

Draft Submittal

**VOGTLE MAY 2005 EXAM
50-424, 425/2005-301**

**MAY 17 - 25, 2005
MAY 27, 2005 (WRITTEN)**

1. **Administrative Topics Outline (ES-301-1)**
2. **Control Room Systems & Facility Walk-Through
Test Outline (ES-301-2)**
3. **Administrative JPMs**
4. **In-plant JPMs**
5. **Control Room JPMs (simulator JPMs)**

DRAFT

ES-301, Rev. 9

Administrative Topics Outline

Form ES-301-1

Facility: Vogtle Examination Level: RO		Date of Examination: May 2005 Operating Test Number: 2005-301
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	M	Title: Safety Function Status Checks Description: Perform Safety Function Status Checks without the aid of the computer. JPM constructed for at least one safety function not satisfied. K/A: G2.1.7 (3.7/4.0)
Conduct of Operations	M	Title: Shutdown Margin Calculation Description: Determine shutdown margin at zero power at 28 hours after a reactor trip, with RCS temperature at less than the hot zero power reference value. K/A: G2.1.7 (3.7/4.0)
Equipment Control	M	Title: Construct Tagout for Unit 2 #4 Nuclear Service Cooling Water Pump Description: Construct tagout without the use of pre-written tagouts from master tagouts or computerized tagging system. K/A: G2.2.13 (3.6/3.8)
Radiation Control	M	Title: Radiation Posting Requirements / Accumulated Dose Description: A point source is located a few feet from a door. A map of the room should be used to depict the point source and the location of the radiation posting. The applicant must calculate the dose rate at the door as being greater than 100 mrem/hr, thus requiring the door to be posted HIGH RAD AREA. The JPM will have the applicant determine the posting requirement for the room. K/A: 2.3.4 (2.5/3.1)
Emergency Plan	N/A	N/A
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.		
* Type Codes & Criteria: (C)ontrol room (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1 ; randomly selected) (S)imulator		

Facility: Vogtle Examination Level: SRO		Date of Examination: May 2005 Operating Test Number: 2005-301
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	M	Title: Determine Mode Change Requirements Description: JPM will give a set of plant conditions, one of which will preclude making a mode change (I.E., Tech Spec that will not be met in next higher mode.) JPM will direct a determination of whether a mode change can be made and if not, what conditions are preventing the mode change. K/A: G2.1.10 (2.7/3.9)
Conduct of Operations	M	Title: Shutdown Margin Calculation Description: Determine shutdown margin at zero power at > 24 hours after a reactor trip, with RCS temperature at less than the hot zero power reference value. K/A: G2.1.7 (3.7/4.0)
Equipment Control	M	Title: Construct Tagout for Unit 2 #4 Nuclear Service Cooling Water Pump Description: Construct tagout without the use of pre-written tagouts from master tagouts or computerized tagging system. K/A: G2.2.13 (3.6/3.8)
Radiation Control	M	Title: Life Saving in Emergency Conditions Description: Perform dose calculation on a point source that will yield an accumulated dose of > 25 rem. Determine all individuals who must approve an entry to rescue an injured person and that the person making the entry must be a volunteer. Data Sheet 1 of 91301-C must be completed. K/A: G2.3.4 (2.5/3.1)
Emergency Plan	M	Title: Emergency Classification Description: Determine event classification of General Emergency with protective action recommendations. Plant conditions shall be different than previous bank JPMs. K/A: G2.4.29 (2.6/4.0)
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.		
* Type Codes & Criteria: (C)ontrol room (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1; randomly selected) (S)imulator		

