#### NUCLEAR PLANT OPERATOR JOB PERFORMANCE MEASURE SRO 🖂 RO 🗌 NLO 🗌

## ALTERNATE SUCCESS PATH

TITLE: Verify Fuel Movement Sheets

**OPERATOR:** 

DATE:

0

EVALUATOR: \_\_\_\_\_ EVALUATOR SIGNATURE: \_\_\_\_\_

CRITICAL TIME FRAME:	Required Time (min):	N/A	Actual Time (min):	N/A
PERFORMANCE TIME:	Average Time (min):	20	Actual Time (min):	

JPM RESULTS\*:

SAT UNSAT

(Circle one)

COMMENT SHEET ATTACHED: Yes / No (circle one)

SYNOPSIS: Fuel movement sheets are reviewed to see if there are errors in orientation or placement of fuel.

TASK STANDARD: Correctly identifies the fuel movement errors.

EVALUATION METHOD:		EVALU	ATION LOC	CATION:
X Perform			Plant	
Simulate			Simulator	
			Control Room	
		X	Classroom	n (Admin)
Prepared: Reviewed: Approved:	Muffilled Leg Intendent, Operations Training (or De	esignee)	Date: Date: Date:	1/11/12 1/11/12 1/11/12
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TASK Title:

## <u>Task Number</u>

2.1.35

K&A SYSTEM:

K&A RATING: SRO 3.9

REFERENCES: OSP-66.001

SIMULATOR CONDITIONS: N/A.

GENERAL TOOLS AND EQUIPMENT: OSP-66.001

CRITICAL TASKS: Identified with a \*

## **OPERATOR BRIEF**:

- 1. State the following paragraph <u>IF</u> this is the first performance in this setting:
  - a) "All actions associated with this job performance measure are to be performed. You will be provided access to any tools or equipment you determine necessary to perform the task. When a second checker is called for, the evaluator will perform the role of second checker and will always be in agreement with your actions. Before you start, the evaluator will state the task conditions and answer any questions, then provide a cue to begin".
- 2. State the following:
  - Today is October 2, 2012.
  - Refuel outage R20 is underway.
  - A refueling error occurred last night and fuel movement was halted.
  - You are the oncoming Refuel Bridge SRO
- 3. Solicit and answer any questions the operator may have.

**INITIATING CUE:** State the following:

The Shift Manager directs you to verify the previous shifts in-core placement of components, steps 1-19, from the ICA Fuel Movement Sheets.

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### PERFORMANCE:

Notes **EVALUATOR:** Provide the candidate with the attached handouts (Fuel movement sheets and pictures of the core cells). Provide OP-66.001 if requested.

IF the operator asks about Spent Fuel Pool verification, THEN tell the operator he is only responsible for in-core verifications.

START TIME:

1.	Procedure Step:	Verify correct loading of Control Cell 38-35.		
	Standard	Operator determines that the following bundles are in the correct location and orientation: • JLV675 • JLV682 • JLK804 • JLK817		
	Cue			
	Notes			

*2.	Procedure Step:	Determine the INCORRECT loading of Control Cell 14-35.		
	Standard	Operator determines two Control Cell 14-35 bundles are the correct bundles but in the INCORRECT orientation: • JLV678 • JLV670		
	Cue			
	Notes	Bundles JLV678 and JLV670 are 180° out.		
	Results	SAT Critical Step UNSAT		

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3.	Procedure Step: Verify the correct loading of Control Cell 14-35.			
	Standard	Operator determines two Control Cell 14-35 bundles are the correct bundles and in the correct orientation:		
		• JLK805		
		• JLK812		
	Cue			
	Notes			
	Results	SAT UNSAT		

*4.	Procedure Step:	Determine the INCORRECT loading of Control Cell 38-15.		
	Standard	Operator determines one Control Cell 38-15 bundle is in the correct orientation but is the INCORRECT bundle • JLV668		
	Cue			
	Notes	The correct bundle should be JLV698.		
	Results	SAT Critical Step UNSAT		

5.	Procedure Step:	Verify the correct loading of Control Cell 38-15.		
	Standard	Operator determines three Control Cell 38-15 bundles are the correct bundles and in the correct orientation: JLV674 JLK807 JLK820		
	Cue			
	Notes			
	Results	SAT UNSAT		

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*6.	Procedure Step:	Determine the INCORRECT loading of Control Cell 14-15.						
	Standard	Operator determines that the two single blade guides are in the wrong orientation.						
	Cue							
	Notes	The single blades are 180° out. The blade guide channel spacers should be turned towards the control rod.						
	Results	SAT Critical Step UNSAT						

Terminating Cue: This completes this JPM.

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- Today is October 2, 2012.
- Refuel outage R20 is underway.
- A refueling error occurred last night and fuel movement was halted.
- You are the oncoming Refuel Bridge SRO

The Shift Manager directs you to verify the previous shifts in-core placement of components, steps 1-19, from the ICA Fuel Movement Sheets.

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#### ATTACHMENT 9.1

#### ITEM CONTROL AREA (ICA) TRANSFER FORM (TYPICAL)

- Number: R20-0001 (1)
- Issued (Date): <u>Oct 1, 2012</u> (2)
- (3) Reason for Transfer: Cycle 20 Refueling Ouage
- Prepared By:
   S. Carolin/ S. Carolin

   Reviewed By:
   B. Drews/ B. Drews

   (4)
- (4a)
- Additional Approvals By: \_\_\_N/A\_ (4b)
- SNMC Approval: <u>S. Carolin</u>/ / S. Carolin Lines <u>1-12</u> thru Date Oct 1, 2012 (10)

Line	Description	Serial No. /	From		То		Performed	Date/Time	Verified
No.	of Material	Equipment ID	ICA	Coord.	ICA	Coord.	by	Executed	by
	(5)	(5)	(6)	(7)	(8)	(9)	(11)	(12)	(13)
1	FUEL BUNDLE	JLV675	SFP	26-BB-2	CORE	39-34	ая	10 02 12 0300	CD
2	FUEL BUNDLE	JLV682	SFP	26-CC-2	CORE	37-36	ая	10 02 12 0310	CD
3	DOUBLE BLADE GUIDE	N/A	CORE	39-36 37- 34	SFP	26-EE-2 26-DD-1	ая	10 02 12 0320	CD
4	FUEL BUNDLE	JLK804	SFP	26-DD-2	CORE	37-34	ая	10 02 12 0330	CD
5	FUEL BUNDLE	JLK817	SFP	26-EE-2	CORE	39-36	ая	10 02 12 0340	СД
6	FUEL BUNDLE	JLV678	SFP	26-FF-2	CORE	15-34	ая	10 02 12 0350	СД
7	FUEL BUNDLE	JLV670	SFP	26-W-3	CORE	13-36	aß	10 02 12 0400	СД
8	DOUBLE BLADE GUIDE	N/A	CORE	15-36 13- 34	SFP	26-DD-2 26-CC-1	ая	10 02 12 0410	СД
9	FUEL BUNDLE	JLK805	SFP	26-X-3	CORE	13-34	ая	10 02 12 0420	СД
10	FUEL BUNDLE	JLK812	SFP	26-Y-3	CORE	15-36	ая	10/02/12 0430	СД
11	FUEL BUNDLE	JLV698	SFP	26-Z-3	CORE	39-14	ая	10 02 12 0440	СД
12	FUEL BUNDLE	JLV674	SFP	26-AA-3	CORE	37-16	ая	10/02/12 0450	СД

## NOTES/COMMENTS

Line #: \_\_\_\_\_ Line #: \_\_\_\_\_

Line #: \_\_\_\_\_

Line #:

(14) SNM Records Updated by: \_\_\_\_\_ Lines \_\_\_\_ Thru \_\_\_\_ Date \_\_\_\_

Verified by: \_\_\_\_\_ Lines \_\_\_\_ Thru \_\_\_\_ Date \_\_\_\_ (15)

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#### ATTACHMENT 9.1

#### ITEM CONTROL AREA (ICA) TRANSFER FORM (TYPICAL)

- (1) Number:<u>R20-0</u>001
- Issued (Date): Oct 1, 2012 (2)
- (3) Reason for Transfer: \_\_\_Cycle 20 Refueling Ouage\_\_\_
- Prepared By:
   S. Carolin/ S. Carolin

   Reviewed By:
   B. Drews/ B. Drews

   (4)
- (4a)
- Additional Approvals By: \_\_\_\_N/A\_\_ (4b)
- (10)SNMC Approval: <u>S. Carolin//S. Carolin</u> Lines <u>13-19</u> thru Date Oct 1, 2012

Line	Description	Serial No. /	From		То		Performed	Date/Time	Verified
No.	of Material	Equipment ID	ICA	Coord.	ICA	Coord.	by	Executed	by
	(5)	(5)	(6)	(7)	(8)	(9)	(11)	(12)	(13)
13	DOUBLE BLADE GUIDE	N/A	CORE	39-11 37- 14	SFP	26-CC-2 26-BB-1	ая	10 02 12 0500	CD
14	FUEL BUNDLE	JLK807	SFP	26-BB-1	CORE	37-14	ая	10 02 12 0510	CD
15	FUEL BUNDLE	JLK820	SFP	26-CC-1	CORE	39-16	ая	10 02 12 0520	СД
16	SINGLE BLADE GUIDE	N/A	SFP	25-FF-11	CORE	13-16	ая	10 02 12 0530	СД
17	SINGLE BLADE GUIDE	N/A	SFP	25-FF-1	CORE	15-14	ая	10 02 12 0540	СД
18	FUEL BUNDLE	JLV720	CORE	13-14	SFP	35-N-7	ая	10 02 12 0550	СД
19	FUEL BUNDLE	JLV725	CORE	15-16	SFP	35-N-6	ая	10/02/12 0600	CD
20	N/A								
21	N/A								
22	N/A								
23	N/A								
24	N/A								

#### NOTES/COMMENTS

Line #: \_\_\_\_\_

Line #: \_\_\_\_\_ Line #: \_\_\_\_\_

Line #:

(14)	SNM Records			
	Updated by:	Lines	Thru	Date

(15) Verified by: \_\_\_\_\_ Lines \_\_\_\_ Thru \_\_\_\_ Date \_\_\_\_

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EAST





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EAST



WEST

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## CONTROL CELL 14-35

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EAST



WEST

3

CONTROL CELL 38-15

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EAST



#### NUCLEAR PLANT OPERATOR JOB PERFORMANCE MEASURE SRO 🖂 NLO 🗌

RO 🗌

## ALTERNATE SUCCESS PATH

TITLE: IDENTIFY ADEQUATE/INADEQUATE SHIFT STAFFING

**OPERATOR:** 

DATE:

EVALUATOR:

EVALUATOR SIGNATURE:

CRITICAL TIME FRAME:	Required Time (min):	N/A	Actual Time (min):	N/A
PERFORMANCE TIME:	Average Time (min):	15	Actual Time (min):	

JPM RESULTS\*: SAT UNSAT

(Circle one)

**COMMENT SHEET ATTACHED:** Yes / No (circle one)

SYNOPSIS: Using Tech Specs and NMM Operations Procedures, the candidate makes a determination on the adequacy of plant staffing.

<u>TASK</u> The task will be complete when the candidate has identified the plant only needs 1 STANDARD: more RO and1 more NPO.

## **EVALUATION METHOD:**

X	Perforr
	Simula

n ite

EVALUATION LOCATION:		
	Plant	
	Simulator	
	Control Room	
X	Classroom (Admin)	

Prepared: Altra
Reviewed:
Approved Alkely

Date: Date:

Date:

1/11/12 1/11/12 1/11/12

Superintendent, Operations Training (or Designee)

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IDENTIFY ADEQUATE/INADEQUATE SHIFT STAFFING	2012 NRC SRO A-2	0

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TASK Title:	<u>Task Number</u>	K&A SYSTEM:	K&A RATING:
		2.1.5	2.9 / 3.9

### REFERENCES:

- EN-OP-115
- Tech Specs

## **SIMULATOR CONDITIONS:**

N/A.

## **GENERAL TOOLS AND EQUIPMENT:**

N/A

## CRITICAL TASKS:

Identified with a \*

## **OPERATOR BRIEF:**

- 1. State the following paragraph <u>IF</u> this is the first performance in this setting:
  - a) "All actions associated with this job performance measure are to be performed. You will be provided access to any tools or equipment you determine necessary to perform the task. When a second checker is called for, the evaluator will perform the role of second checker and will always be in agreement with your actions. Before you start, the evaluator will state the task conditions and answer any questions, then provide a cue to begin".
- 2. State the following two paragraphs:
  - a) "The task conditions are as follows:
    - Plant status is:
      - Reactor scrammed
      - All rods in
      - ➢ Rx Press − 900 psig
      - > Night Shift has just started

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IDENTIFY ADEQUATE/INADEQUATE SHIFT STAFFING	2012 NRC SRO A-2	0

- Current shift staffing includes the following
  - > 1 Shift Manager (SM) (SRO)
  - > 1 Control Room Supervisor (CRS) (SRO)
  - > 1 Field Support Supervisor (FSS) / Shift Technical Advisor (STA) (Non-Licensed)
  - > 1 At The Controls Operator (ATC) (RO)
  - > 1 Senior Nuclear Operator (SNO) (RO)
  - > 4 Nuclear Power Operators (NPO) (Non-Licensed)
  - > 0 Health Physics Tech (HP) (Non-Licensed)
- 3. Solicit and answer any questions the operator may have.

## INITIATING CUE:

State the following:

Considering only the above positions, utilize:

- Tech Specs
- Nuclear Management Manual (NMM) Operations Procedures

to determine if required shift staffing is met and, if not met:

- Any required actions
- Any required time limits

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IDENTIFY ADEQUATE/INADEQUATE SHIFT STAFFING	2012 NRC SRO A-2	0

## PERFORMANCE:

Notes The use/research of procedures may occur in any order.

## START TIME:

*1.	Procedure Step:	Determine required staffing and required action/time limit.
	Standard	Candidate determines that: • An HP is required • Replace within 2 hours
	Cue	
	Notes	This step is from Tech Specs 5.2.2.c
	Results	SAT Critical Step UNSAT

*2.	Procedure Step:	Determine required staffing and required action/time limit.
	Standard	<ul> <li>Candidate determines that</li> <li>One more RO or SRO is required</li> <li>Replace within 2 hours</li> </ul>
	Cue	
	Notes	This step is from EN-OP-115 "Conduct of Operations", Attachment 9.5. The candidate must determine the plant is in Mode 3 and that AOP-43 is applicable in Mode 3. Therefore, the Safe Shutdown/Fire Brigade Staffing is not met.
	Results	SAT Critical Step UNSAT

*3.	Procedure Step:	Determine required staffing and required action/time limit.
	Standard	Candidate determines that: • One more NPO is required • Replace within 2 hours
	Cue	
	Notes	This step is from EN-OP-115 "Conduct of Operations", Attachment 9.5. The candidate must determine the plant is in Mode 3 and that AOP-43 is applicable in Mode 3. Therefore, the Safe Shutdown/Fire Brigade Staffing is not met.
	Results	SAT Critical Step UNSAT

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4.	Procedure Step:	Determine that other positions meet staffing requirements.		
	Standard	After reviewing Tech Specs and Operations Procedure, candidate does NOT identify other positions as being understaffed.		
	Cue			
	Notes			
	Results	SAT UNSAT		

Terminating Cue: When candidate has identified the missing positions, inform the candidate "This completes the JPM".

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IDENTIFY ADEQUATE/INADEQUATE SHIFT STAFFING	2012 NRC SRO A-2	0

- Plant status is:
  - Reactor scrammed
  - > All rods in
  - ➢ Rx Press 900 psig
  - > Night Shift has just started
- Current shift staffing includes the following
  - > 1 Shift Manager (SM) (SRO)
  - > 1 Control Room Supervisor (CRS) (SRO)
  - > 1 Field Support Supervisor (FSS) (Non-Licensed)
  - > 1 Shift Technical Advisor (STA) (Non-Licensed)
  - > 1 At The Controls Operator (ATC) (RO)
  - > 1 Senior Nuclear Operator (SNO) (RO)
  - > 4 Nuclear Power Operators (NPO) (Non-Licensed)
  - > 0 Health Physics Tech (HP) (Non-Licensed)

Considering only the above positions, utilize:

- Tech Specs
- Nuclear Management Manual (NMM) Operations Procedures

to determine if required shift staffing is met and, if not met:

- Any required actions
- Any required time limits

#### NUCLEAR PLANT OPERATOR JOB PERFORMANCE MEASURE

SRO 🖂 RO

## ALTERNATE SUCCESS PATH

TITLE: ST-26K Recirc Loop Startup Differential Temperature SRO Review

OPERATOR:

DATE: \_\_\_\_\_\_

EVALUATOR:

EVALUATOR SIGNATURE:

CRITICAL TIME FRAME:	Required Time (min):	N/A	Actual Time (min):	N/A
PERFORMANCE TIME:	Average Time (min):	15	Actual Time (min):	

JPM RESULTS\*: SAT UNSAT (Circle one)

COMMENT SHEET ATTACHED: Yes / No (circle one)

Using ST-26k, candidate determines that Recirc surveillance failed its Level 1 SYNOPSIS: acceptance criteria.

TASK Complete section 11.2 of ST-26K correctly. STANDARD:

EVALUATION METHOD:

Х Perform

Simulate

EVALUATION LOCATION: Plant Simulator Control Room X Classroom (Admin)

**Prepared:** Reviewed: Approved:

1/11/12 1/11/12 Date: Date:

Date:

Superintendent, Operations Training (or Designee)

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TASK Title:	Task Number	K&A SYSTEM:	K&A RATING:
		2.2.12	3.7 / 4.1

### **REFERENCES:**

• ST-26K

## **SIMULATOR CONDITIONS:**

N/A.

## **GENERAL TOOLS AND EQUIPMENT:**

A completed ST-26K (with the exception of section 11.2).

## CRITICAL TASKS:

Identified with a \*

## **OPERATOR BRIEF:**

- 1. State the following paragraph <u>IF</u> this is the first performance in this setting:
  - a) "All actions associated with this job performance measure are to be performed. You will be provided access to any tools or equipment you determine necessary to perform the task. When a second checker is called for, the evaluator will perform the role of second checker and will always be in agreement with your actions. Before you start, the evaluator will state the task conditions and answer any questions, then provide a cue to begin".

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- 2. State the following: "The task conditions are as follows:
  - Plant status is:
    - Reactor scrammed
    - All rods in
    - Rx Press 370 psig (06PI-90A)
    - > RWCU is in service with flow through the reactor vessel bottom head drain line.
    - Rx Vessel Temp (02-3TR-89) point 7, Vessel Bottom Drain Temp 320 deg F
    - RWR Pump "A"
      - (a) Shutdown
      - (b) RWR Loop "A" Inlet Temp
        - (i) 360 deg F (EPIC-A-425)
        - (ii) 360 deg F (EPIC-A-426)
        - (iii) 340 deg F (02TR-165)
    - RWR Pump "B"
      - (a) started 40 minutes ago,
      - (b) Flow
        - (i) 13,500 gpm (02FI-159B)
        - (ii) 5.2 mlbm/hr (EPIC-A420)
      - (c) Shift Manager and Reactor Engineering have determined it is not feasible to increase "B" loop flow greater than 13,500 gpm.
      - (d) RWR Loop "B" Inlet Temp
        - (i) 410 deg F (EPIC-A-430)
        - (ii) 410 deg F (EPIC-A-431)
        - (iii) 400 deg F (02TR-165)
    - > ST-26K, Recirc Loop Startup Differential Temperature Check, has been completed.
- 3. Solicit and answer any questions the operator may have.

## **INITIATING CUE:**

State the following:

"The Shift Manager has directed you to complete and sign ST-26K, Recirc Loop Startup Differential Temperature Check, Section 11.2, Management SRO Review. Any problems or concerns found are to be documented in section 11.3, remarks."

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## PERFORMANCE:

Notes A completed ST-26K (with the exception of section 11.2) and the attached handout.

If the candidate asks for other temperature indications, inform the candidate that all operable indications have been provided in the plant status brief.

START TIME:

*1	Procedure Step:	11.2.1 Verify data is within required tolerances.
	Standard	Determines that step 8.4.7 is out of tolerance.
	Cue	
	Notes	
	Results	SAT Critical Step UNSAT

2	Procedure Step:	11.2.2 Verify data attachments, such as recorder printouts and calibration sheets are included as required.	
	Standard	Determines that this step is not applicable.	
	Cue		
	Notes		
	Results	SAT UNSAT	

*3	Procedure Step:	11.2.3 Verify required initials and signatures have been entered.		
	Standard	Determines that step 8.4.4.C.2 is missing a signature.		
	Cue			
	Notes			
	Results	SAT Critical Step UNSAT		

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*4	Procedure Step:	11.2.3 Verify required initials and signatures have been entered.		
	Standard	Determines that step 8.4.5 is missing initials.		
	Cue			
	Notes			
	Results	SAT Critical Step UNSAT		

5	Procedure Step:	Documents in the remarks section problems found		
	Standard	Indicates in remarks • step 8.4.7 is o • step 8.4.4.C.2 • step 8.4.5 is r	section: ut of tolerance is missing a signature hissing initials.	
	Cue			
	Notes			
	Results	SAT	UNSAT	

*6	Procedure Step:	<ul> <li>11.2.4 Review test to determine if test results satisfy acceptance criteria:</li> <li>(_) Satisfactory</li> <li>(_) Satisfactory with corrective actions</li> <li>(_) Unsatisfactory</li> </ul>		
	Standard	Determines test is "Unsatisfactory"		
	Cue			
	Notes			
	Results	SAT Critical Step UNSAT		

*7	Procedure Step:	11.2.5 <b>IF</b> Level 1 acceptance criteria is not satisfied, <b>THEN</b> immediately notify Operations Manager or alternate. Record name of person notified.		
	Standard	Notifies Operations Manger or alternate.		
	Cue	When candidate indicates a call candidate Chris Adner has been	to the Operations Mar notified.	nager, tell the
	Notes			
	Results	SAT Critica	I Step UNSAT	
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8	Procedure Step:	<ul> <li>11.2.6 Initiate required corrective and compensatory actions.</li> <li>(_) Not required</li> <li>(_) Required</li> </ul>		
	Standard	larks required.		
	Cue			
	Notes	Step 11.1.3 requires a CR if Level 1 acceptance criteria was not met.		
	Results	SAT UNSAT		

9	Procedure Step:	11.2.7 Sign and record date and time. Management SRO Date/Time		
	Standard	Candidate will sign, date and time the surveillance test		
	Cue			
	Notes			
	Results	SAT UNSAT		

Terminating Cue: When the candidate signs and dates the surveillence, tell the candidate "This completes the JPM"

STOP TIME:

ENTERGY NUCLEAR		Page 7 of 8
E-DOC TITLE: ST-26K Recirc Loop Startup Differential	E-DOC NO.	<b>REVISION NO.</b>
Temperature SRO Review		
	2012 NRC Admin 3	0

- Plant status is:
  - Reactor scrammed
  - All rods in
  - Rx Press 370 psig (06PI-90A)
  - > RWCU is in service with flow through the reactor vessel bottom head drain line.
  - Rx Vessel Temp (02-3TR-89) point 7, Vessel Bottom Drain Temp 320 deg F
  - RWR Pump "A"
    - (a) Shutdown
    - (b) RWR Loop "A" Inlet Temp
      - (i) 360 deg F (EPIC-A-425)
      - (ii) 360 deg F (EPIC-A-426)
      - (iii) 340 deg F (02TR-165)
  - RWR Pump "B"
    - (a) started 40 minutes ago,
    - (b) Flow
      - (i) 13,500 gpm (02FI-159B)
      - (ii) 5.2 mlbm/hr (EPIC-A420)
    - (c) Shift Manager and Reactor Engineering have determined it is not feasible to increase "B" loop flow greater than 13,500 gpm.
    - (d) RWR Loop "B" Inlet Temp
      - (i) 410 deg F (EPIC-A-430)
      - (ii) 410 deg F (EPIC-A-431)
      - (iii) 400 deg F (02TR-165)
  - Section 4.0 of ST-26K, Recirc Loop Startup Differential Temperature Check, has been completed.

