remote keylock switches located in the MCR.

The switches on panel 1H13-P601 operate solenoid A, the switches on panel 1H13-P642 operate solenoid B.

2.1.3 This test is performed with the Reactor critical at less than 90% Reactor power. It may be accomplished with or

without the turbine operating. The preferred method is with Bypass valves and not with Control valves.

2.0 **DISCUSSION/DEFINITIONS** (cont'd)

- 2.1.4 The order in which the Safety/Relief valves are opened allows for maximum distance between discharge points to reduce the possibility of localized overheating of the Suppression Pool.
- 2.1.5 Portions of this surveillance may be performed independently for post maintenance testing to facilitate inspections due to repairs, etc.
- 2.1.6 This surveillance may be performed in MODE 1 or MODE 2. MODE 1 is preferred. If this test is performed in MODE 2, special consideration shall be given to reducing reactor steam loads as necessary to achieve sufficient bypass valve opening with reactor power $\leq 12\%$.

2.2 **Definitions**

"Reactor steam pressure adequate to perform this test" - in the band of 950 to ≤ 1045 psig [ITS LCO 3.4.12]. «CM-1»

3.0 **RESPONSIBILITY**

Operations Department Head is responsible for proper implementation of this procedure.

~~4.0~~
~~4.1~~
~~4.2~~
~~4.3~~

PRECAUTIONS

Continuously monitor RPV water level, RPV pressure, Drywell Pressure, and Containment Pressure while performing this surveillance.

Evacuate the Containment Building while testing Safety/Relief valves.

Monitor Containment Building radiation levels frequently throughout the procedure.

5.0

PREREQUISITES~~5.1~~

In conjunction with the Shift Manager/Control Room Supervisor (SM/CRS), review the following impact statements to determine required plant status to perform this test:

ITS/ORM Impacted:

ITS LCO 3.3.6.5: Relief and Low-Low Set Instrumentation
 ITS LCO 3.4.4: Safety/Relief Valves (SRVs)
 ITS LCO 3.5.1: ECCS-Operating
 ITS LCO 3.6.2.1: Suppression Pool Average Temperature
 ITS LCO 3.6.2.2: Suppression Pool Water Level

RPS Trip: N/A**CRVICS Isolation:**

CCP Exhaust Hi Rad Monitors, 1RIX-PR042A,B,C,D may cause CCP Isolation if monitor alarms are initiated.

Logic Type: N/A, manual cycling of SRVs**Minimum Operable Channels:**

One relief valve pressure actuation channel and/or one acoustic monitor channel and/or one low-low set channel may be placed in an inoperable status for up to 6 hours for the purpose of performing surveillance testing in accordance with ITS LCO 3.3.6.5 Surveillance NOTE.

Plant/System Conditions Required To Conduct This Test:

Reactor power \leq 90%; MODE 1 or 2 with RPV at rated pressure

Other Systems Affected:

Suppression Pool
 RHR - Suppression Pool Cooling Mode
 Main Steam
 RCIC and HPCS suction may transfer if suppression pool high level signal comes in

Other Channels Required Operable To Prevent Inadvertent Actuation: N/A~~5.2~~

(Initial) Obtain SM/CRS permission to perform this surveillance.

~~5.3~~

☞ Initialing also indicates that the IMPACT MATRIX in 5.1 has been discussed with the SM/CRS.

(Initial) As required to maintain temperature within applicable limits ITS SR 3.6.2.1.1, initiate Suppression Pool cooling per CPS 3312.01, Residual Heat Removal (RHR).

5.0 **PREREQUISITES** (cont'd)

- ~~5.4~~ Adjust Suppression Pool level (low end of acceptable band) as required. (Observe limitation 6.5)
- ~~5.5~~ (Initial) Initiate CPS 9000.05, Suppression Pool Temperature Log.
- ~~5.6~~ (Initial) Sound Containment evacuation alarm, evacuate Containment, and have Security secure access.
- ~~5.7~~ (Initial) Place CCP in Filter Mode per CPS 3408.01, Containment Building/Drywell HVAC (VR, VQ).
- ~~5.8~~ (Initial) Notify Transmission Electric System Coordinator of anticipated load changes if the turbine is on line.
- ~~5.9~~ (Initial) Initiate SRV Actuation Log per CPS 3831.01, Safety Relief Valve Report.
 ☞ Annunciator 5066-5B, Automatic Depressurization System Or Safety Relief Valve Leaking is to be expected during the first SRV lift, and will remain in until the SRV lines cool down.
- ~~5.10~~ (Initial) Operators in direct communications as required between Acoustic Monitoring PNL and MCR horseshoe (sound powered headphones recommended).
- ~~5.11~~ (Initial) Reactor Power \leq 90%.
- 5.12 (Initial)
N/A **IF** performing this procedure in MODE 2,
THEN Remove reactor steam loads as necessary to maximize turbine bypass valve opening with reactor power \leq 12%.

6.0

LIMITATIONS~~6.1~~

Allow adequate time between relief valve blow downs to prevent Suppression Pool temperature from reaching 105°F.

~~6.2~~

Monitor the relief valve temperature recorder to ensure the valve has properly seated.

If temperature does not return to within 10°F of the original value within 1 hour, or does not return to original value within one shift, then a leaking SRV is indicated.

No specific action other than initiating an AR is required.

Cycling a leaking SRV in order to seat it has resulted in increased leakage at other plants.

~~6.3~~

If plant parameters indicate a relief valve has stuck open, then refer to CPS 4009.01, Inadvertent Opening Of Safety/Relief Valve.

~~6.4~~

Per ITS SR 3.6.2.1.1, suppression pool water temperature must be monitored at least once per five minutes during testing which adds heat to the Suppression Pool.

① 6.5

Maintain the following Suppression Pool conditions:

Temperature < 103.7°F, and
Level ≥ 18' 11" and ≤ 19' 5".

- a) Stop all safety/relief valve testing if suppression pool temperature > 103.7°F.
- b) Document suppression pool temperature per CPS 9000.05, Suppression Pool Temperature Log.

~~6.6~~

During performance of this test, the SRV's shall not be operated outside the normal use range (950 to ≤ 1045 psig).
«CM-1»

7.0

MATERIALS AND/OR TEST EQUIPMENT - None

8.0 PROCEDURENOTE

Section 8.1 provides the test sequence for ~~all~~ valves listed on the checklist beginning with 1B21-F047A.

8.1 Manually Testing ADS/SRV Valves

~~8.1.1~~ (Initial) Adjust Pressure Regulator set point and/or Reactor Power to establish Reactor Pressure 950 to \leq 1045 psig, **AND:** «CM-1»

~~N/A~~ a) **IF** test is performed with the turbine off-line,
THEN Fully open at least two bypass valves to prevent pressure surge during relief valve operation,

OR

~~b)~~ Verify turbine on-line with
PRESS AMPL IN CONTROL light ON.

~~8.1.2~~ (Record) Log Main Turbine Bypass or Control Valve position as applicable.

~~8.1.3~~ (Record) Log Steam line flows for A, B, C, D steam lines from DCS computer points 1C34-DA003, 4, 5, 6 respectively.

~~8.1.4~~ Monitor the following parameters during SRV testing:

~~a)~~ Reactor water level

~~b)~~ Reactor pressure

~~c)~~ Suppression pool temperature (local rise)

~~d)~~ Stabilization of generator loads (when on-line)

~~8.1.5~~ (Initial) Turn the key lock switch on 1H13-P601 for the selected SRV valve to the OPEN position.

8.1 Manually Testing ADS/SRV Valves (cont'd)

- ~~8.1.6~~ (Initial) Verify the following responses: «LBD-1»
- ~~a)~~ SRV MONITORING SYSTEM TROUBLE annunciator 5067-8L.
 - ~~b)~~ Bypass Valve or Control Valve actuated in close direction.
 - ~~c)~~ Steam flow increases in corresponding steam line, as shown on DCS.
 - ~~d)~~ Verify open indication for solenoid A for selected SRV at 1H13-P601.
- ~~8.1.7~~ (Initial) Turn the keylock switch on 1H13-P642 for the selected SRV valve to the OPEN position.
- ~~8.1.8~~ (Initial) Turn the keylock switch on 1H13-P601 for the selected SRV valve to the AUTO position.
- ~~8.1.9~~ (Initial) Verify the following responses: «LBD-1»
- ~~a)~~ SRV MONITOR SYSTEM TROUBLE remains in alarm.
 - ~~b)~~ Bypass Valve or Control Valve did not change from step 8.1.6.b.
 - ~~c)~~ Steam flow did not change from step 8.1.6.c.
 - ~~d)~~ Verify open indication for solenoid B for selected SRV at 1H13-P642.
 - ~~e)~~ Verify closed indication for solenoid A for selected SRV at 1H13-P601.
- ~~8.1.10~~ (Initial) Turn the keylock switch on 1H13-P642 for the selected SRV valve to the AUTO position.
- ~~8.1.11~~ (Initial) Verify the following responses: «LBD-1»
- ~~a)~~ SRV MONITOR SYSTEM TROUBLE annunciator 5067-8L alarm clears.
 - ~~b)~~ Bypass valve or Control valve returned to approximately the same position recorded in step 8.1.2.
 - ~~c)~~ Steam flow returns to approximately same values recorded in step 8.1.3.
 - ~~d)~~ Verify closed indication for solenoid A & B for selected SRV.

8.1.12 Manually test the remaining desired Safety/Relief,
ADS Valves per steps 8.1.2 through 8.1.11.

8.2 **Test Recovery**~~8.2.1~~

(Initial) As applicable, when airborne radioactivity has returned to normal levels, return CCP to Normal Operations per CPS 3408.01, Containment Building/Drywell HVAC (VR, VQ).

~~8.2.2~~

(Initial) Adjust pressure regulator set point and/or reactor power to desired value for given plant conditions.

8.2.3 (Initial)

N/A

IF Reactor steam loads were removed in step 5.12 of this procedure,

THEN Return reactor steam loads per the appropriate system operating procedure.

~~**NOTE**~~

Steps 8.2.4-6 may be performed in any order and/or concurrently.

~~8.2.4~~

Notify Security to restore CNMT access with RP concurrence.

~~8.2.5~~

When desired, secure RHR Suppression Pool Cooling Mode (if running) per CPS 3312.01 (RHR).

8.2.6

Notify Transmission Electric System Coordinator that the test is complete.

8.3 **System Restoration**~~8.3.1~~

(Initial) Verify the following SRV/ADS keylock switches are in AUTO on 1H13-P601 and 1H13-P642.

~~a) 1B21-F047A~~~~i) 1B21-F051G~~~~b) 1B21-F047B~~~~j) 1B21-F051B~~~~c) 1B21-F047F~~~~k) 1B21-F047D~~~~d) 1B21-F047C~~~~l) 1B21-F051C~~~~e) 1B21-F041A~~~~m) 1B21-F041F~~~~f) 1B21-F041B~~~~n) 1B21-F041L~~~~g) 1B21-F041G~~~~o) 1B21-F041C~~~~h) 1B21-F041D~~~~p) 1B21-F051D~~~~8.3.2~~

(Record) Notify the SM/CRS when the test is completed by initials, time, and date.

9.0 **ACCEPTANCE CRITERIA**9.1 **Operability Requirements**

Failure to meet the Acceptance Criteria shall constitute a failure to comply with the applicable LCO. ITS should be immediately reviewed to identify Action Statements needed for implementation. Refer to Supplemental Review Sheet for applicable LCOs.

Each Safety/Relief and ADS Valve actuates open by energizing its solenoids from the MCR, and verifying Bypass Valve or control valve response, or change in corresponding measured steam flows.

9.2 **Other Requirement**

Each Safety/Relief and ADS Valve A&B solenoid indications correspond correctly to Bypass/Control Valve, steam flow, acoustic tail-pipe monitor alarm responses, and applicable annunciator alarms.

Inform SM/CRS if solenoid indications do not correspond correctly.

10.0 **FINAL CONDITIONS**

All Safety/Relief and ADS valves shut, and
the associated key lock switches in AUTO.

11.0 **REFERENCES**11.1 **Licensing Bases Documents**

LBD-1: «2.1.1, 8.1.6, 8.1.9, 8.1.11»

11.1.1 ITS SR 3.3.5.1.5 T4.a-h: ECCS LSF ADS 1 (A&E) functions

11.1.2 ITS SR 3.3.5.1.5 T5.a-g: ECCS LSF ADS 2 (B&F) functions

11.1.3 ITS LCO 3.3.6.5: Relief and Low-Low Set Instrumentation

11.1.4 ITS SR 3.4.4.2: SRV Relief Function Actuation

11.1.5 ITS SR 3.4.4.3: SRV Manual Actuation

11.1.6 ITS LCO 3.4.12: Reactor Steam Dome Pressure

11.1.7 ITS SR 3.5.1.6: ADS Automatic Actuation

11.1.8 ITS SR 3.5.1.7: ADS Manual Actuation

11.1.9 ITS SR 3.6.1.6.1: LLS valve manual actuation

11.1.10 ITS SR 3.6.1.6.2: LLS System automatic actuation

11.1.11 USAR 3.1.2.4.8.1, 6.3.4.2.2

11.2 **CPS Procedures**

11.2.1 CPS 3002.01, Heatup And Pressurization

11.2.2 CPS 3101.01, Main Steam (MS, IS & ADS)

11.2.3 CPS 3105.04, Steam Bypass And Pressure Regulation (SB)

11.2.4 CPS 3312.01, Residual Heat Removal (RHR)

11.2.5 CPS 3408.01, Containment Building/Drywell HVAC (VR, VQ)

11.2.6 CPS 3831.01, Safety Relief Valve Report

11.2.7 CPS 4009.01, Inadvertent Opening Of Safety/Relief Valve

11.2.8 CPS 9000.05, Suppression Pool Temperature Log

① 11.3 CALC IP-0-0071

11.4 CM-1: K2801-0088: DIKKERS SRV Manual, part A, Section 5,
GE DTF: JK-1396 dated 3-3-87 «2.2, 6.6, 8.1.1»

③ 11.5 STI Change Request Number - CL-17-018

12.0 **APPENDICES** - None13.0 **DOCUMENTS**CPS 9056.02C001,
Safety/Relief Valve Manual Actuation Checklist

SAFETY/RELIEF VALVE MANUAL ACTUATION CHECKLIST

SCOPE OF REVISION:

- Enhanced formatting.
- Changes incorporated as a result of CCF#'s 98-2260, 98-1673, and 98-455 that were incorporated into parent procedure 9056.02 rev. 28.

ITR:

FOR TRAINING
ONLY

CONTINUOUS USE

ORIGINATOR: *A.E. Shultz*

CLASS CODE: *SNN11*

APPROVAL
DATE:

MAR 16 1999

| <i>CHANGE NO.</i> | <i>DATE</i> | <i>PAGES</i> |
|-------------------|-------------|--------------|
| ① _____ | _____ | _____ |
| ② _____ | _____ | _____ |
| ③ _____ | _____ | _____ |

| | | | |
|---|--|--|--|
| 4 | | | |
| 5 | | | |

SAFETY/RELIEF VALVE MANUAL ACTUATION CHECKLIST

INITIALS

- ① (5.2) Shift Manager/Control Room Supervisor (SM/CRS) permission and Impact Matrix Assessed.

WD / DK
 SM/CRS Test Performer

Date/Time XX/XX/XX / XX:XX WDK
- (5.3) Suppression Pool Cooling is in service. WDK
- (5.5) Suppression Pool Temperature Log initiated. WDK
- (5.6) Containment Building evacuated of all personnel and Containment Evacuation alarm sounded. Access secured by Security. WDK
- (5.7) CCP in filtered mode. WDK
- (5.8) Notify Transmission Electric System Coordinator of Load changes during test if turbine is on line. WDK
- ① (5.9) SRV Actuation Log initiated. WDK
- (5.10) Operators in direct communications. WDK
- (5.11) Reactor Power level ≤ 90%. WDK
- (5.12) Remove reactor steam loads as necessary to maximize turbine bypass valve opening with reactor power ≤ 12%. N/A
 (Required for MODE 2 testing only).

PROCEDURE VERIFICATION

- ① (8.1.1) Adjust pressure regulator or reactor power until reactor pressure 950 to ≤ 1045 psig **AND,** WDK

 - (a) **IF** test is performed with the turbine off-line, **THEN** ≥ 2 bypass valves are fully open N/A

OR



b) Turbine on-line with PRESS AMPL IN CONTROL
light ON.