Facility: Vogtle Exam Level (circle one): RO / SRO-I / SRO-U (see each JPM)		Date of Examination: May 2005 Operating Test No.: 2005-301	
Control Room Systems [®] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U, including 1 ESF)			
System / JPM Title		Type Code*	Safety Function
√	a. Start and load EDG to dead bus. Load increases uncontrollably. (RO / SRO-I / SRO-U) K/A: 062A1.01 (3.4/3.8)	M, A, S	6 (Electrical)
	b. Depressurize RCS following SGTR in accordance with 19030-C, E-3, SGTR, Step 17. JPM will require use of auxiliary sprays. (RO / SRO-I / SRO-U) K/A: 038EA1.04 (4.3/4.1)	N, A, E, S	3 (Pressure Control)
√	c. Perform Immediate Operator Actions for Toxic Gas Release. Two components fail to reposition. (RO / SRO-I / SRO-U) K/A: 068G2.4.49 (Control Room Habitability / Evacuation – Safety Function 8) Facility JPM: RQ-JP-18035-001	M, A, E, S	8 (Service Sys)
	d. Perform RCS cooldown using steam dumps following SGTR in accordance with 19030-C, E-3, SGTR, Step 7. (RO / SRO-I) K/A: 041A4.08 (3.0/3.1)	N, E, L, S	4 (Sec Heat Removal)
	e. Manually makeup to VCT. Boric Acid transfer pump degrades and flow deviation alarms, but automatic actions fail to occur. (RO / SRO-I) K/A: 004A2.06 (4.2/4.3)	N, A, S	1 (Reactivity)
	f. Shift operating Charging Pump from NCP to 'A' CCP. NCP has high vibrations and 'B' CCP is tagged out. (RO / SRO-I) K/A: 004A4.08 (3.8/3.4)	N, S	2 (Inventory Control)
	g. Dilute Containment with Service Air in accordance with 19010-C, E-1, Loss of Reactor or Secondary Coolant, Step 19. (RO / SRO-I) K/A: 028A4.01 (4.0/4.0) Facility JPM: RQ-JP-13130-001	D, E, L, S	5 (Containment)
	h. Place RHR Train in service and initiate a cooldown. (RO) K/A: 005A4.01 (3.6/3.4) Facility JPM: RQ-JP-13011-001	D, L, S	4 (Pri Heat Removal)

In-Plant Systems [®] (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. Release Unit 2 WMT 010. RE-018 exceeds setpoint, but RV-018 fails to close. (RO / SRO-I / SRO-U) K/A: 068A2.04 (3.3/3.3) Facility JPM: RQ-JP-17213-001	M, A, R	9 (Radioactivity Release)
j. Locally operate Steam Generator ARV. (RO / SRO-I / SRO-U) K/A: 039G2.1.30(3.9/3.4) Facility JPM: RQ-JP-19030-006	D, E, L, R	4 (Sec Heat Removal)
k. Place a 1E 125 Vdc Battery Charger In Service (RO / SRO-I) K/A: 058AA1.03 (3.1/3.3) Facility JPM: RQ-JP-13405-001	D	6 (Electrical)
@ All control room (and in-plant) systems must be different and serve different safety functions; in-plant systems and functions may overlap those tested in the control room.		
* Type Codes	Criteria for RO / SRO-I / SRO-U	
(A)lternate path	4-6 / 4-6 / 2-3	
(C)ontrol room		
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4	
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1	
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1	
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1	
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	
(R)CA	≥ 1 / ≥ 1 / ≥ 1	
(S)imulator		



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CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

CLASSIFY AN EMERGENCY EVENT - GENERAL EMERGENCY

- Deleted: RC-JP-
- Deleted: 40101-001-011
- Deleted: 91001-009
- Deleted: Revision
- Deleted: 0
- Deleted: 1
- Deleted: January 4, 1996
- Deleted: December 12, 2000
- Deleted: Written By :
- Deleted: George Gunn
- Deleted: M. C. Henry . Date:
- Deleted: 01
- Deleted: 12/
- Deleted: 04
- Deleted: 12/
- Deleted: 96
- Deleted: 2000
- Deleted: Approved By :
- Deleted: Leon Ray
- Deleted: xxxxxxxxxx
- Deleted: R. D. Brigdon . Date:
- Deleted: 01
- Deleted: 12/
- Deleted: 04
- Deleted: xx/
- Deleted: 96
- Deleted: 2000
- Deleted: 01/25/2001

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: Reactor trip and Safety Injection has been initiated due to LOCA
No CCPs or SIPs are running
Core exit T/C's reading 2400 degrees F
FRP 19221-C in progress
Crew is depressuring all SGs to 200 psig at the maximum rate possible
CNMT radiation monitors RE-005 & RE-006 are reading 3.2 E+9 mR/hr
SG NR levels are at 45%
CNMT pressure is 18.9 psig
Wind 280 degrees at 10 mph

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Assigned Task: Evaluate plant conditions and determine appropriate emergency classification and protective action recommendations using 91001-C and 91305-C.