"The Shift Manager has directed you to complete and sign ST-26K, Recirc Loop Startup Differential Temperature Check, Section 11.2, Management SRO Review. Any problems or concerns found are to be documented in section 11.3, remarks."

### NUCLEAR PLANT OPERATOR JOB PERFORMANCE MEASURE SRO 🖂

RO 🗌 NLO 🗌

## ALTERNATE SUCCESS PATH

TITLE: Determine Requirements for Drywell Entry and Tech Spec LCO

**OPERATOR:** 

DATE: \_\_\_\_\_

EVALUATOR:

EVALUATOR SIGNATURE:

CRITICAL TIME FRAME:	Required Time (min):	N/A	Actual Time (min):	N/A
PERFORMANCE TIME:	Average Time (min):	35	Actual Time (min):	

JPM RESULTS\*:

SAT UNSAT

(Circle one)

COMMENT SHEET ATTACHED: Yes / No (circle one)

**SYNOPSIS:** Reviews AP 12.02 for drywell entry requirements and T.S. for inoperable airlock doors.

TASK STANDARD: Determines that there are additional requirements for drywell entry and an LCO for the drywell interlock mechanism.

EVALUATION METHOD:	EVALU	ATION LOC	ATION:
∠ Perform		Plant	
Simulate		Simulator	
		Control Ro	om
	X	Classroom	(Admin)
Prepared: Frank Fagan Am Am Reviewed: Approved: Superintendent, Operations Training (or De	signee)	Date: Date: Date:	12/29/2011 1/11/12 1/11/12
ENTERGY NUCLEAR			Page 1 of 9
E-DOC TITLE: Determine Requirements for Drywell E-DO		C NO.	<b>REVISION NO.</b>
Entry and Tech Spec LCO		NRC Admin	
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Revision Number: 0	Date Originated:
Pages Affected:	Description:

ENTERGY NUCLEAR		Page 2 of 9
E-DOC TITLE: Determine Requirements for Drywell	E-DOC NO.	<b>REVISION NO.</b>
Entry and Tech Spec LCO	2012 NRC Admin	
	4	
		0

TASK Title:

## <u>Task Number</u>

<u>K&A SYSTEM</u>: 2.3.12 K&A RATING: 3.7

**REFERENCES:** AP-12.02 & Tech Specs

## SIMULATOR CONDITIONS:

N/A.

**GENERAL TOOLS AND EQUIPMENT:** AP-12.02, Tech Specs, ODCM & TRM.

## CRITICAL TASKS:

Identified with a \*

•

## **OPERATOR BRIEF:**

- 1. State the following paragraph <u>IF</u> this is the first performance in this setting:
  - a) "All actions associated with this job performance measure are to be performed. You will be provided access to any tools or equipment you determine necessary to perform the task. When a second checker is called for, the evaluator will perform the role of second checker and will always be in agreement with your actions. Before you start, the evaluator will state the task conditions and answer any questions, then provide a cue to begin".
- 2. State the following: (give attached handout)
  - Power has been reduced from 100% to14% power to investigate unidentified drywell leakage.
  - Drywell cooling is in normal 100% power configuration.
    - Initial drywell entry has been made by RP in preparation for NPO entry
      - Drywell oxygen concentration is 19.4%
      - Emergency escape airlock oxygen concentration is 19.6%
      - Emergency escape airlock strongback has been removed from the inner door.
      - o Emergency Drywell Exit Kit is staged near the Personnel Airlock
      - RPs reported that the drywell inner and outer air lock door interlock is not working. Both doors had momentarily been opened at the same time. A Condition Report has been generated.
      - RP drywell surveys are not completed
      - RPs have left the drywell for a break. Both Personnel Airlock Doors are closed.

ENTERGY NUCLEAR		Page 3 of 9
E-DOC TITLE: Determine Requirements for Drywell	E-DOC NO.	<b>REVISION NO.</b>
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- Rx Engineering plans a rod shuffle for this shift: 4 rods are to be withdrawn two notches and 4 rods are to be inserted two notches. Steady state reactor power is expected to remain at 14%.
- Two NPOs are to be sent into the drywell to investigate an increase in unidentified leakage. The NPOs:
  - Had a pre-job brief by the CRS concerning the drywell entry
  - Have been told to stay below the 292' elevation
  - Had a heat Stress Evaluation per EN-IS-108
  - o Signed onto OPS General RWP 20120008-21 "Surveillance Testing/Inspections"
  - o Have current dosimetry
  - Are ready to enter the drywell
- 3. Solicit and answer any questions the operator may have.

## INITIATING CUE:

State the following:

You are the Shift Manager. Determine what, if any,

- 1. Additional requirements are needed for NPO entry into the drywell
- 2. Tech Spec, TRM or ODCM actions that may be required

ENTERGY NUCLEAR	Page 4 of 9	
E-DOC TITLE: Determine Requirements for Drywell	E-DOC NO.	<b>REVISION NO.</b>
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## PERFORMANCE:

**Notes** If the candidate states that drywell entry would not be allowed (and stops), prompt candidate to identify all problems that must be resolved to allow entry.

START TIME:

*1.	Procedure Step:	Ensure reactor power level is not raised during drywell entries.		
	Standard	Determines that withdrawing control rods for the rod shuffle is not permitted when personnel are in the drywell.		
	Cue			
	Notes	AP-12.02, 6.6.1 and 8.2.1.A.1		
	Results	SAT Critical Step UNSAT		

*2.	Procedure Step:	The following are required for drywell entries while primary containment is in effect: Specific RWP per AP-07.01.		
	Standard	Determines that a specific RWP is required.		
	Cue			
	Notes	AP-12.02, 7.8		
	Results	SAT Critical Step UNSAT		

*3.	Procedure Step:	The following are required for drywell entries while primary containment is in effect: ALARA Review per RP-ALARA-01.01.		
	Standard			
	Cue			
	Notes	AP-12.02, 7.8		
	Results	SAT Critical Step UNSAT		

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*4.	Procedure Step:	The drywell atmosphere is between 19.5 and 23,5% oxygen following an initial entry and verification		
	Standard	Determines oxygen concentration is to low for entry <b>OR</b> that a confined space entry permit is required.		
	Cue			
	Notes	AP-12.02, 8.2.1.B		
	Results	SAT Critical Step UNSAT		

*5.	Procedure Step:	Workers performing inspections shall remain with the Radiation Protection Technician until radiological conditions are determined.		
	Standard	Determine NPOs must have RP coverage <b>OR</b> that the RP surveys must be completed prior to entry.		
	Cue			
	Notes	AP-12.02, 8.2.2		
	Results	SAT Critical Step UNSAT		

	Two primary containment air locks shall be operable. Modes 1,2,3. One or more primary containment air locks with primary containment air interlock mechanism inoperable.		
Standard	Determines that one airlock door must be verified closed within one hour and locked closed within 24 hours <b>OR</b> that entry/exit is allowed under the control of a dedicated individual.		
Cue			
Notes	Tech Specs 3.6.1.2.B		
Results	SAT Critical Step UNSAT		
_	Standard Cue Notes Results		

Terminating Cue: This completes this JPM.

STOP TIME:

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E-DOC TITLE: Determine Requirements for Drywell	E-DOC NO.	<b>REVISION NO.</b>
Entry and Tech Spec LCO	2012 NRC Admin	
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- Power has been reduced from 100% to14% power to investigate unidentified drywell leakage.
- Drywell cooling is in normal 100% power configuration.
- Initial drywell entry has been made by RP in preparation for NPO entry
  - o Drywell oxygen concentration is 19.4%
  - Emergency escape airlock oxygen concentration is 19.6%
  - Emergency escape airlock strongback has been removed from the inner door.
  - Emergency Drywell Exit Kit is staged near the Personnel Airlock
  - RPs reported that the drywell inner and outer air lock door interlock is not working. Both doors had momentarily been opened at the same time. A Condition Report has been generated.
  - RP drywell surveys are not completed
  - o RPs have left the drywell for a break. Both Personnel Airlock Doors are closed.
- Rx Engineering plans a rod shuffle for this shift: 4 rods are to be withdrawn two notches and 4 rods are to be inserted two notches. Steady state reactor power is expected to remain at 14%.
- Two NPOs are to be sent into the drywell to investigate an increase in unidentified leakage. The NPOs:
  - Had a pre-job brief by the CRS concerning the drywell entry
  - Have been told to stay below the 292' elevation
  - o Had a heat Stress Evaluation per EN-IS-108
  - o Signed onto OPS General RWP 20120008-21 "Surveillance Testing/Inspections"
  - Have current dosimetry
  - Are ready to enter the drywell

You are the Shift Manager. Determine what, if any,

- 1. Additional requirements are needed for NPO entry into the drywell
- 2. Tech Spec, TRM or ODCM actions that may be required

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### ENTERGY NUCLEAR OPERATIONS, INC. JAMES A. FITZPATRICK NUCLEAR POWER PLANT

### RADIOLOGICAL WORK PERMIT

RWP Title: OPERATIONS ROUTINE ACTIVITIES Comments:					<u>RWP No.:</u> 20120008 Rev. 00 * 20120008 *		
							<u>RWP Type:</u> GENERAL
Prepared By:				Job Supervisor:	Job Supervisor:		
<u>Estimated Dose:</u> 3,200 mrem		Estimate	d <u>Hours:</u> 36,100	Actual Dose: 2,352.7 m	arem <u>Act</u>	<u>ual Hours:</u> 32.239.49	
				Locations			
Buildings			Eleva	itions	Rooms		
N/A							
Radiological Conditions						din kanala kata Vie	
Description					Yalue	<u>Unit</u>	
N/A							
				Tasks			
Task	Description	Description					
12	REACTOR	REACTOR BUILDING ROUNDS					
13	TURBINE	TURBINE BUILDING/OUTSIDE ROUNDS					
14	NO HRA R	NO HRA RADWASTE ROUNDS					
21	SURVEILLANCE TESTING/INSPECTIONS					Active	
31	PTR / VALVE LINEUPS					Active	
32	2 WALKDOWNS FOR TRAINING						
			K	equirements	a ceptick <u>d</u> en	nn (mp karder de se	
Requirement Groups				Requirement Descriptions			
N/A							
# HANDOUT

Entergy.

## ENTERGY NUCLEAR OPERATIONS, INC.

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

# WER OF PEOPLE

### RADIOLOGICAL WORK PERMIT

Task Number: 21		8 2 1	<u>RWP No.:</u> 0120008 <u>Rev.:</u> 00
Task Description: SURVEILLANCE TESTING	JINSPECTIONS	Task Status: Act	tive
Estimate Dose: 800.00	Estimate Hours:	9,200.00	
Hi-Rad: No	rticle: Locked H	i-Rad: No	Hi-Contamination: No
Dose Alarm (mrem) 25.00	Alarm Settings	nremhri	75.00
ris, je stanovní stratek stalovní stalovní se stalovní stalovní stalovní stalovní stalovní stalovní stalovní s	Kequirements		urator II. I. A. and dr. in
Requirement Groups	Requirem	ent Descriptions	
<u>Ad</u>	ditional Instructions	dinta di Transfordinata d	<u>n na statistica e conservada</u>
Radiological Control: RP Instructions:			
Radiological Waste Control:			
Instruction 3: Worker Instructions:		<b></b>	
Instruction 4:			
Other Instructions: Addditional Instructions: 1) Single PC's with cap for work in Contaminated Area's. 2) Single PC's with Hood when carrying material on shou head and face.	lders or working in overhead	or when contaminate	ed material will be near

#### NUCLEAR PLANT OPERATOR JOB PERFORMANCE MEASURE SRO 🖂 RO 🗌

### ALTERNATE SUCCESS PATH

TITLE: **Determine Protective Action Recommendations and Complete Event Notification Form** 

### **OPERATOR:**

### DATE:

EVALUATOR:

### **EVALUATOR SIGNATURE:**

CRITICAL TIME FRAME:	Required Time (min):	15	Actual Time (min):	
PERFORMANCE TIME:	Estimated Time (min):	14	Actual Time (min):	

#### JPM RESULTS\*: (Circle one)

SAT UNSAT

COMMENT SHEET ATTACHED: Yes / No (circle one)

SYNOPSIS: Plant conditions are evaluated to recommend the correct protective actions

**TASK STANDARD:** Complete the upgrade offsite notification message form, including correct PARs.

### **EVALUATION METHOD:**

X	Pe
	Sir

erform mulate

### EVALUATION LOCATION:

Plant Simulator Control Room X Classroom (Admin)

Prepared: John fung	
Approved: Ackelly	

Date: Date:

IIIIr Infiz

Date:

Superintendent, Operations Training (or Designee)

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<b>E-DOC TITLE: Determine Protective Action</b>	E-DOC NO.	<b>REVISION NO.</b>
<b>Recommendations and Complete Event Notification</b>	2012 NRC	[
Form	Admin 5	0

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TASK Title:	<u>Task Number</u>	<u>K&amp;A SYSTEM</u> :	<u>K&amp;A RATING</u> :
Determine Protective Action Recommendations and Complete		2.4.38	4.4
Event Notification Form			

### REFERENCES:

- IAP-2, Classification of Emergency Conditions
- EAP-1.1, Offsite Notifications
- IAP-1, Emergency Plan Implementation Checklist
- EAP-4.1, Release Rate Determination
- EAP-4, Dose Assessment Calculations
- EAP-42, Obtaining Meteorological Data

### SIMULATOR CONDITIONS:

N/A.

### GENERAL TOOLS AND EQUIPMENT:

- 1. Hand out the following materials:
  - Calculator
  - Blank EAP-1.1 Attachment 1 Notification Form
  - Legible EAL Flowchart
  - Legible EAP-4 Attachment 1 Flowchart
- 2. Handout copies of following procedures:
  - EAP-4.1, Release Rate Determination
  - EAP-42, Obtaining Meteorological Data
  - IAP-2, Classification of Emergency Conditions
  - IAP-1, Emergency Plan Implementation Checklist
  - EAP-1.1, Offsite Notifications
- 3. Have copies available of following procedure:
  - EAP-4, Dose Assessment Calculations

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E-DOC TITLE: Determine Protective Action	E-DOC NO.	<b>REVISION NO.</b>
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### CRITICAL TASKS: Identified with a \*

### **OPERATOR BRIEF:**

- 1. State the following paragraph <u>IF</u> this is the first performance in this setting:
  - a) "All actions associated with this job performance measure are to be performed. You will be provided access to any tools or equipment you determine necessary to perform the task. When a second checker is called for, the evaluator will perform the role of second checker and will always be in agreement with your actions. Before you start, the evaluator will state the task conditions and answer any questions, then provide a cue to begin".
- 2. Provide the candidate the following information (see attached handout).

At 0342 today (Feb 28, 2012), an earthquake with a magnitude of 0.08g caused a loss of offsite power.

Plant conditions:

- At 0342, a large break LOCA occurred.
- The reactor automatically scrammed.
- Multiple failures in safety systems caused the operators to conduct an emergency depressurization.
- RPV level dropped to minus (-) 9".
- Drywell pressure peaked at 55 psig.
- Secondary containment radiation levels increased to >EOP-5 Maximum Normal values in the Reactor Building 344 foot elevation.
- At 0352, a Site Area Emergency was declared with a release in progress based on an unisolable MSL break outside primary containment.
- At 0401, the initial offsite notification message was transmitted.
- ERO is staffing the emergency response facilities. Neither the TSC nor the EOF has been fully activated (the earthquake caused damage to local roads).

At 0412, (when you start the JPM) the following plant conditions exist:

- Drywell pressure has dropped rapidly to 3 psig.
- RPV level = minus (-) 9", going up slowly.
- You are the Emergency Director until relieved and have just declared an EAL upgrade to General Emergency at Time 0412.
- EAL upgrade based on radioactivity release as indicated on effluent radiation monitors, exceeding EAL threshold for >15 minutes.
- NO other General Emergency EAL thresholds have been reached.

ENTERGY NUCLEAR		Page 4 of 12
<b>E-DOC TITLE: Determine Protective Action</b>	E-DOC NO.	<b>REVISION NO.</b>
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- Stack flow rate = 12,000 cfm, with 1 SGT train and 1 stack dilution fan operating.
- EPIC "Rad Release" screen shows the following relating to the offsite release:

HIGH RANGE CONTINUOUS OFFSITE REL RATES							
LOCATION RATES X CF = CI/SEC							
STACK	11,700 MR/HR	CF	2.9718E+04				
TURB BLDG	0 MR/HR	CF	CI/SEC				
EXH	0 MR/HR	CF	0.0000E+00				
RADW BLDG	CI/SEC						
EXH			0.0000E+00				
CI/SEC							

• Meteorological conditions are provided in the following EDAMS report:

### **Emergency Meteorology Report**

	Last 15 Minute Emergency Meteorology Report Data							
	Data from Nine Mile Point Met System							
	Date: 2/28/12 Time (Local): 4:00:00						4:00:00	
Elevated				Ground				
200'	Wind Dir From	271	(deg)	30'	Wind Dir From (Main)	261	(deg)	
200'	Wind Speed	6.1	(mph)	30'	Wind Speed (Main)	3.8	(mph)	
200'	Delta Temperature	-1.49	(deg F)	100'	Delta Temperature	56	(deg F)	
	Stability Class	С			Stability Class	D		
30'	Air Temperature	45.6	(deg F)		Precipitation (15 min)	0.00	(in)	

Solicit and answer any questions the operator may have.

### **INITIATING CUE:**

State the following:

Complete the required E-plan upgrade notification form for the current conditions.

### THIS IS A TIME-CRITICAL JPM.

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<b>E-DOC TITLE: Determine Protective Action</b>	E-DOC NO.	<b>REVISION NO.</b>
<b>Recommendations and Complete Event Notification</b>	2012 NRC	
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### PERFORMANCE:

1.	Procedure Step:	Applicants review the handout sheet and ask any questions regarding the initial conditions or initiating cues.
	Standard	Applicants review initial conditions and initiating cues.
	Cue	
	Notes	
	Results	SAT UNSAT
2.	Procedure Step:	Handout the references with the handout sheet and the initiating cue sheet.
	Standard	Start the JPM.
		Record START Time:
	Cue	Examiner Cue: Remind applicant the task is time critical.
	Notes	
	Results	SAT UNSAT
3.	Procedure Step:	Obtains Notification Form (Attachment 1 of EAP-1.1, Offsite Notifications)
	Standard	Applicant completes Notification Form Item #2, circling "A. Actual Emergency".
	Cue	
	Notes	
	Results	SAT UNSAT
*4.	Procedure Step:	Record the correct event classification.
	Standard	Applicant completes Notification Form Item #3, circling "D. General Emergency".
	Cue	
	Notes	
	Results	SAT Critical Step UNSAT

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E-DOC TITLE: Determine Protective Action	E-DOC NO.	<b>REVISION NO.</b>
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*5.	Procedure Step:	Record the correct declaration date and time.	
	Standard	Applicant completes Notification Form Item #4, recording today's date ( $\frac{02}{28}/2012$ ) and event declaration time ( $\frac{0412}{28}$ )	
	Cue		
	Notes		
	Results	SAT Critical Step UNSAT	

*6.	Procedure Step:	Determine release rate using EAP-4 and EAP-4.1 (Step 4.1.2 or Attachment 2 from mr/hr * 2.54 factor)	
	Standard	Applicant determines release rate is 29,718 Ci/sec.	
	Cue		
	Notes		
	Results	SAT Critical Step UNSAT	

*7.	Procedure Step:	Record the radioactive release information based on EAP-4.1 Attachment 11.
	Standard	Applicant completes Notification Form Item #5, circling "C. Release ABOVE federal limits Technical Specification".
	Cue	
	Notes	
	Results	SAT Critical Step UNSAT

*8.	Procedure Step:	Determine and record the protective active recommendations using EAP-4 Attachment 1, Tables 4.1.1 and 4.1.2.
	Standard	Applicant completes Notification Form Item #6, circling " <u>B. EVACUATE and IMPLEMENT the KI PLAN for the following ERPAs and All remaining ERPAs MONITOR the EMERGENCY ALERT SYSTEM</u> " and by circling ERPAs # 1,2,3,4,7,9,26,27.
	Cue	
	Notes	Examiner Note: These are 2 mile radius and 5 mile downwind ERPAs.
	Results	SAT Critical Step UNSAT

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*9.	Procedure Step:	Record appropriate EAL number and brief description.	
	Standard	Applicant completes Notification Form Item #7, recording EAL AG1.1 and brief description "high elevated rad release rate from main vent stack".	
	Cue		
	Notes		
	Results	SAT Critical Step UNSAT	

*10	Procedure Step:	Record reactor status.	
	Standard	Applicant completes Notification Form Item #8, circling "B. Shutdown" and date time of 02/28/11 at 0342.	
	Cue		
	Notes		
	Results	SAT Critical Step UNSAT	

*11	Procedure Step:	Record appropriate wind speed
	Standard	Records wind speed by filling in Notification Form Item #9 as "A. <u>6.1</u> Miles/Hour at elevation <u>200</u> Feet (Elevated)".
	Cue	
	Notes	
	Results	SAT Critical Step UNSAT

*12	Procedure Step:	Record meteorological stability class as determined using provided data per EAP-42.
	Standard	Determines Stability Class "C", based on wind direction variation and 30 to 200 foot delta T. Records stability class by circling "C Neutral" in Notification Form Item #11.
	Cue	
	Notes	
	Results	SAT Critical Step UNSAT

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*13	Procedure Step:	Turn in notification form within required time.
	Standard	Applicant turns in notification form within 15 minutes of start of JPM. Record Ston Time:
	Cue	
	Notes	
	Results	SAT Critical Step UNSAT

Terminating Cue: This completes this JPM.

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# JPM ANSWER KEY PART ONE GENERAL INFORMATION Page 1 of 1

2

	to report an incide	nt at the James A. FitzPi	PART atrick Power Plant, Standby	y for confirmati	Notification *	the following
itations.	) X New York S	itate Warning Point	Coswego County Warnin	ng Point 🔯 plicant Si	Nine Mile Point Unit #1 🛛 Ni CINATURE	ine Mile Point Unit #2
GEN	ERAL INFO	RMATION (Note	: O When checked in	ndicates ch	ange in status. NOT for	place keeping)
7	Massage traper	Mator (Date)	nt i Timel		24 Hour Clock Via: A RF	CS B Other
<b>~</b>	1992-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-		ne ( i meet	withermanic		
					ile : 518-292-2200	
				C Oswer	po Co : 591-9150 <u>or</u> 911	
					1: 349-5201 gr Control Room H	notine
					2 349-5202 pr Control Room H	totine
0:	This is :	A An Actual Emerge	епсу В. Ав Екс	roise		
01	The Emergency	Classification is:		n an		
	A UNI	SUAL EVENT C	SITE AREA EMERCEN		E. EMERGENCY TERMIN	ATED
<u>a</u> .	Dis Farman	V Classification declared	DE 02/28/2012		r. Olaci u 0412	genologija je over energe. Bite da over energe en statistica en energe en
QV 4.	- ends ensuellerate	y a namena contrata tata tati Ci	idates	**************************************	(time-24 ht clock)	N. AND
<u>Q</u> s	Release of Rad	oactive Materials due to	) the classified event.			
	A. No Release R. Pelson PF	LOW Interal limits To	Anarah Convillionati m			
	C To Atmos	phore 7 To Water	er-concerse 25 1000 \$385 \$\$317.113			
	C. Release AB	OVE federal limits Tech	huical Specification			
	To Atrixis	pitiere a To Water				
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# HANDOUT

At 0342 today (Feb 28, 2012), an earthquake with a magnitude of 0.08g caused a loss of offsite power.

Plant conditions:

- At 0342, a large break LOCA occurred.
- The reactor automatically scrammed.
- Multiple failures in safety systems caused the operators to conduct an emergency depressurization.
- RPV level dropped to minus (-) 9".
- Drywell pressure peaked at 55 psig.
- Secondary containment radiation levels increased to >EOP-5 Maximum Normal values in the Reactor Building 344 foot elevation.
- At 0352, a Site Area Emergency was declared with a release in progress based on an unisolable MSL break outside primary containment.
- At 0401, the initial offsite notification message was transmitted.
- ERO is staffing the emergency response facilities. Neither the TSC nor the EOF has been fully activated (the earthquake caused damage to local roads).