WDK

| ① Step | 8.1.2 (record) Valve** Position | 8.1.3 (record) Steam Flow | | | | 8.1.5 P601 H/S OPEN | 8.1.6 Verify OPEN Rspns | 8.1.7 P642 H/S OPEN | 8.1.8 P601 H/S AUTO | 8.1.9 Verify OPEN Rspns | 8.1.10 P642 H/S AUTO | 8.1.11 Verify CLOSED Rspns | Remarks |
|------------|--|---------------------------------|-----|-----|-----|------------------------------|----------------------------------|------------------------------|------------------------------|----------------------------------|-------------------------------|-------------------------------------|---------|
| | | A | B | C | D | | | | | | | | |
| B21-F047A* | 85 | 2.9 | 3.0 | 3.0 | 2.9 | WDK | WDK | WDK | WDK | WDK | WDK | WDK | |
| B21-F047B | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F047F | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F047C* | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F041A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F041B* | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F041G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F041D* | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F051G* | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F051B | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F047D | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F051C | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F041F* | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F041L | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F041C* | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| B21-F051D | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |

* Designates ADS valve

** Bypass or Control Valve position

H/S Designates Hand Switch

8.2 **TEST RECOVERY**
INITIALS

8.2.1 CCP in Normal Operation WDK

8.2.2 Pressure Regulator Set Point and/or Reactor Power adjusted to desired position.
I / WD DK

8.2.3 **IF** reactor steam loads were removed in step 5.12 of this procedure,
THEN Verify reactor steam loads returned per the appropriate system operating procedure. N/A

8.3 **SYSTEM RESTORATION**

~~8.3.1~~ Verify the following SRV/ADS keylock switches are in AUTO on H13-P601 and H13-P642.

| | | <u>P601</u> | <u>P642</u> |
|----|-----------|---------------|---------------|
| a) | B21-F047A | <u>IWD/DK</u> | <u>IWD/DK</u> |
| b) | B21-F047B | <u>IWD/DK</u> | <u>IWD/DK</u> |
| c) | B21-F047F | <u>IWD/DK</u> | <u>IWD/DK</u> |
| d) | B21-F047C | <u>IWD/DK</u> | <u>IWD/DK</u> |
| e) | B21-F041A | <u>IWD/DK</u> | <u>IWD/DK</u> |
| f) | B21-F041B | <u>IWD/DK</u> | <u>IWD/DK</u> |
| g) | B21-F041G | <u>IWD/DK</u> | <u>IWD/DK</u> |
| h) | B21-F041D | <u>IWD/DK</u> | <u>IWD/DK</u> |
| i) | B21-F051G | <u>IWD/DK</u> | <u>IWD/DK</u> |
| j) | B21-F051B | <u>IWD/DK</u> | <u>IWD/DK</u> |
| k) | B21-F047D | <u>IWD/DK</u> | <u>IWD/DK</u> |
| l) | B21-F051C | <u>IWD/DK</u> | <u>IWD/DK</u> |
| m) | B21-F041F | <u>IWD/DK</u> | <u>IWD/DK</u> |
| n) | B21-F041L | <u>IWD/DK</u> | <u>IWD/DK</u> |
| o) | B21-F041C | <u>IWD/DK</u> | <u>IWD/DK</u> |
| p) | B21-F051D | <u>IWD/DK</u> | <u>IWD/DK</u> |

8.4 SM/CRS notified test is complete.

Time XX:XX Date XX/XX/XXXX WDK

SAFETY/RELIEF VALVE MANUAL ACTUATION CHECKLIST

SUPPLEMENTAL REVIEW SHEET

CORRECTIVE ACTION TAKEN

9.1 ACCEPTANCE CRITERIA

ITS LCOs: 3.3.5.1 3.3.6.5 3.4.4 3.5.1 3.6.1.6

ORM ORs: None

ODCM ORs: None

As applicable:

Initiated Condition Report _____
(yes/no)

Initiated Action Request (AR) No. _____

9.2 ACCEPTANCE CRITERIA

As applicable:

Initiated Condition Report _____
(yes/no)

Initiated Action Request (AR) No. _____

COMMENTS/DEFICIENCIES

REVIEW AND APPROVAL

Cognizant Plant Engineer _____
(ISI Pump & Valve) (Signature) (Date)

Surveillance Coordinator _____
(Signature) (Date)

Job Performance Measure**Failed SRM During Refuel**JPM Number: JPM434Revision Number: 00Date: 8/19/2020

Developed By: Bill Kiser / 8/19/20
Instructor: Print / Sign Date

Reviewed By: _____ / _____
SME or Instructor: Print / Sign Date

Reviewed By: _____ / _____
Operations Representative: Print / Sign Date

Approved By: _____ / _____
Training Department: Print / Sign Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

| | |
|-----------------------------------|----------------------|
| Procedure: <u>CPS 9000.01D002</u> | Revision: <u>39</u> |
| Procedure: <u>CPS 9000.03</u> | Revision: <u>27c</u> |
| Procedure: <u>ITS 3.3.1.2</u> | Amend: <u>188</u> |
| Procedure: _____ | Revision: _____ |
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

| Revision # | Summary |
|------------|-------------------|
| 00 | 8/19/20 – New JPM |

SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

You are the CRS on the Night shift.

The reactor plant is in Mode 5.

All Control Rods are inserted and core alterations are in progress in the Northwest Quadrant.

Ninety-two new bundles are installed in the core.

The Reactor Operator has just completed CPS 9000.03 Core Alteration Surveillance Log and CPS 9000.01D002 Control Room Surveillance Log - Mode 4, 5 Data Sheet and handed them to you for review.

INITIATING CUE

Review and approve CPS 9000.03 and CPS 9000.01D002. Identify all discrepancies and take appropriate actions as necessary.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will review CPS 9000.01D002 & CPS 9000.03 and determine core alterations:

- are being performed in a quadrant without an operable SRM.
- must be immediately suspended IAW ITS LCO 3.3.1.2 SRM Instrumentation.

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|-------------|---|---|--------------------------|--------------------------|----------------|
| CUE | Provide the examinee with a copy of: <ul style="list-style-type: none"> • Initiating Cue (last page of JPM) • Reactor Core Map (Attachment 1 of the JPM) • Marked Up procedures: <ul style="list-style-type: none"> ○ CPS 9000.03 Core Alteration Surveillance Log ○ CPS 9000.01D002 Control Room Surveillance Log - Mode 4, 5 Data Sheet • CPS Technical Specifications (Books 1 & 2) | | | | |
| *01 | Conducts Shift Management review of CPS 9000.03 and CPS 9000.01D002. | a. Examinee determines that SRM 'A' is downscale (less than 3 cps). | <input type="checkbox"/> | <input type="checkbox"/> | — |
| | | b. Examinee determines that SRM 'A' is located in the quadrant where core alterations are occurring. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| | | c. Examinee determines that adjacent quadrants have operable SRMs. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| *02 | Reviews CPS 9000.03 Acceptance Criteria. | Examinee determines Acceptance Criteria is <u>not</u> met. | <input type="checkbox"/> | <input type="checkbox"/> | — |

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|-------------|--|--|--------------------------|--------------------------|----------------|
| *03 | Reviews ITS 3.3.1.2 SRM Instrumentation to identify Action Statements for implementation. | Examinee enters ITS 3.3.1.2 Required Actions E.1 and E.2 and reports that CORE ALTERATIONS are to be suspended immediately. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| CUE | If the examinee reports that core alterations should be suspended, acknowledge the report. JPM is complete. | | | | |

JPM Stop Time: _____



JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: Failed SRM During Refuel

JPM Number: JPM434

Revision Number: 00

Task Number and Title: 900003.01 / Core Alteration Surveillance Log

Task Standard: The examinee will review CPS 9000.01D002 & CPS 9000.03 and determine core alterations:

- are being performed in a quadrant without an operable SRM.
- must be immediately suspended IAW ITS LCO 3.3.1.2 SRM Instrumentation.

K/A Number and Importance:

| K/A System | K/A Number | Importance (RO/SRO) | |
|------------|------------|---------------------|-----|
| Generic | 2.1.36 | 3.0 | 4.1 |

Suggested Testing Environment: Classroom

Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

| | |
|-----------------------------------|----------------------|
| Procedure: <u>CPS 9000.01D002</u> | Revision: <u>39</u> |
| <u>CPS 9000.03</u> | Revision: <u>27c</u> |
| <u>CPS ITS 3.3.1.2</u> | Amend: <u>188</u> |

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 10 minutes

Actual Time Used: _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

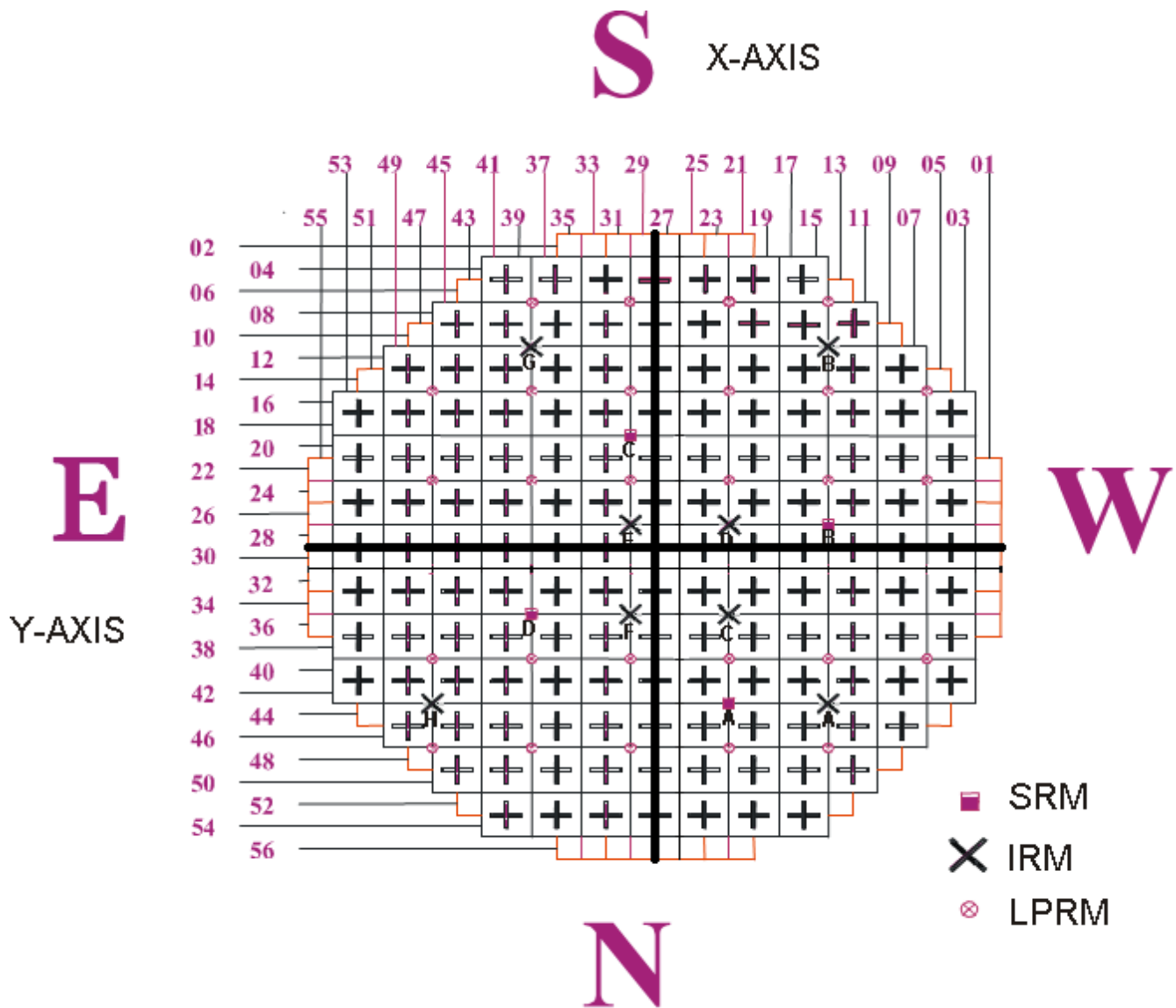
The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

Attachment 1: Reactor Core Map



INITIAL CONDITIONS

You are the CRS on the Night shift.

The reactor plant is in Mode 5.

All Control Rods are inserted and core alterations are in progress in the Northwest Quadrant.

Ninety-two new bundles are installed in the core.

The Reactor Operator has just completed CPS 9000.03 Core Alteration Surveillance Log and CPS 9000.01D002 Control Room Surveillance Log - Mode 4, 5 Data Sheet and handed them to you for review.

INITIATING CUE

Review and approve CPS 9000.03 and CPS 9000.01D002. Identify all discrepancies and take appropriate actions as necessary.

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5 DATA SHEET

SCOPE OF REVISION:

- Incorporated Specific Rev's 38 - 38e, rev marks not retained.
- General Rev 39. [Palmer]: Revised procedure to facilitate Operations transition from 8 hour to 12 hour shifts. Updated Technical Specification references. Rev Marks not used

For Training Only

CONTINUOUS USE

ORIGINATOR: *Terry Palmer*CLASS CODE: *SNND1*SQR: *Mark Dodds*APPROVAL DATE: *10/11/19***CURRENT CHANGES TO GENERAL REVISION**

| | <i>Change #</i> | <i>Date</i> | <i>List of Affected Pages</i> |
|---|-----------------|-------------|-------------------------------|
| ① | _____ | _____ | _____ |
| ② | _____ | _____ | _____ |
| ③ | _____ | _____ | _____ |
| ④ | _____ | _____ | _____ |
| ⑤ | _____ | _____ | _____ |

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| | MON | TUE | WED | THU | FRI | SAT | SUN |
|---|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 5.1 (Record) Inform SMngt of test start and record date/time of notification. Weekly Start Date/Time <u>xx:xx/xx/xxxx/xx:xx</u> | N <u>xx:xx</u> D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ |

NOTES:

- Remaining data sheet steps may be performed in any order.
 - Shift logs will be performed between 0800 and 1100 for the day shift. Night Shift performance shall be between 2000 and 2300.
 - Daily/Weekly logs will be performed on Night Shift between 2000 and 2300 or as otherwise indicated.

(ITS SR 3.0.2)

8.1 Reactor MODE Switch Position

1. (Initial) Verify Reactor MODE Switch is LOCKED in SHUTDOWN or REFUEL position when:

a) In MODE 4 when:
 Suppression pool water level < 12' 8" or
 ITS LCO 3.10.4 is being utilized.

OR

b) In MODE 5.
 (ORM TR 4.6.7) (Refer to ITS LCO 3.10.2 and 3.10.8 for exceptions.)

2. (Initial) Verify Reactor MODE Switch is LOCKED in REFUEL position when:

In MODE 5,

AND

Any control rod withdrawn.
 (ITS SR 3.9.2.1)

OR

PC-TCC dummy plug installed into Jack 26 at 1H13-P651 or 1H13-P652 IAW CPS 3509.01C001 or C002

| | | | | | | |
|-------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| N <u>WDK</u> D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ |
| N <u>WDK</u> D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ | N _____ D _____ |

8.2 (Record) Plant Operating MODE.

| | | | | | | |
|-----|---|---|---|---|---|---|
| 5 / | / | / | / | / | / | / |
|-----|---|---|---|---|---|---|

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.3 SURVEILLANCE PROCEDURE TRACKING VERIFICATIONS

° Normally preformed/maintained current as recommended irrespective of previous triggered performances.

1. Reactivity Control [NIGHTs only]
 (MODE 5 with a withdrawn control rod)
 (Record) Date/time CPS 9011.01, Control Rod/Position Indication Operability required. (ITS SR 3.9.5.1)

| | | | | | | |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| d XX/XX/XXXX d _____ | d _____ | d _____ | d _____ | d _____ | d _____ | d _____ |
| t XX:XX t _____ | t _____ | t _____ | t _____ | t _____ | t _____ | t _____ |

2. CPS 9082.01, Offsite Source Power Verification completed. (ITS SR 3.8.2.1)

| | | | | | | |
|--|--|--|--|--|--|----|
| | | | | | | /X |
|--|--|--|--|--|--|----|

3. CPS 9082.02, Electrical Distribution Verification completed. (ITS SR 3.8.8.1, 3.8.10.1)

| | | | | | | |
|--|--|--|--|--|--|----|
| | | | | | | /X |
|--|--|--|--|--|--|----|

4. CPS 9094.01D001, Cumulative Data Report Data Sheet updated. (ITS SR 3.6.4.3.2, 3.7.3.3; ITS 5.5.7.c)

| | | | | | | |
|--|--|--|--|--|--|----|
| | | | | | | /X |
|--|--|--|--|--|--|----|

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.4 INSTRUMENTATION

8.4.1 Source Range Monitors (SRM)

SRM Comparison Guideline:

3 to 500 cps when all rods are inserted. Use DCS indication if available, or SRM Backpanels.