Deleted: With DG 1A tagged out, a fault in the low voltage switchyard resulted in the loss of both RATs and an overcurrent fault on 1BA03. During performance of the EOP a LOCA occurred that resulted in core exit thermocouples exceeding 1200 °F ¶

Task Standard: Emergency event classified and protective actions recommended.

Assigned Task: You have been directed to "Determine the HIGHEST emergency classification level based on events which are in progress, considering past events, and their impact on the current plant conditions". ¶

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ____/____/____

JPM TITLE: Classify an Emergency Event - General Emergency with protective actions

COMPLETION TIME: 15 minutes

Application: **SRO ONLY**

Task Number: 40002 & 40005

K/A Number: G2.4.29 RO: 2.6 SRO: 4.0

10CFR55.45 Ref.: 11

- Deleted: REVISION:
- Deleted: 0
- Deleted: 1
- Deleted: January 4, 1996
- Deleted: December 12, 2000
- Deleted: 6
- Deleted: 194001A116
- Deleted: 3.1
- Deleted: 3

Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____minutes

OVERALL JPM EVALUATION **SATISFACTORY** **UNSATISFACTORY**

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 91001-C and 91305-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS:
1. 91001-C, Emergency Classification and Implementing Instructions
 2. 91305-C, Protective Action Guidelines

SIMULATOR SETUP: None

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DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

- INITIAL CONDITIONS:
- Reactor trip and Safety Injection has been initiated due to LOCA
 - No CCPs or SIPs are running
 - Core exit T/C's reading 2400 degrees F
 - FRP 19221-C in progress
 - Crew is depressuring all SGs to 200 psig at the maximum rate possible
 - CNMT radiation monitors RE-005 & RE-006 are reading 3.2 E+9 mR/hr
 - SG NR levels are at 45%
 - CNMT pressure is 18.9 psig
 - Wind 280 degrees at 10 mph

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ASSIGNED TASK: Evaluate plant conditions and determine appropriate emergency classification and protective action recommendations using 91001-C and 91305-C.

TASK STANDARD: Emergency event classified and protective action recommended.

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Deleted: You have been directed to "Evaluate and determine the HIGHEST emergency classification level based on events which are in progress, considering past events, and their impact on the current plant conditions"

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JPM STEPS

START TIME: _____

STEP 1
CRITICAL (♦)
 SAT UNSAT

Classify the event

• Plant conditions evaluated
 ♦ Emergency event classified as a General Emergency
 (failure of 2 barriers and potential failure of the 3rd barrier)
Fuel Cladding – Failed
Reactor Coolant System – Failed
Containment – Potential Failure

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STEP 2
CRITICAL (♦)
 SAT UNSAT

Recommend Protective Actions

♦ Determines that PAR 2 is applicable
 ♦ Evacuate Zones: A, B-5, C-5, D-5, E-5, F-5, B-10, H-10, SRS to 10 miles.
 ♦ Shelter: _____ Remainder of 10 mile EPZ

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STOP TIME: _____

Field Notes



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JOB PERFORMANCE MEASURE

LIFE SAVING IN EMERGENCY CONDITIONS

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1
EVALUATE ECCS TERMINATION
CRITERIA - INJECTION FLOW
REQUIRED

Deleted: Revision 1

Deleted: May 1, 2001

Deleted: Written By : M. C.
Henry Date: 5/01/2001

Deleted: Approved By : R. D.
Brigdon Date: 5/16/2001

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: A radiological emergency is in progress on Unit 2. The ECCS has been placed in cold leg recirculation. A missing person has been located in the unit 2 BIT valve room. He is unconscious and is 3 feet from a very high point source. The point source reads Rem/Hr at 1 foot. This person must be moved outside the room in order to survive. The estimated time for a rescuer to remove this injured person is 30 minutes.

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Data: Emergency exposure # 1
Preparer & HP Supervisor: J. Smith
Rescuer name: John Doe
SSN: 123-45-6789
TLD # 12345
Exposure history: No previous emergency exposures

Assigned Task: 1. Calculate the projected dose to the rescuer.
2. Determine who must approve this emergency exposure
3. Determine the requirements the rescuer must satisfy for this planned emergency exposure
4. Given 91301-C Complete data sheet 1 for this exposure,

Deleted: A steam dump header line break resulted in a low steamline pressure SI and main steamline isolation. The crew has completed 19000 through step 28.