At 0412, (when you start the JPM) the following plant conditions exist:

- Drywell pressure has dropped rapidly to 3 psig.
- RPV level = minus (-) 9", going up slowly.
- You are the Emergency Director until relieved and have just declared an EAL upgrade to General Emergency at Time 0412.
- EAL upgrade based on radioactivity release as indicated on effluent radiation monitors, exceeding EAL threshold for >15 minutes.
- **NO** other General Emergency EAL thresholds have been reached.
- Stack flow rate = 12,000 cfm, with 1 SGT train and 1 stack dilution fan operating.

(continued on next page)

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# HANDOUT

EPIC "Rad Release" screen shows the following relating to the offsite release:

HIGH RANGE CONTINUOUS OFFSITE REL RATES						
LOCATION	RATES X	CF	= CI/SEC			
STACK	11,700 MR/HR	CF	2.9718E+04			
TURB BLDG	0 MR/HR	CF	CI/SEC			
EXH	0 MR/HR	CF	0.0000E+00			
RADW BLDG			CI/SEC			
EXH			0.0000E+00			
			CI/SEC			

Meteorological conditions are provided in the following EDAMS report:

Last 15 Minute Emergency Meteorology Report Data							
	Data from Nine Mile Point Met System						
Date: 2/28/12 Time (Local): 4:00:00					4:00:00		
	Elevated				Ground		
200'	Wind Dir From	271	(deg)	30'	Wind Dir From (Main)	261	(deg)
200'	Wind Speed	6.1	(mph)	30'	Wind Speed (Main)	3.8	(mph)
200'	Delta Temperature	-1.49	(deg F)	100'	Delta Temperature	56	(deg F)
	Stability Class	С			Stability Class	D	
30'	Air Temperature	45.6	(deg F)		Precipitation (15 min)	0.00	(in)

**Emergency Meteorology Report** 

You are to complete the required E-plan upgrade notification form for the current conditions.

### THIS IS A TIME-CRITICAL JPM.

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# ENTERGY NUCLEAR NORTHEAST JOB PERFORMANCE MEASURE

S/RO/NPO 20 APPL. TO JP	12 NRC S-1 TASK TITLE: Removal of 'B' SBGT from service following an Automatic Initiation
REV:	DATE: 12/28/11 NRC K/A SYSTEM NUMBER: 261000 A4.03 3.0/3.0
JAF TASK NUMBER:	
	TION TIME: <u>8</u> Minutes
SUBMITTED:	n from OPERATIONS REVIEW:
APPROVED:	Akela/
CANDIDATE NAME:	
-	
Location:	Plant 🛛 Simulator
DATE PERFORMED:	TIME TO COMPLETE: Minutes
PERFORMANCE EVA	LUATION: Satisfactory Unsatisfactory
COMMENTS: (MAND	ATORY FOR UNSATISFACTORY PERFORMANCE)
EVALUATOR:	
<u></u>	SIGNATURE/PRINTED
CANDIDATE REVIEW	:
	SIGNATURE
REVIEWED BY:	DOC. COMPLETE:

## JOB PERFORMANCE MEASURE RECORD AND CHECKLIST

S/RO/NPO 2012 NR		2012 NRC S-1	TASK TITLE:	Rem	noval of 'B' SBGT from service following an
APPL. T	0	JPM NUMBER		Auto	
Current U	pdate:		By:		
		Date		Int	
Outstandi	ng Items				
	Technic	al Review			Additional Information
	Question	ns and Answers			Validation
	Procedu	ral Change Required		$\boxtimes$	None
Comment	s:				
Current U	pdate:		By:		
		Date			Int.
Previous I	Revision	Date:			

TASK TITLE: Removal of 'B' SBGT from service following an Automatic Initiation

### I. SAFETY CONSIDERATIONS

A. None

### II. REFERENCES

A. OP-20, STANDBY GAS TREATMENT SYSTEM

### III. TOOLS AND EQUIPMENT

A. None

### IV. SET UP REQUIREMENTS

- A. Initialize the simulator to an IC that has SBGT 'A & 'B' running following an automatic initiation (IC-121)
- B. Clear all SBGT initiation signals.
- C. Reactor Building Ventilation is isolated.

### V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.
- C. The candidate should demonstrate proper use of HU tools such as procedure use, placekeeping and self checking.

### VI. TASK CONDITIONS

- A. SBGT's 'A & B' automatically started due to RPV level lowering to 177" in response to a scram.
- B. Reactor level is now recovered to greater than 177".

TASK TITLE: Removal of 'B' SBGT from service following an Automatic Initiation

### \* - CRITICAL STEP

### VII. INITIATING CUE

Inform the candidate, "The CRS directs you to shutdown the 'B' SBGT per OP-20, Attachment 4"

**NOTE:** All actions occur at panel 09-75.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of procedure OP-20, STANDBY GAS TREATMENT SYSTEM.	The candidate determines where to obtain a controlled copy of procedure OP-20. <b>EVALUATOR</b> : Provide the candidate a current copy of OP-20 (Attachment 4).	SAT / UNSAT
2.	Select the correct section to perform the task.	Selects Attachment 4, of OP-20.	SAT / UNSAT
3.	Ensure SBGT 'B' operation is not required.	The candidate determines that operation of SBGT "B" is not required. <b>EVALUATOR</b> : If asked, inform candidate that SBGT 'B' is no longer required and the initiation signals are cleared.	SAT / UNSAT
4.	IF SGT Train 'A' is shutdown, THEN ensure closed the following valves:	Candidate verifies that SBGT 'A' is not shutdown by observing TRAIN A FN 01-125FN-1A red light on, green light off.	SAT / UNSAT

# TASK TITLE: Removal of 'B' SBGT from service following an Automatic Initiation

	STEP	STANDARD	EVALUATION / COMMENT
*5.	Close TRAIN 'B' INLET 01-125MOV-14B	At panel 09-75, the candidate places the control switch for 01-125MOV-14B to close.	CRITICAL STEP SAT / UNSAT
6.	Verify closed TRAIN 'B' INLET 01-125MOV-14B	At panel 09-75, the candidate verifies green light on, red light off, for 01-125MOV-14B.	SAT / UNSAT
*7.	Close BELOW EL 369' SUCT 01-125MOV-12.	At panel 09-75 the candidate places the control switch for 01-125MOV-12 to close.	CRITICAL STEP SAT / UNSAT
8.	Verify closed BELOW EL 369' SUCT 01-125MOV-12.	At panel 09-75 the candidate verifies green light on, red light off, for 01-125MOV-12.	SAT / UNSAT

# TASK TITLE: Removal of 'B' SBGT from service following an Automatic Initiation

	STEP	STAN	IDARD	EVALUATION / COMMENT
9.	Verify the following system response:	Observes and verifies component operation during the shutdown of 'B' SBGT.		SAT / UNSAT
	White light AIR HTR	Component	Status	
	01-125E-5B is on.	01-125E-5B	White light on	
	Red light for AIR HTR			
	Train B CLG VLV	01-125E-5B	Red light off	
	01-125MOV-100B is open	01-125MOV-100B	Red light on, green light off	
	FN DISCH 01-125MOV-15B is closed	01-125MOV-15B	Green light on, red light off	
	TRAIN B FN 01-125FN-1B is			
	stopped.	01-125FN-1B	Green light on, red light off	
10.	IF SGT Train 'A' is in service THEN verify flow rate on SGT	EVALUATOR: Candidate ver and flowrate on 01-125FI-106	rifies that SGT 'A' is in service A is	SAT / UNSAT
	FLOW 01-125FI-106A.	RB isolated: approxim	ately 5600-5800 scfm.	
	<ul> <li>RB un-isolated approx. 6000 scfm.</li> </ul>			
	<ul> <li>RB isolated approx. 5600-5800 scfm.</li> </ul>			
11.	Reports to the CRS that SGT 'B' is shutdown	Reports to the CRS that SGT complete.	'B' is shutdown and the task is	SAT / UNSAT
		EVALUATOR: Terminate th	ne task at this point.	

# HANDOUT

- SBGT's 'A & B' automatically started due to RPV level lowering to 177" in response to a scram.
- Reactor level is now recovered to greater than 177".

The CRS directs you to shutdown the 'B' SBGT per OP-20, Attachment 4

# ENTERGY NUCLEAR NORTHEAST JOB PERFORMANCE MEASURE

APPL. TO	2012 NRC S-2 JPM NUMBER	TASK TITLE: (F) Reset an RPS Scram with Scram Valve Failure to Close	
REV:	DATE:	NRC K/A SYSTEM NUMBER: 212000 A4.14 3.8/3.8	
JAF TASK NUMBE	R: <u>2120101009</u>	JAF QUAL STANDARD NUMBER: AOP-1	
ESTIMATED COM		10 Minutes	
SUBMITTED:	6m of		
APPROVED:	Dkelej	° /	
CANDIDATE NAM	E:	·~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
JPM Completion	Simulated	Performed	
Location:	Plant	Simulator	
DATE PERFORME	ED:	TIME TO COMPLETE: Minutes	
PERFORMANCE	EVALUATION:	Satisfactory Unsatisfactory	
COMMENTS: (MA	NDATORY FOR UN	ISATISFACTORY PERFORMANCE)	-
COMMENTS: (MA	NDATORY FOR UN	ISATISFACTORY PERFORMANCE)	-
COMMENTS: (MA	NDATORY FOR UN	ISATISFACTORY PERFORMANCE)	
COMMENTS: (MA	NDATORY FOR UN SIGNATUR	ISATISFACTORY PERFORMANCE)	
COMMENTS: (MA	NDATORY FOR UN SIGNATUR	ISATISFACTORY PERFORMANCE) RE/PRINTED SIGNATURE DOC. COMPLETE:	
COMMENTS: (MA	NDATORY FOR UN SIGNATUR EW: PROGRAM	ISATISFACTORY PERFORMANCE) RE/PRINTED SIGNATURE DOC. COMPLETE:	_

# JOB PERFORMANCE MEASURE RECORD AND CHECKLIST

S/RO APPL. TO	2012 NRC S-2 JPM NUMBER	TASK TITLE:	(F) I to C	Reset an RPS Scram with Scram Valve Failure lose
Current Update:		Ву:		
	Date		Int	
Outstanding Item	IS			
Techni	ical Review			Additional Information
🗌 Questi	ons and Answers			Validation
	dural Change Required		$\boxtimes$	None
Comments:				
Current Update:		By:		
	Date			Int.
Previous Revisio	n Date:			

## JOB PERFORMANCE MEASURE REQUIRED TASK INFORMATION

S/RO 2012 NRC S-2

TASK TITLE: (

(F) Reset an RPS Scram with Scram Valve Failure to Close

APPL. TO JPM NUMBER

### I. SAFETY CONSIDERATIONS

A. None

### II. REFERENCES

A. AOP-1, Reactor Scram, Current Revision

### III. TOOLS AND EQUIPMENT

A. None

### IV. SET UP REQUIREMENTS

- A. Initialize the simulator to any full power IC (IC-121).
- B. Insert a manual scram by placing the Mode Switch to SHUTDOWN.
- C. Reset ARI.
- D. Stabilize RPV level above 177 inches.
- E. Manually override the blue scram lights "ON" for control rods 14-43, 30-19, 06-19, 42-07.

### V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.
- C. The candidate should demonstrate proper use of HU tools such as procedure use, self checking, place keeping and three-point communication.

### VI. TASK CONDITIONS

- A. The reactor was scrammed 1 hour ago due to a Feedwater malfunction.
- B. The scram condition has been identified and cleared.
- C. All Reactor scram signals are now clear with the exception of the scram discharge volume high level signal.

S/RO 2012 NRC S-2

TASK TITLE: (F) Reset an RPS Scram with Scram Valve Failure to Close

### \* - CRITICAL STEP

### VII. INITIATING CUE

Inform the candidate, "The CRS has directed that you reset the scram per AOP-1."

NOTE: All actions performed at Panel 09-5

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of AOP-1, Reactor Scram.	The candidate determines where to obtain a controlled copy of AOP-1. (Control Room, Merlin) <b>EVALUATOR:</b> Provide candidate a current copy of AOP-1	SAT / UNSAT
2.	Select the correct section to perform the task.	The candidate selects Section F.1 of AOP-1. <b>EVALUATOR:</b> Provide candidate a copy of section F.1	SAT / UNSAT
3.	IF ARI actuated, THEN reset ARI.	The candidate observes that ARI is reset.	SAT / UNSAT
4.	Verify annunciator 09-5-1-33 MODE SW IN SHUTDOWN TRIP BYPASSED is in alarm.	The candidate observes that the annunciator window for annunciator 09-5-1-33 is in alarm.	SAT / UNSAT
*5.	Place the SDIV HI LVL TRIP keylock switch in BYPASS.	The candidate places the SDIV HI LVL TRIP switch in BYPASS. (09-5-1-11 Alarm)	CRITICAL STEP SAT / UNSAT

### S/RO 2012 NRC S-2

# TASK TITLE: (F) Reset an RPS Scram with Scram Valve Failure to Close

	STEP	STANDARD	EVALUATION / COMMENT
*6.	Place RX SCRAM RESET switch to Group 2 & 3, then to 1 & 4, spring return to NORM.	The candidate places the REACTOR SCRAM RESET selector switch, (5A-S5), momentarily to the GP2 and GP3 position then back thru "NORM" to the GP1 and GP4 position then back to "NORM".	CRITICAL STEP SAT / UNSAT
7.	Verify RPS A and B SCRAM GROUPS 1, 2, 3 and 4 lights are on.	The candidate verifies the scram has been reset by ensuring that the following lights are lit: A. RPS A Scram Groups 1, 2, 3 and 4 on Panel 09-5; B. RPS B Scram Groups 1, 2, 3 and 4 on Panel 09-5.	SAT / UNSAT
8.	Verify closed all scram inlet and outlet valves using one or a combination of the following methods: Blue scram lights or local indication.	The candidate recognizes/reports that several control rod scram inlet and outlet valves have failed to close by observing that blue scram lights are lit. <b>EVALUATOR</b> : If candidate asks, inform him that local indication is consistent with the blue lights, the valves are open.	SAT / UNSAT

S/RO 2012 NRC S-2

### TASK TITLE: (F) Reset an RPS Scram with Scram Valve Failure to Close

	STEP	STANDARD	EVALUATION / COMMENT		
*9.	IF any scram inlet or outlet valve fails to close, then perform the following:	The candidate depresses the both manual scram pushbuttons.	<b>CRITICAL STEP</b> SAT / UNSAT		
	A. Depress the following pushbuttons:				
	MANUAL SCRAM A				
	MANUAL SCRAM B				
	•				
	B) Investigate cause	The candidate states that they would initiate action (condition report, work order request or discussion with supervision) to identify the cause of the scram valves failing to close.	SAT / UNSAT		
	EVALUATOR: Terminate the task at this point.				

# HANDOUT

- The reactor was scrammed 1 hour ago due to a Feedwater malfunction.
- The scram condition has been identified and cleared.
- All Reactor scram signals are now clear with the exception of the scram discharge volume high level signal.

The CRS has directed that you reset the scram per AOP-1

# ENTERGY NUCLEAR NORTHEAST JOB PERFORMANCE MEASURE

S/RO/NPO	2012 NRC S-3	TASK TITLE:	HPCI Manual Startup for RPV Pressure Control & Manual Trip Required (Alternate Path).
APPL. TO	JPM NUMBER		
REV:	DATE:	NRC	K/A SYSTEM NUMBER: 206000 A4.06 4.3/4.3
JAF TASK NUMB	ER: 2060101005	JA	AF QUAL STANDARD NUMBER: 5023.101
ESTIMATED CON		15 Minutes	$\Lambda$
SUBMITTED: _	Opr 1/2	<u>~</u> OF	PERATIONS REVIEW: ////////////////////////////////////
APPROVED:	<u> Akelej</u>	~~~~~~~~~	
CANDIDATE NAM	1E:		SS NUMBER:
JPM Completion	Simulated	Perfor	med
Location:	Plant	🛛 Simula	ator
DATE PERFORM	ED:	TIME TO CO	MPLETE: Minutes
PERFORMANCE	EVALUATION:	Satisfactory	Unsatisfactory
COMMENTS: (M	ANDATORY FOR UN	SATISFACTORY	PERFORMANCE)
EVALUATOR: _	SIGNATUR	E/PRINTED	
CANDIDATE REV	/IEW:	SIGNATURE	
REVIEWED BY:	PROGRAM A		DOC. COMPLETE:

## JOB PERFORMANCE MEASURE RECORD AND CHECKLIST

S/RO/NPO	2012 NRC S-3	TASK TITLE:	HP0 Mar	CI Manual Startup for RPV Pressure Control & nual Trip Required (Alternate Path).
APPL. TO	JPM NUMBER			
o		-		
Current Upda	ate:	Ву:		
	Date		Int	
Outstanding	Items			
🗌 Te	chnical Review			Additional Information
🗌 Qu	estions and Answers			Validation
Pro	ocedural Change Required		$\boxtimes$	None
Comments:				
Current Upda	ate:	By:		
	Date			Int.

TASK TITLE: HPCI Manual Startup for RPV Pressure Control & Manual Trip Required (Alternate Path).

### I. SAFETY CONSIDERATIONS

None

### II. REFERENCES

OP-15, High Pressure Coolant Injection (Current Revision), Attachment 7.

### III. TOOLS AND EQUIPMENT

None

### IV. SET UP REQUIREMENTS

Initialize the simulator to a 100% power IC (IC-122)

Establish the following simulator conditions:

- a. Rx Scrammed with MSIV's closed.
- b. RPV Level > 126.5 and < greenband
- c. RPV Pressure Control on SRV's at 800-1000 psig
- d. RCIC running and injecting to maintain level (adjust as needed)
- e. Place RHR Loop A in Torus Cooling
- f. HPCI Auto Initiation Failure, MFI-HP01
- g. HPCI Manually Tripped
- h. SGT in service on Rx Bldg Vent.
- i. Place HPCI Turb Exh Disch Press Hi annunciator and 23PI-112 to 140 psig on Trigger 1

### NOTE: Sim Operator, at step 29, activate Trigger 1 after HPCI Turb Vib Mon switch is placed to On.

### V. EVALUATOR NOTES

None

### **VI. TASK CONDITIONS**

- Plant is in a post-scram condition with RPV level being controlled by RCIC
- RPV pressure is between 800 and 1000 psig and rising slowly.
- Main Steam Isolation Valves are closed.
- 'A' and 'B' Standby Gas Treatment fan and filter train are in service
- RHR Loop 'A' is in Torus cooling

TASK TITLE: HPCI Manual Startup for RPV Pressure Control & Manual Trip Required (Alternate Path).

### \* - CRITICAL STEP

### **INITIATING CUE**

Inform the candidate, "The CRS directs you to start the HPCI system for RPV pressure control IAW OP-15, Attachment 7. Maintain RPV pressure 800 to 1000 psig."

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of procedure OP-15, Manual Pressure Control Posted Attachment 7	The candidate obtains OP-15 Attachment 7 (located in the procedure holder on Panel 09-3).	SAT / UNSAT
2.	Review the caution.	The candidate reviews caution.	SAT / UNSAT
3.	Verify a HPCI auto-initiation condition does not exist.	The candidate verifies Rx level is greater than 126.5" and DW pressure less than 2.7 psig (thru use of panel meters, lack of Annunciators or EPIC computer indications).	SAT / UNSAT
4.	Verify RPV water level is LESS THAN the high level trip.	The candidate insures level is less than 222.5" on 02-3LI- 283D.	

	STEP	STANDARD	EVALUATION / COMMENT
5.	IF amber RX HI LVL SIGNAL 23A-DS65 light is on at panel 09- 3, THEN reset high water level trip as follows:	The candidate reviews step and recognizes that it is NA.	SAT / UNSAT
6.	Verify open CST SUCT VLV 23MOV-17.	The candidate verifies 23MOV-17 is open at 09-3 panel with red light on, green light off.	SAT / UNSAT
7.	Verify closed the following valves:	The candidate verifies the Torus Suction Valves closed at	SAT / UNSAT
	OUTBD TORUS SUCT VLV     23MOV-57	panel 09-3 with red light off, green light on.	
	INBD TORUS SUCT VLV     23MOV-58		
	•		
*8.	Ensure open OUTBD STM SUPP VLV 23MOV-16.	The candidate opens 23MOV-16, at panel 09-3.	CRITICAL STEP SAT / UNSAT
9.	Verify open OUTBD STM SUPP VLV 23MOV-16	The candidate verifies 23MOV-16 is open at 09-3 panel with red light on, green light off	
*10.	Throttle open TEST VLV TO CST 23MOV-21 approximately 10 secs.	The candidate throttles open 23MOV-21 approximately 10 secs, at panel 09-3.	CRITICAL STEP SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
11.	Verify throttled open TEST VLV TO CST 23MOV-21.	The candidate verifies 23MOV-21 is throttled at 09-3 panel with red light on, green light on.	SAT / UNSAT
*12.	Open HPCI & RCIC TEST VLV TO CST 23MOV-24.	The candidate opens 23MOV-24, at panel 09-3.	CRITICAL STEP SAT / UNSAT
13.	Verify open HPCI & RCIC TEST VLV TO CST 23MOV-24.	The candidate verifies 23MOV-24 is open at 09-3 panel with red light on, green light off.	SAT / UNSAT
14.	Ensure GLAND SEAL CNDSR BLOWER 23P-140 is running.	The candidate starts 23P-140, at panel 09-3, with red light on, green light off.	SAT / UNSAT
*15.	Ensure open TURB STM SUPP VLV 23MOV-14.	The candidate opens 23MOV-14, at panel 09-3.	CRITICAL STEP SAT / UNSAT
16.	Verify open TURB STM SUPP VLV 23MOV-14.	The candidate verifies 23MOV-14 is open at 09-3 panel with red light on, green light off.	SAT / UNSAT
17.	IF annunciator 09-3-3-28 HPCI TURBINE TRIP SOLENOID ENERGIZED is in alarm, THEN depress INITIATION SIG/MAN TURBINE TRIP RESET 23A-S17 pushbutton.	The candidate will verify 09-3-3-28 HPCI TURBINE TRIP SOLENOID ENERGIZED is not in alarm	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
*18.	Ensure AUX OIL PMP 23P-150 is running.	The candidate starts 23P-150, at panel 09-3.	CRITICAL STEP SAT / UNSAT
19.	Verify HPCI flow is approximately 4250 gpm.	The candidate verifies approximately 4250 gpm on 23FI-108-1 at Panel 09-3.	SAT / UNSAT
20.	<ul> <li>Ensure closed the following valves:</li> <li>Ensure closed MIN FLOW VLV, 23MOV-25.</li> <li>STM LINE DRAIN TO RADW 23AOV-42</li> <li>STM LINE DRAIN TO RADW 23AOV-43</li> </ul>	The candidate ensures 23MOV-25, 23AOV-42 and 23AOV-43 are closed on the 09-3 and 09-4 panels with red light off, green light on.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
21.	<b>CAUTION:</b> Operating HPCI at less than 2100 rpm could cause improper oil system operation, overheating of shaft driven oil pump, and insufficient exhaust flow resulting in check valve banging.	The candidate reviews caution and monitors HPCI turbine speed on 23SPI-161.	SAT / UNSAT
23.	<b>CAUTION:</b> Failure to closely monitor HPCI pump discharge pressure could result in exceeding HPCI piping design pressure of 1320 psig.	The candidate reviews caution and monitors HPCI pump discharge pressure on 23PI-109.	SAT / UNSAT
24.	WHILE HPCI is in pressure control mode, maintain HPCI speed GREATER THAN 2,100 rpm by throttling closed TEST VLV TO CST 23MOV-21.	At Panel 09-3, the candidate monitors HPCI turbine speed and throttles closed 23MOV-21 to ensure HPCI speed is > 2100 rpm, on 23SPI-161, except during transient operation.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
25.	<ul> <li>Control RPV pressure as follows:</li> <li>Lower RPV pressure at a faster rate by throttling closed TEST VLV TO CST 23MOV-21 to raise discharge pressure and turbine steam flow.</li> <li>Lower RPV pressure at a slower rate by throttling open TEST VLV TO CST 23MOV-21 to lower discharge pressure and turbine steam flow.</li> </ul>	At Panel 09-3, the candidate throttles 23MOV-21 as necessary to maintain between 800 and 1000 psig.	SAT / UNSAT
26.	<ul> <li>Place RHR torus cooling per Section D of OP-13B, as soon as practicable.</li> <li>Ensure any SGT is running.</li> </ul>	<b>EVALUATOR</b> : If asked, remind the operator of the initial conditions and that RHR Loop "A" is in Torus Cooling and that SGT "A" \ "B" is running per OP-20.	N/A
27.	<ul> <li>Ensure open one of the following valves:</li> <li>HPCI GLAND SEAL SUCT 01-125MOV-13A</li> <li>HPCI GLAND SEAL SUCT 01-125MOV-13B</li> </ul>	The candidate ensures that 01-125MOV-13A <b>OR</b> 01- 125MOV-13B are OPEN at panel 09-75 with red light on, green light off.	SAT / UNSAT
# HANDOUT

- Plant is in a post-scram condition with RPV level being controlled by RCIC
- RPV pressure is between 800 and 1000 psig and rising slowly.
- Main Steam Isolation Valves are closed.
- 'A' and 'B' Standby Gas Treatment fan and filter train are in service
- RHR Loop 'A' is in Torus cooling

The CRS directs you to start the HPCI system for RPV pressure control IAW OP-15, Attachment 7.