If a channel is > 500 cps, refer to CPS 1401.09 (or equivalent) to evaluate channel operability.

1. MODE 4 [DAYS only]

- a) Record/Verify ≥ 3.0 cps.
Verify SRMs full in.
(≥ 2 channels)
(ITS SR 3.3.1.2.4 T1)

SRM Channel
A
B
C
D

| | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| X/ | X/ | X/ | X/ | X/ | X/ | X/ |

- b) (Initial) Channel Check SRM indications.
• 1H13-P678
• DCS and/or SRM Drawers
(flux & period) (ITS SR 3.3.1.2.3 T1)

2. MODE 5 [Shiftly]

- a) Record/Verify ≥ 3.0 cps.
Verify SRMs full in.
(≥ 2 channels)
(ITS SR 3.3.1.2.4 T1)

SRM Channel
Nights A
Nights B
Nights C
Nights D

| | | | | | | |
|---------------|---------|---------|---------|---------|---------|---------|
| <u>2</u> cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| <u>10</u> cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| <u>8</u> cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| <u>6</u> cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |

- b) Record/Verify ≥ 3.0 cps.
Verify SRMs full in.
(≥ 2 channels)
(ITS SR 3.3.1.2.4 T1)

SRM Channel
Days A
Days B
Days C
Days D

| | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |
| ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps | ___ cps |

- d) (Initial) Channel Check SRM indications.
• 1H13-P678
• DCS and/or SRM Drawers
(flux & period) (ITS SR 3.3.1.2.1 T1)

| | | | | | | |
|------|---|---|---|---|---|---|
| wdk/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.4 INSTRUMENTATION (cont'd)

8.4.2 Intermediate Range Monitors (IRM)

(MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.)

(Initial) Channel Check IRM indications on 1H13-P678. (ITS SR 3.3.1.1.1 T1.a)

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

8.4.3 Narrow Range (NR) Reactor Vessel Water Level

(Initial) Channel Check ATM indications of Reactor Vessel Water Level (NR).

RPS/RHR ATM 1B21-N680A, B, C, D
(ITS SR 3.3.5.2.1 T4.a)

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

8.4.4 Wide Range (WR) Reactor Vessel Water Level

(Initial) Channel Check Reactor Vessel Water Level (WR) indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

1. NS4 ATM 1B21-N681A, B, C, D
(ITS SR 3.3.5.2.1 T5.a,
ITS SR 3.3.6.2.1 T1)

2. Div 1, LPCS ATM 1B21-N691A, E
(ITS SR 3.3.5.1.1 T1.a)

3. Div 2, RHR ATM 1B21-N691B, F
(ITS SR 3.3.5.1.1 T2.a)

4. Div 3, HPCS ATM 1B21-N673C, G
(ITS SR 3.3.5.1.1 T3.a)

5. Div 4, HPCS ATM 1B21-N673D, H
(ITS SR 3.3.5.1.1 T3.a)

8.4.5 Reactor Vessel Pressure

(Initial) Channel Check Reactor Vessel Pressure indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

1. Div 1, LPCS ATM 1B21-N697A, E
(ITS SR 3.3.5.2.1 T1.a)

2. Div 2, RHR ATM 1B21-N697B, F
(ITS SR 3.3.5.2.1 T2.a)

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.4 INSTRUMENTATION (cont'd)

8.4.6 Scram Discharge Volume (SDV) Level

(MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.)

(Initial) Channel Check SDV Level indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

RPS ATM 1C11-N601A, B, C, D
(ITS SR 3.3.1.1.1 T8.a)

8.4.7 Suppression Pool Level

1. (Initial) Channel Check Suppression Pool Level indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

a) ATM 1E22-N655C, G (inst. zero = 731' 5")

b) 1LR-CM240, -CM241 or 1LY-CM030, -CM031, 1LY-SM006 (1H13-P852), 1LY-SM013 (1H13-P862)

Instrument zero is 727'0".

1LR-CM240 & CM241 read in feet and inches.

1LY-SM006, 1LY-SM013 read 0 - 100%, with full scale equal to +70".

Use following when conducting channel check.

(Also applicable to 1LY-CM030 & CM031.)

0% = 15.0' (15'0") 67% = 18.9' (18'11") 100% = 20.8' (20'10")

25% = 16.6' (16'5.5") 71% = 19.2' (19'2")

50% = 17.9' (17'11") 76% = 19.4' (19'5")

2. (Record) Record/Verify

Suppression Pool Water Level is \geq 12.8' (12'9") from recorder 1LR-CM030 and 1LR-CM031 on P601. (ITS SR 3.5.2.2, 3.5.2.3.a)

CM030

| | | | | | | |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| >20.8/X ft | ___/X ft | ___/X ft | ___/X ft | ___/X ft | ___/X ft | ___/X ft |
| >20.8/X ft | ___/X ft | ___/X ft | ___/X ft | ___/X ft | ___/X ft | ___/X ft |

CM031

If either recorder is inoperable or below range (16.0' [16'0"]), then refer to recorders 1LR-SM014 and 1LR-SM016 on 1H13-P601.

If recorder sets 1LR-CM030 and 1LR-CM031, or 1LR-SM014 and 1LR-SM016 are not operable, then locally verify Suppression Pool water level is above the top of the upper row of drywell vents (\geq 13.1 [13'1"]).

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.4 INSTRUMENTATION (cont'd)

8.4.8 RCIC Storage Tank

1. (Initial) Channel Check RCIC Storage Tank Level indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

ATM, 1E22-N654C, G
 (Instrument zero is 739' 10.75" or 2' 10.75" from tank bottom)
 (ITS SR 3.3.5.2.1 T3.a)
 Used for HPCS suction source switching.

2. (Initial) Verify that RCIC storage tank available water volume is \geq 125,000 gal.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

This volume is maintained when the trip Light under 1E51-N801 (1H13-P862) indicator is ON. (ITS SR 3.5.2.3.b)

8.4.9 LPCS Pump Discharge Flow

(Initial) Channel Check LPCS Pump Discharge Flow indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

LPCS ATM 1E21-N651 (ITS SR 3.3.5.2.1 T1.b)

8.4.10 LPCI Pump A Discharge Flow

(Initial) Channel Check LPCI Pump A Discharge Flow indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

RHR ATM 1E12-N652A (ITS SR 3.3.5.2.1 T1.c)

8.4.11 LPCI Pump B Discharge Flow

(Initial) Channel Check LPCI Pump B Discharge Flow indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

RHR ATM 1E12-N652B (ITS SR 3.3.5.2.1 T2.b)

8.4.12 LPCI Pump C Discharge Flow

(Initial) Channel Check LPCI Pump C Discharge Flow indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

RHR ATM 1E12-N652C (ITS SR 3.3.5.2.1 T2.b)

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.4 INSTRUMENTATION (cont'd)

8.4.13 HPCS Pump Discharge Pressure

(Initial) Channel Check HPCS Pump Discharge Pressure indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

HPCS ATM 1E22-N651 (ITS SR 3.3.5.2.1 T3.b)

8.4.14 HPCS Pump Minimum Flow

(Initial) Channel Check HPCS Pump Minimum Flow indications.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

HPCS ATM 1E22-N656 (ITS SR 3.3.5.2.1 T3.c)

8.5 RESIDUAL HEAT REMOVAL

(Initial) Verify proper operation of the RHR Shutdown Cooling MODE per applicable MODE:

1. (MODE 4)

Verify one RHR shutdown cooling subsystem or recirculation pump is operating. (ITS SR 3.4.10.1)

| | | | | | | |
|---|---|---|---|---|---|---|
| / | / | / | / | / | / | / |
|---|---|---|---|---|---|---|

2. (MODE 5 with irradiated fuel in the RPV and water level ≥ 22 ft 8 inches above the top of the RPV flange)

Verify one RHR shutdown cooling subsystem is operating. (ITS SR 3.9.8.1)

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

3. (MODE 5 with irradiated fuel in the RPV and water level < 22 ft 8 inches above the top of the RPV flange)

Verify one RHR shutdown cooling subsystem is operating. (ITS SR 3.9.9.1)

| | | | | | | |
|---|---|---|---|---|---|---|
| / | / | / | / | / | / | / |
|---|---|---|---|---|---|---|

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.6 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION - TANK LEVEL INDICATIONS
(during liquid additions to associated tank)

- (Initial) Channel Check the Cycled Condensate Storage Tank Level on 1H13-P870. (ODCM SR Table 4.1-1 4.a: CK)
- (Initial) Channel Check the Reactor Core Isolation Cooling Tank Level on 1H13-P862. (ODCM SR Table 4.1-1 4.b: CK)

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |

8.7 SECONDARY CONTAINMENT INTEGRITY [NIGHTs only]
(During movement of recently irradiated fuel assemblies in the primary or secondary containment.)

(Record) Record/Verify Secondary Containment to Atmosphere D/P is ≥ 0.25 inch of vacuum water gauge from 0PDI-VG001 or 0PDI-VG101. (ITS SR 3.6.4.1.1) Refer to 9000.01, Section 2.1.8

| | | | | | | |
|---------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <u>0.75</u> /X in. vac WG | ___/X in. vac WG | ___/X in. vac WG | ___/X in. vac WG | ___/X in. vac WG | ___/X in. vac WG | ___/X in. vac WG |
|---------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|

8.8 REACTOR COOLANT SYSTEM

- (Initial) Verify reactor coolant conductivity is being recorded continuously on 1H13-P678. (ORM TR 4.3.1.5)

If the continuous conductivity recorder is INOPERABLE, notify Chemistry to perform in-line conductivity measurements at least once per 24 hours per CPS 9940.01.

- (Initial) Verify Reactor Coolant temperature is $> 90^{\circ}\text{F}$.

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

If temperature decreases to 90°F , then initiate 9000.06D002, Vessel and Head Flange Temperature Log (ITS SR 3.4.11.7) MODE 4, by use of any of the following:

- Read from B33-R604 on 1H13-P614.
- Read from E12-R601, 1E12-N004A (RHR HX 1A Inlet) or 1E12-N004B (RHR HX 1B Inlet) on 1H13-P601. Ensure point used is associated with S/D cooling loop in operation.
- Bottom Head drain temp from point 4 on B21-R643.

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.9 NSS AND BOP ANNUNCIATOR HIDDEN GROUND FAULT TEST [Wednesday NIGHTs only]

NOTE
If an annunciator card(s) has a hidden ground fault in the system being tested, it will alarm.

1. (Initial) Perform a NSS Hidden Ground Fault Test.

| | | | | | | |
|--|--|--|----|--|--|--|
| | | | /X | | | |
|--|--|--|----|--|--|--|

In 1H13-P630, depress Ground Fault Test push-button and observe the Ground Fault lamp lights and verify annunciator "H13-P630 ANNUNCIATOR GRD FAULT" (5006-1L) alarms, then release push-button.

2. (Initial) Perform a BOP Hidden Ground Fault Test.

| | | | | | | |
|--|--|--|----|--|--|--|
| | | | /X | | | |
|--|--|--|----|--|--|--|

In 1H13-P6850, depress Ground Fault Test push-button and observe the Ground Fault lamp lights and verify annunciator "H13-P850 ANNUNCIATOR GRD FAULT" (5007-1D) alarms, then release push-button.

8.10 THERMAL OVERLOAD PROTECTION (MOV Test Switches)

(Initial) Verify thermal overload protection is bypassed for motor operated valves (MOV) required to be operable. Verify MOV Test Prep switches are in NORM position. (ORM TR 4.5.2.2) «CM-1»

| | | | | | | |
|------|---|---|---|---|---|---|
| WDK/ | / | / | / | / | / | / |
|------|---|---|---|---|---|---|

8.11 SVC PROTECTION SYSTEMS [NIGHTs only]

Verify required E-Area Daily Rounds - SVC local panel checks are complete. (ITS SR 3.8.11.1)

1. (Initial) RAT SVC Protection System

| | | | | | | |
|-------|----|----|----|----|----|----|
| WDK/X | /X | /X | /X | /X | /X | /X |
|-------|----|----|----|----|----|----|

2. (Initial) ERAT SVC Protection System

| | | | | | | |
|-------|----|----|----|----|----|----|
| WDK/X | /X | /X | /X | /X | /X | /X |
|-------|----|----|----|----|----|----|

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.12 AR/PR RADIATION MONITORS CHANNEL CHECKS

☞ Code Table for 8.12 items on Page 13.

(Initial) Verify Channel Check of AR/PR Channels on an AR/PR LAN Terminal.

1. 1RIX-PR001A, B, C, D
(ITS SR 3.3.6.1.1 T2.h (g)
ITS SR 3.3.6.2.1 T4 (g))
2. 1RIX-PR008A, B, C, D
(ITS SR 3.3.6.1.1 T2.g (g)
ITS SR 3.3.6.2.1 T3 (g))
3. 1RIX-PR042A, B, C, D
(ITS SR 3.3.6.1.1 T2.i (g)
ITS SR 3.3.6.2.1 T5 (g))
4. 1RIX-AR013 [Sunday DAYs only]
5. 1RIX-AR010 [Sunday DAYs only]
6. 0UIX-PR050 1/2/4/5/7 [ORM TR 4.2.8.1 (a)]†
7. 1RIX-PR004 [ODCM SR Table 4.1-1 2.c] (d)
8. 1RIX-PR005 [ODCM SR Table 4.1-1 2.c] (d)
9. 1RIX-PR036 [ODCM SR Table 4.1-1 2.a] (d)
10. 1RIX-PR037 [ODCM SR Table 4.1-1 2.d] (d)
11. 1RIX-PR038 [ODCM SR Table 4.1-1 2.b] (d)
12. 1RIX-PR039 [ODCM SR Table 4.1-1 2.b] (d)

| | | | | | | |
|------|---|---|---|---|---|----|
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |
| | | | | | | X/ |
| | | | | | | X/ |
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |
| WDK/ | / | / | / | / | / | / |

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.12 AR/PR RADIATION MONITORS CHANNEL CHECKS (cont'd)

☞ Code Table for 8.12 items on Page 13.

| | | | | | | |
|--|------|---|---|---|---|----|
| 13. 1RIX-PR023 1/3/5/6 [Sunday DAYs only] | | | | | | X/ |
| 14. 1RIX-AR001 [Sunday DAYs only] | | | | | | X/ |
| 15. 1RIX-AR003 [Sunday DAYs only] | | | | | | X/ |
| 16. 1RIX-AR002 [Sunday DAYs only] | | | | | | X/ |
| 17. 1RIX-AR012 [Sunday DAYs only] | | | | | | X/ |
| 18. 1RIX-PR019 1/3/5/6 [Sunday DAYs only] | | | | | | X/ |
| 19. 1RIX-PR006A, B, C, D [ITS SR 3.3.6.2.1 T6 (h)] | WDK/ | / | / | / | / | / |
| 20. 1RIX-AR019 [ORM TR 4.2.6.1 Ta (e)] | WDK/ | / | / | / | / | / |
| 21. 1RIX-AR052 [ORM TR 4.2.6.1 Ta (e)] | WDK/ | / | / | / | / | / |
| 22. 1RIX-AR016 [ORM TR 4.2.6.1 Tb (f)] | WDK/ | / | / | / | / | / |
| 23. 0RIX-PR001 5/7/15 [ODCM SR Table 4.2-2 1/b/a/e] (note a)(also verify Ch 14 <u>not</u> deleted - supports Ch 15) (Ch 15 is INOP when flow < 45 LPM) | WDK/ | / | / | / | / | / |
| 24. 0RIX-PR002 5/7/15 [ODCM SR Table 4.2-2 1/b/a/e] (note a)(also verify Ch 14 <u>not</u> deleted - supports Ch 15) (Ch 15 is INOP when flow < 45 LPM) | WDK/ | / | / | / | / | / |
| 25. 0RIX-PR003 6/9/15 [ODCM SR Table 4.2-2 2/b/a/e] (note b)(also verify Ch 14 <u>not</u> deleted - supports Ch 15) (Ch 15 is INOP when flow < 45 LPM) | WDK/ | / | / | / | / | / |
| 26. 0RIX-PR004 6/9/15 [ODCM SR Table 4.2-2 2/b/a/e] (note b)(also verify Ch 14 <u>not</u> deleted - supports Ch 15) (Ch 15 is INOP when flow < 45 LPM) | WDK/ | / | / | / | / | / |

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.12 AR/PR RADIATION MONITORS CHANNEL CHECKS (cont'd)

| | | | | | | |
|---|------|---|---|---|---|---|
| 27. OUIX-PR051 1/6 [ODCM SR Table 4.2-2 6/5] (b/a) | WDK/ | / | / | / | / | / |
| 28. 1RIX-PR009A, B, C, D [ITS SR 3.3.7.1.1 T1 (i)] | WDK/ | / | / | / | / | / |
| 29. 1RIX-AR035 [ORM TR 4.2.6.1 Tc (a)] | WDK/ | / | / | / | / | / |

† OUIX-PR050 should be used as the primary means of satisfying ORM Channel Checks.