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Task Standard: Data sheet 1 of 91301-C properly completed

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Deleted: ECCS termination criteria monitored and evaluated.

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___/___/___

JPM TITLE: Life Saving in Emergency Conditions

COMPLETION TIME: 25 minutes

Application: SRO
 Task Number: 40005
 K/A Number: G2.3.4 RO: 2.5 SRO: 3.1
 10CFR55.45 Ref.: 10

- Deleted: Evaluate ECCS Termination Criteria - Injection Flow Required
- Deleted: REVISION: 1 May 1, 2001
- Deleted: 5
- Deleted: /SRO
- Deleted: 37006
- Deleted: 000040EA205
- Deleted: 4.1
- Deleted: 4.5
- Deleted: 7, 12

Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____ minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

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This JPM is based on the latest rev of 91301-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "@..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 1. 91301-C, Emergency Exposure Guidelines
2. Calculator

SIMULATOR SETUP: None

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Deleted: 19000, Reactor Trip or Safety Injection

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Deleted: 1. Reset to IC14 (MCL 100%)
2. Initiate manual SI
3. Initiate manual MSLI
4. Throttle total AFW flow to stabilize RCS temperature
5. Insert malfunction PR01A at 10% severity and increase severity if required to ensure RCS pressure is slowly lowering
6. Ack/Reset alarms
7. Freeze simulator

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Deleted: The USS has directed you to "Check if ECCS flow should be reduced using step 29 of 19000."

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Deleted: ECCS termination criteria monitored and evaluated.

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: A radiological emergency is in progress on Unit 2. The ECCS has been placed in cold leg recirculation. A missing person has been located in the unit 2 BIT valve room. He is unconscious and is 3 feet from a very high point source. The point source reads 684 Rem/Hr at 1 foot. This person must be moved outside the room in order to survive. The estimated time for a rescuer to remove this injured person is 30 minutes.

DATA: EMERGENCY EXPOSURE # 1
PREPARER & HP SUPERVISOR: J. SMITH
RESCUER NAME: JOHN DOE
SSN: 123-45-6789
TLD # 12345
Exposure history: No previous emergency exposures.

ASSIGNED TASK: 1. Calculate the projected dose to the rescuer.
2. Determine who must approve this emergency exposure
3. Determine the requirements the rescuer must satisfy for this planned emergency exposure
4. Given 91301-C Complete data sheet 1 for this exposure.

TASK STANDARD: Data sheet 1 of 91301-C properly completed.

JPM STEPS

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START TIME: _____

STEP 1

CRITICAL (♦)

SAT UNSAT

Calculate projected dose.

♦ Dose projection = $684 \text{ Rem/hr} \times (1/3)^2 \times 30 \text{ min} \times (1 \text{ hr} / 60 \text{ min}) = 38 \text{ Rem} (>25 \text{ Rem} \ \& \ < 50 \text{ Rem})$

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- AFW flow > 570 gpm

or

- NR level in at least one SG > 10%

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STEP 2

CRITICAL (♦)

SAT UNSAT

Approval Requirements Determined

♦ Emergency Director must approve this exposure since it exceeds 10CFR20 limits

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STEP 3

CRITICAL (♦)

SAT UNSAT

Determine requirements for rescuer.

- ♦ Per 91301-C rescuer must be a volunteer
- Familiar with the risks
- Briefed on the emergency situation
- Not a declared pregnant female
- Limited to a one time occurrence for > 25 Rem lifesaving

JPM STEPS

STEP 4

CRITICAL (♦)

SAT UNSAT

91301-C data sheet 1 properly completed.

Deleted: Report to USS

- Exposure number #1 entered
- Prepared by/date/time blocks completed
- ♦ Lifesaving block circled
- Task description filled in
- Dose limit: >25 Rem
- ♦ Projected dose: Calculated value from step 1 of JPM
- ♦ Rescuer name/SSN/signature **(1)**/TLD number entered on form

(1) CUE: After student identifies that the rescuer must sign the form state " the rescuer, John Doe, has signed the form".