Maintain RPV pressure 800 to 1000 psig.

S/RO/NPO 2012 NRC S-4 TASK TITLE: REOPEN MSIV'S WITH RPV PRESSURIZED JPM NUMBER
REV:         DATE:         NRC K/A SYSTEM NUMBER:         239001 A4.04 3.8/3.7
JAF TASK NUMBER: JAF QUAL STANDARD NUMBER:
ESTIMATED COMPLETION TIME: 15 Minutes
SUBMITTED: OPERATIONS REVIEW:
APPROVED: <u>Alkely</u>
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
CANDIDATE NAME:
JPM Completion Simulated Performed Location: Plant Simulator
DATE PERFORMED: TIME TO COMPLETE: Minutes PERFORMANCE EVALUATION: Satisfactory Unsatisfactory
COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)
EVALUATOR:
SIGNATURE/PRINTED CANDIDATE REVIEW:
PROGRAM ADMINISTER

S/RO/NPO APPL. TO	2012 NRC S-4 JPM NUMBER	TASK TITLE:	REO	PEN MSIV's WITH RPV PRESSURIZED
Current Updat Outstanding I Tec Que Proc Comments:	te: Date tems hnical Review estions and Answers cedural Change Required	Ву:	Int	Additional Information Validation None
Current Upda Previous Revi	te Date sion Date:	By:		Int

S/RO/NPO2012 NRC S-4TASK TITLE:REOPEN MSIV's WITH RPV PRESSURIZEDAPPL. TOJPM NUMBER

### I. SAFETY CONSIDERATIONS

A. None

### II. REFERENCES

A. EP-9; OPENING MSIV's

### III. TOOLS AND EQUIPMENT

A. None

### IV. SET UP REQUIREMENTS

- A. Any 100% power IC (IC-122)
- B. Rx Scrammed with MSIV's closed.
- C. RPV Level > 126.5 and < 222.5 controlling on RCIC. RPV Pressure Control on SRV's / HPCI/RCIC at 800-1000 psig OR use malfunctions A05 to control reactor pressure
- D. PCIS Group I isolation signals reset
- E. Assign to Trigger 2, ORI-TC ZAOP1MSPA and ORI-TC ZAOP1MSPB to 800 psig on a 5 minute ramp (this will allow DP indication across the MSIVs to equalize within 200 psid)

**NOTE:** Reactor Pressure must be maintained 800-1000 psig for the Trigger 2 to simulate properly. Additional Simulator Instructor actions required at steps 3, 9 and 12.

### V. EVALUATOR NOTES

- A. If performing JPM in the plant, inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.
- B. The candidate should, at a minimum, identify the change in equipment status light indication when equipment operation is simulated.

### VI. TASK CONDITIONS

- A. Plant is post scram with MSIV's closed
- B. MSIV isolation signals have been overridden as directed by the EOPs.
- C. Another operator has RPV pressure control on the SRV's at 800-1000 psig.
- D. The main condenser is to be re-established as a heat sink

### \* - CRITICAL STEP

## TASK TITLE: REOPEN MSIV'S WITH RPV PRESSURIZED

## VII. INITIATING CUE:

Inform the candidate "The CRS directs you to equalize pressure and reopen the MSIV's per EP-9."

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of procedure EP-9, OPENING MSIV's	The candidate obtains a controlled copy of EP-9. <u>Evaluator:</u> Provide working copy.	SAT / UNSAT
2.	IF differential pressure across the MSIVs is LESS THAN OR EQUAL TO 200 psid, THEN perform the following:	Candidate uses 06PI-90A, B, and or C at panel 09-5 and MAIN STEAM PRESS A and or B at EHC section of panel 09-5 to determine that differential pressure exceeds 200 psid.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
3.	Ensure closed the following valves:	Candidate closes and/or observes green closed light on and red open light off at the following locations:	SAT / UNSAT
	✓ MSIV 29AOV-80A-D	✓ MSIV 29AOV-80A-D at 09-3 and 09-4	
	✓ MSIV 29AOV-86A-D	✓ MSIV 29AOV-86A-D at 09-3 and 09-4	
	<ul> <li>✓ MAIN STM DRN 29MOV-74, 77, 78 and 79</li> </ul>	<ul> <li>MAIN STM DRN 29MOV-74, 77, 78 and 79 at 09-3 and 09-4</li> </ul>	
	✓ MAIN STM DRN VLV 29MOV- 101A-D	✓ MAIN STM DRN VLV 29MOV-101A-D at 09-7	
	✓ RFPT A and B HP STOP VLV HP	✓ RFPT A and B HP STOP VLV HP SVA-1 at 09-6	
	SVA-1 and SVB-1	✓ TSV-1-4 at 09-5	
	✓ TSV-1-4	✓ TO PCV 96MOV-S1 at 09-7: depresses Close PB	
	✓ TO PCV 96MOV-S1	✓ PCV BYP 96MOV-S2 at 09-7: may depress Close	
	✓ PCV BYP 96MOV-S2	✓ ***29MST-105 (SJAE MST supply 29PCV-107 outlet	
	<ul> <li>✓ 29MST-105 (SJAE MST supply 29PCV-107 outlet isol valve)</li> </ul>	isol valve) (remote operated from East Electric Bay) by telcon to NPO***	
(remote operated from East Electric Bay)		<ul> <li>✓ ***29MST-107 (SJAE MST supply 29PCV-107 bypass strainer outlet isol valve) (remote operated</li> </ul>	
	✓ 29MST-107 (SJAE MST supply 20PC) ( 107 bypage strainer sutlet	from East Electric Bay) by telcon to NPO.***	
	29PCV-107 bypass strainer outlet isol valve) (remote operated from East Electric Bay)	<u>***INSTRUCTOR NOTE***</u> Remote: MC31 TO 0 (to close 29MST-105/107)	

	STEP	STANDARD	EVALUATION / COMMENT
*4.	Open the following valves:	At panel 09-3 and 4 candidate opens 29 MOV-74 and	SAT / UNSAT
	MAIN STM DRN 29MOV-74	77.	*CRITICAL STEP*
	MAIN STM DRN 29MOV-77		
5.	Verifies open the following valves:	At panel 09-3 and 4 candidate verifies open 29 MOV-74	SAT / UNSAT
	MAIN STM DRN 29MOV-74	and 77, red lights on, green lights off.	
	MAIN STM DRN 29MOV-77		
6.	Jog open MAIN STM DRN 29MOV-79 until full open.	At panel 09-4 candidate jogs opens 29 MOV-79 until full open and observes red light on, green light off	SAT / UNSAT
*7.	Open the following valves:	At panel 09-3 candidate opens 29AOV-86 A-D.	SAT / UNSAT
	MSIV 29AOV-86A		*CRITICAL STEP*
	MSIV 29AOV-86B		
	MSIV 29AOV-86C		
	MSIV 29AOV-86D		

	STEP	STANDARD	EVALUATION / COMMENT
8.	Verifies open the following valves:	At panel 09-3 candidate verifies open 29AOV-86 A-D	SAT / UNSAT
	MSIV 29AOV-86A	and observes red lights on, green lights off.	
	MSIV 29AOV-86B		
	MSIV 29AOV-86C		
	MSIV 29AOV-86D		
*9.	Open MAIN STM DRN 29MOV-78.	At panel 09-4 candidate opens 29 MOV-78.	SAT / UNSAT
		Simulator Operator: Insert Trigger 2.	<u>*CRITICAL STEP*</u>
10.	Verifies open MAIN STM DRN 29MOV- 78.	At panel 09-4 candidate verifies open 29 MOV-78 and observes red light on, green light off.	SAT / UNSAT
11.	Close MAIN STM DRN 29MOV-79.	EVALUATOR Act as SM and waive step 5.9	SAT / UNSAT
		At panel 09-4 candidate closes 29 MOV-79 and observes red light off, green light on.	

	STEP	STANDARD	EVALUATION / COMMENT		
*12.	WHEN differential pressure across the MSIVs is LESS THAN OR EQUAL TO 200 psid, open the following valves:	Candidate uses 06PI-90A, B, and or C at panel 09-5 and MAIN STEAM PRESS A and or B at EHC section of panel 09-5 to determine differential pressure.	SAT / UNSAT		
	MSIV 29AOV-80A	When differential pressure is $\leq$ 200 psid, candidate opens 29AOV-80 A-D at panel 09-4.	<u>*CRITICAL STEP*</u>		
	MSIV 29AOV-80B	Simulator Operator: Delete Trigger 2 overrides.			
	MSIV 29AOV-80C				
	MSIV 29AOV-80D				
13.	Verfies open the following valves:	Candidate verifies open MSIVs 29AOV-80A-D at	SAT / UNSAT		
	MSIV 29AOV-80A	panel 09-4 by observing red lights on, green lights off.			
	MSIV 29AOV-80B				
	MSIV 29AOV-80C				
	MSIV 29AOV-80D				
	EVALUATOR: Terminate the task at this point.				

# HANDOUT

- Plant is post scram with MSIV's closed
- MSIV isolation signals have been overridden as directed by the EOPs.
- Another operator has RPV pressure control on the SRV's at 800-1000 psig.
- The main condenser is to be re-established as a heat sink

The CRS directs you to equalize pressure and reopen the MSIV's per EP-9.

S/RO APPL. TO	2012 NRC S-5 JPM NUMBER	TASK TITLI	E: Shift Au Service	ux Buses from T4 t	o Reserve Station
REV:	DATE:	NF	RC K/A SYST		262001 A4.04 3.6/3.7
JAF TASK NUMBE	R: 2620101001		JAF QUAL S	TANDARD NUME	BER:OP-46A
ESTIMATED COM		10 Minutes		6	1 In III M
SUBMITTED:	6pm 6fr	n I	OPERATION		WW////////////////////////////////////
APPROVED:	_ Dekel			_	
CANDIDATE NAME	E:		~~~~~~	_	~~~~~~~~~~~~~~~~~~~
JPM Completion	Simulated	🛛 Perf	ormed		
Location:	Plant	🛛 Sim	ulator		
DATE PERFORME	D:	TIME TO C	OMPLETE:	Minute	S
PERFORMANCE E	VALUATION:	Satisfacto	ory 🗌	] Unsatisfactory	
COMMENTS: (MA	NDATORY FOR UN	NSATISFACTOF	Y PERFOR	 MANCE)	~~~~~~
EVALUATOR:					
	SIGNATU	RE/PRINTED			
CANDIDATE REVI	EW:				
		SIGNATURE			
REVIEWED BY:	PROGRAM	ADMINISTER	DOC. C		

## JOB PERFORMANCE MEASURE RECORD AND CHECKLIST

S/RO	2012 NRC S-5	TASK TITLE:	Shif	t Aux Buses from T4 to Reserve Station
APPL. TO	JPM NUMBER		Ser	/ice
Current Update:		Ву:		
	Date		Int	
Outstanding Item	IS			
Techn	ical Review			Additional Information
Quest	ions and Answers			Validation
Procee	dural Change Required		$\boxtimes$	None
Comments:				
Current Update:		By:		
	Date			Int.
Previous Revisio	on Date:			

## JOB PERFORMANCE MEASURE REQUIRED TASK INFORMATION

S/RO 2012 NRC S-5

TASK TITLE: Shift A

Shift Aux Buses from T4 to Reserve Station Service

## I. SAFETY CONSIDERATIONS

JPM NUMBER

A. None

### II. REFERENCES

APPL. TO

A. OP-46A, 4160V and 600V Normal AC Power Distribution, Current Revision.

### III. TOOLS AND EQUIPMENT

A. Synch Selector Switch key

### IV. SET UP REQUIREMENTS

- A. Initialize the simulator to an IC that has a power level of approximately 30% (IC-123).
- B. Place malfunction ED-19C, Bus 10300 Failure, on Trigger 1

**NOTE:** Simulator operator will need to insert this trigger after 10300 is on the Reserve Bus.

### V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.
- C. The candidate should demonstrate proper use of HU tools such as procedure use, self checking, placekeeping and three-point communication.

### VI. TASK CONDITIONS

- A. Reactor power is approximately 30% with the plant in the process of shutting down.
- B. The main generator is still synched to the grid. The plant is ready to transfer electrical supply must from normal station service to reserve station service.
- C. All prerequisites for transferring from normal to reserve station service have been met.
- D. The Shift Manager has given direction to transfer loads from the normal station service to the reserve station service.

TASK TITLE: Shift Aux Buses from T4 to Reserve Station Service

## \* - CRITICAL STEP

## VII. INITIATING CUE

Inform the candidate, "The CRS directs you to transfer loads from normal station service transformer T-4 to reserve 115kv transformers T2 and T3 per OP-46A, Section F. You are to start with the 10300 bus first. Inform the CRS when the 10300 bus has been transferred."

**NOTE:** All manipulations and indications are done at panel 9-8 unless otherwise indicated.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of procedure OP-46A, 4160V and 600V Normal AC Power Distribution.	The candidate determines where to obtain a controlled copy of OP-46A.	SAT / UNSAT
2.	Select the correct section to perform the task.	Selects Section F.3 of OP-46A.  EVALUATOR: Provide candidate a copy of section F.3	SAT / UNSAT
3.	Review precautions, notes and cautions associated with Section F.3.	Reviews the precautions, notes and cautions.	SAT / UNSAT
4.	WHILE performing the remainder of this subsection maintain 4KV and 600V bus voltage per Section E.	The candidate refers and reviews Section E.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
5.	Ensure Clark Energy Control Center notified that 10300 Bus	The candidate notifies ECC of impending transfer of bus 10300 to Transformer T3.	SAT / UNSAT
	to reserve service.	<b>EVALUATOR</b> : If candidate inquires, inform candidate to call the simulator booth operator for all ECC actions.	
		<b>Simulator Operator</b> : Act as ECC Dispatcher/Niagara Mohawk as necessary to simulate communications.	
6.	<ul> <li>Station operators as follows:</li> <li>One to adjust Bus voltage at LTC Control</li> <li>One to operate breaker control switches</li> </ul>	The candidate ensures that operators are stationed at the LTC Controls and to operate breaker control switches. <b>EVALUATOR</b> : If candidate inquires, inform the candidate that an operator is standing by to adjust the LTC Control as	SAT / UNSAT
	1	directed by the candidate.	
*7.	Place Bus 10300 FDR SYNCH switch in RES.	Places the Bus 10300 FDR Synch Switch in RES.	CRITICAL STEP SAT / UNSAT
8.	Match voltages on Non- EMERG BKRS INCOMING and RUNNING volt meters using LTC CONTROL switch.	Observes that incoming and running voltages are matched on Non-Emerg Bkr 4KV Panel.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
9.	If phase angle is GREATER THAN 17° on NON-EMERG BKRS SYNCHROSCOPE, THEN perform the following:	Observes that the phase angle is less than 17°.	SAT / UNSAT
	<ol> <li>Call ECC and Niagara Mohawk to reduce grid loads.</li> </ol>		
	<ol> <li>IF grid loads cannot be reduced THEN notify plant management before performing transfer.</li> </ol>		
*10.	WHEN incoming and running voltages are matched AND synchroscope is at approximately 12 o'clock, perform the following bus	Ensures incoming and running voltages are matched and synchroscope is approximately 12 o'clock. Operates breakers as follows:	<b>CRITICAL STEP</b> SAT / UNSAT
	transfer using the same hand, without unnecessary delay, to perform each breaker	<ul> <li>Close RSS to Bus 10300 Bkr 10312 by placing control switch to CLOSE.</li> </ul>	
	<ul> <li>Close RSS TO BUS 10300 BKR 10312</li> </ul>	<ul> <li>Open NSS to Bus 10300 Bkr 10302 by placing control switch to TRIP.</li> </ul>	
	<ul> <li>Open NSS TO BUS 10300 BKR 10302</li> </ul>		

	STEP	STANDARD	EVALUATION / COMMENT
11.	Place Bus 10300 FDR SYNCH SW switch in OFF and remove handle.	Restore 10300 Bus Controls and Indications to normal lineup. Remove operating handle and return handle to its normal storage location. Simulator Operator: Activate Trigger 1 at this point	SAT / UNSAT
12.	Recognize Loss of Bus 10300	Operator recognizes the loss of the 10300 bus and informs the CRS. <b>EVALUATOR</b> : As the CRS, direct the candidate to carry out any immediate actions for Panel 9-8. If the candidate starts to carry out AOP-8 (RWR Pump "A" Trip) then inform the candidate another operator will perform that.	SAT / UNSAT
13.	Performs AOP-16 immediate actions of: IF 10400 Bus is energized, THEN cross-tie 10300 Bus L- Gear with 10400 Bus L-Gear per Attachment 2 (sync switch required).	Refers to Attachment 2 of AOP-16.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
14.	Verify closed L14 L24 L34 L44 4KV FDR BKR 10440.	<ul> <li>Observes red light on, green light off for breakers:</li> <li>L14 600V FDR Bkr 11402</li> <li>L24 600V FDR Bkr 12402</li> <li>L34 600V FDR Bkr 13402</li> <li>L44 600V FDR Bkr 14402</li> </ul>	SAT / UNSAT
*15.	Cross-tie L43 with L44 as follows: a. Open L43 600V FDR BKR 14302 and place its control switch in PULL TO LOCK. b. Close L43-L44 TIE BKR 14304.	<ul> <li>Operator performs the following:</li> <li>Places control switch for L43 600V FDR BKR 14302 to the PULL TO LOCK position</li> <li>Places the L43-L44 Tie Synch SW to the ON position.</li> <li>Places the L43-L44 TIE BKR 14304 to the CLOSE position.</li> </ul>	CRITICAL STEP SAT / UNSAT
*16.	Cross-tie L33 with L34 as follows: a. Open L33 600V FDR BKR 13302 and place its control switch in PULL TO LOCK. b. Close L33-L34 TIE BKR 13404.	<ul> <li>Operator performs the following:</li> <li>Places control switch for L43 600V FDR BKR 14302 to the PULL TO LOCK position</li> <li>Places the L33-L34 Tie Synch SW to the ON position.</li> <li>Places the L33-L34 TIE BKR 14304 to the CLOSE position.</li> </ul>	CRITICAL STEP SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT			
*17.	Cross-tie L23 with L24 as follows: a. Open L23 600V FDR BKR 12302 and place its control switch in PULL TO LOCK. b. Close L23-L24 TIE BKR 12404.	<ul> <li>Operator performs the following:</li> <li>Places control switch for L43 600V FDR BKR 14302 to the PULL TO LOCK position</li> <li>Places the L23-L24 Tie Synch SW to the ON position.</li> <li>Places the L23-L34 TIE BKR 14304 to the CLOSE position.</li> </ul>	CRITICAL STEP SAT / UNSAT			
*18.	Cross-tie L13 with L14 as follows: a. Place RBC PMP A 15P-2A control switch in PULL TO LOCK. b. Place RBC PMP C 15P-2C control switch in PULL TO LOCK. c. Open L13 600V FDR BKR 11302 and place its control switch in PULL TO LOCK. d. Close L13-LI4 TIE BKR 11304.	<ul> <li>Operator performs the following:</li> <li>At panel 9-6 places RBC PMP A 15P-2A control switch in PULL TO LOCK.</li> <li>At panel 9-6 places RBC PMP C 15P-2C control switch in PULL TO LOCK.</li> <li>Places control switch for L43 600V FDR BKR 14302 to the PULL TO LOCK position</li> <li>Places the L23-L24 Tie Synch SW to the ON position.</li> <li>Places the L23-L34 TIE BKR 14304 to the CLOSE position.</li> </ul>	CRITICAL STEP SAT / UNSAT			
	EVALUATOR: Terminate the task at this point.					

# HANDOUT

- Reactor power is approximately 30% with the Plant in the process of shutting down.
- The Main Generator is still synched to the grid.
- The Plant is ready to transfer electrical supply from Normal station service to Reserve station service.
- All prerequisites for transferring from Normal to Reserve station service have been met.
- The Shift Manager has given direction to transfer loads from the Normal station service to the Reserve station service.

The CRS directs you to transfer loads from normal station service transformer T-4 to reserve 115kv transformers T2 and T3 per OP-46A, section F.3.

You are to start with the 10300 bus first.

Inform the CRS when the 10300 bus has been transferred.

S/RO/NPO       2012 NRC S-6       TASK TITLE:       "A" RHR Keep Full for Injection to the RPV         APPL. TO       JPM NUMBER
REV:         DATE:         NRC K/A SYSTEM NUMBER:         295031 EA1.08 3.8/3.9
JAF TASK NUMBER: 2050104048 JAF QUAL STANDARD NUMBER: 5010.501
ESTIMATED COMPLETION TIME: 10 Minutes
SUBMITTED: FOR OPERATIONS REVIEW:
APPROVED:
CANDIDATE NAME:
JPM CompletionSimulatedPerformedLocation:PlantSimulator
DATE PERFORMED: TIME TO COMPLETE: Minutes PERFORMANCE EVALUATION: Satisfactory Unsatisfactory
COMMENTS: (MANDATORY FOR UNSATISFACTORY PERFORMANCE)
EVALUATOR:
SIGNATURE/PRINTED CANDIDATE REVIEW:
PROGRAM ADMINISTER

S/RO/NP	0	2012 NRC S-6	TASK TI	TLE:	"A"	RHR Keep Full for Injection to the RPV
APPL. T	0	JPM NUMBER				
Current U Outstandin	pdate: _ ng Items Technica Question Procedur s:	Date I Review s and Answers al Change Required	By:		Int	Additional Information Validation None
Current U Previous F	pdate _ Revision [	Date Date:		By:		Int

S/RO/NPO2012 NRC S-6TASK TITLE:"A" RHR Keep Full for Injection to the RPVAPPL. TOJPM NUMBER

### I. SAFETY CONSIDERATIONS

A. Comply with JAF Safety Standards and Requirements

#### II. REFERENCES

- A. Primary Containment Flooding, EP-7
- B. Alternate Injection Systems, EP-8

#### III. TOOLS AND EQUIPMENT

A. Necessary tools and materials are located in the EP Support Cabinets.

#### IV. SET UP REQUIREMENTS

- A. Obtain a controlled copy of EP-8 for use by the candidate.
- B. Setup the simulator for EOP-2 Post Emergency Depressurization with level below 0" TAF (IC-124)
- C. Secure all RPV injection
- D. Open the following RHR valves: 26A, 31A, 38A,
- E. Close the following RHR valves: 25A, 27A

### V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.

### VI. TASK CONDITIONS

- A. EOP-2 has been entered and the plant has Emergency Depressurized.
- B. Torus and Drywell Sprays were in service when Adequate Core Cooling was lost
- C. Reactor water level can not be maintained greater than 0".