Recorder 1UR-EM015 (60 meter wind velocity and direction, 10 meter wind velocity and direction and Pt. 7 Delta Temperature), may be used to satisfy the channel checks when OUIX-PR050 is inoperable or not communicating (POLL OFF) with the AR/PR LAN.

If OUIX-PR050 is inoperable or not communicating (POLL OFF) with the AR/PR LAN, contact the Buffer System Manager to notify IDNS that meteorological data will be unavailable.

If channel checks are performed with the recorders, a notation shall be made in the Comments section.

- (a) At all times.
- (b) When standby gas treatment system is in standby or operation.
- (d) Any time system is in service.
- (e) With fuel in the new fuel storage vault.
- (f) With irradiated fuel in the spent fuel storage pool.
- (g) During movement of recently irradiated fuel assemblies in the primary or secondary containment.
- (h) During movement of recently irradiated fuel assemblies in the fuel building.
- (i) During CORE ALTERATIONS, and during movement of irradiated fuel assemblies in the primary or secondary containment.

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.13 SELF TEST SYSTEM (ITS SR {see 2.1.7}) (ORM TR 4.2.14.1)

(Initial) Status indications of the STS shall be obtained at least once per 24 hours, whenever the STS is operating in the fully or partially automatic MODE.

- N/A the MODE not being credited for ITS/ORM.
- STS Summary print-out per CPS 3513.01 (STS).

1. Fully Automatic MODE, or
2. Partially Automatic MODE with all required tests performed once per 90 days. (i.e., Fully Auto MODE SAT or CPS 9030.05: PMRQ 159560-01.)

| | | | | | | |
|-------|----|----|----|----|----|----|
| WDK/X | /X | /X | /X | /X | /X | /X |
| WDK/X | /X | /X | /X | /X | /X | /X |

8.14 DELETED

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.15 ULTIMATE HEAT SINK TEMPERATURE (NIGHTS only)

(Record) UHS temp from computer pt:

- a) CW-BA001 or CW-BA002 with CW in service and flow through the associated waterbox A/B.
- b) If CW is NOT in service, computer point SX-DA001 can be used with flow through RHR HX A, SX-DA002 with flow through RHR HX B.

Initiate an IR at or approaching 93°F.
 95°F is the design inlet temperature of SX.
 Ref IR 1525666 (EC 394281).

| | | | | | | |
|--------|-------|-------|-------|-------|-------|-------|
| 81°F/X | ___/X | ___/X | ___/X | ___/X | ___/X | ___/X |
|--------|-------|-------|-------|-------|-------|-------|

8.16 SFSC HEAT REMOVAL SYSTEMS [Days only]

Verify required E-Area Daily Rounds - SFSC Heat Removal Systems local checks are complete **FOR EACH LOADED CASK (no vents have any observed blockage)**.

(Technical Specifications for the HI-STORM FW MPC Storage System SR 3.1.2)
 «LBD-5»

(Initial)

| | | | | | | |
|----|----|----|----|----|----|----|
| X/ | X/ | X/ | X/ | X/ | X/ | X/ |
|----|----|----|----|----|----|----|

CONTROL ROOM SURVEILLANCE LOG - MODE 4, 5

| MON | TUE | WED | THU | FRI | SAT | SUN |
|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|

8.17 REACTOR PRESSURE VESSEL WATER INVENTORY CONTROL

1. (Record) RPV WIC DRAIN TIME per 3006.01P001

| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| N <u>>36 hrs</u> | N _____ | N _____ | N _____ | N _____ | N _____ | N _____ |
| D _____ | D _____ | D _____ | D _____ | D _____ | D _____ | D _____ |

2. (Initial) Verify DRAIN TIME \geq 36 hours.
(SR 3.5.2.1)

| | | | | | | |
|--------------|---------|---------|---------|---------|---------|---------|
| N <u>WDK</u> | N _____ | N _____ | N _____ | N _____ | N _____ | N _____ |
| D _____ | D _____ | D _____ | D _____ | D _____ | D _____ | D _____ |

8.18 SPENT FUEL POOL TIME TO 200 DEGREES UPDATED

Reference 3317.01C001. Includes update of TSC data.

a. Shiftly with the plant shut down for a refueling outage only unless a "bounding" number is established for the outage per OP-AA-108-117-1001, Spent Fuel Storage Pools Heat-Up Rate With Loss Of Normal Cooling

| | | | | | | |
|------------|---|---|---|---|---|---|
| <u>WDK</u> | / | / | / | / | / | / |
|------------|---|---|---|---|---|---|

b. Weekly on SUNDAY otherwise

8.19 SURVEILLANCE COMPLETION

(Record) Record finish time of
CPS 9000.01D002.

| | | | | | | |
|----------------|---------|---------|---------|---------|---------|---------|
| N <u>XX:XX</u> | N _____ | N _____ | N _____ | N _____ | N _____ | N _____ |
| D _____ | D _____ | D _____ | D _____ | D _____ | D _____ | D _____ |

SHIFT TEST RESULTS

| COMMENTS | SMngt REVIEW | F U L L | P A R T | Operability Requirements | | Other Requirements | |
|----------|-----------------|------------------|------------------|-----------------------------|-----|-----------------------|-----|
| | | | | P | F | P | F |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |
| _____ | _____ | () | () | () | () | () | () |

CORE ALTERATION SURVEILLANCE LOG

SCOPE OF REVISION:

- Periodic review and format update.
- Revised required RPV water level for step 8.1.5 from 23 ft. to 22 ft. 8 in. per ITS Amendment 133.
- Revised old step 8.2 (now 8.2 and 8.3) to record time of completion and document Shift Management review shiftly.
- ❶ Specific Rev. 27a [Landin]: EDITORIAL - Step 8.1.6 structure enhancement/typo fix per JPM feedback (CCF 01-0313: Sympson).
- ❷ Specific Rev. 27b [Landin]: EDITORIAL - Added ORM TR 4.6.7 link (Shelton).
- ❸ Specific Rev. 27c [Landin]: C1R09:
Added additional monitoring criteria per EC TCHG 335418 when a PC-TCC for Refuel Bridge MODE Switch Interlock is installed via CPS 3509.01C001/C002.

For Training

Only

CONTINUOUS USE

ORIGINATOR: *David W. Reeser*

CLASS CODE: *SNNN*

SQR: *Thomas J. Landin*

APPROVAL DATE: *OCT 13 2000*

CURRENT CHANGES TO GENERAL REVISION

| Change # | Date | List of Affected Pages |
|----------|----------|------------------------|
| ❶ 27a | 01/22/03 | 1, 5 |
| ❷ 27b | 01/27/04 | 1, 4, 6, 7 |
| ❸ 27c | 02/06/04 | 1, 4, 6 |
| ❹ | | |
| ❺ | | |

1.0 PURPOSE

1.1 Ensure the proper operation of certain plant equipment covered by the applicable CPS ITS's as required for CORE ALTERATIONS.

The procedure must be performed when in CORE ALTERATIONS MODE, whether or not CORE ALTERATIONS are in progress.

1.2 Completion of this procedure satisfies the requirements of ITS SR 3.3.1.2.2, SR 3.9.2.1, SR 3.9.3.1, SR 3.9.6.1, SR 3.9.7.1, and ORM TR 4.6.2.

2.0 DISCUSSION/DEFINITIONS**2.1 Discussion****2.1.1 Frequency**

1. Normal Frequency - Shiftly
2. Other Triggers - CPS 3007.01, Preparation For And Recovery From Refueling Operations.

2.1.2 This procedure shall be routinely performed as close to the beginning of the shift as possible.

If only two shifts are present during a 24 hour period, this surveillance should be performed at 8 hour intervals.

2.1.3 This log will be maintained by an on-shift RO, and reviewed by SMngt.

2.2 Definitions

2.2.1 CORE ALTERATIONS: the movement of any fuel, sources, or reactivity control components within the reactor vessel with the vessel head removed and fuel in the vessel.

The following exceptions are not considered to be CORE ALTERATIONS:

- Movement of source range monitors, local power range monitors, intermediate range monitors, traversing in-core probes, or special movable detectors (including under-vessel replacement); and
- Control rod movement, provided there are no fuel assemblies in the associated core cell.

2.2.2 CORE ALTERATIONS MODE: inclusive combination of plant conditions which satisfy Technical Specifications for performing Core Alterations.

3.0

RESPONSIBILITY

Operations Department Head is responsible for ensuring the implementation of this procedure.

~~4.0~~**PRECAUTIONS**~~4.1~~

During prolonged outages, with vessel level lowered and the reactor head removed, the reactor vessel level reference legs are to be periodically refilled due to evaporation losses.

Refer to PMID 150928-03, fill and vent on shutdown range level transmitter 1B21-N027. «CM-1»

~~4.2~~

If a significant change in reactor vessel level occurs, the MCR shall notify the Refueling SRO and they shall notify Radiation Protection. «CM-1»

~~5.0~~**PREREQUISITES**~~5.1~~

This is a passive test and does not affect plant equipment, therefore, an impact statement is not required.

~~5.2~~

Notify Shift Management of the start of this test.

XX/XX/XXXX/XX:XX
Date/Time

WDK
Initial

~~6.0~~**LIMITATIONS**~~6.1~~

The use of special movable detectors during core alterations in place of normal Source Range Monitor (SRM) detectors is permissible as long as they are connected to the normal SRM circuits.

7.0

MATERIALS/TEST EQUIPMENT - None

8.0**PROCEDURE**Date: XX/XX/XXXTime: XX:XX / /~~8.1~~

Verify the following checks are current:

- Prior to CORE ALTERATIONS; and
- Prior to resuming CORE ALTERATIONS following an exit from the CORE ALTERATIONS MODE.
- Thereafter, perform steps 8.1.1, 8.1.2, 8.1.3 and 8.1.4 shiftly (refer to step 2.1.2), and steps 8.1.5 and 8.1.6 daily.

NOTE*Steps 8.1.1 through 8.1.6 may be performed concurrently or in any logical order.*

02

8.1.1

Reactor Mode Selector Switch is locked in the Refuel Position (with the key removed). «LBD-2» «LBD-7»

WDK / /

3

1.

IF

PC-TCC For MODE Switch in Refuel Interlock is installed per CPS 3509.01C001, Division 1 NSPS Bus (1C71-P001A) Outage, «LBD-8»

3

THENIn the back of RC&IS panel 1H13-P651, (upper right corner at back of panel) verify PC-TCC installation by checking that the dummy plug is installed into jack 26. N/A / /

3

2.

IF

PC-TCC For MODE Switch in Refuel Interlock is installed per CPS 3509.01C002, Division 2 NSPS Bus (1C71-P001B) Outage, «LBD-8»

3

THENIn the back of RC&IS panel 1H13-P652, (upper right corner at back of panel) verify PC-TCC installation by checking that the dummy plug is installed into jack 26. N/A / /8.1.2All Control Rods are fully inserted. «LBD-3» WDK / /

- 0 ~~8.1.3~~ Verify operability of the required SRMs. «LBD-1»
- 0 1. Verify SRM portion of CPS 9000.01D002, Control Room Operator Surveillance Log - Mode 4,5 Data Sheet is current for the SRMs required to satisfy the sub-step 2 below. WDK / /
- ~~2.~~ Verify an OPERABLE SRM detector is located in:

 - 1. The fueled region; and WDK / /
 - 2. The core quadrant where CORE ALTERATIONS are being performed when the associated SRM is included in the fueled region; and WDK
and / /
 - 3. A core quadrant, adjacent to where CORE ALTERATIONS are being performed, when the associated SRM is included in the fueled region. WDK
 / /
- 8.1.4 During CORE ALTERATIONS, except during movement of control rods with their normal drive system, Verify direct communication between the MCR and the refuel platform personnel. «LBD-6» WDK / /
- 0 8.1.5 During movement of irradiated fuel, Verify Reactor Pressure Vessel Level is at least 22 ft. 8 in. over the top of the reactor pressure vessel flange. WDK
«LBD-4» / X / X
- ~~**NOTE**~~

RPV water level is ~ 50 feet above the top of irradiated fuel assemblies seated within the RPV when upper CNMT pool water level is at the top of the weir wall separating the Reactor refueling pool and steam dryer storage pool.
- 0 1 8.1.6 During movement of new fuel assemblies or handling of control rods (by other than their normal drive system) within the RPV, Verify Reactor Pressure Vessel Level is ≥ 23' above the top of irradiated fuel assemblies seated within the RPV. «LBD-5» WDK / X / X

- ① 8.2 (Record) Finish time of CPS 9000.03. xx:xx/ /
- ① 8.3 (Initial) Shift Management Review. (SMngt) / /

9.0 **ACCEPTANCE CRITERIA**9.1 **Operability Requirements****NOTE**

Failure to meet the Acceptance Criteria shall constitute a failure to comply with the applicable LCO. ITS should be immediately reviewed to identify Action Statements needed for implementation. Refer to Supplemental Review Sheet for applicable LCOs.

9.1.1 Items in section 8.0 of CPS 9000.03 are satisfactory.

9.2 **Other Requirements** - None

10.0 **FINAL CONDITIONS** - None

11.0 **REFERENCES**11.1 **Licensing Basis Documents**

11.1.1 LBD-1: SR 3.3.1.2.2 «8.1.3»

11.1.2 LBD-2: SR 3.9.2.1 «8.1.1»

11.1.3 LBD-3: SR 3.9.3.1 «8.1.2»

11.1.4 LBD-4: SR 3.9.6.1 «8.1.5»

11.1.5 LBD-5: SR 3.9.7.1 «8.1.6»

11.1.6 LBD-6: ORM TR 4.6.2 «8.1.4»

② 11.1.7 LBD-7: ORM TR 4.6.7 «8.1.1»

③ 11.1.8 LBD-8: EC TCHG 335418 «8.1.1.1, 8.1.1.2»

11.2 **Procedures**

11.2.1 CPS 3007.01,
Preparation For And Recovery From Refueling Operations

11.3 **Design/Vendor/Print/Other** -- None

11.4 **Commitments**

11.4.1 CM-1: SOER 82-01, Radiation Overexposure of
Maintenance Personnel «4.1, 4.2»

12.0 **APPENDICES** - None

13.0 **DOCUMENTS** - None

CORE ALTERATION SURVEILLANCE LOG

SUPPLEMENTAL REVIEW SHEET

Corrective Action Taken

Operability Requirements:

ITS LCOs: 3.9.2 3.9.3 3.9.6 3.3.1.2

② ORM ORs: 4.6.2 4.6.7

ODCM ORs: None

As applicable:

Initiated Condition Report No. _____

Initiated Work Document No. _____

Comments/Deficiencies

Review and Approval

Surveillance Coordinator: _____
(Signature) (Date)

Job Performance Measure**Review CPS 9071.01A Diesel Driven Fire Pump A Operability Test**JPM Number: JPM556Revision Number: 01Date: 8/20/2020Developed By: Bill Kiser / 8/20/20
Instructor: Print / Sign DateReviewed By: _____ / _____
SME or Instructor: Print / Sign DateReviewed By: _____ / _____
Operations Representative: Print / Sign DateApproved By: _____ / _____
Training Department: Print / Sign Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

| | |
|--------------------------------|----------------------|
| Procedure: <u>CPS 9071.01A</u> | Revision: <u>00a</u> |
| Procedure: <u>CPS 1893.01</u> | Revision: <u>22a</u> |
| Procedure: <u>CPS 1893.06</u> | Revision: <u>13</u> |
| Procedure: _____ | Revision: _____ |
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

| Revision # | Summary |
|-------------------|---|
| 00 | 3/5/18 – New JPM. |
| 01 | 8/20/20 – Updated references. Updated JPM template. |

SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

The plant is in Mode 1.

CPS 9071.01A Diesel Driven Fire Pump A Operability Test is field complete for 0FP01PA Diesel Driven Fire Pump 'A', awaiting supervisory review.

INITIATING CUE

Review CPS 9071.01A Diesel Driven Fire Pump A Operability Test.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will review CPS 9071.01A and determine:

- Acceptance Criteria of sections 9.2.1.1 and 9.2.2 were not met, and
- the pump must be restored to FUNCTIONAL status within 7 days or an alternate backup pump must be provided.