- Health Physics Supervisor signature
- ♦ ED approval signature or initials of person receiving verbal authorization for authorization to exceed 10CFR20 exposure limits.

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STOP TIME: _____

Field Notes

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DATA SHEET 1

PERMIT FOR EMERGENCY RADIATION EXPOSURE # 1

Prepared by: J. Smith Date: _____ Time: _____

Task Type: _____ (circle one) Protecting Valuable Property
Lifesaving or protection of large population

Task Description: Move injured person outside of room with high radiation field

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DOSE LIMITS: > 25 REM TEDE

ACKNOWLEDGMENT

For doses greater than 25 REM TEDE

1. I am a volunteer to receive a dose of greater than 25 REM TEDE.
2. I am fully aware of the risks involved in receiving the estimated dose of 38 REM TEDE.

<u>NAME</u>	<u>SSN</u>	<u>SIGNATURE</u>	<u>TLD NUMBER</u>
<u>John Doe</u>	<u>123-45-6789</u>	<u>signature</u>	<u>12345</u>
_____	_____	_____	_____
_____	_____	_____	_____

* _____
Health Physics Supervisor Date _____ Time _____

Authorization to exceed 10CFR20 exposure limits is granted.

* Signature or verbal authorization
Emergency Director Date _____ Time _____

* Verbal authorization shall be noted by initials of person receiving verbal authorization from HP Supervisor or Emergency Director. Emergency Director signature to be obtained when time permits.

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CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

MONITOR / EVALUATE CSFSTS - SUBCRITICALITY

- Deleted: RQ-JP-
- Deleted: 37021-001-02A
- Deleted: 19200-001
- Deleted: CORE COOLING
- Deleted: Revision
- Deleted: 2
- Deleted: 31
- Deleted: February 10, 1998
- Deleted: April 30, 2001
- Deleted: Written By :
- Deleted: George Gunn
- Deleted: M. C. Henry, Date: .
- Deleted: 2
- Deleted: 4/
- Deleted: 10
- Deleted: 30/
- Deleted: 96
- Deleted: 2001
- Approved By :
- Deleted: Leon Ray
- Deleted: XXXXXXXXXX
- Deleted: R. D. Brigdon, Date:
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This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: Following a transition from 19000-C, the crew determined that Critical Safety Function monitoring should be implemented.

Assigned Task: The SS has directed you to "Evaluate the CSFSTs and identify any required transition".

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Task Standard: Appropriate FRP identified for existing CSF challenges.

JPM INFORMATION

Deleted: RQ-JP-
Deleted: 37021-001-02A
Deleted: 19200-001

OPERATOR'S NAME: _____

EVALUATION DATE: ____/____/____

JPM TITLE: Monitor / Evaluate CSFSTs - Subcriticality

COMPLETION TIME: 12 minutes

Application: RO/SRO
Task Number: 37004
K/A Number: 000011EG12 RO: 4.0 SRO: 4.1
10CFR55.45 Ref.: 12

Deleted: Core Cooling
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Deleted: 2
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Deleted: February 10, 1998
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Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

This JPM is based on 19200-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS:**
1. 19200-C, Critical Safety Function Status Trees
 2. Plant Parameter datasheet from examiner
 3. Steam Tables

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: Following a transition from 19000-C, the crew determined that Critical Safety Function monitoring should be implemented.

ASSIGNED TASK: The USS has directed you to "Evaluate the CSFSTs and identify any required transition".

TASK STANDARD: Appropriate FRP identified for existing CSF challenges.

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SETUP: 1. . Reset to IC14 (MOL 100%)

2. Insert malfunction RC03A (DBA LOCA)

3. Stop all RCPs

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4. Throttle AFW to = 200 gpm/SG

5. Set RF: ED02(TC > Sat) = 0.2

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6. Set RF: ED01(OVR CETCs) = OVERRIDE

7. Set RF: ED02

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Deleted: (TC > Sat) = (725 - current CETC)

8. Set RF: ED04(Target RVLIS) = (current RVLIS FR value)

9. Set RF: ED03(O/R RVLIS) = OVERRIDE

10. Set RF: ED04(Target RVLIS) = 57

11. Ack/Reset Alarms

12. Freeze simulator

13. Turn off all IPC monitors (Ensure IPC in computer room is also turned off)

Note: The simulator should remain in FREEZE for this JPM

Setup time:

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Deleted: 10 minutes

JPM STEPS

Deleted: RQ-JP-
Deleted: 37021-001-02A
Deleted: 19200-001

START TIME: _____

STEP 1
CRITICAL (♦)
 SAT UNSAT

Determine highest CSF challenge

- ♦ Subcriticality - ORANGE
- Core Cooling - Green
- Heat Sink - Yellow
- Integrity - Orange
- Containment - Green
- Inventory - Yellow

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STEP 2
CRITICAL (♦)
 SAT UNSAT

Determine appropriate FRP

- ♦ 19211-C selected

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STEP 3
 SAT UNSAT

Report to USS

- Transition to 19211 is required based on the CSFSTs.

Deleted: _____
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STOP TIME: _____

Field Notes

Plant Parameter Data

<u>Parameter</u>	<u>Channel / Loop 1</u>	<u>Channel / Loop 2</u>	<u>Channel / Loop 3</u>	<u>Channel / Loop 4</u>
<u>PR NI</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>
<u>IR SUR</u>	<u>+0.1 DPM</u>	<u>+0.13 DPM</u>		
<u>IR NI</u>	<u>3.0x10^{-4%}</u>	<u>3.2x10^{-4%}</u>		
<u>SR SUR</u>	<u>0 DPM</u>	<u>0 DPM</u>		
<u>Core Exit T/C's</u>	<u>329 F</u>			
<u>RCP status</u>	<u>Off</u>	<u>Off</u>	<u>Off</u>	<u>Off</u>
<u>RVLIS Full Range</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
<u>RVLIS Upper Head</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
<u>SG NR Level</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>
<u>AFW flow</u>	<u>205 GPM</u>	<u>0 GPM</u>	<u>210 GPM</u>	<u>200 GPM</u>
<u>SG Pressure</u>	<u>950 psig</u>	<u>26 psig</u>	<u>973 psig</u>	<u>987 psig</u>
<u>RCS WR Cold Leg Temperature</u>	<u>540 F</u>	<u>261 F</u>	<u>538 F</u>	<u>541 F</u>
<u>RCS WR Pressure</u>	<u>1980 psig</u>	<u>2000 psig</u>	<u>1990 psig</u>	<u>2010 psig</u>
<u>CNMT Pressure</u>	<u>0 psig</u>	<u>0 psig</u>	<u>0 psig</u>	<u>0 psig</u>
<u>CNMT Emergency Sump Levels</u>	<u>0 inches</u>	<u>0 inches</u>		
<u>CNMT Radiation</u>	<u>24 mR / Hr</u>	<u>31 mR / Hr</u>		
<u>PRZR level</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	

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 Deleted: 19200-001
 Deleted: JPM STEPS
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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

DETERMINE TAGGING REQUIREMENTS

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1
EVALUATE ECCS TERMINATION
CRITERIA - INJECTION FLOW
REQUIRED

Deleted: Revision 1

Deleted: May 1, 2001

Deleted: Written By : M. C.
Henry Date: 5/01/2001

Deleted: Approved By : R. D.
Brigden Date: 5/16/2001

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: NSCW pump #4 on Unit 2 needs to be danger tagged to perform pump bearing repairs.

Assigned Task: Determine the appropriate hold points and required positions of components to safely isolate NSCW pump 2-1202-P4-004. Identification of K-2 links to clear control room alarms is not necessary.

Task Standard: Tagout hold points and required positions listed

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Deleted: ECCS termination criteria monitored and evaluated.

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INSTRUCTIONS TO EXAMINER

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This JPM is based on the latest rev of NMP-AD-003. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

Deleted: 19000-C

- REQUIRED ITEMS:
- Plant Drawings:
 - 2X4DB,133-1, 133-2, 134, 135-1, 135-2
 - 2X3D-AA-D03A, D03B
 - 2X3D-BA-A01F
 - 2X3D-BD-K04D, K04Y
 - NMP-AD-003, Equipment Clearance and Tagging
- SIMULATOR SETUP: None

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Deleted: 19000, Reactor Trip or Safety Injection

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- Deleted: 1. Reset to IC14 (MOL 100%)
- Initiate manual SI
 - Initiate manual MSLI
 - Throttle total AFW flow to stabilize RCS temperature
 - Insert malfunction PR01A at 10% severity and increase severity if required to ensure RCS pressure is slowly lowering
 - Ack/Reset alarms
 - Freeze simulator

Deleted: Setup time: 7 minutes

Deleted: A steam dump header line break resulted in a low steamline pressure SI and main steamline isolation. The crew has completed 19000 through step 28.