### \* - CRITICAL STEP

TASK TITLE: "A" RHR Keep Full for Injection to the RPV.

## VII. INITIATING CUE

Inform the candidate "The CRS directs you to Perform EP-8, Section 5.8, Condensate Transfer Keep Full for Injection into the "A" Loop of RHR."

**NOTE:** Unless otherwise indicated, all actions are performed at Panel 09-03.

	STEP	STANDARD	<b>EVALUATION / COMMENT</b>
	Obtain a controlled copy of EP-8	Obtains a controlled copy of EP-8 and selects Section 5.8	
1.		Evaluator: Provide working copy.	SAT / UNSAT
2.	Verify CST level	At panel 09-06, verifies CST water level is GREATER THAN 220 inches	SAT / UNSAT
3.	Ensure condensate transfer pumps are running	<ul> <li>At panel 09-06, ensures available condensate transfer pumps are running, red light on, green light off:</li> <li>COND XFER PUMP A 33P-13A</li> <li>COND XFER PUMP B 33P-13B (starts)</li> </ul>	<b>CRITICAL STEP</b> SAT / UNSAT

TASK TITLE: "A" RHR Keep Full for Injection to the RPV.

	STEP	STANDARD	EVALUATION / COMMENT
	Line up condensate transfer to RHR Loop "A".	Directs NLO to perform step A and/or B in the Reactor Building:	
		A. Open 10RHR-274 (RHR Loop A containment spray keep-full cond xfer connection valve	
		B. Open both of the following values in the Drywell entrance:	
* 4.		<ul> <li>10RHR-256A (RHR Loop A LPCI cond xfer inner isol valve)</li> </ul>	SAT / UNSAT
		<ul> <li>10RHR-257A (RHR Loop A LPCI cond xfer outer isol valve)</li> </ul>	NOTE: Only Step A OR step B needs to be directed.
		SIMULTOR OPERATOR: Insert Remote RH46 to 100%. As the Rx Bldg NLO, inform the operator the valve(s) are open.	

TASK TITLE: "A" RHR Keep Full for Injection to the RPV.

	STEP	STANDARD	EVALUATION / COMMENT
5.	Verify condensate transfer pressure	At panel 09-6, verifies condensate transfer pressure is GREATER THAN RPV pressure	SAT / UNSAT
	Ensure closed at least one of the "A" side DW Spray Valves	Ensures closed at least one of the following by taking the control switch to the CLOSE position:	
*6.		DW SPRAY OUTBD VLV 10MOV-26A	CRITICAL STEP SAT / UNSAT
		DW SPRAY INBD VLV 10MOV-31A	
	Verify closed at least one of the "A" side DW Spray Valves	<ul><li>Verifies closed at least one of the following:</li><li>DW SPRAY OUTBD VLV 10MOV-26A</li></ul>	
7.		• DW SPRAY INBD VLV 10MOV-31A (red light off, green light on.)	SAT / UNSAT
*8.	Ensure closed Torus Spray Inboard Valve	Ensures closed TORUS SPRAY INBD VLV 10MOV- 38A by taking the control switch to the CLOSE position. Green light on, red light off	CRITICAL STEP SAT / UNSAT
9.	Verify closed Torus Spray Inboard Valve	Verifies closed TORUS SPRAY INBD VLV 10MOV- 38A by observing red light off, green light on.	SAT / UNSAT
10.	Determine IF/THEN reset logic statement for SDC ISOL for 10MOV- 25A does not apply	Determines that the IF/THEN statement regarding resetting the isolation signal for 10MOV-25A for shutdown cooling does not apply	SAT / UNSAT

TASK TITLE: "A" RHR Keep Full for Injection to the RPV.

	STEP STANDARD		EVALUATION / COMMENT
*11.	Ensure open LPCI OUTBD INJ VLV 10MOV-27A	Ensures open LPCI OUTBD INJ VLV 10MOV-27A by taking the control switch to the OPEN position	CRITICAL STEP SAT / UNSAT
12.	Verify open LPCI OUTBD INJ VLV 10MOV-27A	Verifies open LPCI OUTBD INJ VLV 10MOV-27A by observing red light on, green light off.	SAT / UNSAT
13.	Ensure open LPCI INBD INJ VLV 10MOV-25A	Ensures open LPCI INBD INJ VLV 10MOV-25A by taking the control switch to the OPEN position.	CRITICAL STEP SAT / UNSAT
14	Ensure open LPCI INBD INJ VLV 10MOV-25A	Ensures open LPCI INBD INJ VLV 10MOV-25A by observing red light on, green light off.	SAT / UNSAT
	EV	ALUATOR: Terminate the task at this point.	

# HANDOUT

- EOP-2 has been entered and the plant has Emergency Depressurized.
- Torus and Drywell Sprays were in service when Adequate Core Cooling was lost
- Reactor water level can not be maintained greater than 0".

The CRS directs you to Perform EP-8, Section 5.8, Condensate Transfer Keep Full for Injection into the "A" Loop of RHR.

S/RO	2012 NRC	S-7 TA	SK TITLE:	Restore Re	actor Building	y Ventilation fo	ollowing an Isolation
APPL. TO	JPM NUME	BER					
REV:	DATI	E:		NRC K/A S	YSTEM NUM	BER: 2900	001 A3.01 3.9/4.0
JAF TASK NUM	IBER: _200	00401250		JAF QUA	AL STANDAR		5066.104
ESTIMATED C			10Mi	nutes	/	Al	1.11116
SUBMITTED:	m	- p	$\sim$	OPERAT	IONS REV	ń:] <u>[[[[[[</u>	<u>14440' ifufiz</u>
APPROVED:		Kelly					
CANDIDATE N	AME:	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	~~~~~~	~~~~~~	~~~~~~	.~~~~~~
JPM Completio	n [7]	 Simulated		Performed			
Location:		Plant		Simulator			
					· <b>F</b> .	Minutes	
DATE PERFOR	(MED:		TIME	TO COMPLET	E:	Minutes	
PERFORMANC	E EVALUAT	ION:	Satis	sfactory	Unsatis	factory	
COMMENTS: (	(MANDATOF	RY FOR UN	ISATISFAC		ORMANCE)	-~~~~~	
EVALUATOR:							
		SIGNATUR	RE/PRINTE	ED	_		
CANDIDATE R	EVIEW:						
REVIEWED BY		ROGRAM	SIGNAT	URE DO		E:	

## JOB PERFORMANCE MEASURE RECORD AND CHECKLIST

S/RO	2012 NRC S-7	TASK TITLE:	Restore Re	eactor Building Ventil	ation following an Isolation
APPL. T	O JPM NUMBER				
Current U	lpdate:	By:			
	Date		Int		
Outstandi	ing Items				
	Technical Review			Additional Information	lion
	Questions and Answers			Validation	
	Procedural Change Requ	uired	$\boxtimes$	None	
Comments:					
Current U	Ipdate:		By:		
	Date	_		Int.	
Previous	Revision Date:				

## JOB PERFORMANCE MEASURE REQUIRED TASK INFORMATION

S/RO 2012 NRC S-7 TASK TITLE: Restore Reactor Building Ventilation following an Isolation

APPL. TO JPM NUMBER

### I. SAFETY CONSIDERATIONS

A. None

### II. REFERENCES

- A. Reactor Building Ventilation and Cooling System OP-51A
- B. Recovery from an Isolation AOP-15
- C. Standby Gas Treatment System OP-20
- D. Isolation/Interlock Overrides EP-2

### III. TOOLS AND EQUIPMENT

A. None

### IV. SET UP REQUIREMENTS

- A. Reset the simulator to a 100% IC and scram the reactor (IC-124).
- B. Ensure level reaches the 177" low level isolation setpoint
- C. After level recovers, complete AOP-1 actions and AOP-15 isolation reset.
- D. Secure "B" SBGT.

### V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. If simulating this task, then inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.

### VI. TASK CONDITIONS

- A. A feedwater transient occurred result in a reactor scram caused by RPV water level lowering to 165".
- B. All automatic actions were verified.
- C. All Immediate and Subsequent Actions of AOP-1 are completed.
- D. Low RPV water level isolation has been defeated per EP-2.
- E. The "A" train of the Standby Gas Treatment System remains in operation for a maintenance inspection.

TASK TITLE: Restore Reactor Building Ventilation following an Isolation

## \* - CRITICAL STEP

### VII. INITIATING CUE

Inform the candidate, "The CRS has directed you to "Restore Reactor Building Ventilation to a normal line-up following the isolation on low RPV water level, using OP-51A, Section G.3."

NOTE:	All actions a	are at panel	09-75.
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	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of OP- 51A, Reactor Building Ventilation and Cooling System.	Obtains a controlled copy of OP-51A. <u>Evaluator:</u> Provide working copy.	SAT / UNSAT
2.	Reviews the correct section of the procedure.	Reviews Special Procedures Section of OP-51A and selects Section G.3, Restoration from isolation.	SAT / UNSAT
3.	IF Reactor Building Ventilation isolated due to low RPV water level (177 inches) or high drywell pressure (2.7 psig) THEN either reset isolation per AOP-15 OR ensure isolation is overridden per EOPs.	Candidate remembers from initial conditions that the isolations are reset OR contacts CRS/SM. <b>EVALUATOR</b> : If asked in isolations are reset, inform the candidate they are.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
4.	Ensures one below refuel floor exhaust fan is running and red	Ensures one below refuel floor exhaust fan is running with its control switch red flagged.	SAT / UNSAT
	<ul> <li>Below El. 369' EXH FAN 66FN-12A</li> <li>Below El. 369' EXH FAN 66FN-12B</li> </ul>	<ul> <li>Below El. 369" EXH FAN 66FN-12A</li> <li>Below El. 369' EXH FAN 66FN-12B</li> <li>Observes red light on, green light off for the running fan.</li> </ul>	
5.	Ensures the control switch for the shutdown below refuel floor exhaust fan (Below El. 369' EXH FAN 66FN-12A or B) is green flagged.	Ensures the control switch for the shutdown below refuel floor exhaust fan fan (Below El. 369' EXH FAN 66FN-12A or B) is green flagged. Observes red light off, green light on.	SAT / UNSAT
6.	<ul> <li>Ensure two of the supply fans are running with switch red flagged.</li> <li>Supp FN A 66FN-5A</li> <li>Supp FN B 66FN-5B</li> <li>Supp FN C 66FN-5C</li> </ul>	<ul> <li>Ensures two of the supply fans are running with their associated control switches are red flagged.</li> <li>Supp FN A 66FN-5A</li> <li>Supp FN B 66FN-5B</li> <li>Supp FN C 66FN-5C</li> <li>Observes red lights on, green lights off for the running fans.</li> </ul>	SAT / UNSAT
7.	Ensure control switch for the shutdown supply fan (SUPP FN 66FN-5A, B, or C) is green flagged.	Ensures shutdown supply fan (SUPP FN 66FN-5A, B, or C) switch is green flagged. Observes red light off, green light on.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
*8.	Ensure control switches for above refuel floor exhaust fans (EL 369' EXH FN 66EN-13A and B) are as	Ensures the control switch for one of the below fans is in PULL TO LOCK and the other is RED FLAGGED.	CRITICAL STEP SAT / UNSAT
	follows:	66FN-13A RED FLAGGED	
	One Fan Control Switch RED Flagged.	66FN-13B PULL TO LOCK	
	<ul> <li>One Fan Control Switch in PULL TO LOCK.</li> </ul>		
9.	Verifies that one fan is running and one fan is not.	For the running fan observes red light on, green light off and for the fan in PULL TO LOCK observes red light off, green light on.	SAT / UNSAT
10.	Ensure control switch for tank exhaust fan is red flagged.	Ensures the control switch for the tank exhaust fan 66FN-35 is red flagged.	SAT / UNSAT
11.	Ensure one crescent supply fan is running with control switch red flagged.	Ensure the control switch for one of the crescent supply fans is red flagged and the fan is running.	SAT / UNSAT
	<ul> <li>CRESC SUPP FN 66FN-26A</li> <li>CRESC SUPP FN 66FN-26B</li> </ul>	<ul> <li>Ensures the control switch for the crescent supply fan 66FN-26A is red flagged.</li> </ul>	
		Observes red light on, green light off.	
12.	Ensure control switch for the shutdown crescent supply fan is green flagged.	Ensures the control switch for the shutdown crescent area supply fan 66FN-26B is green flagged.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
13.	Verify the shutdown crescent supply fan is not running	Verifies the shutdown crescent area supply fan 66FN-26B is not running, red light off, green light on.	SAT / UNSAT
*14.	<ul> <li>Reset Reactor Building Ventilation Isolation. Depress and Hold <u>"RESET"</u> A/B pushbuttons to open:</li> <li>66AOV-100A INBD SUPP ISOL</li> <li>66AOV-101A OUTB SUPP ISOL</li> <li>66AOV-100B INBD SUPP ISOL</li> <li>66AOV-101B OUTB EXH ISOL</li> </ul>	Depress and Hold"Reset" pushbuttons concurrently or individually until the following valves indicate open; then release the pushbuttons:"A" Reactor Building Ventilation:66AOV-100A0PEN66AOV-101A0PEN"B" Reactor Building Ventilation:66AOV-100B0PEN66AOV-101B0PEN	CRITICAL STEP SAT / UNSAT
15.	Verifies the Reactor Building Ventilation Isolation is reset.	Verifies 66AOV-100A/B and 66AOV-101A/B are open, observing red light on, green lights off.	SAT / UNSAT
16.	<ul> <li>Verify one of the following above refuel floor fans is running:</li> <li>EL 369' EXH FAN 66FN-13A</li> <li>EL 369' EXH FAN 66FN-13B</li> </ul>	Verifies that the above refuel floor exhaust fan 66FN-13A is running, red light on, green light off.	SAT / UNSAT

	STEP	STANDARD	EVALUATION / COMMENT
17.	Place the control switch for the shutdown above refuel floor exhaust fan in "NORMAL AFTER OFF" (Green Flagged). <u>EVALUATOR</u> : Previous step (#8) had the control switch in PULL TO LOCK.	Release PULL TO LOCK and "Green" flag the switch and verify red light off, green light on.	CRITICAL STEP SAT / UNSAT
18.	<ul><li>Verify tank exhaust fan is running.</li><li>66FN-35</li></ul>	Verifies tank exhaust fan 66FN-35 started and is running.	SAT / UNSAT
	4	<b>EVALUATOR</b> : Terminate the task at this point.	
# HANDOUT

- A feedwater transient occurred result in a reactor scram caused by RPV water level lowering to 165".
- All automatic actions were verified.
- All Immediate and Subsequent Actions of AOP-1 are completed.
- Low RPV water level isolation has been defeated per EP-2.
- The "A" train of the Standby Gas Treatment System remains in operation for a maintenance inspection.

The CRS has directed you to "Restore Reactor Building Ventilation to a normal line-up following the isolation on low RPV water level, using OP-51A, Section G.3.

S/RO/NPO 2012 APPL. TO JPM	NRC P-1 TASK TI NUMBER	FLE: Venting the So	ram Air Header	
REV: 0 DA	ATE: 1/3/2012	NRC K/A SYSTEM N	JMBER: 295037 (3.9/4.0	EA 1.05 )
JAF TASK NUMBER:	2000402213	JAF QUAL STAND	ARD NUMBER: 5	03c.502b
	ON TIME: <u>13</u> Minu	tes		d 1 1 M
SUBMITTED:	- Tru	OPERATIONS REVI	=∕v: ( <i>∭₩₩₩₩₩</i>	11/11/12
APPROVED:	QKeeg			
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~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~				~ ~ ~ ~ ~ ~ ~ ~ ~
CANDIDATE NAME:		· · ·		
JPM Completion	Simulated ☐ P	erformed		
DATE PERFORMED:	TIME TO	COMPLETE:	Minutes	
	ATION: ☐ Satisfa	ctory Unsa	$\overline{\text{tisfactory}}$	~ ~ ~ ~ ~ ~ ~ ~ ~
COMMENTS: (MANDAT	CORY FOR UNSATISFACT	ORY PERFORMANCE	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	~ ~ ~ ~ ~ ~ ~ ~
EVALUATOR:				
CANDIDATE REVIEW:	SIGNATURE/PRINTED			
REVIEWED BY:	SIGNATUR	E DOC. COMPI	ETE:	
	PROGRAM ADMINISTER			

S/RO/NPO	2012 NRC P-1	TASK TITLE:	Vent	ting the Scram Air Header
APPL. TO	JPM NUMBER			
Current Update: Outstanding Items Technic Questio Procedu Comments:	Date s al Review ns and Answers Iral Change Required	Ву:	Int	Additional Information Validation None
Current Update		By:		
Previous Revision	Date Date:			Int
	Dato.			

S/RO/NPO2012 NRC P-1TASK TITLE:Venting the Scram Air HeaderAPPL. TOJPM NUMBER

### I. SAFETY CONSIDERATIONS

A. Ensure proper safety equipment and safety procedures are observed.

#### II. REFERENCES

- A. EOP-3, Failure to Scram
- B. EP-3, Backup Control Rod Insertion

### III. TOOLS AND EQUIPMENT

A. None

### IV. SET UP REQUIREMENTS

- A. Contact Radiation Protection concerning area dose rates and contamination levels prior to performing the task.
- B. Current copy of EP-3, Backup Control Rod Insertion for candidate use.

### V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. This task is to be simulated. Inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.

### VI. TASK CONDITIONS

- A. A Failure to Scram condition has occurred.
- B. Numerous control rods have failed to insert.
- C. EOP-2, 3 have been entered by the Shift Manager.
- D. Investigation has determined, from EP-3 that the first success path would be to vent the scram air header to insert the control rods.

### \* - CRITICAL STEP

TASK TITLE: Venting the Scram Air Header.

## VII. INITIATING CUE

Inform the candidate, "The CRS has directed you to Vent the Scram Air Header per Section 5.3 of EP-3".

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of the procedure.	Obtains a controlled copy of EP-3. <u>Evaluator:</u> When Candidate states where one can be obtained, provide copy.	SAT / UNSAT
2.	Reviews the prerequisites/precautions associated with the procedure.	Reviews prerequisites/precautions and notes applicable portions.	SAT / UNSAT
3.	Selects the correct section of the procedure to be performed.	Reviews EP-3 and indications. Selects section 5.3 of the procedure for Venting the Scram Air Header.	SAT / UNSAT
4.	Ensures Open: •03CRD-2028 •03CRD-2029	Proceeds to the Reactor Building 272' el. Southwest Corner, locates and ensures open the following valves: •03CRD-2028 (Filter 27B Outlet Isolation) •03CRD-2029 (Filter 27A Outlet Isolation) EVALUATOR NOTE: One valve will be open (the in- service filter) and one valve will be closed EVALUTOR CUE: When the closed valve is turned CW, the handwheel does not move. When the open valve is turned CW, the handwheel turns. Candidate	SAT / UNSAT

TASK TITLE: Venting the Scram Air Header.

	STEP	STANDARD	EVALUATION / COMMENT
* 5.	Shuts the following valves:	Shuts the following valves:	SAT / UNSAT
	·03CRD-2030 ·03CRD-2031	<ul> <li>·03CRD-2030 (Filter 27A Inlet Isolation)</li> <li>·03CRD-2031 (Filter 27B Inlet Isolation)</li> <li>EVALUTOR CUE: When turned CW, the handwheel turns several rotations, then hits a hard stop.</li> </ul>	
* 6.	Opens drain valve on air filters. 03F-27A (is a Ball Valve) 03F-27B (is a Petcock Valve)	Locates the drain valve on the bottom of each filter and OPENS both filter drain valves. <b>EVALUTOR CUE:</b> When turned CCW, the petcock \ paddle turns then hits a hard stop.	<b>CRITICAL STEP</b> SAT / UNSAT
7.	Verifies scram air header pressure lowers.	Locates pressure indication 03PI-229 and verifies that air header pressure is lowering. <b>EVALUTOR CUE:</b> Inform the candidate when the correct pressure indication is located that "scram air header pressure is lowering". After one minute, inform the candidate that "scram air header pressure is reading 0 psig".	SAT / UNSAT

EVALUATOR: Inform the candidate that all control rods are fully inserted and to restore the scram air header.

TASK TITLE: Venting the Scram Air Header.

	STEP	STANDARD	EVALUATION / COMMENT
* 8.	Shuts air filter drain valves.	Locates the scram air header filter drain valves and shuts both drain valves. EVALUTOR CUE: When turned CW, the petcock \ paddle turns then hits a hard stop.	CRITICAL STEP SAT / UNSAT
* 9.	Opens the filter inlet isolation valves.	Locates and opens the following valves: ·03CRD-2030 (Filter 27A Inlet Isolation) ·03CRD-2031 (Filter 27B Inlet Isolation) EVALUTOR CUE: When turned CCW, the handwheel turns several rotations, and then hits a hard stop. EVALUATOR CUE: If asked, inform the candidate that pressure indication on pressure indicator 03PI-299 is rising.	CRITICAL STEP SAT / UNSAT

TASK TITLE: Venting the Scram Air Header.

	STEP	STANDARD	EVALUATION / COMMENT
* 10.	Shuts one of the following valves:	Locates and shuts one of the following valves:	CRITICAL STEP
	·03CRD-2028	·03CRD-2028 (Filter 27B Outlet Isolation)	SAT / UNSAT
	<u>OR</u>	<u>OR</u>	
	·03CRD-2029	·03CRD-2029 (Filter 27A Outlet Isolation)	
		<b>EVALUATOR CUE</b> : If candidate contacts the Control Room for guidance, then direct the operator to shut either valve of your choice. When turned CW, the handwheel turns several rotations, and then hits a hard stop.	
11.	Reports task restoration to the Control Room.	Reports to the Control Room that the Scram Air System has been restored.	SAT / UNSAT
	<u>EVA</u>	LUATOR: Terminate the task at this point.	

# HANDOUT

- A Failure to Scram condition has occurred.
- Numerous control rods have failed to insert.
- EOP-2, 3 have been entered by the Shift Manager.
- Investigation has determined, from EP-3 that the first success path would be to vent the scram air header to insert the control rods.

The CRS has directed you to Vent the Scram Air Header per Section 5.3 of EP-3.