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|--|---|--|--------------------------|--------------------------|----------------|
| CUE | Provide the examinee with a copy of the Initiation Cue (last page of JPM) and a marked up copy of CPS 9071.01A Diesel Driven Fire Pump A Operability Test. Upon request ONLY , provide the examinee with a copy of CPS 1893.06 Fire Protection Maintenance And Testing Program. | | | | |
| NOTE: JPM steps 1 and 2 can be performed in any order. | | | | | |
| *01 | Determines 0FP01PA: <ul style="list-style-type: none"> • coolant temperature exceeded section 9.2.2 Acceptance Criteria, and • was not run for the required time (section 9.2.1.1 Acceptance Criteria) | Reviews the procedure and discovers the following: <ul style="list-style-type: none"> • 8.2.14 - Determines that test performer failed to correctly determine engine coolant temperature from step 4.2.1. Actual engine coolant temperature exceeded 200°F. • 8.2.22 - Determines that test performer failed to run 0FP01PA for the required 30 minutes. | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|--|--|--|--------------------------|--------------------------|----------------|
| NOTE: Calculations for 8.2.19 are as follows: <ul style="list-style-type: none"> • 8.2.2.a.3 start time - 0124 • 8.2.19 time – 0150 • 8.3.5 time – 0152 • Total time operating at full speed – 28 minutes. | | | | | |
| CUE | If the examinee identifies at least one of the deficiencies in step 1, cue him/her to determine required actions, if any. Provide examinee with a copy of CPS 1893.01 Fire Protection Impairment Reporting. | | | | |
| *02 | Determines required action for a non-functional Fire Pump. | For high coolant temperature (valid non-functional Fire Pump call): <ul style="list-style-type: none"> • Reviews CPS 1893.01 Fire Protection Impairment Reporting Appendix A Fire Protection Functionality Requirements, and determines that the non-functional pump must be restored to FUNCTIONAL status within 7 days or provide an alternate backup pump. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| | | For time requirement <u>not</u> met: <ul style="list-style-type: none"> • Surveillance is <u>not</u> met and cannot be credited as such. However, since the surveillance is not late, the functionality of the pump is not affected. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| CUE | If requested, inform examinee that the surveillance is <u>not</u> past its late date. | | | | |
| CUE | JPM is complete. | | | | |



JPM Stop Time: _____



JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: Review CPS 9071.01A Diesel Driven Fire Pump A Operability Test

JPM Number: JPM556

Revision Number: 01

Task Number and Title: 101100.01 Apply the administrative requirements of SURVEILLANCE TESTING PROGRAM

Task Standard: The examinee will review CPS 9071.01A and determine:

- Acceptance Criteria of sections 9.2.1.1 and 9.2.2 were not met, and
- the pump must be restored to FUNCTIONAL status within 7 days or an alternate backup pump must be provided.

K/A Number and Importance:

| K/A System | K/A Number | Importance (RO/SRO) | |
|------------|------------|---------------------|-----|
| Generic | 2.2.12 | 3.7 | 4.1 |

Suggested Testing Environment: Classroom

Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

| | |
|--------------------------------|----------------------|
| Procedure: <u>CPS 9071.01A</u> | Revision: <u>00a</u> |
| <u>CPS 1893.01</u> | Revision: <u>22a</u> |
| <u>CPS 1893.06</u> | Revision: <u>13</u> |

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

INITIAL CONDITIONS

The plant is in Mode 1.

CPS 9071.01A Diesel Driven Fire Pump A Operability Test is field complete for 0FP01PA Diesel Driven Fire Pump 'A', awaiting supervisory review.

INITIATING CUE

Review CPS 9071.01A Diesel Driven Fire Pump A Operability Test.

DIESEL DRIVEN FIRE PUMP A OPERABILITY TEST

SCOPE OF REVISION:

- Created new procedure to ease burden on Operations and mitigate potential configuration control error.
- Incorporated 9071.01 Revs 0 - 40f
- Incorporated changes from: IR 4231067-46, IR 4153297, IR 4246467, IR 4256368 and IR 4266785
- ① Specific Rev. 0a [Helton]: IR 3991761-06 - Deleted Frequencies and added DISCUSSION step to refer to 1893.06 for current frequencies.

For Training Only

CONTINUOUS USE

ORIGINATOR: *Terry M. Palmer*CLASS CODE: *SNQN*SQR: *Robert Rush*APPROVAL DATE: *08/12/19*

CURRENT CHANGES TO GENERAL REVISION

| | <i>Change #</i> | <i>Date</i> | <i>List of Affected Pages</i> |
|---|-----------------|-------------|-------------------------------|
| ① | 0a | 03/18/20 | 1,3 |
| ② | | | |
| ③ | | | |
| ④ | | | |
| ⑤ | | | |

TABLE OF CONTENTS

| | |
|------|---|
| 1.0 | Purpose |
| 2.0 | Discussion/Definitions |
| 3.0 | Responsibility |
| 4.0 | Precautions |
| 5.0 | Prerequisites |
| 6.0 | Limitations |
| 7.0 | Materials/Test Equipment |
| 8.0 | Procedure |
| 8.1 | Diesel Fire Pump Prestart Checks |
| 8.2 | Startup and Operation of the Diesel Fire Pump |
| 8.3 | Stopping the Diesel Fire Pump |
| 8.4 | System Restoration |
| 9.0 | Acceptance Criteria |
| 10.0 | Final Conditions |
| 11.0 | References |
| 12.0 | Appendices |
| 13.0 | Documents |

1.0 PURPOSE

The purpose of this procedure is to demonstrate operability of the 0FP01PA, Diesel Fire Pump A. This partially satisfies CPS 1893.01, Fire Protection Impairment Reporting and CPS 1893.06, Fire Protection Maintenance and Testing Program.

2.0 DISCUSSION/DEFINITIONS**2.1 Discussion**

- ❶ 2.1.1 Frequency - Refer to 1893.06, Fire Protection Maintenance and Testing Program for required frequencies for this procedure.
- 2.1.2 The Diesel Fire Pumps serve as the supply to the Fire Protection Water System. They shall be started and demonstrated operable to ensure reliable automatic starting in the event of an emergency.
- 2.1.3 All failures to meet the acceptance criteria shall be reported and actions taken IAW CPS 1893.01.
- 2.1.4 To satisfy NFPA 20 requirements, the Diesel Fire Pumps shall operate smoothly at rated speed for at least 30 minutes. To prolong engine life, it is suggested that the Diesel Fire Pumps be run for a minimum of 1 hour.
- 2.1.5 Portions of this surveillance may be performed independent for PMT to facilitate inspections due to repairs etc.
- 2.1.6 Completed test package shall be routed IAW CPS 1011.02, Implementation and Control of Surveillance Testing.
- 2.1.7 Operation of a Stationary Reciprocating Internal Combustion Engine is subject to the regulations set forth in 40CFR63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. These regulations require documentation of runtime of these engines as read on the Engine Runtime meter. Other requirements include documentation of visual inspection of the engines, and periodic sampling of the engine lube oil, all of which are covered by other procedures. «CM-1»

2.2 **Definitions**

- 2.2.1 FIRE PUMP UNLOADED: The fire pump is running at its shutoff head (e.g., no fire water flow).
- 2.2.2 LECT is the Low Estimate of Engine Coolant Temperature.
- 2.2.3 HECT is the High Estimate of Engine Coolant Temperature.
- 2.2.4 TCP is the temperature measured using a contact pyrometer.

3.0 **RESPONSIBILITY**

- 3.1 Operations is responsible for proper implementation and performance of this procedure.
- 3.2 CPS Fire Marshal is responsible for review of this procedure.
- 3.3 System Manager Fire Protection is responsible for reviewing the test frequency if a fire pump operability test failure occurs.

4.0 **PRECAUTIONS**

~~4.1~~ Hearing protection shall be worn at all times while the Diesel Engine is operating.

~~4.2.1~~ Normal operating engine coolant temperature is 160° to 200°F. MAXIMUM engine coolant temperature shall not exceed 200°F, continuously.

IF the maximum normal temperature is reached (200°F),
THEN the engine shall be shut down and the cause of the high temperature investigated.

Temperature Monitoring using a Surface Pyrometer

Per ECR 377017, a surface pyrometer may be used to monitor coolant temperature. Per ECR407246 correction constants when using a contact pyrometer are such that,

$$\text{LECT} = \text{TCP} + 20 \text{ } ^\circ\text{F}$$

$$\text{HECT} = \text{TCP} + 28 \text{ } ^\circ\text{F}$$

Where,

LECT is the low estimate of the engine coolant temperature.

HECT is the high estimate of the engine coolant temperature.

TCP is as measured temperature using a contact pyrometer.

4.0

PRECAUTIONS (Cont'd)For Example:

Given that the engine LECT band is 160 °F (using the temperature gauge 1TI-FP289), the lowest acceptable temperature using a contact pyrometer is:

$$160\text{ °F} - 20\text{ °F} = \mathbf{140\text{ °F}}.$$

Given that the engine HECT band is 200 °F (using the temperature gauge 1TI-FP289), the highest acceptable temperature using a contact pyrometer is:

$$200\text{ °F} - 28\text{ °F} = \mathbf{172\text{ °F}}.$$

~~4.2.2~~

Continuous diesel operation with engine coolant temperature \leq 140 °F can cause damage to the diesel engine. This does not apply during idle operation

IF the minimum normal operating temperature of 160° cannot be maintained,

THEN the engine shall be shut down and the cause of the continuous low temperature investigated.

~~4.3~~

The Diesel Fire Pump Control Switch has to be placed in the OFF position in order to clear and reset all alarms or trips with the exception of a Low Fuel Level alarm.

~~4.4~~

IF the engine should trip on an overspeed condition,
THEN the overspeed switch has to be reset by depressing the pushbutton on top of the switch before resetting the controller. Failure to do so will erase the overspeed memory circuit and cause an immediate shutdown of the engine the next time it receives a start signal.

~~4.5~~

An Operator shall be stationed near the fire pump room whenever the diesel fire pump is idling to ensure the idle control valve can be restored from the IDLE position to RUN in an emergency. Maintenance Rule availability tracking is not required for fire pumps.

~~4.6~~

The Exhaust Fan 1VH03CA is started as a precautionary measure to minimize personnel safety consequences in the unlikely event of an exhaust leak in the pump rooms. Operation of the exhaust fans is not a condition for Fire Pump operability. The Fire Pumps can still be run even if the exhaust fans are out of service.

4.0 **PRECAUTIONS** (cont'd)~~4.7~~

Personnel should be cognizant of the CO Detector in the Fire Pump rooms. The yellow WARNING light will light at CO levels of 35 ppm. 35 ppm is the eight-hour time weighted average for CO exposure and therefore is not an immediate threat to personnel safety. The red WARNING light will light at a CO level of 50 ppm. An audible horn will sound at 100 ppm. Whenever any warning lights light and/or the meter alarms, all personnel in the room shall secure any work being done (fire pump can continue to run), leave the room and notify SMngt.

A portable gas analyzer capable of detecting CO may be used in place of the installed CO Detector.

~~4.8~~

When the fire pump engine is not running, its respective tachometer may not read zero. The pointer position when de-energized is random.

5.0 PREREQUISITES

5.1 Fire Pump is available for testing.

E01

NOTE

Periodically MM performs an oil sample which is required to be performed within 30 minutes of the engine shutdown. Perform the following step for MM to determine if this oil sample is required.

5.2 Notify MM department that Fire Pump A will be run per the monthly surveillance and provide approx. time that the engine will be shutdown.

E01

NOTE

Quarterly Chemistry needs to perform 9981.02, Fire Protection Fuel Oil Analysis. This surveillance requires the associated Fire Pump to be running for at least 1Hr prior to the sampling. Perform the following step for Chemistry to determine if this sample is required.

5.3 Notify Chemistry department that Fire Pump A will be run per the monthly surveillance and provide approx. time that the engine will be started.

E01

NOTE

A portable gas analyzer capable of detecting CO may be used in place of the installed CO Detector

5.4 The MSA Toxgard II Carbon Monoxide Monitor, installed near north wall in fire pump room for 0FP01PA, Diesel Fire Pump A, indicates SYSTEM OK (No Alarms).

E01

5.0

PREREQUISITES (cont'd)

~~5.5~~

In conjunction with SMngt, review the following impact statements to determine required plant status to perform this test:

OPERABILITY IMPACT: N/A

SYSTEMS AFFECTED: Fire Protection Water System. The Diesel Fire Pump being tested cannot auto start to full speed operation when its IDLE/RUN switch is in IDLE.

AFFECTED ANNUNCIATORS AND COMPUTER POINTS: Device 22-24, ENGINE RUN DIESEL FIRE PUMP A, 1H13-P841

RPS TRIP: N/A

CRVICS ISOLATION: N/A

REQUIRED OPERABLE CHANNELS: N/A

PLANT/SYSTEM CONDITIONS REQUIRED TO CONDUCT TEST:

- No special conditions required. Test may be done at any time.
- Fire pump not being tested should be operable. **IF** not operable, **THEN** ensure compensatory actions per CPS 1893.01 are in effect.

COINCIDENT CHANNELS THAT PREVENT ACTUATION: N/A

5.6

Impact Matrix reviewed

| | | |
|----------------|---|-------------|
| <u>EO1</u> | / | <u>SR01</u> |
| Test Performer | | SMngt |

5.7

Obtain SMngt permission to perform this surveillance.

Date/Time Today / 0030 SMngt SR01

5.8

IF crane operations are in progress in the screenhouse,

THEN prior to placing 1AP48E4EL MCC breaker to notify crane operator that crane operations will be suspended to start Diesel fire pump room exhaust fans in support of the operatbility test for the diesel driven fire pump.

N/A

6.0

LIMITATIONS~~6.1~~**IF** fuel oil tank level drops below 275 gallons,**THEN** stop the Diesel Fire Pump and declare it inoperable. Refer to CPS 1893.01 for additional required actions.~~6.2~~**IF** a fire occurs during performance of this surveillance,**THEN** stop this procedure and restore the system to normal operation.~~6.3~~**IF** abnormal conditions exist (e.g., oil pressure below 40 psig, coolant temperature above 200°F, excessive smoke, unusual noise, or high vibrations),**THEN** the diesel engine shall be stopped.~~6.4~~Both Fire Pumps Shall Not be Idled concurrently. This lineup disables rated speed operation of both pumps.

7.0

MATERIALS/TEST EQUIPMENT~~7.1~~

Oil absorbent rags and container for diesel fuel.

~~7.2~~

Ruler or tape measure.

~~7.3~~

Hose to drain water from test gage and from fuel oil tank.

~~7.4~~

Fuel Oil Flush Bottle.

~~7.5~~

Bucket.

~~7.6~~

Adjustable wrench for pump discharge relief valve.

~~8.1~~Diesel Fire Pump Prestart Checks~~8.1.1~~

Perform the following prestart checks in any order.

- | | | |
|-----|---|------------|
| 1.) | Verify engine water heater is operational and maintaining diesel warm to the touch. | <u>E01</u> |
| 2.) | Verify engine lubricating oil level is between HI and LOW marks on the dipstick. | <u>E01</u> |
| 3.) | Verify adequate coolant level for OFP01PA, Diesel Fire Pump, coolant level is $\approx 2\frac{1}{2}$ inches below the top of the fill neck. | <u>E01</u> |
| 4.) | Verify gear drive oil level even with bottom threads of fill hole. | <u>E01</u> |
| 5.) | Record the CO reading. (ppm) <u>1</u> | <u>E01</u> |

NOTE

Placekeeping may be suspended until completion step 8.1.1.6

~~6.)~~ Drain the fuel oil tank to check for water and sediment as follows:

- | | | |
|----|--|------------|
| 1) | Remove associated pipe cap. | <u>E01</u> |
| 2) | With flush bottle under drain line, throttle open OFP610A, Fuel Oil Tank ODO01TA drain until 1 liter of fuel is obtained | <u>E01</u> |
| 4) | Shut the OFP610A, Fuel Oil tank ODO01TA drain | <u>E01</u> |
| 5) | Replace pipe cap. | <u>E01</u> |
| 6) | <u>IF</u> water or sediment is found, <u>THEN</u> notify Ops Mgnt | <u>E01</u> |

8.1 Diesel Fire Pump Prestart Checks (cont'd)~~8.1.1~~ (cont'd)

7. Record fuel oil tank level from 1LI-FP282.

Fuel oil level 400E01NOTE

Run hour meter log entry required per 40CFR63
 Include Diesel Fire Pump EIN and procedure number in run hour meter log entry

8. Record the Run Hour meter number in the Operator Logs. «CM-1»

Run Hours XXX.X (hrs)E01NOTE

Contact Security prior to entry into Isolation Zone.

9. Inspect Diesel Fire Pump Combustion Air Supply outside vent piping for obstructions from ground level.

E018.2 Startup and Operation of the Diesel Fire Pump

- 8.2.1 IF Circulating Water System is in operation,
THEN contact MCR to determine lake temperature from 1TI-CW009, CW CDSR 1A INLT TEMP, at P800.

Lake temperature 56E01WARNING

Potential Shock Hazard. Take appropriate electrical safety measures.

- ~~8.2.2~~
- Verify 1AP48E4EL, Overhead Crane HCO5G, Breaker is OFF.

- ~~8.2.3~~ IF 1AP48E4EL is ON,
THEN perform the following:

~~1~~ Ensure crane operations are secured.~~2~~ Place 1AP48E4EL to OFF.

- 8.2.4 Start 1VH03CA, N Fire Pump Room Exhaust Fan.

E01

8.2 Startup and Operation of the Diesel Fire Pump
(Cont'd)

8.2.5 Place bucket under 1FP138B,
Test Gauge Drain Valve.

E01NOTE

~~8.2.6~~ may require two persons to perform.

~~8.2.6~~ Perform the following simultaneously:

1) While observing Pump Discharge Pressure Switch Test Gauge, 1PI-FP148, slowly open 1FP138B, Test Gauge Drain Valve.

E01

2) Record pressure diesel engine starts.

Start pressure 143

E01

3) Record time diesel starts.

Start time 0124

E01

4) Confirm diesel engine starts at 137 - 143 psig for 0FP01PA.

E01

5) Observe that the LOW OIL PRESSURE light at local panel 0FP01JA comes on momentarily during cranking.

E01

6) Observe the battery voltmeters on local panel 0FP01JA during engine cranking. Record the battery which the engine starts on and verify battery voltage remains ≥ 18 VDC during cranking.

Starting battery bank A

E01

8.2.7 Shut 1FP138B, Test Gauge Drain Valve.

IV E01/E02

8.2.8 Verify cooling water flow by observing temperature difference between cooling water inlet and outlet piping.

E01

8.2 Startup and Operation of the Diesel Fire Pump
(Cont'd)

NOTE

Failure of tach. 1SIFP306 does not make the fire pump inoperable.

8.2.9 Record engine running at rated speed
2347 - 2447 RPM using tach 1SIFP306.

Engine speed 2390 E01

8.2.10 Record charging Generator Output of 0-20 amps as
Indicated on 1II-FP283.

Generator amps 5 E01

8.2.11 Verify pump discharge pressure 165-175 psig as indicated by
1PI-FP008.

Discharge pressure 171 E01

8.2.12 ~~IF~~ Discharge pressure is outside limits,

THEN

- 1) Remove plastic cap from 1FP013
0FP01PA Discharge Relief Valve
pressure regulator.
- 2) Loosen pressure regulator adjustment
bolt locking nut.
- 3) Adjust pressure regulator adjustment
bolt until pressure is approximately
in the middle of the band.
- 4) Re-tighten pressure regulator
adjustment bolt locking nut.
- 5) Replace pressure regulator plastic cap.
- 6) Record final discharge pressure.

Discharge pressure _____

8.2.13 Observe oil spray in sightglass
on angle gear drive unit.

E01

8.2 Startup and Operation of the Diesel Fire Pump
(Cont'd)

~~**CAUTION**~~

Normal engine coolant temperature range is 160°F-200°F. Continuous diesel operation with engine coolant temperature greater than 200°F, or continuous diesel operation with engine water temperature less than 140°F (120°F if using a surface contact pyrometer - ECR 407246), can damage the diesel. The 140°F limitation does not apply during idle operations. See limitations 4.2.1 and 4.2.2.

~~**NOTE**~~

A surface contact pyrometer may be used to obtain engine coolant temperature if the installed temperature indicator is malfunctioning. When using a surface contact pyrometer, the normal engine coolant range would be 140-172°F.

8.2.14 Record engine coolant temperature as indicated on 1TI-FP289 or contact pyrometer.

Method: Contact Pyrometer X 1TI-FP289 _____

Engine coolant temperature: 195°F E01

NOTE 1: Pyrometer reading 175°F, $LECT = 175 + 20 = 195°F$

~~**NOTE**~~ *(per 4.2.1)*

Oil pressure will read high until engine is at operating temperature. High oil pressure during start up is not cause for concern.

8.2.15 Verify oil pressure is greater than 40 psig as indicated on 1PI-FP288.

Oil pressure 80 psig E01

8.2.16 **IF** 0FP01PA, Diesel ~~Fire Pump~~ Oil pressure is less than 40 psig, ~~A~~
THEN Shutdown Fire Pump to preclude damage.

8.2.17 Verify that MCR received device 22-24, ENGINE RUN DIESEL FIRE PUMP A, on 1H13-P841.

R01 / E01

8.2.18 To reduce carbon monoxide levels in the room, Start 1VH03CA, N Fire Pump Room Exhaust Fan.

E01

8.2 Startup and Operation of the Diesel Fire Pump
(Cont'd)

NOTE

Placekeeping may be suspended until completion step 8.2.19

8.2.19 Flush cooling water strainer as follows:

1. Place bucket under DFP4A, Cooling Water Strainer Flush Valve. E01
2. Open DFP4A, Cooling Wtr Strainer Flush Valve. E01
3. Ensure no debris flows from the strainer. E01
3. Shut DFP4A, Cooling Wtr Strainer Flush Valve. IV E01/E02

8.2.20 Record cooling water pressure FOR 0FP01PA for trending purposes:

Cooling water pressure 14 psig

E01

NOTES

- *NFPA codes require diesel engine operation at rated speed for a minimum of 30 minutes.*
- *Operating diesel engine for 60 minutes at rated speed prolongs engine life.*
- *Quarterly Chemistry needs to perform 9981.02, Fire Protection Fuel Oil Analysis. This surveillance requires the associated Fire Pump to be running for at least 1Hr(60 minutes) prior to the sampling. Perform the following step for Chemistry to determine if this sample is completed, if it was required.*

8.2.21 **IF** required to be performed,
THEN verify Chemistry department has completed 9981.02, Fire Protection Fuel Oil Analysis. E01

8.2.22 Operate diesel at rated speed for at least 30 minutes. E01

8.2 Startup and Operation of the Diesel Fire Pump
(Cont'd)

~~**CAUTION**~~

Normal engine coolant temperature range is 160°F-200°F. Diesel operation with engine coolant temperature greater than 200°F, or continuous diesel operation with engine water temperature less than 140°F (120°F if using a surface contact pyrometer - ECR 407246), can damage the diesel. The 140°F limitation does not apply during idle operations. See limitations 4.2.1 and 4.2.2.

~~**NOTE**~~

A surface contact pyrometer may be used to obtain engine coolant temperature if the installed temperature indicator is malfunctioning. When using a surface contact pyrometer, the normal engine coolant range would be 140-172°F. (ECR 407246)

- 8.2.18** Record engine coolant temperature as indicated on 1TI-FP289 or contact pyrometer.

Method: Contact Pyrometer X 1TI-FP289 _____

Engine coolant temperature: 195°F *See NOTE 1* E01

Page 14
- 8.2.19** Verify diesel engine has run smoothly for at least 30 minutes and record the time.

Time 0150 E01
- 8.2.20** **IF** conducting yearly PMRQ 00158480-01,
THEN Record pressure at OPI-FP516 and verify pressure is greater than 65 psig (Hose Station 0FP607A).

Pressure N/A psig N/A
- 8.2.21** **IF** conducting yearly PMRQ 00158480-01,
THEN Record pressure at OPI-FP511 and verify pressure is greater than 65 psig (Hose Station 0FP605A).

Pressure N/A psig N/A

8.3 Stopping the Diesel Fire PumpCAUTION

Idling both Fire Pumps concurrently disables the low header pressure automatic start signal and rated speed operation for both pumps.

8.3.1 Verify 0FP01PB, Diesel Fire Pump is not idling. E01

8.3.2 Record engine speed and pump discharge pressure.

(1SIFP306) Engine Speed 2390 rpm

(1PI-FP148) Discharge pressure 171 psig

E01

8.3.3 Record the CO reading. (ppm) 1

E01

8.3.4 Remove padlock and Lockout device from Idle Control Valve.

E01CAUTION

Continuous presence of an Operator near the diesel fire pump room during diesel fire pump idling operations ensures the fire pump can be placed in RUN if required in an emergency.

8.3.5 Place Idle Control Valve in IDLE and record time.

Time 0152

E01NOTE

0FP01PA, Diesel Fire Pump idle speed range is 586 - 1224 rpm.

8.3.6 Record 0FP01PA, Diesel Fire Pump A idle speed:

Idle speed 1100 rpm

E01

8.3 Stopping the Diesel Fire Pump (Cont'd)~~**CAUTION**~~

When idling, Low Oil Pressure could alarm (below 10 psig). Diesel engine operation below 8 psig can damage the diesel.

~~8.3.7~~

During Idle ensure the following:

- | | | |
|------|--|------------|
| (1.) | Oil Pressure is at least 8 psig. | <u>E01</u> |
| (2.) | Engine coolant temperature is below 200°F, indicated on 1TI-FP289, | <u>N/A</u> |
| | OR | |
| | 172°F with contact pyrometer. | <u>E01</u> |
| (3.) | <u>IF</u> Oil pressure drops below 8 psig, | |
| | <u>OR</u> | |
| | Engine coolant temperature rises to greater than or equal to 200°F (172°F with contact pyrometer). | |
| | <u>THEN</u> Shutdown the engine and inform SMngt. (N/A if not used) | <u>N/A</u> |

8.3.8

After at least 30 minutes of engine running time at idle speed, stop engine by pressing STOP button and record time.

Time 0230E01

8.4 **System Restoration**

- (8.4.1) Take the Idle Control Valve to RUN. IV E01/E02
- (8.4.2) Install Lockout Device and Padlock to Idle Control Valve. IV E01/E02
- (8.4.3) Verify Device 22-24, ENGINE RUN DIESEL FIRE PUMP A, annunciator at 1H13-P841 can be cleared. R01/E01
- (8.4.4) Ensure 0D001TA, Diesel Fire Pump Day Tank, contains at least 275 gallons of fuel. E01
- (8.4.5) Record fuel oil tank level from 1LI-FP282.
Fuel oil level 375 gal E01
- (8.4.6) **IF** fuel oil tank level is ≤ 350 gallons, N/A
THEN inform MCR. (N/A if MCR not notified) E01
- (8.4.7) Stop N Fire Pump Room Exhaust Fan 1VH03CA. E01
- (8.4.8) **IF** Room temperature is less than 78°F
THEN Verify damper LV1-7 is Closed. E01
- (8.4.9) Observe that battery ammeter has returned to less than 2 amps charging current within 8 hours after engine starting. E01
- (8.4.10) Log the Run Hour meter number in the Operator Logs fulfilling a 40CFR63 requirement. «CM-1»
Run Hours XXX.X (hrs) E01
- (8.4.11) Notify SMngt of test completion. E01
Date/TIME Today / 0500

9.0 **ACCEPTANCE CRITERIA**9.1 Operability Requirements None9.2 Other Requirements9.2.1 CPS 1893.06 Appendix A Requirements

1. The Diesel Fire Pump started from ambient conditions and operated satisfactorily for at least 30 minutes on recirculation flow.
2. 0D001TA, Diesel Fire Pump Day Tank, contains at least 275 gallons of fuel.
3. **IF** not acceptable,
THEN notify SM and CPS Fire Marshal,
AND
Take applicable actions IAW CPS 1893.01.

9.2.2 CPS 1893.06 Appendix B Requirements**CAUTION**

Continuous diesel operation with engine water temperature less than 140°F, can damage the diesel. 140°F limitation does not apply during idle operations. See limitations 4.2.1 and 4.2.2. When using a contact pyrometer, the operating limitation would be 120°F. (ECR 407246)

1. The Diesel Fire Pump operated at normal temperatures of 160-200°F on 1TI-FP289, or 140-172°F with contact pyrometer, and ran smoothly at rated speed for at least 30 minutes.
2. The Fire Protection Pump operates to maintain the fire protection water system pressure greater than or equal to 65 psig at hose station 0FP605A and hose station 0FP607A. (A drop below this value for up to 5-6 seconds during pump starts does not fail this requirement).
3. **IF** not acceptable,
THEN notify SM and CPS Fire Marshal,
AND
Take applicable actions IAW CPS 1893.01.

10.0 FINAL CONDITIONS

The Diesel Fire Pump is returned to Automatic Standby.

11.0 REFERENCES**11.1 Licensing Basis Documents**

11.1.1 ORM 6.8.1.e

11.1.2 USAR 9.5.1.2.1, 9.5.1.2.2.2

11.1.3 USAR Appendix E, 3.1.2.6, 4.0.E.2.c

11.2 Procedures

11.2.1 CPS 1019.00, Control of Chemicals

11.2.2 CPS 1893.01, Fire Protection Impairment Reporting

11.2.3 CPS 3213.01, Fire Detection and Protection

11.2.4 CPS 9071.02, Diesel Fire Pump Capacity Check/Sequential Starting

11.2.5 CPS 1893.06, Fire Protection Maintenance and Testing Program

11.3 Design/Vendor/Print/Other

11.3.1 K2830.0001 Technical Manual for Diesel Driven Fire Pumps

11.3.2 Engineering Evaluation EE-00-029, Rev. 0

11.3.3 NFPA-20-1976/CCT No. 001896/CCT No. 043084

11.4 Commitments

11.4.1 CM-1: 40CFR63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

12.0 APPENDICES - None**13.0 DOCUMENTS - None**

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

| | |
|----------------------------------|---------------------|
| Procedure: <u>EP-AA-113</u> | Revision: <u>15</u> |
| Procedure: <u>EP-AA-113-f-02</u> | Revision: <u>B</u> |
| Procedure: _____ | Revision: _____ |
| Procedure: _____ | Revision: _____ |
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

| Revision # | Summary |
|-------------------|--|
| 00 | 6/14/13 – New JPM developed for the ILT 12-1 NRC Exam. JPM was modeled after a JPM administered during an ILT Exam at LaSalle in 2012. |
| 01 | 7/11/16 – Updated procedure references. |
| 02 | 8/20/20 – Updated references. Updated JPM template. |



SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

A General Emergency has been declared.

Fuel failure has occurred together with a large break LOCA.

Containment venting is in progress in order to maintain containment integrity.

The TSC has been activated, but has not been staffed.

The appropriate EAL has been declared.

An emergency lifesaving operation must be performed.

- The operation is estimated to take between 12 and 15 minutes
- There is a 200 R/hr field in the area

The operation requires two (2) people to enter the field. Three (3) people have volunteered:

- Bob Black, Employee # B537347
 - Has never received an emergency exposure
 - He is familiar with the procedures for rescuing the victim, and is fully aware of the risks involved.
- Gary Green, Employee # B734753
 - Has never received an emergency exposure
 - He is familiar with the procedures for rescuing the victim, and is fully aware of the risks involved.
- Walter White, Employee # B573472
 - Received a 27 R dose at a reactor in South Africa when he volunteered to assist in a similar life-saving operation.
 - He is familiar with the procedures for rescuing the victim, and is fully aware of the risks involved.

Per RP-AA-203 Exposure Control and Authorization, a Rad Protection Supervisor has briefed the three volunteers and presented you with the forms to authorize the emergency exposure.

INITIATING CUE

As the acting Station Emergency Director, perform the actions necessary to permit the life-saving operation.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will evaluate three candidates for a lifesaving operation in accordance with EP-AA-113:

- determine one candidate is ineligible, and
- authorize the remaining two candidates to perform the work.