S/RO/NPO 2012 APPL. TO JPM	NRC P-2 TA NUMBER	ASK TITLE:	VENTING THE TORUS T CONTAINMENT PRESSU	O REDUCE JRE
REV: <u>0</u> D.	ATE: <u>1/3/2012</u>	NRC K	A SYSTEM NUMBER:	295010 AA1.05 3.1/3.4
JAF TASK NUMBER:		JAF	QUAL STANDARD NUM	1BER:
	ON TIME: 15	Minutes	$\square$	hung
SUBMITTED: 04	~ m	OPE	RATIONS REVIEW:	//////////////////////////////////////
APPROVED:	Q Kell			
CANDIDATE NAME:				
JPM Completion	<ul> <li>Simulated</li> <li>✓ Plant</li> </ul>	Perform Simulat	ed or	
DATE PERFORMED:	TI	ME TO COM Satisfactory	PLETE: Minut	es
~~~~~~~~~	~~~~~	~ ~ ~ ~ ~ ~ ~	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	~~~~~~~~~~~
COMMENTS: (MANDA	~~~~~~~~~ TORY FOR UNSATI	~ ~ ~ ~ ~ ~ ~ ~ ~ SFACTORY F	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	~~~~~~~~~~
EVALUATOR:				
CANDIDATE REVIEW:	SIGNATURE/PRI	NTED		
REVIEWED BY:	SIGI PROGRAM ADMIN		DOC. COMPLETE:	

2012 NRC P-2 JPM NUMBER	TASK TITLE:	VENTING THE TORUS TO REDUCE CONTAINMENT PRESSURE
Date s al Review ns and Answers ral Change Required	Ву:	Int Additional Information Validation None
Date Date:	By:	Int
	2012 NRC P-2 JPM NUMBER Date s al Review ns and Answers rral Change Required Date Date Date:	<u>2012 NRC P-2</u> TASK TITLE: JPM NUMBER By: Date al Review ns and Answers rral Change Required By: Date Date Date:

S/RO/NPO2012 NRC P-2TASK TITLE:VENTING THE TORUS TO REDUCEAPPL. TOJPM NUMBERCONTAINMENT PRESSURE

#### I. SAFETY CONSIDERATIONS

A. Ensure proper safety equipment and safety procedures are observed.

#### II. REFERENCES

A. EP-6, POST ACCIDENT CONTAINMENT VENTING AND GAS CONTROL

### III. TOOLS AND EQUIPMENT

A. None

#### IV. SET UP REQUIREMENTS

A. Current copy of EP-6 including Attachment 1.

#### V. EVALUATOR NOTES

- A. This task is to be simulated. Inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.
- B. The candidate should, at a minimum, identify the change in equipment status light indication when equipment operation is simulated.

### VI. TASK CONDITIONS

- A. Conditions have occurred which require venting the drywell.
- B. Action to preclude the failure of containment must be completed

### \* - CRITICAL STEP

# VII. INITIATING CUE

Inform the candidate "You are directed by the CRS to vent the Torus using EP-6, Section 5.7 "Venting Containment".

NOTE: Unless otherwise noted, all controls are located on Panel 27PCP in the Relay Room.

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of procedure, EP-6.	Obtains a controlled copy of procedure and proceeds to the PCP panel in the Relay Room.	SAT / UNSAT
		<b>EVALUATOR</b> : A controlled copy of the procedure is available at the PCP panel. Evaluator to provide working copy	
2.	Reviews prerequisites, precautions and special instructions associated with the procedure.	Reviews applicable portions.	SAT / UNSAT
3.	Selects section 5.7, Venting Containment.	Selects the correct section of the procedure to be performed.	SAT / UNSAT
4.	<b>CAUTION:</b> PCPL is based upon the maximum pressure that primary containment vent and purge Isolation valves (AOVs and MOVs) can be operated. PCPL curve is shown on Attachment 1.	Reviews Caution and Attachment 1, and determines whether containment conditions will allow venting. <b>EVALUATOR CUE:</b> When candidate locates indication of pressure and level, inform the candidate that Torus Pressure is 50 psig and Torus Level is 29.0 ft.	SAT / UNSAT

			-
5.	<ul> <li>WARNINGS:</li> <li>While venting the primary containment, radiation dose rates will rise in the following areas:</li> <li>Along Primary Containment vent piping in the Reactor Building.</li> <li>Above underground vent piping between the Reactor Building and Stack.</li> <li>In the vicinity of the Stack.</li> <li>In the Standby Gas Treatment System room.</li> <li>While venting the Primary Containment, the in-service SGT could rupture and cause a ground level release.</li> </ul>	<ul> <li>Reviews Warnings:         <ul> <li>Ensures Radiation Protection has been informed regarding the potential change in radiation levels in these areas.</li> <li>Ensures any operators in the vicinity of SGT are warned of the potential for rupture.</li> </ul> </li> <li>EVALUATOR CUE: Acknowledge the Radiation Protection and operator warning from the candidate.</li> </ul>	SAT / UNSAT
6.	Ensure only one SGT is in service per OP-20.	Candidate either goes to, or contacts the control room to ensure the SGT is in service. <u>EVALUATOR CUE</u> : When candidate requests feedback, acknowledge that only one SGT is in service.	SAT / UNSAT
7.	<b>CAUTION:</b> Failure to close 01-125MOV-11 and 01-125MOV-12 could release primary containment atmosphere to the reactor building.	Reviews Caution.	SAT / UNSAT
8.	<ul> <li>Ensure each of the following valves is closed with its control switch in pull-to-lock:</li> <li>ABOVE EL. 369' SUCT 01-125MOV-11</li> <li>BELOW EL. 369' SUCT 01-125MOV-12</li> </ul>	Contacts the control room to ensure the valves are closed. <b>EVALUATOR CUE</b> : When candidate requests feedback regarding valves from the control room, acknowledge the valves are closed and in PTL.	SAT / UNSAT

9.	<ul> <li>Ensure closed the following valves:</li> <li>DW PURGE/INERT SUPP ISOL VLV 27A0V-111</li> </ul>	For each valve, candidate locates its red/green position lights and indicates it should be closed.	SAT / UNSAT
	<ul> <li>DW SUPP ISOL VLV 27AOV-112</li> <li>TORUS PURGE/INERT SUPP ISOL VLV 27AOV-115</li> </ul>	<b>EVALUATOR CUE:</b> When candidate inquires about light status, inform the candidate the green light is on, red light is off.	
	<ul> <li>TORUS SUPP ISOL VLV 27AOV- 116.</li> </ul>		
	TORUS EXH INNER ISOL VLV <b>27AOV-117</b> .		
	<ul> <li>TORUS EXH OUTER ISOL VLV 27A0V-118.</li> </ul>		
	DW EXH OUTER BYP VLV     27MOV-113.		
	TORUS EXH INNER BYP VLV <b>27MOV-117</b> .		
	DW EXH INNER BYP VLV 27MOV- 122.		
	<ul> <li>TORUS EXH OUTER BYP VLV 27MOV-123.</li> </ul>		
	DW EXH INNER ISOL VLV     27AOV-113.		
	<ul> <li>DW EXH OUTER ISOL VLV 27AOV-114.</li> </ul>		

10.	<ul> <li>Ensure the following switches are in RESET:</li> <li>27 SYS DIV II ISOL VLVS at panel 09-3</li> <li>27 SYS DIV I ISOL VLVS at panel 09-4</li> </ul>	Contacts the control room to ensure switches are in RESET. <b>EVALUATOR CUE</b> : When candidate requests feedback regarding switches from the control room, acknowledge the switches are in RESET.	SAT / UNSAT
11.	<ul> <li>Ensure open the following valves:</li> <li>DW/TORUS EXH TO SGT ISOL VLV 2MOV-120</li> <li>DW/TORUS EXH TO SGT ISOL VLV 27MOV-121</li> </ul>	For each valve, candidate locates its red/green position lights and indicates it should be open. <b>EVALUATOR CUE:</b> When candidate inquires about light status, inform the candidate the green light is off, red light is on.	SAT / UNSAT
12.	<b>NOTE:</b> Steps 5.7.6 and 5.7.7 may be performed and repeated in any order to alternate between torus and drywell venting. Torus venting is preferred.	Reviews Note and selects step 5.7.6 to perform as directed.	SAT / UNSAT
13.	<ul> <li>IF Torus will be vented THEN perform the following:</li> <li>Verify torus pressure is LESS THAN PCPL</li> <li>Verify primary containment water level is LESS THAN 29.5 feet.</li> <li>While venting torus, frequently monitor torus pressure and primary containment water level.</li> <li>IF primary containment water level reaches 29.5 feet while venting the torus, THEN vent drywell per Step 5.7.7.</li> </ul>	Verifies pressure is less than PCPL and level is less than 29.5 ft. <b>EVALUATOR CUE</b> : When candidate locates indication of pressure and level, inform the candidate that Torus Pressure is 50 psig and Torus Level is 29.0 ft.	SAT / UNSAT

13 cont * *	<ul> <li>Open TORUS EXH INNER BYP VLV 27MOV-117.</li> <li>Open TORUS EXH OUTER BYP VLV 27MOV-123.</li> </ul>	Candidate places TORUS EXH INNER BYP VLV 27MOV-117 control switch to the OPEN position <b>EVALUATOR CUE</b> : When candidate indicates placing the control switch to open, inform the candidate that the green light is off, red light is on. Candidate places TORUS EXH OUTER BYP VLV 27MOV-123 control switch to the OPEN position. <b>EVALUATOR CUE</b> : When candidate indicates placing the control switch to open, inform the candidate that the green light is off, red light is on.	SAT / UNSAT CRITICAL TASK SAT / UNSAT CRITICAL TASK
	<ul> <li>Ensure closed the following valves:         <ul> <li>DW EXH OUTER BYP VLV 27MOV-113.</li> <li>DW EXH INNER BYPASS VLV 27MOV-122.</li> <li>DW EXH INNER ISOL VLV 27AOV-113.</li> <li>DW EXH OUTER ISOL VLV</li> </ul> </li> </ul>	For each valve, candidate locates its red/green position lights and indicates it should be closed. <u>EVALUATOR CUE</u> : When candidate inquires about light status, inform the candidate the green light is on, red light is off.	SAT / UNSAT
14.	27AOV-114.	called to inform the candidate that the control room has called to inform the candidate that <b>Torus Water level</b> is <b>30 ft.</b>	SAT / UNSAT
	reaches 29.5 feet while venting the torus, <b>THEN</b> vent drywell per Step 5.7.7.	<b>EVALUATOR CUE:</b> If candidate wants direction from the control room, inform the candidate that for the purposes of this JPM, no further guidance can be given.	

15.	<ul> <li>IF drywell will be vented, THEN perform the following:</li> <li>Verify torus pressure is BELOW PCPL</li> </ul>	Verifies pressure is less than PCPL.	SAT / UNSAT
		<b>EVALUATOR CUE:</b> When candidate locates indication of pressure and level, inform the candidate that Torus Pressure is 50 psig and Torus Level is 30.0 ft	
*	Open DW EXH OUTER BYP VLV 27MOV-113	Candidate places DW EXH OUTER BYP VLV 27MOV- 113 control switch to the OPEN position <u>EVALUATOR CUE</u> : When candidate indicates placing the control switch to open, inform the candidate that the green light is off, red light is on.	SAT / UNSAT CRITICAL TASK
*	Open DW EXH INNER BYPASS     VLV 27MOV-122.	Candidate places DW EXH INNER BYPASS VLV 27MOV-122 control switch to the OPEN position <b>EVALUATOR CUE</b> : When candidate indicates placing the control switch to open, inform the candidate that the green light is off, red light is on.	SAT / UNSAT CRITICAL TASK
	Ensure closed the following valves:		
*	o TORUS EXH INNER BYP VLV 27MOV-117	Candidate places TORUS EXH INNER BYP VLV 27MOV-117 control switch to the CLOSE position. EVALUATOR CUE: When candidate indicates placing the control switch to close, inform the candidate that the green light is on, red light is off.	SAT / UNSAT CRITICAL TASK

*	<ul> <li>TORUS EXH OUTER BYP VLV 27MOV-123</li> </ul>	Candidate places TORUS EXH OUTER BYP VLV 27MOV-123 control switch to the CLOSE position. EVALUATOR CUE: When candidate indicates placing the control switch to close, inform the candidate that the green light is on, red light is off.	SAT / UNSAT CRITICAL TASK
	<ul> <li>TORUS EXH INNER ISOL VLV 27AOV-117</li> <li>TORUS EXH OUTER ISOL VLV 27AOV-118</li> </ul>	For each valve, candidate locates its red/green position lights and indicates it should be closed. <u>EVALUATOR CUE</u> : When candidate inquires about light status, inform the candidate the green light is	SAT / UNSAT
16.	<ul> <li>IF it becomes necessary to raise vent rate, AND torus pressure is LESS THAN PCPL, THEN attempt</li> </ul>	on, red light is off. Contacts control room and requests direction on vent rate.	SAT / UNSAT
	to open the following valves: • DW EXH INNER ISOL VLV 27AOV-113 • DW EXH OUTER ISOL VLV 27AOV-114	<b>EVALUATOR CUE</b> : When candidate requests direction for vent rate, respond that current rate of pressure reduction is acceptable.	

17.	<ul> <li>IF containment purge is not in progress, THEN cycle one or more of the following valves as necessary to control torus pressure. Verify torus pressure is LESS THAN PCPL before opening any valve:         <ul> <li>DW EXH OUTER BYP VLV 27MOV-113</li> <li>DW EXH INNER BYPASS VLV 27MOV-122</li> <li>DW EXH INNER ISOL VLV 27AOV-113</li> <li>DW EXH OUTER ISOL VLV 27AOV-113</li> <li>DW EXH OUTER ISOL VLV 27AOV-114</li> </ul> </li> </ul>	Contacts the control room on the status of containment purge. <u>EVALUATOR CUE</u> : When candidate inquires as to the status of containment purge, inform the candidate that it is NOT in progress.	SAT / UNSAT					
	EVALUATOR: Terminate the JPM at this point.							

# HANDOUT

- Conditions have occurred which require venting the drywell.
- Action to preclude the failure of containment must be completed

You are directed by the CRS to vent the torus using EP-6, Section 5.7 "Venting Containment.

S/RO/NPO 20	12 NRC P-3	TASK TITLE:	Supplying Cooling Water	r to EDG's B and D from
APPL. TO JP	M NUMBER			
REV: 0	DATE: 1/3/2012	NRC I	<pre>K/A SYSTEM NUMBER:</pre>	286000 K1.09 3.2/3.3
JAF TASK NUMBER:	2000402246	JAF	QUAL STANDARD NUM	BER: OP-22
ESTIMATED COMPLE		2 Minutes		
SUBMITTED:	Sho th	OPE		WWW/U/U/V/1/12
APPROVED:	a Kelly			
CANDIDATE NAME	V			
JPM Completion	Simulated	Perform	ed	
Location:	🛛 Plant	Simulate	or	
DATE PERFORMED:			PLETE: Minute	es
PERFORMANCE EVA		Satisfactory	Unsatisfactory	
~~~~~~~~~~~	~~~~~~	~~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
COMMENTS: (MAND)	ATORY FOR UNSAT	TISFACTORY P	ERFORMANCE)	~~~~~~
EVALUATOR:				
	SIGNATURE/F	RINTED		
CANDIDATE REVIEW:	:			
	SI	GNATURE		
REVIEWED BY:			DOC. COMPLETE:	
	PROGRAM ADM	IINISTER		

# JOB PERFORMANCE MEASURE RECORD AND CHECKLIST

S/RO/NPO APPL. TO	2012 NRC P-3 JPM NUMBER	TASK TITLE:	Sup Fire	plying Cooling Water to EDG's B and D from Protection
Current Update:		Ву:		
	Date		Int	
Outstanding Items	5			
Technic	cal Review			Additional Information
Questic	ons and Answers			Validation
Proced	ural Change Required		$\boxtimes$	None
Comments:				
Current Update		By:		
	Date			Int
Previous Revisior	n Date:			

# JOB PERFORMANCE MEASURE REQUIRED TASK INFORMATION

 S/RO/NPO
 2012 NRC P-3
 TASK TITLE:
 Supplying Cooling Water to EDG's B and D from Fire Protection

 APPL. TO
 JPM NUMBER
 Fire Protection

### I. SAFETY CONSIDERATIONS

A. Gloves

### II. REFERENCES

A. OP-22, Diesel Generator Emergency Power.

### III. TOOLS AND EQUIPMENT

A. Equipment located in cabinet 76CAB-1 on West wall of North Emergency Service Water Room.

### IV. SET UP REQUIREMENTS

- A. Obtain Shift Manager/Control Room Supervisor permission prior to performing this task.
- B. Obtain a current copy of OP-22 for use by the candidate prior to performing this task.

### V. EVALUATOR NOTES

- A. The candidate should, at a minimum, observe the change in equipment status light indication when equipment is operated.
- B. This task is to be simulated. Inform the candidate that the conditions of each step need only be properly identified and <u>not</u> actually performed.
- C. The candidate should demonstrate proper use of HU tools such as procedure use, self checking, placekeeping and three-point communication.

## VI. TASK CONDITIONS

- A. The plant has sustained a loss of off-site power.
- B. The A and C EDG's have failed to start.
- C. Upon initiation of the B and D EDG's, the "B" ESW System failed due to a fault in the supply breaker to the "B" ESW pump.

### \* - CRITICAL STEP

TASK TITLE: Supplying Cooling Water to EDG's B and D from Fire Protection

### VII. INITIATING CUE

Inform the candidate, "The Shift Manager has directed you to supply cooling water to EDG's B and D from the Fire Protection System per OP-22, section G.25"

	STEP	STANDARD	EVALUATION / COMMENT
1.	Obtain a controlled copy of the procedure OP-22.	The candidate determines where to obtain a controlled copy of OP-22. (Control Room, Merlin, EDG room) <u>EVALUATOR:</u> Provide trainee a current copy of OP-22 G.25.	SAT / UNSAT
2.	Reviews the precautions of the procedure.	Reviews the precautions associated with OP-22 and notes applicable sections.	SAT / UNSAT
3.	BEFORE cross connecting safety systems, review system status to ensure failure of one system will not result in common-cause failure.	<b>EVALUATOR CUE:</b> If asked, inform the candidate that the review is complete and a single failure of one system will NOT result in common-cause failure.	SAT / UNSAT
4.	Verify ESW pumps not available • 46P-2A • 46P-2B	From initial conditions, verifies that ESW pumps 46P-2A and 46P-2B <u>ARE NOT</u> available.	SAT / UNSAT
5.	Reviews "CAUTION" pertaining to fire protection pumps and reference to screenwell forebay level.	Reviews "CAUTION" and notes reference to screenwell forebay level. <u>EVALUATOR CUE:</u> If asked for forebay level state that forebay level is normal.	SAT / UNSAT

# TASK TITLE: Supplying Cooling Water to EDG's B and D from Fire Protection

	STEP	STANDARD	EVALUATION / COMMENT
6.	Ensures one Fire Protection pump running.	<ul> <li>Ensures at least one of the following pumps is running:</li> <li>ELECTRIC FIRE PUMP, 76P-2</li> <li>DIESEL FIRE PUMP, 76P-1</li> <li>DIESEL FIRE PUMP, 76P-4</li> </ul> EVALUATOR CUE: Candidate may visually ensure one pump is running by using local indications or by contacting the Control Room. If necessary, respond to Control Room communication and report to the candidate that Diesel Fire Pumps P1 and P4 are running.	SAT / UNSAT
7.	Verify closed at least one of the following: • 46ESW-2A • 46ESW-2B	<ul> <li>Verify closed at least one of the following valves:</li> <li>46ESW-2A, ESW Loop "A" supply to EDG cross-tie isolation valves</li> <li>46ESW-2B, ESW Loop "B" supply to EDG cross-tie isolation valve</li> </ul> <u>EVALUATOR CUE:</u> When turned CW, the handwheels do not turn.	SAT / UNSAT
8.	Reviews "NOTE" pertaining to locking devices.	Reviews "NOTE" on directions to remove caps.	SAT / UNSAT

# TASK TITLE: Supplying Cooling Water to EDG's B and D from Fire Protection

	STEP	STANDARD	EVALUATION / COMMENT
*9.	Cross-tie ESW and Fire Protection	Line-up the cross-tie between Fire Protection and ESW as follows:	
		a. Remove caps, by pushing the red detents, from the following:	CRITICAL STEP
		• 46ESW-2000	SAT / UNSAT
		• 76FPS-2000	
		<b>EVALUATOR CUE:</b> Red detent pushed, caps rotated CCW	
		b. Connect short length of hose between the following valves: (hose located in cabinet 76CAB-1 on west wall of	CRITICAL STEP
		north emergency service water room)	SAT / UNSAT
		• 46ESW-2000	
		• 76FPS-2000	
		EVALUATOR CUE: Hose connected	
		c. Unlock and Open 76FPS-2000.	CRITICAL STEP
		<b>EVALUATOR CUE:</b> Using P2 Key, valve unlocked and turned CCW to hard stop	SAT / UNSAT
		d. Unlock and Open 46ESW-2000.	CRITICAL STEP
		<b>EVALUATOR CUE:</b> Using P5 Key, valve unlocked and turned CCW to hard stop	SAT / UNSAT

# TASK TITLE: Supplying Cooling Water to EDG's B and D from Fire Protection

	STEP	STANDARD	EVALUATION / COMMENT
10.	Reviews "NOTE" pertaining to the ESW lockout matrix.	Reviews "NOTE" pertaining to lockout matrix. <b>EVALUATOR CUE:</b> When asked, inform the candidate that the lockout matrix is activated.	SAT / UNSAT
*11.	Opens circuit breaker 71MCC-262-OD1 and declutches 46MOV-101B and manually shuts 46MOV-101B	<ul> <li>Opens circuit breaker 71MCC-262-OD1</li> <li><u>EVALUATOR CUE:</u> Inform candidate that the breaker for 46MOV-101B has been opened by another operator.</li> </ul>	CRITICAL STEP SAT / UNSAT
		<ul> <li>Declutches 46MOV-101B</li> <li>Manually shuts 46MOV-101B by turning the handwheel CW.</li> <li>EVALUTOR CUE: When declutch mechanism pulled downward and handwheel turned CW, the handwheel turns several rotations, then hits a hard stop.</li> </ul>	CRITICAL STEP SAT / UNSAT
12.	<ul><li>Ensure shut the following:</li><li>46MOV-101B</li><li>46MOV-102B</li></ul>	<ul> <li>Ensure shut the following valves:</li> <li>46MOV-101B, ESW System "B" Injection Valve</li> <li>46MOV-102B, ESW System "B" Test Valve</li> </ul> EVALUATOR CUE: 46MOV-102B is closed	SAT / UNSAT
		EVALUATOR: Terminate the task at this point.	

# HANDOUT

- The plant has sustained a loss of off-site power.
- The A and C EDG's have failed to start.
- Upon initiation of the B and D EDG's, the "B" ESW System failed due to a fault in the supply breaker to the "B" ESW pump.

The Shift Manager has directed you to supply cooling water to EDG's B and D from the Fire Protection System per OP-22, Section G.25"

Retitled as Scenario # JAMES A. FITZPATRICK NUCLEAR POWER PLANT **LOI-12-01 NRC EXAMINATION SCENARIO 2** 

TITLE:

LOI-12-01 NRC EXAMINATION SCENARIO 2

SCENARIO NUMBER:

SCENARIO #2

PATH:

STAND ALONE

Validation: Jm Jm Training: Akely Operations:

	, ,, 2,	CAND	IDATES	14		
CRS		 				
ATC						
BOP						

# **RECORD OF CHANGES**

DATE	SOURCE OF CHANGE	BRIEF DESCRIPTION OF CHANGE	INITIATOR	REVIEWED
10/2011	New	New Scenario	D. Kelly	

A. <u>TITLE:</u> LOI-12-01 NRC EXAMINATION SCENARIO 2

### B. <u>SCENARIO SETUP:</u>

- 1. Initial Protected IC 45
- 2. Special Instructions:
  - a. Plant at 75% CTP
  - b. Control Rod Sequence Exchange.
  - c. Three Rods to be moved to 48
  - d. Marked up copy of OP-65, Power Reduction Section G.4 complete up to and including G.4.6, then go to Section G.5, Power Ascension G.5.1 thru G.5.15 "circled" open.
  - e. Rx Engineering Pull Sheet with Start and Final positions using Continuous Withdrawal.
- 3. Preset Conditions:
  - a. Preset, RD13 for 30-15, 30-23, 22-23, 26-27, 34-19, 38-35, 42-15, 46-11
  - b. Preset, DG01:C EDG C fails to start
  - c. Preset, DG06: A EDG A slow start
  - d. Preset, SL01A&B SLC pumps trip
  - e. Preset, RP01A, B, RPS Auto and Manual Failure
  - f. Preset, RP09 ARI fails
  - g. TRIGGER 1, M:RD07: 42-19 Rod Drift In
  - h. TRIGGER 2, M:RM01:29 17RIS-452A fails downscale
  - i. TRIGGER 3, OS ED ZDI11HONC05 10300-10500 Brkr Trip
  - j. TRIGGER 4, M:MS02:A Steam leak in Containment
  - k. TRIGGER 20, R:RP09 RPS A Alt EPA Brkr reset
- 4. Consumable Forms and Procedures:
  - ♦ ST-23B
  - Reactivity Maneuvering sheets

### C. SCENARIO SUMMARY:

The scenario will begin with the plant operating at 75% Power. A Control Rod Sequence Exchange is in progress. The Crew will begin restoring Control Rods to position 48 and perform Rod Coupling checks IAW ST-23B. When the third Control Rod is withdrawn to 48, it will unexpectedly drift in. AOP-27 (Control Rod Drift) will be entered, Rx power will be lowered and Tech Spec 3.1.3 will be addressed.