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|-------------|--|--|--------------------------|--------------------------|----------------|
| CUE | Provide the examinee with copies of: <ul style="list-style-type: none"> • Initiating Cue (last page of JPM) • Marked Up copies of EP-AA-113-F-02 Authorization For Emergency Exposure (pages 11-14 of JPM) • EP-AA-113 Personnel Protective Actions | | | | |
| 01 | 4.3.1 Makes emergency exposure determination. | Examinee determines exposure is: <ul style="list-style-type: none"> • for a bona fide emergency. • In excess of 5 Rem TEDE <ul style="list-style-type: none"> ○ calculated to be in excess of 25 Rem (12 to 15 minutes in a 200 Rem/Hr field is 40 to 50 Rem). | <input type="checkbox"/> | <input type="checkbox"/> | — |
| 02 | 4.3.2.1 Verifies EP-AA-113-F-02 Authorization for Emergency Exposure form completed by Emergency Worker. | Examinee verifies applicable forms: <ul style="list-style-type: none"> • have Name / Date / Time / Employee ID # / Current Annual Exposure / Reason For Request blocks filled in. • have the REQUESTING AUTHORIZATION TO EXCEED box checked for 25 Rem TEDE. | <input type="checkbox"/> | <input type="checkbox"/> | — |

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|-------------|--|--|--------------------------|--------------------------|-------------------|
| 03 | 4.3.2.2 Verifies that emergency workers have been briefed on the possible health effects of the anticipated exposure. | Examinee verifies applicable forms have the Rad Protection Management signature /Date / Time. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| 04 | 4.3.2.3 Verifies that emergency workers have volunteered. | Examinee verifies applicable forms have signatures for Bob Black, Gary Green, and Walter White. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| *05 | 4.3.3 NOTE Recognizes emergency exposure in excess of 25 Rem TEDE is to be limited to once in a lifetime. | Examinee eliminates Walter White as a potential rescuer and the examinee does <u>not</u> sign this volunteer's form EP-AA-113-F-02. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| *06 | 4.3.3.1 Completes Authorization for Emergency Exposure for Bob Black and Gary Green | Examinee signs the EP-AA-113-F-02 for Bob Black and Gary Green as Station Emergency Director. | <input type="checkbox"/> | <input type="checkbox"/> | — |
| CUE | JPM is complete. | | | | |

JPM Stop Time: _____



NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

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EP-AA-113-F-02

Revision B

Page 1 of 1

AUTHORIZATION FOR EMERGENCY EXPOSUREName: Bob Black Date / Time: XX/XX/XXXX XX:XXEmployee ID Number: B537347 Current Annual Exposure: 152 mRem

Reason For Request:

Lifesaving operation.**REQUESTING AUTHORIZATION TO EXCEED:**

- 5 Rem TEDE (Authorized to receive greater than 5 Rem TEDE but less than 10 Rem TEDE)
- 10 Rem TEDE (Authorized to receive greater than 10 Rem TEDE but less than 25 Rem TEDE)
- 25 Rem TEDE (Authorized to receive greater than 25 Rem TEDE)

Bob Black XX/XX/XXXX XX:XX
* Emergency Worker Signature Date / Time

* Emergency Worker Exposure Limits and Associated Risks (EP-AA-113 Attachment 1) have been reviewed and the potential health affects are understood.

R. P. Manager XX/XX/XXXX XX:XX
Rad. Protection Management (Review) Date / Time

Station Emergency Director (Authorization) Date / Time

The Shift Manager (Shift Emergency Director) may approve prior to transferring Command and Control to the Station Emergency Director.

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Revision B

Page 1 of 1

AUTHORIZATION FOR EMERGENCY EXPOSUREName: Gary GreenDate / Time: XX/XX/XXXX XX:XXEmployee ID Number: B734753Current Annual Exposure: 57 mRem

Reason For Request:

Lifesaving operation.**REQUESTING AUTHORIZATION TO EXCEED:**

- 5 Rem TEDE (Authorized to receive greater than 5 Rem TEDE but less than 10 Rem TEDE)
- 10 Rem TEDE (Authorized to receive greater than 10 Rem TEDE but less than 25 Rem TEDE)
- 25 Rem TEDE (Authorized to receive greater than 25 Rem TEDE)

Gary GreenXX/XX/XXXX XX:XX

* Emergency Worker Signature

Date / Time

* Emergency Worker Exposure Limits and Associated Risks (EP-AA-113 Attachment 1) have been reviewed and the potential health affects are understood.

R. P. ManagerXX/XX/XXXX XX:XX

Rad. Protection Management (Review)

Date / Time

Station Emergency Director (Authorization)

Date / Time

The Shift Manager (Shift Emergency Director) may approve prior to transferring Command and Control to the Station Emergency Director.

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EP-AA-113-F-02

Revision B

Page 1 of 1

AUTHORIZATION FOR EMERGENCY EXPOSUREName: Walter WhiteDate / Time: XX/XX/XXXX XX:XXEmployee ID Number: B573472Current Annual Exposure: 98 mRem

Reason For Request:

Lifesaving operation.**REQUESTING AUTHORIZATION TO EXCEED:**

- 5 Rem TEDE (Authorized to receive greater than 5 Rem TEDE but less than 10 Rem TEDE)
- 10 Rem TEDE (Authorized to receive greater than 10 Rem TEDE but less than 25 Rem TEDE)
- 25 Rem TEDE (Authorized to receive greater than 25 Rem TEDE)

Walter WhiteXX/XX/XXXX XX:XX

* Emergency Worker Signature

Date / Time

* Emergency Worker Exposure Limits and Associated Risks (EP-AA-113 Attachment 1) have been reviewed and the potential health affects are understood.

R. P. ManagerXX/XX/XXXX XX:XX

Rad. Protection Management (Review)

Date / Time

Station Emergency Director (Authorization)

Date / Time

The Shift Manager (Shift Emergency Director) may approve prior to transferring Command and Control to the Station Emergency Director.

INITIAL CONDITIONS

A General Emergency has been declared.

Fuel failure has occurred together with a large break LOCA.

Containment venting is in progress in order to maintain containment integrity.

The TSC has been activated, but has not been staffed.

The appropriate EAL has been declared.

An emergency lifesaving operation must be performed.

- The operation is estimated to take between 12 and 15 minutes
- There is a 200 R/hr field in the area

The operation requires two (2) people to enter the field. Three (3) people have volunteered:

- Bob Black, Employee # B537347
 - Has never received an emergency exposure
 - He is familiar with the procedures for rescuing the victim, and is fully aware of the risks involved.
- Gary Green, Employee # B734753
 - Has never received an emergency exposure
 - He is familiar with the procedures for rescuing the victim, and is fully aware of the risks involved.
- Walter White, Employee # B573472
 - Received a 27 R dose at a reactor in South Africa when he volunteered to assist in a similar life-saving operation.
 - He is familiar with the procedures for rescuing the victim, and is fully aware of the risks involved.

Per RP-AA-203 Exposure Control and Authorization, a Rad Protection Supervisor has briefed the three volunteers and presented you with the forms to authorize the emergency exposure.

INITIATING CUE

As the acting Station Emergency Director, perform the actions necessary to permit the life-saving operation.

PERSONNEL PROTECTIVE ACTIONS

1. PURPOSE

- 1.1. This procedure provides the necessary guidance used in determining onsite personnel protective actions during an event.

| | |
|---|-----------------------------|
| Assembly, Accountability and Evacuation | REFER to Section 4.1 |
| Habitability | REFER to Section 4.2 |
| Emergency Exposure Limits | REFER to Section 4.3 |
| KI Assessment | REFER to Section 4.4 |

2. TERMS AND DEFINITIONS

- 2.1. Accountability - Accountability is the process of verifying the location of personnel who are inside the Protected Area. That is, any personnel within the Protected Area who have **not** carded into the card reader are identified as missing (unaccounted for). Accountability is required to be performed within 30 minutes of declaration of a Site Area or General Emergency (the names of any missing persons identified by security and the number of missing provided to the Shift Emergency Director). The accountability process continues until all missing personnel are accounted.

Accountability is conducted at a Site Area or General Emergency, if **not** previously initiated. Accountability may be conducted at the Alert level following TSC activation, at the discretion of the Station Emergency Director.

- 2.2. Assembly - Assembly occurs at a Site Area Emergency (or at the discretion of the Station Emergency Director). On-duty and ERO personnel assemble in the emergency response facilities. All other non-essential personnel, contractors and visitors are directed to report to either an onsite or offsite Assembly Area. The Assembly Area is used to coordinate the need for any immediate additional resources and to establish an ERO shift relief roster and schedule.

- 2.3. Evacuation - A site evacuation is required at the Site Area Emergency classification level in conjunction with Accountability actions. Site evacuation may be called for at any lower classification; however, conditions that require a site evacuation are inherently defined as Site Area Emergency events and should be classified as such.

Evacuation can involve the movement of large numbers of personnel outside of the Protected Area by keying out of the turnstiles. Evacuation may warrant station egress control by Security. Security provides specific instructions to personnel leaving the Protected Area. Evacuees may be directed to a Relocation Center (offsite assembly areas) for monitoring and decontamination, or sent home. Other situations that involve the evacuation of personnel from occupied localized onsite areas are controlled on a case-by-case basis.

- 2.4. OCA – Owner Controlled Area. Company owned property on which a nuclear station is located and may include Exelon Nuclear leased-lands adjacent to that nuclear station.
- 2.5. Protected Area – Area controlled by Security and surrounded by a double fence. Access is normally gained through the Main Access Facility (or Gatehouse).
- 2.6. Release - A '*Release in Progress*' is defined as any radioactive release that is a result of, or associated with, the emergency event.
- 2.7. Thyroid Blocking Agent - an agent which when properly administered to an individual will result in sufficient accumulation of stable iodine in the thyroid to prevent significant uptake of radioiodine. Potassium Iodide (KI) is such an agent.

3. **RESPONSIBILITIES**

- 3.1. The Shift Manager (Shift Emergency Director) shall perform the responsibilities of the Station Emergency Director until relieved.
- 3.2. The Station Emergency Director is responsible for the following protective actions:
- Authorization of emergency exposure greater than 5 Rem (per EPA-400 lower limits).
 - Authorization for issuance of KI to Exelon Nuclear emergency workers and/or onsite personnel.
 - Direction of Assembly, Accountability and Evacuation of personnel.

- 3.3. The respective Radiation Protection Manager (TSC or EOF) is responsible for approval of emergency exposures below 5 Rem (EPA-400 lower limits) for Exelon personnel associated with response actions under their facility's direction.
- 3.4. The Security Shift Supervisor (or Security Coordinator when the TSC is activated) is responsible for performing Accountability, controlling site access, and coordinating Site and OCA Evacuations.
- 3.5. The Security Coordinator in the TSC is responsible for coordinating activities between the TSC and the Security force.
- 3.6. The Operations Manager and Maintenance Manager are responsible for coordinating Search and Rescue Teams and Assembly Area rosters.

NOTES: Protective Actions for the onsite workers shall be based on preventing or minimizing radiological exposures to the emergency workers onsite.

For NMP and JAF Only - NMP and JAF stations share a site boundary. Personnel Protective Actions should be considered at the co-located facility when either JAF or NMP classifies at a Site Area Emergency or GE.

4. **MAIN BODY**

4.1. Assembly, Accountability and Evacuation

4.1.1. Protective Measure Guidelines

1. **Accountability** is required to be conducted at a Site Area or General Emergency, if **not** previously initiated and maintained. Accountability may be conducted at the Alert level at the discretion of the Station Emergency Director, or Shift Manager (Shift Emergency Director) prior to TSC activation.
 - A. Accountability and evacuation of non-essential site personnel should also be considered when a security-related Unusual Event or Alert has been declared.
 - B. Accountability shall be initiated expeditiously, but only after evaluating the need for offsite assembly and appropriate evacuation route based on radiological release and meteorological conditions.

- C. Once initiated, accountability is required to be performed (i.e., the names of any missing persons identified by security and the number of missing provided to the Station Emergency Director) within 30 minutes of the declaration of a Site Area Emergency or General Emergency. The accountability process continues until all missing personnel are accounted.
2. A **Site Evacuation** may be delayed if the health and safety of the plant personnel may be in jeopardy, such as severe weather or due to a security-related Unusual Event or Alert.
3. **Non-essential personnel evacuating the site**, contractors and visitors, shall report to a Remote (Off-Site) Assembly Area, if designated, for radiological monitoring and decontamination as warranted.
4. **Protected Area access** is halted during personnel accountability, except for the following:
 - ERO responders requiring access to staff the Operations Support Center (OSC) and/or Technical Support Center (TSC).
 - Direct approval from the TSC Security Coordinator or Shift Manager for others.
5. **Accountability**, once achieved, is maintained by restricting Protected Area access and controlling/tracking the movement of on-shift personnel or ERO personnel on site in or out of their respective emergency response facility.

4.1.2. Determination of Actions

NOTE: Site Evacuation of non-essential personnel shall be conducted immediately after a Site Area or General Emergency has been declared. An exception may be made for events that could require the pre-planned evacuation to be rerouted or delayed such as:

- Severe weather, radiological or other hazardous conditions threaten safe movement of personnel.
 - A security threat is occurring which could have an adverse impact on security response or personnel while leaving the site.
1. **If** a Site Area Emergency has been declared, **then** immediately **PERFORM** protective measure steps per EP-AA-113-F-07, Emergency Director Assembly, Accountability and Evacuation Checklist.

NOTE: Site Assembly and/or Site Evacuation of non-essential personnel should be considered when a security related Unusual Event or Alert has been declared.

2. If a Site Area Emergency has **not** been declared, **then EVALUATE** the need for and ability to conduct a Site Assembly and/or Site Evacuation.
 - A. **CONDUCT** a Site Assembly whenever it has been determined that:
 1. Excess dose or other dangers exist to the onsite personnel.
 2. Positive control of location and movement of all onsite personnel is necessary for support of response efforts.
 - B. **CONDUCT** a Site Evacuation whenever it has been determined that:
 1. Hazardous conditions exist that necessitate the removal of all non-essential personnel from the site.
 2. Positive control of location and movement of essential personnel is necessary for support of response efforts.

4.2. Habitability

- 4.2.1. **DETERMINE** if radiological controls are required to protect onsite personnel. The need for radioactive controls shall be based on monitored radioactive releases, exposure levels, and plant status information. Standard Radiation Protection policies and procedures shall form the basis of the decision-making for the administration of radiological controls.
- 4.2.2. **DOCUMENT** the decision to use radiological controls that differ from standard Radiation Protection practices in position logs.
- 4.2.3. **EVALUATE** radiological controls for continuously occupied areas for emergency workers using EP-AA-113-F-01, On-Site Habitability Checklist.
- 4.2.4. **USE** onsite radiological controls to the extent practical based on the emergency condition. They include but are **not** limited to the following:
 1. Radiological Access Control for Rad/High Rad Areas - Access Control is used to limit the personnel who may be exposed to the radiological condition.

2. Use of Radiological Protective Clothing - Protective clothing shall be used to limit the spread of radiological contamination and to protect the emergency worker from becoming radiologically contaminated.
3. Use of Radiological Respiratory Protective Equipment - Respiratory protective equipment shall be used to limit the inhalation and ingestion of radioactive materials during the course of the emergency event. The need for respirators shall be based on air samples, plant monitoring systems, and plant conditions.
4. Use of Contamination Control Techniques - Contamination control techniques such as Step-off Pads, Posting, Contamination surveys, and whole body frisking shall be used to the extent practical based on the emergency condition.

4.3. Emergency Exposure Limits

NOTE: This section implements the requirements of RP-AA-203 and should **not** be revised without first reviewing the requirements of the current revision of the procedure.

| | |
|--|-------------------------------|
| Emergency Exposure Determination | REFER to Section 4.3.1 |
| Briefing Personnel (greater than 5 Rem TEDE) | REFER to Section 4.3.2 |
| Authorization (greater than 5 Rem TEDE) | REFER to Section 4.3.3 |
| <u>Tracking and Recording of Exposures</u> | REFER to Section 4.3.4 |

4.3.1. Emergency Exposure Determination

NOTE: In certain onsite emergency situations, extremely high dose rates may be encountered (more than 500 Rem/hr). Before a rescue team is committed to life-saving emergency dose limits, weigh the probability of success against the probable cost of the commitment. Specifically there shall be reasonable assurance that the victim is in the area and that they are alive or likely to survive.

1. **ASSURE** that the emergency exposure is for a bona fide emergency involving risk of life or limb, or the destruction of valuable property.
 - A. **PLAN** emergency operations prior to entry.
 - B. **WEAR** respiratory protection and protective clothing to reduce contamination where possible.

2. **DETERMINE** if emergency exposure limits in excess of 5 Rem TEDE (EPA-400 lower limits) are required for Exelon emergency workers.
3. **If** emergency exposure is less than 5 Rem TEDE (EPA-400 lower limits), **then OBTAIN** approval as appropriate:
 - TSC Radiation Protection Manager for onsite Exelon personnel
 - EOF Radiation Protection Manager for Exelon field team personnel

4.3.2. Briefing Personnel (greater than 5 Rem TEDE)

1. For exposures at or above 5 Rem TEDE (EPA-400 lower limits), **COMPLETE** an Authorization for Emergency Exposure (EP-AA-113-F-02).
2. **INFORM** emergency personnel (volunteers) before the fact of possible health effects at the anticipated exposure level using Attachment 1, Emergency Worker Exposure Limits and Associated Risks.
3. **OBTAIN** emergency worker's acknowledge that they have volunteered and understand the associated risks. Acknowledgement should be in writing on Authorization for Emergency Exposure Form if possible or verbally for teams in the field.
4. **FORWARD** to the completed form to the Station Emergency Director for approval.

4.3.3. Authorization greater than 5 Rem TEDE (EPA-400 lower limits):

CAUTION

Emergency exposure limits greater than 5 Rem TEDE may be applicable for stopping a release, life saving actions, and protection of major equipment and large populations.

All emergency exposures in excess of 25 Rem TEDE shall be voluntary and shall be limited to once in a lifetime. Persons who may receive exposures greater than 25 Rem TEDE shall be fully aware of the risks involved.

1. **OBTAIN and DOCUMENT** Station Emergency Director approval, by signature, for the use of the emergency dose limits above 5 Rem TEDE (EPA-400 lower limits) on the Authorization for Emergency Exposure form.

NOTE: The decision to authorize personnel exposure per EPA-400 limits is the responsibility of the Station Emergency Director and shall **not** be delegated.

2. **NOTIFY** Occupational Health (Medical) Services Department promptly if any EPA-400 dose limit is exceeded.

4.3.4. Tracking and Recording

1. **ESTIMATE and RECORD** personnel dose equivalents resulting from any emergency situation.
2. **REPORT** final emergency exposures greater than 5 Rem TEDE (EPA-400 lower limits) to the NRC.

4.4. KI Assessment

| | |
|------------------------------|-------------------------------|
| Determination | REFER to Section 4.4.1 |
| Authorization and Issuing KI | REFER to Section 4.4.2 |
| Briefing Personnel | REFER to Section 4.4.3 |

4.4.1. Determination

1. **ASSESS** the potential of high thyroid exposure to emergency workers in, or projected to be sent into, areas where the possibility exists of exposure to radioactive iodine as follows:

- A. For Field Monitoring Teams or other Exelon emergency workers working offsite, **DETERMINE** if either of the following conditions exist:

Condition 1

- There is an Offsite Release in Progress.

And

- There has been a loss or potential loss of the Reactor Fuel Clad Barrier.

OR

Condition 2

- Dose Assessments project iodine thyroid exposure for emergency workers will be ≥ 50 Rem Committed Dose Equivalent (CDE).

- B. For OSC Emergency Teams and other onsite workers, determine if either of the following conditions exist:

Condition 1

- Workers will be entering an unknown radiological atmosphere that is suspected to have a high iodine concentration. Loss of the Reactor Fuel Clad barrier is a good indication of possible high iodine concentrations.

OR

Condition 2

- The calculated iodine thyroid exposure (actual or projected) for emergency workers, base on station Radiation Protection procedures or use of the dose assessment program, will be ≥ 50 Rem Committed Dose Equivalent (CDE).

NMP/JAF/Ginna Only

- C. A General Emergency has been declared.
2. If the condition A, B and/or C listed above are met **then, RECOMMEND** the issuance of one (1) 130 mg KI tablet (or (2) 65 mg KI tablets) to each emergency worker affected per day for 10 consecutive days or until directed that the risk **no** longer exists.

MA/MW/CCNPP Only

3. If the condition A and/or B listed above are met **then, RECOMMEND** the issuance of one (1) 130 mg KI tablet to each emergency worker affected per day for 10 consecutive days or until directed that the risk **no** longer exists.

4.4.2. Authorization

NOTE: The Radiation Protection Manager and OSC Director should avoid the use of individuals known to have possible adverse reactions to KI for tasks where exposure to iodine may occur. A list of individuals who indicated possible allergies is available.

1. **DOCUMENT** the decision to issue KI **and OBTAIN** the Emergency Director's authorization on EP-AA-113-F-03, Thyroid Blocking Agent Authorization.
2. **NOTIFY** Occupational Health (Medical) Services Department promptly if KI is to be issued to Exelon Nuclear personnel or contractors.

4.4.3. Briefing Personnel and Issuing KI

NOTE: The effectiveness of potassium iodide as a thyroid blocking agent decreases as a function of time. The effectiveness of potassium iodide is as follows:

- 90% effective if taken immediately prior to or concurrent with exposure to radioactive iodine.
- 50% effective if taken within 3 to 4 hours following exposure.
- Ineffective if taken more than 12 hours following exposure.

NOTE: The FDA KI Package insert provided with the KI product identifies the side effects and risks involved with KI usage. It is general use guidance intended for members of the public. It states approval from state and public health authorities is needed prior to use, this applies to members of the public. Exelon has the authority and responsibility to direct use of KI by Exelon Emergency Workers.

NOTE: Persons with a known allergy to iodine should **not** be considered for work requiring the use of potassium iodide blocking agents.

CAUTION

KI dosage in excess of that recommended by this procedure could lead to possible effects including: rash, swelling of salivary glands, soreness in the teeth and gums, upset stomach and diarrhea.

1. **REVIEW** Thyroid Blocking Agent Authorization Form (EP-AA-113-F-03) to ensure all individuals being issued KI are listed and form is complete.
2. **READ**, or instruct the Emergency Worker(s) to read, "Information on use of Thyroid Blocking Agent" on authorization form or the FDA KI package insert prior to taking or administering KI.

NOTE: Potassium Iodide (KI) has a limited effective shelf life, which may be extended by the manufacturer. Potassium iodide shall be stored in sealed containers that are protected from light and are in areas that meet all manufacturers' limitations on temperature variances.

3. **VERIFY** the expiration date of the KI to ensure it is within its acceptable shelf life period prior to being used.
4. **ISSUE** of one (1) 130 mg KI tablet to each emergency worker affected per day for 10 consecutive days or until directed that the risk **no** longer exists.
5. **DOCUMENTATION**
 - 5.1. The following forms, when completed during a declared event document implementation of this procedure:
 - EP-AA-113-F-01, On-Site Habitability Checklist
 - EP-AA-113-F-02, Authorization of Emergency Exposure
 - EP-AA-113-F-03, Thyroid Blocking Agent Authorization Form
 - EP-AA-113-F-05, Vehicle and Evacuee Control Group Leader Checklist
 - EP-AA-113-F-06, Vehicle and Evacuee Control Group Member Checklist
 - EP-AA-113-F-07, Emergency Director – Site Assembly, Accountability and Evacuation Checklist
 - EP-AA-113-F-08, PBAPS Assembly, Accountability and Evacuation Guidelines
 - EP-AA-113-F-09, LGS Assembly, Accountability and Evacuation Guidelines
 - EP-AA-113-F-11, Remote Assembly Area Muster List
 - EP-AA-113-F-12, Vehicle Survey and Decontamination Report
 - EP-AA-113-F-13, Facility Accountability List (Within Protected Area)
 - EP-AA-113-F-17, Braidwood Assembly, Accountability and Evacuation Guidelines
 - EP-AA-113-F-18, Byron Assembly, Accountability and Evacuation Guidelines
 - EP-AA-113-F-19, Dresden Assembly, Accountability and Evacuation Guidelines
 - EP-AA-113-F-20, LaSalle Assembly, Accountability and Evacuation Guidelines

- EP-AA-113-F-21, Quad Cities Assembly, Accountability and Evacuation Guidelines
- EP-AA-113-F-22, Clinton Assembly, Accountability and Evacuation Guidelines
- EP-AA-113-F-23, Assembly Area Roster
- EP-AA-113-F-24, Relocation Center Operations Checklist
- EP-AA-113-F-25, Relocation Center Accountability Log
- EP-AA-113-F-26, Relocation Center Monitoring Log
- EP-AA-113-F-30, CCNPP Assembly, Accountability and Evacuation Guidelines
- EP-AA-113-F-31, Ginna Assembly, Accountability and Evacuation Guidelines
- EP-AA-113-F-32, NMP Assembly, Accountability and Evacuation Guidelines
- EP-AA-113-F-33, JAF Assembly, Accountability and Evacuation Guidelines

5.2. The Standard Records Retention ID for the above documents per the Standards Records Retention Schedule is 5B.100.

6. **REFERENCES**

6.1. **Development References**

- 6.1.1. Nuclear Operations Directive NOD-RP.14, "ALARA, Exposure Management, Work Controls and Radiological Monitoring," current revision.
- 6.1.2. EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," October 1991.
- 6.1.3. "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," Federal Guidance Report No. 11, Office of Radiation Programs, U.S. EPA, EPA-520/1-88-020, September 1988.
- 6.1.4. "Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergency: Final Recommendations on use," Federal Register, Vol. 47, No. 125, June 29, 1982.
- 6.1.5. "Protection of Thyroid Gland in the Event of Releases of Radioiodine," NCRP Report No. 55, 1977.
- 6.1.6. Commonwealth Edison Quality Verification Audit Finding, Audit No. CE-92-04, CAR# CE-92-029 (Nov. 18, 1992)
- 6.1.7. Commonwealth Edison Medical Dept. Procedure and Practice Guideline, "Exposure Evaluation: Ionizing Radiation" (10/5/93).
- 6.1.8. RP-AA-203, "Exposure Control and Authorization

6.2. **User References**

None

7. **ATTACHMENTS**

- 7.1. Attachment 1 - Emergency Worker Exposure Limits and Associated Risks

ATTACHMENT 1
EMERGENCY WORKER EXPOSURE LIMITS AND ASSOCIATED RISKS

Page 1 of 1

EMERGENCY WORKER EXPOSURE LIMITS

The dose-limiting recommendations for emergency situations are as follows:

| Dose Limit (Rem TEDE)* | Activity | Condition |
|------------------------|--|--|
| 5 | All | Personnel should be kept within normal 10CFR20 limits during emergencies, except as authorized for activities as indicated below |
| 10 | Protecting Valuable Property | When a lower dose is not practical |
| 25 | Life Saving or Protection of Large Populations | When a lower dose is not practical |
| >25 | Life Saving or Protection of Large Population | Only on a voluntary basis to persons fully aware of the risks involved |

* Dose Equivalent Limit (TEDE in Rem). Workers performing services during emergencies should limit dose to the lens of the eye (LDE) to three times each listed value and doses to any other organ (including skin and body extremities) to ten times each listed value.

EMERGENCY EXPOSURE RISKS

Health effects associated with whole body absorbed doses received within a few hours^a

| Dose in rad (≈ Rem DDE) | Percent of population affected by prodromal ^b effects (e.g. reddening of skin, loss of appetite, nausea, fatigue, diarrhea) | Dose in rad (≈ Rem DDE) | Early fatalities ^c (percent affected) |
|----------------------------|--|----------------------------|---|
| 50 rad | 2 % | 140 rad | 5 % |
| 100 rad | 15 % | 200 rad | 15 % |
| 150 rad | 50 % | 300 rad | 50 % |
| 200 rad | 85 % | 400 rad | 85 % |
| 250 rad | 98 % | 460 rad | 95 % |

Approximate cancer risk to average individuals from 25 Rem TEDE received promptly

| Age at exposure (years) | Risk of premature death (deaths per 1000 persons exposed) | Average years of life lost if premature death occurs (years) |
|-------------------------|---|--|
| 20 to 30 | 9.1 | 24 |
| 30 to 40 | 7.2 | 19 |
| 40 to 50 | 5.3 | 15 |
| 50 to 60 | 3.5 | 11 |

^a Risks will be lower for extended exposure periods.

^b Forewarning symptoms of more serious health effects associated with large doses of radiation.

^c Supportive medical treatment may increase the dose at which these frequencies occur by approximately 50 percent.

Job Performance Measure

Determine Reporting And Notification Requirements (RPS Trip)

JPM Number: JPM564Revision Number: 00Date: 8/20/2020Developed By: Bill Kiser / 8/20/20
Instructor: Print / Sign DateReviewed By: _____ / _____
SME or Instructor: Print / Sign DateReviewed By: _____ / _____
Operations Representative: Print / Sign DateApproved By: _____ / _____
Training Department: Print / Sign Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

| | |
|---------------------------------|---------------------|
| Procedure: <u>LS-AA-1110</u> | Revision: <u>30</u> |
| Procedure: <u>OP-AA-106-101</u> | Revision: <u>22</u> |
| Procedure: _____ | Revision: _____ |
| Procedure: _____ | Revision: _____ |
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

| Revision # | Summary |
|-------------------|--------------------|
| 00 | 8/20/20 – New JPM. |



SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

You are the Shift Manager (SM).

The plant is shutdown. A maintenance outage is in progress with the following conditions:

- RHR Pump 'B' is operating in Shutdown Cooling (SDC) mode.
- Reactor coolant temperature is 110°F.
- RPV level is at the natural circulation level.

THEN, a mechanical failure on the SDC loop occurs, causing RPV level to LOWER:

- At 0800 RPV level reaches its lowest point of +5.0 inches NR.
- At 0803 the failure is isolated and RPV level stabilizes at +11.3 inches NR.

Emergency Action Level has been evaluated per EP-AA-1003 Addendum 3.

INITIATING CUE

Determine reportability requirements IAW LS-AA-1110 Safety (SAF) and notification requirements IAW OP-AA-106-101 Significant Event Reporting.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

SRRS: 3D.100; There are no retention requirements for this section

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will review LS-AA-1110 & OP-AA-106-101 and determine:

- the NRC Operations Center must be notified via the ENS as soon as practical and in all cases, within eight (8) hours of the occurrence IAW LS-AA-1110 Safety (SAF) Reportable Event SAF 1.6 RPS Actuation and 1.7 System Actuation Not Including RPS, AND
- additional notifications IAW OP-AA-106-101 Significant Event Reporting Attachment 2 Shift Manager's Notification Worksheet.

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|-------------|--|--|--------------------------|--------------------------|----------------|
| CUE | Provide the examinee with the Cue Sheet and the following: <ul style="list-style-type: none"> • LS-AA-1110 Safety (SAF) • OP-AA-106-101 Significant Event Reporting | | | | |
| *01 | <ul style="list-style-type: none"> • Determines reporting requirements. | LS-AA-1110 Reviews Reportable Event SAF 1.6: RPS Actuation. Determines event: <ul style="list-style-type: none"> • Is reportable per SAF 1.6 and 1.7 • Requires NRC Operations Center notification via ENS within eight (8) hours. <i>Evaluator Note – LS-AA-1110 is located in the Reportability Manual.</i> | <input type="checkbox"/> | <input type="checkbox"/> | — |

| <u>STEP</u> | <u>ELEMENT</u> | <u>STANDARD</u> | SAT | UNSAT | Comment Number |
|--|---|--|--------------------------|--------------------------|----------------|
| *02 | Determines notification requirements. | OP-AA-106-101 Reviews Attachment 2: Shift Manager's Notification Worksheet. Determines the following notifications are required: <ul style="list-style-type: none"> • SOS / OD • NRC Operations Center • Duty Station Manager <ul style="list-style-type: none"> ○ Plant Manager (PM)* ○ Site Vice President (SVP)* ○ Nuclear Duty Officer (NDO) * ○ Manager, Reg Assurance* ○ Site Communicator (as required) * ○ Environmental (as required) * • NRC Senior Resident Inspector | <input type="checkbox"/> | <input type="checkbox"/> | — |
| NOTE: Notifications designated by an asterisk (*) are performed by the Duty Station Manager. To meet the intent of this step, the candidate must identify (at a minimum) the bolded notifications. | | | | | |
| CUE | If the examinee reports results to the Shift Operations Superintendent (SOS), acknowledge the report. JPM is complete. | | | | |

JPM Stop Time: _____



JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: Determine Reporting And Notification Requirements (RPS Trip)

JPM Number: JPM564 Revision Number: 00

Task Number and Title: (Exelon-SM-02) Apply non-routine reporting requirements to operational situations.

Task Standard: The examinee will review LS-AA-1110 & OP-AA-106-101 and determine:

- the NRC Operations Center must be notified via the ENS as soon as practical and in all cases, within eight (8) hours of the occurrence IAW LS-AA-1110 Safety (SAF) Reportable Event SAF 1.6 RPS Actuation, AND
- additional notifications IAW OP-AA-106-101 Significant Event Reporting Attachment 2 Shift Manager's Notification Worksheet.

K/A Number and Importance:

| K/A System | K/A Number | Importance (RO/SRO) | |
|------------|------------|---------------------|-----|
| Generic | 2.4.30 | 2.7 | 4.1 |

Suggested Testing Environment: Classroom

Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

Procedure: LS-AA-1110 Revision: 30
OP-AA-106-101 Revision: 22

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory



NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

INITIAL CONDITIONS

You are the Shift Manager (SM).

The plant is shutdown. A maintenance outage is in progress with the following conditions:

- RHR Pump 'B' is operating in Shutdown Cooling (SDC) mode.
- Reactor coolant temperature is 110°F.
- RPV level is at the natural circulation level.

THEN, a mechanical failure on the SDC loop occurs, causing RPV level to LOWER:

- At 0800 RPV level reaches its lowest point of +5.0 inches.
- At 0803 the failure is isolated and RPV level stabilizes at +11.3 inches NR.

Emergency Action Level has been evaluated per EP-AA-1003 Addendum 3 NR.

INITIATING CUE

Determine reportability requirements IAW LS-AA-1110 Safety (SAF) and notification requirements IAW OP-AA-106-101 Significant Event Reporting.