Once the Rod Drift issue is complete, one Reactor Building Exhaust Ventilation Radiation Monitor 'A' fails downscale. The SRO will consult ODCM 3.1 (Gaseous Effluent Monitors) and TS 3.3.6.2 (Secondary Containment Isolation Instrumentation).

When actions for the failed RB Exhaust Rad Monitor failure have been addressed, the10500 Bus deenergizes. AOP-18 (Loss of 10500 Bus) will be entered. The Crew will recognize that EDG 'A' has started "slow" and EDG 'C' failed to automatically start. Additionally, AOP-59 will be entered due to loss of RPS 'A'. The Crew will restore RPS 'A' from its Alternate Power Supply.

Following the 10500 Bus transient, a small leak occurs in the Drywell. AOP-39 (Loss of Coolant) will be entered. A vent on the Torus may be attempted to mitigate the Torus pressure rise. However, Drywell pressure will slowly approach the Benchmark scram value set by the SRO and a manual scram will be inserted. The leak will result in Torus Spray to be ordered.

The Scram is unsuccessful at inserting Control Rods (High Power ATWS). EOP-2, EOP-3 and EOP-4 will be entered. The ATWS is complicated in the fact that Standby Liquid Control (SLC) will not remain running and injecting.

RPV level will be intentionally lowered by Terminating and Preventing injection except for SLC, RCIC and CRD. When the order to pull RPS fuses has been given, most Control Rods will insert. This will result in Rx Power being less than 2.5% however; the Crew will remain in EOP-3 and continue to manually insert Control Rods via CRD and\or manual scrams.

Rx power is less than 2.5%, RPV level is in assigned band and Control Rod insertion is in progress or completed.

### Shift Turnover

The Plant is operating at 75% due to a Control Rod Sequence Exchange.

Shift activities are to continue restoring Control Rods to the new Rod Pattern, then return the Plant to Full Power iaw RAP-7.3.16.

The next Control Rod to be withdrawn is 42-35.

Withdrawal Control Rods and perform Rod Coupling checks IAW OP-26 \ ST-23B.

### **Critical Tasks/Standards**

Critical Task #1: Given the Plant in a failure to Scram condition, inhibit the Automatic Depressurization System (ADS) iaw EOP-3.

Critical Task #2: Given the Plant in a failure to Scram condition, terminate and prevent all injection into the RPV with the exception of SLC, RCIC and CRD iaw EOP-3.

EVENT NO.	EVENT SEQUENCE	
1.	Rod Sequence Exchange. (Rod Coupling Check).	(Normal: ATC \ SRO)
2.	Rod Drift In.	(Component: ATC \ SRO) (Reactivity: BOP, SRO) (TS: SRO)
3.	RB Exh Vent Rad Monitor failure	(ODCM: SRO)
4.	Loss 10500 Bus.	(Component: All) (TS: SRO)
5.	Small leak in Drywell.	(Component: BOP \ SRO)
6.	Hi Pwr ATWS.	(Major: All)
7.	SLC failure.	(Component: ATC \ SRO)
8.	RPS fuses \ RMCS.	(Component: ATC \ SRO)

# D. TERMINATION CUES:

Rx power is less than 2.5%, RPV level is in assigned band and Control Rod insertion is in progress.
INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
Simulator in RUN Recorder and Alarm Power ON Simulator Checklist Complete			
Provide Turnover (Attach. 1)			
After the shift turnover, allow no more than five minutes for panel walkdown	All	<ul> <li>Walkdown the control panels and assume the watch</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Perform Crew Brief</li> <li>Direct ATC to perform control rod pattern adjustment.</li> <li>Provides Reactivity monitoring oversight</li> </ul>	SAT / UNSAT / NA
	ATC	<ul> <li>Obtain OP-26 ST-23B Section 8.4</li> <li>Ensure ROD SEL PWR switch is in ON Ensure control rod to be moved is selected by depressing rod select pushbutton on ROD SEL matrix Rod 42-35</li> <li>Verify the following:</li> <li>Select pushbutton is brightly backlit</li> <li>Control rod indicating light is on (light with coordinates on FULL CORE DISPLAY)</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	ATC (continued)	<ul> <li>ROD OUT PERM light is on</li> <li>Perform the following:</li> <li>Continuous withdrawal as follows:</li> <li>Place and hold ROD EMERG IN NOTCH OVERRIDE control switch in OVERRIDE</li> <li>Place and hold ROD MOVEMENT CNTRL switch to OUT NOTCH.</li> <li>Verify Four Rod display indicator displays outward rod motion.</li> <li>Verify Four Rod display indicator displays 48</li> <li>Verify red FULL OUT light is on at FULL CORE DISPLAY</li> <li>Verify ROD SETTLE light is off.</li> <li>IF control rod is withdrawn to position 48, THEN ensure control rod coupling integrity test is completed per ST-23B.</li> </ul>	SAT / UNSAT / NA
	ATC (coupling check)	<ul> <li>Ensure Control Rod is withdrawn to position 48 and performs coupling integrity tested as follows:</li> <li>Place and hold ROD EMERG IN NOTCH OVERRIDE control switch in OVERRIDE.</li> <li>Place and hold the ROD MOVEMENT CNTRL control switch in OUT NOTCH.</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	ATC (coupling check) (continued)	<ul> <li>Verify the following for the selected control rod:</li> <li>Four rod display indicates 48.</li> <li>Red FULL OUT light is on at FULL CORE DISPLAY.</li> <li>Verify annunciator 09-5-2-4 ROD OVERTRAVEL is clear.</li> <li>Release the following control switches:</li> <li>ROD MOVEMENT CNTRL</li> <li>ROD EMERG IN NOTCH OVERRIDE</li> <li>Document results of coupling integrity test on Attachment 2.</li> <li>Performs this activity for Rod: 10-19</li> </ul>	SAT / UNSAT / NA
ACTIVATE TRIGGER 1 Rod 42-19 Drift In Note: The Malf is to be activated after 00 and before 48.	ATC	<ul> <li>When Rod 42-19 is at 48</li> <li>Recognize \ report Rod Drift Alarm (09-5-2-03)</li> <li>Identify 42-19 drifting in</li> <li>Report Annunciator 09-5-1-60 (CRD Temp Hi Alarm)</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Acknowledge report</li> <li>Enter AOP-27 (Control Rod Drift)</li> <li>Direct ATC and BOP to perform AOP-27 actions</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	ATC		SAT / UNSAT / NA
		Monitor for THI	
		<ul> <li>Dispatch NPO to investigate HCU 42-19</li> </ul>	
	SRO		
		Assigns benchmark scram to ATC if more than 1 rod drifts	
	вор		SAT / UNSAT / NA
		Rapidly lower reactor power until either:	
		• Rx power at least 25% below pre-transient value	
		<ul> <li>Core Flow is approx 55% (42.4 Mlbs\hr)</li> </ul>	
		<ul> <li>Rotates RWR M\A station small knobs simultaneously</li> </ul>	
	АТС		SAT / UNSAT / NA
		<ul> <li>Fully insert control rod using Rod Emergency In Notch Override</li> </ul>	
		<ul> <li>Note: may have drifted to 00 by itself depending on timing of Crew actions</li> </ul>	
Booth Operator:	ВОР		SAT / UNSAT / NA
<i>when</i> directed to disarm HCU, <i>delete</i> Drift Malf report HCU is disarmed		<ul> <li>Demand official 3D Monicore case</li> <li>Direct NPO to electrically and hydraulically disarm HCU 42-19 when SRO directs it.</li> </ul>	

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO		SAT / UNSAT / NA
		Declare Rod 42-19 inoperable	
		Tech Spec 3.1.3.C	
		Direct HCU 42-19 disarmed	
		• Exit AOP-27	
		Inform Station Management	
ACTIVATE TRIGGER 2			
RB Exh Vent Rad Monitor 'A' fails downscale			
	BOP		SAT / UNSAT / NA
		Report Annunciator 09-3-2-19, refers to ARP	
		Report RB Exh Vent Rad Mon 'A' 17RM-452A downscale	
		Confirms downscale on Panel 09-12	
	SRO		SAT / UNSAT / NA
		• Declare RB Exh Vent Rad Monitor (17RM-452A) inoperable	
		<ul> <li>Refer to ODCM 3.1 Gaseous Effluent Monitors (verify 'B' operable)</li> </ul>	
		<ul> <li>Refer to TS 3.3.6.2 Secondary Containment Isolation Instrumentation (isolate RB Vent and place SBGT in service w\in 24 hrs.</li> </ul>	
		Inform Station Management	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
ACTIVATE TRIGGER 3			
Loss 10500 Bus			
Booth Operator	All		SAT / UNSAT / NA
<i>if</i> dispatched to investigate Breaker trip, report		<ul> <li>Recognize \ report loss of 10500 bus</li> </ul>	
Protective Relay fault \ trip on Breaker 10514		• 09-8-2-8 Bus 10300-10500 Tie Bkr 10514 Trip	
	SRO		SAT / UNSAT / NA
		Enter AOP-18 (Loss of 10500 Bus)	
		Enter AOP-69 (Loss of CRD)	
	ВОР		SAT / UNSAT / NA
		<ul> <li>Report EDG 'A' "slow" start</li> </ul>	
		Report EDG 'C' did not start	
Booth Operator:		<ul> <li>Secure DW Fans that auto started (68FN-2D and 4A)</li> </ul>	
Restore RBC temp when directed		Dispatch NPO to restore RBC temp to normal	
Booth Operator:	ATC		SAT / UNSAT / NA
<i>if</i> dispatched to investigate		Report ½ Scram RPS 'A'	
physical damage to MG set.		09-5-1-3 RPS A Auto Scram	
MG set cannot be restarted		Report ½ PCIS Group 1 isolation	
		• 09-5-1-55 (PCIS Sys A Group 1 Isol)	

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO	Enter AOP-59 (Loss of RPS 'A')	SAT / UNSAT / NA
	BOP	<ul> <li>Verifies SBGT train 'A' running</li> <li>Verifies RB Ventilation train 'A' isolation</li> <li>Isolates 'B' train by depressing Isol. pushbutton</li> <li>Verifies RWCU isolation (OP-28 Section G.2, closes 12MOV-18 and 69.</li> </ul>	SAT / UNSAT / NA
Role Play: As NPO when dispatched to reset EPAs, wait 5 minutes then Insert Remote Trigger 20 (RPO9) close	BOP	<ul> <li>Re-energize RPS 'A' iaw AOP-59 as follows:</li> <li>Obtain OP-18 Section D Ensure Alternate Power Source is available (EPA's need to be reset first)</li> <li>Place the RPS A PWR SOURCE SEL switch to TRANS at Panel 09-16</li> </ul>	SAT / UNSAT / NA
	ATC	<ul> <li>Reset half-scram as follows:</li> <li>Place Rx Scram Reset switch to Group 2 &amp; 3, then to Group 1 &amp; 4, spring return to Norm</li> <li>Verify RPS 'A' Scram Groups 1,2,3,4 lights are on</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	BOP	<ul> <li>Ensure closed valves listed on Attachment 1</li> <li>Reset containment isolation logic as follows:</li> <li>Ensure control switch for each of the following valves is in Close:</li> <li>02-2AOV-39 and 40</li> <li>Place 20AOV-83 control switch in Close</li> <li>Place 20AOV-95 control switch in Close</li> <li>Rotate both PCIS Valve Reset switches to Reset, spring return to Norm</li> <li>16A-S32 and 16A-S33</li> <li>Restore RB Ventilation</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Refer to Tech Spec 3.8.1 Condition D.</li> <li>ST-9R performed within 1 hour</li> <li>Inform Station Management</li> </ul>	SAT / UNSAT / NA
ACTIVATE TRIGGER 4			
Loss of Coolant in Drywell			
	All		SAT / UNSAT / NA
		<ul> <li>Recognize \ report DW pressure rise</li> </ul>	
		Recognize rise in DW Floor Drain rate	

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO		SAT / UNSAT / NA
		Enter AOP-39 (Loss of Coolant)	
		<ul> <li>Ensure Control Room and Relay Room Ventilation are isolated per Section G of OP-55B within 30 minutes.</li> </ul>	
		<ul> <li>Ensure TSC filtered ventilation is operating per Section D of OP-59B within 60 minutes.</li> </ul>	
		<ul> <li>Set benchmark value (2.3 psig) for Manual Scram</li> </ul>	
		<ul> <li>May direct CRAM rods inserted (RWR flow was lowered earlier)</li> </ul>	
	ATC		SAT / UNSAT / NA
		Insert CRAM rods if directed	
		Report DW pressure at Benchmark value (09-5-1-34 DW Press Alarm Hi)	
		Insert Manual Scram	
		<ul> <li>Report Manual Scram pushbuttons failed</li> </ul>	
		Place Mode Switch to Shutdown	
		Report Mode Switch fails to scram the Rx	
		Initiate ARI	
		Enter AOP-1	
		<ul> <li>Report all Control Rods failed to insert</li> </ul>	

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO		SAT / UNSAT / NA
		Acknowledge Scram failure and Control Rods fail to insert	
		• Enter EOP-2, exit EOP-2, Enter EOP-3	
		Direct ATC to perform Power Leg of EOP-3	
		<ul> <li>Direct lowering RPV water level below 110 inches by terminating and preventing all injection except SLC, RCIC and CRD. Level band: 80-100 inches (EP-5)</li> </ul>	
		<ul> <li>Authorizes SLC injection and EP-3 execution</li> </ul>	
		• Direct injection from Core Spray and RHR prevented (EP-5)	
		<ul> <li>Direct RPV pressure stabilized below 1080 psig with SRVs</li> </ul>	
		Direct ADS Overridden	
		<ul> <li>Direct MSIV low level isolation bypassed (EP-2)</li> </ul>	
		<ul> <li>Direct Initiations \ Isolations verified</li> </ul>	
	L		Pass / Fail
Critical Task #1		Given the Plant in a failure to Scram condition, inhibit the Automatic Depressurization System (ADS) iaw EOP-3.	
Critical Task #1 Standard:		Both ADS Override switches placed in Override	

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	ATC	<ul> <li>Executes Power Leg of EOP-3 as follows:</li> <li>Reduces RWR flow to minimum</li> <li>Trips both RWR pumps</li> <li>Overrides ADS (both switches to Override)</li> <li>Attempts SLC injection, reports both trains failed to inject</li> <li>Executes EP-3 (Backup Control Rod Insertion)</li> </ul>	SAT / UNSAT / NA
Booth Operator: When directed to install MSIV low water level jumpers, run MSIVLEVEL.cae	BOP	<ul> <li>RPV pressure stabilization &lt; 1080 psig with SRVs</li> <li>Override of MSIV low level isolation per EP-2 to NPO</li> <li>Termination / prevention RHR / Core Spray injection per EP-5 as follows:</li> <li>RHR:</li> <li>Place 10MOV-27A (B) Auto Bypass switch 10A-S23A in Bypass</li> <li>Verify white light is on</li> <li>Ensure closed 10MOV-27A (B)</li> <li>Stop RHR Pumps A,B,C,D at SRO discretion (may leave running)</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	BOP (continued)	<ul> <li><u>Core Spray</u>:</li> <li>Place 14MOV-11A (B) Auto Bypass switch 14A-S16A in Bypass</li> <li>Verify white light is on</li> <li>Ensure close 14MOV-11A (B)</li> <li>Ensure CS Pumps A, B stopped</li> <li>Monitors Torus water temperature for approach to BIIT and HCTL</li> <li>Control of RPV water level: Initially lowers RPV level to &lt;110".</li> <li>Controls level band between 80 to 100". Injects thru 34FCV-137, may augment with 34MOV-100A\B</li> <li>Terminates and prevents injection as follows:</li> <li><u>FW:</u></li> <li>Ensure Flow Control 06-84A (B) in manual</li> <li>Lower Flow Control 06-84A (B) to minimum</li> <li>Ensure open Min Flow Valve 34FCV-135A (B)</li> <li>Ensure closed Discharge Valve 34MOV-100A (B)</li> <li>Ensure Startup Valve 34FCV-137 in manual</li> <li>Ensure closed Startup Valve 34FCV-137</li> <li><u>HPCI:</u></li> <li>Depress Turb Trip 23A-S19</li> </ul>	

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
Booth Operator modify coolant leak severity to 10% when Terminate and Prevent actions are complete	All	<ul> <li>Recognizes/reports EOP-4 entry conditions: Drywell pressure</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Recognizes and enters EOP-4 and carries out actions in parallel paths as plant priorities and personnel availability permit</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Monitors APRM power, the BIIT curve and if required, determines level must be lowered for power control if necessary, directs second termination and prevention of all injection except CRD, RCIC and SLC per EP-5</li> <li>Directs shift personnel to monitor for ANY of the following:</li> <li>APRM downscales</li> <li>RPV level at 0"</li> <li>SRVs remain closed and pressure not rising</li> <li>Monitors margin to HCTL</li> <li>Uses EOP-3 override to direct reduction of RPV pressure to maintain margin to HCTL.</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	BOP	<ul> <li>OPERATOR ACTIONS/STANDARD</li> <li>Reduces RPV pressure with SRV operation as directed to maintain margin to HCTL</li> <li>Note: if RPV level is controlled and MSIV jumpers are installed this will not be applicable</li> </ul>	COMMENTS/EVALUATION SAT / UNSAT / NA
Booth Operator: when RPV level is 80-100 inches and controlled \ stable, if directed, pull RPS fuses by running SCRAMFUSEOUT.cae	ATC	<ul> <li>Report majority of Control Rods inserted (5 Rods still out)</li> <li>Rx power &lt;2.5%</li> <li>Continue Rod insertion with RMCS and\or manual scrams</li> <li>EP-3 Section 5.7</li> <li>RWM bypassed</li> <li>Closes 03CRD-56</li> <li>CRD controller to Manual</li> <li>Rod Movement switch to IN</li> <li>Report Turbine trip</li> </ul>	SAT / UNSAT / NA
	ATC	• Report all Control Rods full in	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO	<ul> <li>Directs SLC to be secured</li> <li>Exit EOP-3</li> <li>Enter EOP-2</li> <li>Direct RPV level band 177-222.5 inches with Condensate</li> <li>Direct Torus Spray</li> </ul>	SAT / UNSAT / NA
	ВОР	<ul> <li>Secures SLC by placing switch to center position</li> <li>Establish RPV level of 177-222.5 inches with Condensate</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Address Primary Containment Control (EOP-4)</li> <li>Direct Torus Spray</li> </ul>	

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	ATC		SAT / UNSAT / NA
		• Spray the Forus as following:	
		<ul> <li>Verify torus pressure is GREATER THAN 2.7 psig.</li> </ul>	
		<ul> <li>Place SPRAY CNTRL 10A-S17B switch to MANUAL, spring return to normal.</li> </ul>	
		<ul> <li>Verify white SPRAY PERM 10A-DS-67B light is on.</li> </ul>	
		• Ensure available RHR pumps in RHR loop B are running:	
		RHR PMP 10P-3B	
		RHR PMP 10P-3D	
		<ul> <li>NOTE: 10MOV-3B may be throttled when 10MOV-39B has dual position indication.</li> </ul>	
		<ul> <li>Open RHR TEST TORUS CLG &amp; SPRAY 10MOV-39B</li> </ul>	
		<ul> <li>Throttle TORUS SPRAY INBD VLV 10MOV-38B to establish desired torus spray flow rate.</li> </ul>	
		<ul> <li>WHEN RHR Loop B flow is GREATER THAN 1500 gpm, ensure closed MIN FLOW VLV IOMOV-16B.</li> </ul>	
		<ul> <li>Throttle RHR TEST &amp; TORUS CLG 10MOV-34B to divert excess flow to the torus to maintain &gt;6,500 gpm RHR Loop B flow with one RHR pump operating or &gt;13,000 gpm RHR Loop B flow with two RHR pumps operating.</li> </ul>	
		Establish RHRSW flow and temperature control.	
EAL		SS2.1	SAT / UNSAT / NA

# **Termination Criteria:**

Rx power is less than 2.5%, RPV level is in assigned band and Control Rod insertion is in progress or completed.

# ATTACHMENT 1

## Shift Turnover

The Plant is operating at 75% due to a Control Rod Sequence Exchange.

Shift activities are to continue restoring Control Rods to the new Rod Pattern, then return the Plant to Full Power iaw RAP-7.3.16.

The next Control Rod to be withdrawn is 42-35.

Withdrawal Control Rods and perform Rod Coupling checks IAW OP-26 \ ST-23B.

Initial	Step	Action	Rod	From Notch	To Notch	Method	Notes	SM Approval
	1	Raise Power by rod withdrawal	42 - 35	00	48	Continuous		
	2	Complete Coupling Check				ST-23B		
	3	Raise Power by rod withdrawal	10 - 19	00	48	Continuous		
	4	Complete Coupling Check				ST-23B		
	5	Raise Power by rod withdrawal	42 - 19	00	48	Continuous		
	6	Complete Coupling Check				ST-23B		



TITLE:

**LOI-12-01 NRC EXAMINATION SCENARIO 3** 

SCENARIO NUMBER: SCENARIO #3

PATH:

STAND ALONE

Validation: The The Training: Allely

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		in an	
CRS		· · · ·	
ATC			
BOP			

### **RECORD OF CHANGES**

DATE	SOURCE OF CHANGE	BRIEF DESCRIPTION OF CHANGE	INITIATOR	REVIEWED
12/2011	New	New Scenario	D. Kelly	
			,	
				1
				13

#### A. <u>TITLE:</u> LOI-12-01 NRC EXAMINATION SCENARIO 3

#### B. <u>SCENARIO SETUP:</u>

- 1. Initial Protected IC 46
- 2. Special Instructions:
  - a. Plant at 68% CTP
  - b. CRD pump 'B' out of service with Red tag hanging
  - c. RHR Loop 'A' out of service with Red tags hanging
  - d. ADS Valve 'D' inoperable with Red tag hanging
- 3. Preset Conditions: need to "setup" Event Trigger to dmf RH04A:B
  - a. TRIGGER 3, ED43:A, LHH Line 3 Fault-TRUE
  - b. Preset, RP01:A, RPS Auto scram failure-TRUE
  - c. TRIGGER 5, ED44, Loss 115KV Sys-TRUE
  - d. Preset, HP01, HPCI Fail to Auto Start-TRUE
  - e. TRIGGER 6, HP02, HPCI Turbine Trip-TRUE
  - f. TRIGGER 7, RR15:A, Coolant Leak Inside Containment-5%
  - g. Preset, RP09, ARI Fails to Actuate-TRUE
  - h. Preset, RP12:A\B & RP13, PCIS GP1 Inboard\Outboard & Isolation Failure-TRUE
  - i. TRIGGER 2, AD06:H, Rx Press Relief Valve H Inadvertent Opens
  - j. Preset, RH14, LPCI fails to auto initiate
  - k. Preset, SW04:A\C, RHRSW pumps A & B trip
  - I. TRIGGER 4, FW19:B\C, Condensate Pump B and C trip
  - m. Preset, AD03 & 4 &7:D, SRV D inop
  - n. Preset, TC11, Main Turbine fails to auto trip
  - o. Preset, RD06:B, CRD Pump B trip
  - p. TRIGGER 8, ED18A, 10500 fault
  - q. Preset, CS02B, Core Spray valve 12B fails to auto open
  - r. Preset, RH04A:A, LPCI valve 25A fails closed
  - s. TRIGGER 20, AD02H, SRV H Fuse Pull-OUT
  - t. TRIGGER 1, AN932:01 Core Spray Header B Pipe Break Detector-ON
  - u. Preset, OL RD ZL03BS3B(1), CRD Feedpump- Green Light- OFF
  - v. Preset, OS RP ZDI5AS3A\B, Reactor Scram A\B Pushbuttons -NORMAL
  - w. Preset, OL SW ZLO10AS20A(C)(1) RHRSW Pump A(C) Green Light- OFF
  - x. Preset, OL AD ZLO271D(1) 'D'SRV Green Light- OFF
  - y. Preset, OL RH ZLO10P2A(1) RHR Keepfull pump Green Light- OFF
  - z. Preset, OS RH ZDI10AS4A(C) Torus Suction Valve- CLOSED
  - aa. Preset, RHZLO10AS3A(1), C(1), RHR Pump A and C Green light OFF
  - bb.Preset, SWZLO10AS49, 50A, SW Cross-tie Green OFF
  - cc.Preset, RHZDI10AS16A Min Flow CLOSED
  - dd.Preset, S16A Min Flow Byp OFF
  - ee.Preset, S8A(1) LPCI Inbd Valve OFF

### 4. Consumable Forms and Procedures:

- Reactor Engineer Instructions
- OP-65 open and circle \ slashed up to and including Step F.2.5.
- OP-65 open and circle open Step F.2.6.

#### C. SCENARIO SUMMARY:

The scenario will begin with the Plant shutting down from 68% CRD Pump 'B' out of service and ADS valve 'D' inoperable. Also, RHR Loop 'A' is out of service due to an issue with the suction strainer identified by System Engineer (Day 7 of a 7 day LCO). Shift activity is to lower power IAW OP-65 to less than 65% with Control Rods, remove a Condensate (Condensate Booster) Pump and Circulating Water Pump from service.

Once the Circulating Water Pump is secured, the Core Spray Leak Detection alarm is received. The SRO will consult Tech Specs and declare Core Spray Loop 'B' inoperable

After the Core Spray Tech Spec LCO is addressed, a Safety Relief Valve (SRV) inadvertently opens. The Crew will enter AOP-36. Torus Cooling placed in service. EOP-4 may be entered on Torus Water Temperature depending on execution timeliness of Crew actions. When the fuses for the open SRV are pulled, the SRV will close. Tech Specs will be consulted and Station Management informed of the transient.

Once the Plant is stable, the 115KV Line 3 will de-energize. AOP-72 (115KV Grid Loss, Instability or Degradation) will be entered. Communication with Power Control reveals that the "Low Voltage Post Contingency Alarm" voltage is < 112KV. This requires the SRO to declare both 115KV lines inoperable and enter TS 3.8.1 (AC Sources-Operating). Additionally, TS 3.5.1 (ECCS Operating) will have to be entered due to Core Spray Loop 'B' being inoperable.

After the SRO has addressed the 115KV issue, Condensate Pump B trips. This will cause RPV level to lower and iaw AOP-41 a manual scram should be inserted. When the ATC depresses the Manual Scram pushbuttons, RPS fails to operate. All Rods will insert if \ when the ATC rotates the Mode Switch to Shutdown. The Main Turbine fails to automatically trip following the scram and a manual Turbine Trip should be inserted.

When RPV level restoration begins, Line 4 de-energizes resulting in a loss of all offsite power. The loss of Line 4 along with the previous loss of Line 3 results In a complete loss of non vital AC power. With no Circulating Water Pumps running, the Crew is required to manually close the MSIVs. The Emergency Diesel Generators will start and power the "vital" busses.

RPV Level control will be complicated by HPCI failing to auto start (manual start is successful however, once started, HPCI will trip). A coolant leak in Containment will occur due to the scram transient. With limited high pressure injection, RPV level will lower. The Crew will ultimately transition to the Alternate RPV Level Control leg of EOP-2.

The Crew will make the determination that RPV level cannot be maintained greater that "Top of Active Fuel" (TAF) and prior to (-) 19 inches the Crew will Emergency Depressurize the RPV. When the ED is directed, only 5 ADS SRVs can be opened due to the previous issue with SRV 'D' and 'H'. The Crew will open additional SRVs to complete the ED.

RPV pressure will eventually lower enough to allow low pressure ECCS pumps (LPCI \ CS) to inject and raise RPV level to a band of 177-222.5 inches however, ECCS operation is challenged. A loss of the 10500 bus occurs. This renders one RHR pump and one Core Spray pump unavailable. Additionally, the LPCI Mode of RHR fails to automatically initiate (manual operation is successful) and the remaining Core Spray Loop's injection valve fails to automatically open (manual opening is successful).

The Scenario will be terminated when the Reactor is depressurized and RPV level is above 0" and rising.

#### Shift Turnover

The Plant is shutting down from 68%.

CRD Pump 'B' is danger tagged out of service.

ADS Valve 'D' is inoperable due to incorrect parts installed during last RFO. The valve will not open electrically and is danger tagged shut.

RHR Loop 'A' is danger tagged out of service (Day 7 of a 7 day LCO).

After assuming Shift, continue lowering Rx power to < 65% with Control Rods using Reactor Engineering maneuvering sheets.

Secure one Condensate and Condensate Booster Pump and one Circulating Water Pump.

Wait for further Rx Engineering instructions.

Critical Tasks/S	tandards
Critical Task #1:	Given the Plant in a failure of RPS to automatically shutdown the Rx, the Crew will take actions to manually scram the Rx.
Critical Task #2:	Given the Plant in a condition with the Rx shutdown, Rx pressure greater than the shutoff head of low pressure systems and at least one injection source available, the Crew will initiate an Emergency Depressurization prior to RPV level reaching (-) 19 inches.
Critical Task #3	Given the Plant in a condition with the Rx shutdown, reactor pressure less than the shutoff head of low pressure systems and at least one injection source available, the Crew will inject into the RPV until level is greater than 0 inches (TAF).

EVENT NO.	EVENT SEQUENCE						
1.	Lower Rx power with Control Rods.	(Reactivity: ATC \ SRO)					
2.	Remove Condensate \ Circ Water pumps.	(Normal: BOP \ SRO)					
3.	Core Spray Leak Detection break.	(TS: SRO)					
4.	SRV opens then closes.	(Component: BOP \ SRO) (TS: SRO)					
5.	Loss Line 3.	(TS: SRO)					
6.	Condensate Pump B trip.	(Major: All)					
7.	RPS failure. Mode Switch ok.	(Component: ATC \ SRO)					
8.	Failure of Main Turbine auto trip.	(Component: ATC)					
9.	Loss Line 4 (LOOP).	(Major: All)					
10.	Loss of Coolant.	(Major: All)					
11.	HPCI fail to auto start. Trips after manual start.	(Component: BOP \ SRO)					
12.	Limited injection sources. Emergency Depressurization.	(Major: All)					
13.	Loss 10500 Bus.	(Component: BOP \ SRO)					
14.	LPCI B fails to auto initiate.	(Component: BOP \ SRO)					
15.	Core Spray inj vlv fails to auto open.	(Component: BOP \ SRO)					

#### D. TERMINATION CUES:

1. Reactor is depressurized and RPV level is above 0 inches and rising.

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
Simulator in RUN Recorder and Alarm Power ON Simulator Checklist Complete			
Provide Turnover (Attach. 1)			
After the shift turnover, allow no more than five minutes for panel walkdown	All	• Walkdown the control panels and assume the watch	SAT / UNSAT / NA
	SRO	<ul> <li>Direct Rx power lowered &lt;65% using Control Rods.</li> </ul>	SAT / UNSAT / NA
	ATC	<ul> <li>Using Rx Eng instructions, selects the following Control Rods and fully insert them using ROD MOVEMENT CNTRL "Rod In" position</li> <li>Monitors Nuclear Instrumentation and 4 Rod Display</li> <li>26-27 (48-00)</li> <li>18-35 (08-00)</li> <li>34-35 (08-00)</li> <li>34-19 (08-00)</li> <li>18-19 (08-00)</li> <li>10-27 (08-00)</li> <li>26-43 (08-00)</li> <li>42-27 (08-00)</li> <li>26-11 (08-00)</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	All	<ul> <li>Report Rx power &lt; 65% (approximately 61.5%)</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Direct Condensate Booster \ Condensate Pump 'C' removed from service IAW OP-3 Section F.1</li> <li>Then directs Circulating Water Pump 'C' removed from service IAW OP-4 Section F.7</li> </ul>	SAT / UNSAT / NA
Role Play: When directed to reduce Chlorine Injection pump stroke, report action performed. (no action by Booth Operator necessary) Hydrogen injection is being adjusted as necessary.	BOP	<ul> <li><u>Condensate Booster \ Condensate Pump</u></li> <li>Obtain OP-3 Section F.1</li> <li>Notify Radwaste of Condensate lineup change</li> <li>Check Cond Demin dP and flow</li> <li>Places and holds Condensate Booster Pump 'C' control switch in STOP, wait for system stabilization, return switch to Normal</li> <li>Verifies Green light on, Red light off</li> <li>Places and holds Condensate Pump 'C' control switch in STOP, wait for system stabilization, return switch to Normal</li> <li>Verifies Green light on, Red light off</li> <li>Places and holds Condensate Pump 'C' control switch in STOP, wait for system stabilization, return switch to Normal</li> <li>Verifies Green light on, Red light off</li> <li><u>Circulating Water Pump</u></li> <li>Obtain OP-4 Section F.7</li> <li>Place Circ Water Pump 36P-1C to Stop</li> <li>Verify closed Circ Water Pump Discharge Valve 36MOV-100C (Green on, Red off)</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
ACTIVATE TRIGGER 1 Core Spray Header 'B' Pipe Break			
Role Play: when contacted as I&C \ NPO, wait 5 minutes and report Core Spray 'B' Leak detector dP pegged high (positive) and alarm is valid. 14DPIS-43B	All	<ul> <li>Recognize \ report Annunciator 09-3-2-1 Core Spray Header 'B' Pipe Break Detector alarm</li> <li>Refer to ARP, dispatch I&amp;C \ NPO</li> <li>Run 3D case</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Consult TRM 3.3.H (monitor once every 12 hrs)</li> <li>Declare Core Spray Loop 'B' inoperable (TS 3.5.1.A, 7 day LCO) and with RHR A inoperable (TS 3.5.1.H – enter LCO 3.0.3 immediately)</li> <li>Inform Station Management</li> </ul>	SAT / UNSAT / NA
ACTIVATE TRIGGER 2 SRV 'H' inadvertently opens			
	BOP	<ul> <li>Report Annunciator 09-4-1-16 SRV LEAKING</li> <li>Report Annunciator 09-4-2-6 SRV SONIC MON ALARM</li> <li>Using Acoustic Monitor determine SRV 'H' open</li> </ul>	SAT / UNSAT / NA
	ATC	• Confirms SRV is open by panel 09-5 indications	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO	<ul> <li>Acknowledge report</li> <li>Enter AOP-36</li> <li>Review TS 3.5.1.E (ECCS Operating)</li> <li>3.6.2.4.A</li> <li>May place vent on Torus depending on timeliness of actions.</li> </ul>	SAT / UNSAT / NA
Role Play: When Candidate contacts NPO, coordinate with Candidate and insert TRIGGER 20, Remote AD02H (OUT).	BOP	<ul> <li>Executes AOP-36 as follows:</li> <li>Cycles control switch for SRV 'H' open and close</li> <li>Reports SRV still open</li> <li>Contact NPO and coordinate pulling fuses.</li> <li>The following fuses will be pulled:</li> <li>F41 (F12H)</li> <li>F30 (F11H)</li> <li>F19 (F4H)</li> <li>F9 (F3H)</li> <li>Reports SRV 'H' closes</li> </ul>	SAT / UNSAT / NA
	ATC	<ul> <li>Monitor \ report Power, Pressure, Level parameters</li> <li>Confirms SRV is shut per panel 09-5 indications</li> </ul>	SAT / UNSAT / NA

BOP       SAT / UNSAT / NA         • Places RHR in Torus Cooling as follows:       Ensure at least one of the following RHR pumps is running: 10P-3B, D       Open RHR Test Torus Clg & Spray 10MOV-39B         • Throttle RHR Test & Clg 10MOV-34B to establish desired flow       When RHR Loop B is greater than 1500 gpm, ensure closed Min Flow Valve 10MOV-16B.       Establish RHRSW flow and temp control as follows:         • Verify one of the following alarms is clear: 09-4-3-4 (RHRSW A or B Discharge Line Not Full) or EPIC-D-135 (10LS-105B)       Start the following RHRSW pump(s):10P-1B, D         • Throttle RHRSW Disch Valve From HXB 10MOV-89B to establish 2500 to 4000 gpm       Start second RHRSW pump if desired         • Throttle RHRSW Disch Valve From HXB 10MOV-89B to establish 2500 to 4000 gpm or more of the following methods:       Control continiment heat removal rate by using one or more of the following methods:         • Control continiment heat removal rate by using one or more of the following methods:       Throttle valves         • Start or stop pumps       Start or stop pumps         • Shutdown loop       Shutdown loop

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
ACTIVATE TRIGGER 3			
Loss Line 3 (115KV)			
	All	<ul> <li>Recognize \ report Loss Line 3</li> <li>Annunciator 09-8-6-10 LHH-FITZ 115KV LINE 3 BKR 10022 TRIP</li> </ul>	SAT / UNSAT / NA
	SRO	• Enter AOP-72	SAT / UNSAT / NA
Role Play: When Power Control contacted, report restoration of Line 3 is unknown. The Low Voltage Post Contingency Alarm voltage is 110.5KV	BOP	<ul> <li>Monitor Electric Plant parameters \ lineup</li> <li>Report reclosure scheme status</li> <li>Call National Grid (Power Control) and Nine Mile Point</li> <li>Relay info concerning Low Voltage Post Contingency Alarm voltage is 110.5KV to SRO</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Acknowledge Low Volt Post Contingency value of 110.5KV</li> <li>Declare both 115KV lines inoperable</li> <li>Enter TS 3.8.1.A and C (AC Sources Operating)</li> <li>Recognize ST-9R is required to be performed within 1 hr.</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
Critical Task #1		Given the Plant with a failure of the manual scram pushbuttons to shutdown the Rx, the Crew will use alternate methods to scram the Rx.	Pass \ Fail
Critical Task #1 standard		Rx Mode Switch rotated to Shutdown position prior to the loss of adequate core cooling.	
ACTIVATE TRIGGER 4 Condensate Pump B trip and Condensate C pump will trip if started			
	All	<ul> <li>Recognize \ report trip of Condensate Pump B</li> <li>Recognize \ report trip of Condensate Pump C when started.</li> </ul>	SAT / UNSAT / NA
	ATC	Report RPV level lowering	SAT / UNSAT / NA
	SRO	<ul> <li>Enter AOP-41, Feedwater Malfunction</li> <li>Recognize Condensate parameters not with capacity of required Feedwater</li> <li>Direct Manual Scram</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	ATC	<ul> <li>Depress Manual Scram Pushbuttons, report failure to scram</li> <li>Rotate Mode Switch to Shutdown</li> <li>Report all Control Rods full in</li> <li>Carryout AOP-1 actions:</li> <li>Fully Insert all SRM's and IRM's</li> <li>Verify reactor power is rapidly lowering</li> <li>APRM downscales</li> <li>Inserted IRMs and SRMs trending down</li> <li>Verify all rods in</li> <li>Ensure SDIV Vent and Drain valves closed</li> <li>When APRM's downscale:</li> <li>Ensure Main Turbine tripped, recognize still connected to Grid, manually trips Main Turbine</li> <li>Verify 4KV loads transfer to reserve power</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Enter EOP-2</li> <li>Confirm all Control Rods in</li> <li>Direct RPV water level band 177-222.5 inches</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	BOP	<ul> <li>Monitor RPV water level response</li> <li>Prepare for manual Feedwater control by observing Narrow Range level meter response</li> <li>Place both Feedwater MA stations in manual and lower RFP speed when RPV water level "bottoms out"</li> <li>Rotates MA station control knob clockwise and begin raising RPV water level to 177-222.5 inches</li> </ul>	SAT / UNSAT / NA
Activate Trigger 5 Loss of Offsite Power ( <i>when</i> RPV level is 140 inch and rising)			
	All	<ul> <li>Recognize \ report loss of all 115KV offsite power</li> <li>Recognize \ report loss of all non-vital AC power</li> </ul>	SAT / UNSAT / NA
	ATC	<ul> <li>Recognize \ report loss of all Circulating Water</li> <li>Manually close MSIVs</li> <li>Recognize \ report loss of RBC, TBS, Service Water and Instrument Air</li> </ul>	SAT / UNSAT / NA
	ВОР	<ul> <li>Recognize \ report complete loss of Condensate and Feedwater.</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO	<ul> <li>Direct RPV level control with HPCI and RCIC.</li> <li>Direct RPV pressure control 800–1000 psig with SRVs.</li> </ul>	SAT / UNSAT / NA
<b>Activate Trigger 6</b> HPCI trip ( <i>after</i> manually started)	BOP	<ul> <li>Monitor RCIC start \ status</li> <li>Recognize \ report HPCI failed to auto start</li> <li>Manually start HPCI</li> <li>Report HPCI running</li> <li>Report HPCI tripped</li> <li>Controls RPV pressure in the assigned band.</li> </ul>	SAT / UNSAT / NA
Activate Trigger 7 Coolant leak in Drywell ( <i>when</i> RPV level at 160 inch)			
	All	Recognize rising drywell pressure	SAT / UNSAT / NA
	SRO	Directs AOP-39 actions	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	ВОР	<ul> <li>Direct Relay Room, Control Room and TSC Ventilation aligned per AOP-39.</li> <li>Direct H2O2 monitors restored</li> </ul>	SAT / UNSAT / NA
Modify RR15 to 10% when DW pressure is 2.7#.	ALL	<ul> <li>Recognize/report drywell pressure &gt; 2.7psig</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Enters EOP-4 and renters EOP-2</li> <li>Directs Torus Spray initiated before 15 psig</li> <li>Monitors for 15 psig in Torus</li> <li>Direct drywell Spray</li> </ul>	SAT / UNSAT / NA
	BOP	<ul> <li>Spray the Torus as following:</li> <li>Verify torus pressure is GREATER THAN 2.7 psig.</li> <li>Place SPRAY CNTRL 10A-S17B switch to MANUAL.</li> <li>Verify white SPRAY PERM 10A-DS-67B light is on.</li> <li>Ensure available RHR pumps in RHR loop B are running:</li> <li>RHR PMP 10P-3B \ RHR PMP 10P-3D</li> <li>NOTE: 10MOV-3B may be throttled when 10MOV-39B has dual position indication.</li> <li>Open RHR TEST TORUS CLG &amp; SPRAY 10MOV-39B</li> <li>Throttle TORUS SPRAY INBD VLV 10MOV-38B to establish desired torus spray flow rate.</li> </ul>	SAT / UNSAT / NA
INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
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	BOP continued	<ul> <li>WHEN RHR Loop B flow is GREATER THAN 1500 gpm, ensure closed MIN FLOW VLV IOMOV-16B.</li> </ul>	
		<ul> <li>Throttle RHR TEST &amp; TORUS CLG 10MOV-34B to divert excess flow to the torus to maintain &gt;6,500 gpm RHR Loop B flow with one RHR pump operating or &gt;13,000 gpm RHR Loop B flow with two RHR pumps operating.</li> </ul>	
		Establish RHRSW flow and temperature control.	
when Drywell Spray initiated, Modify RR15 to 30% Ramp 5 min.	BOP	<ul> <li>Spray the Drywell</li> <li>Ensure the following components are tripped:</li> <li>02-2P-1A,B</li> <li>68FN-2 &amp; 4 A,B,C,D</li> <li>Verify parameters are within DWSIL</li> <li>Place Spray Control switch 10A-S17A\B to Manual, spring return to Normal</li> <li>Verify white Spray Permissive 10A-DS67A\B light on</li> <li>Ensure available RHR pumps are running</li> <li>Open DW Spray Outboard Valve 10MOV-26A\B</li> <li>Throttle DW Spray Inboard Valve 10MOV-31A\B to establish desired drywell spray flow rate</li> <li>When RHR loop flow is &gt;1500 gpm, ensure closed Min Flow Valve 10MOV-16A\B</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	SRO	<ul> <li>Evaluate high pressure injection resources</li> <li>Determine that only high pressure Group 1 injection sources are CRD and RCIC</li> <li>Exercise IF \ THEN override in EOP-2 Level Leg</li> <li>Direct SLC to be injected</li> </ul>	SAT / UNSAT / NA
	BOP	<ul> <li>Injects SLC as directed</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Maintains awareness of RPV water level trend</li> <li>Recognizes RPV level cannot be restored and maintained &gt;TAF (0 inches)</li> <li>Transitions to Alternate Level leg of EOP-2</li> <li>Directs ADS to be overridden</li> <li>Monitors for RPV level of 0 inches</li> </ul>	SAT / UNSAT / NA
	ATC \ BOP	<ul> <li>Overrides ADS by placing both switches to Override</li> <li>Report \ trend RPV water level</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
Critical Task #2		Given the Plant in a condition with the Rx shutdown, Rx pressure greater than the shutoff head of low pressure systems and at least one injection source available, the Crew will initiate an Emergency Depressurization prior to RPV level reaching (-) 19 inches.	Pass \ Fail
Critical Task #2 standard		All operable ADS SRVs (5) open and two additional non-ADS SRV open	
	SRO	<ul> <li>Determines RPV level is less than 0 inches.</li> <li>Directs Emergency Depressurization prior to RPV level reaching (-)19 inches</li> </ul>	SAT / UNSAT / NA
Activate TRIGGER 8 <i>when</i> 7 SRVs are opened Loss of 10500 Bus	ATC	<ul> <li>Attempts to open 7 ADS SRVs</li> <li>Inform SRO that only 5 ADS SRVs can be opened due to SRV 'D' and 'H' being inoperable</li> <li>Open additional SRVs to obtain 7 SRVs open</li> <li>Reports loss of 10500 Bus</li> </ul>	SAT / UNSAT / NA
	SRO	<ul> <li>Acknowledge loss of 10500 Bus</li> <li>Assess low pressure ECCS sources</li> <li>Prepares Crew for RPV injection once RPV pressure is less than shutoff head of Low Pressure ECCS systems</li> <li>Discusses strategy for RPV level control</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
Critical Task #3		Given the Plant in a condition with the Rx shutdown, reactor pressure less than the shutoff head of low pressure systems and at least one injection source available, the Crew will inject into the RPV until level is greater than 0 inches (TAF).	Pass \ Fail
Critical Task #3 standard		RPV injection commenced once RPV pressure is less than the shutoff head of LPCI and \ or Core Spray and RPV level raised above 0 inches (TAF)	
NOTE: <u>Either</u> RHR Loop B <u>or</u> Core Spray Loop B have to be used to satisfy CT #3	BOP	<ul> <li>Recognize \ report Core Spray injection valve fails to open</li> <li>Manual open Core Spray injection valve 14MOV-12B</li> </ul>	SAT / UNSAT / NA
	BOP	<ul> <li>Recognize \ report LPCI B failed to auto initiate (2.7# or 59.5 inch)</li> <li>Start LPCI pump B</li> <li>Monitor injection valve 25B for auto open when RPV pressure less than open setpoint</li> <li>Recognize 25B failed to auto open</li> <li>Manually open 25B valve</li> </ul>	SAT / UNSAT / NA

INSTRUCTOR ACTIVITY	POSITION	OPERATOR ACTIONS/STANDARD	COMMENTS/EVALUATION
	BOP		SAT / UNSAT / NA
and the second		When RPV pressure is less than the shutoff head of LPCI \     Core Spray, RPV level restoration is as follows:	
		Throttles Core Spray injection valve	
		Secures RHR pump	
		Report RPV level in band	
	SRO		SAT / UNSAT / NA
		<ul> <li>Once RPV level is rising, direct re-establishing Torus and Drywell sprays</li> </ul>	
EALs		FA1.1 or SA2.1 meets the Alert Classification	SAT / UNSAT / NA

## TERMINATE THE SCENARIO

The Scenario will be terminated when the Reactor is depressurized and RPV level is 0 inches and rising.

## ATTACHMENT 1

## Shift Turnover

The Plant is shutting down from 68%.

CRD Pump 'B' is danger tagged out of service.

ADS Valve 'D' is inoperable due to incorrect parts installed during last RFO. The valve will not open electrically and is danger tagged shut.

RHR Loop 'A' is danger tagged out of service (Day 7 of a 7 day LCO).

After assuming Shift, continue lowering Rx power to < 65% with Control Rods using Reactor Engineering maneuvering sheets.

Secure one Condensate and Condensate Booster Pump and one Circulating Water Pump.

Wait for further Rx Engineering instructions.