Deleted: The USS has directed you to "Check if ECCS flow should be reduced using step 29 of 19000."

Deleted: ECCS termination criteria monitored and evaluated.

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: NSCW pump #4 on Unit 2 needs to be danger tagged to perform pump bearing repairs.

ASSIGNED TASK: Determine the appropriate hold points and required positions of components to safely isolate NSCW pump 2-1202-P4-004. Identification of K-2 links to clear control room alarms is not necessary.

TASK STANDARD: Tagout hold points and required positions listed.

JPM STEPS

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START TIME: _____

STEP 1

CRITICAL (♦)

SAT UNSAT

Determine Required Components & positions to safely tagout NSCW pump #4 on unit 2

- ♦ 2HS1635A, NSCW PUMP 4 HANDSWITCH, PULL-TO-LOCK
- ♦ 2BA03-11, NSCW PUMP 4 MOTOR SWITCHGEAR BREAKER, DISCONNECTED
- ♦ 2BBB-36, NSCW PUMP 4 DISCHARGE MOV BREAKER, OFF
- ♦ 2HV11613, NSCW PUMP 4 DISCHARGE MOV HANDWHEEL, CLOSE
- ♦ 2-1202-U4-A18, NSCW PUMP 4 DISCHARGE MOV BYPASS VALVE, UNLOCKED/SHUT
- ♦ 2-1202-X4-847, NSCW PUMP 4 MOTOR COOLER VENT ISOLATION, UNCAPPED/OPEN

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STOP TIME: _____

Field Notes

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SAT UNSAT

Verify adequate heat sink

• Either of the following observed:

- AFW flow > 570 gpm

or

- NR level in at least one SG > 10%

STEP 3

CRITICAL (♦)

SAT UNSAT

Determine RCS pressure response

• RCS pressure observed to be lowering

STEP 4

CRITICAL (♦)

SAT UNSAT

Report to USS

• ECCS should not be reduced



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CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

DETERMINE RADIATION POSTING REQUIREMENTS

Deleted: RQ-JP-19000-006
EVALUATE ECCS TERMINATION
CRITERIA - INJECTION FLOW
REQUIRED

Deleted: Revision 1

Deleted: May 1, 2001

Deleted: Written By : M. C.
Henry Date: 5/01/2001

Deleted: Approved By : R. D.
Brigdon Date: 5/16/2001

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: A point source reads as shown on the survey map provided. The entry point to the room is 3 feet from the radiation source.

Assigned Task: Using the room survey map provided, calculate the dose rate at the door and determine the appropriate minimum posting required at the entry door to the room indicated on the survey map.

Task Standard: Proper minimum HP posting determined.

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JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___/___/___

JPM TITLE: Determine Radiation Posting Requirements

COMPLETION TIME: 25 minutes

Application: RQ
 Task Number: 38002
 K/A Number: G2.3.4 RO: 2.5 SRO: 3.1
 10CFR55.45 Ref.: 10

- Deleted: Evaluate ECCS Termination Criteria - Injection Flow Required
- Deleted: REVISION: 1 May 1, 2001
- Deleted: 5
- Deleted:
- Deleted: /SRO
- Deleted: 37005
- Deleted: 000040EA205
- Deleted: 4.1
- Deleted: 4.5
- Deleted: 7, 12

Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____ minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 19000-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS:

1. Survey Map
2. Calculator
3. 00930-C, Radiation and Contamination Control

SIMULATOR SETUP: None

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 2. Initiate manual SI¶
 3. Initiate manual MSLI ¶
 4. Throttle total AFW flow to stabilize RCS temperature¶
 5. Insert malfunction PRO1A at 10% severity and increase severity if required to ensure RCS pressure is slowly lowering¶
 6. Ack/Reset alarms¶
 7. Freeze simulator

Deleted: Setup time: 7 minutes¶

Deleted: A steam dump header line break resulted in a low steamline pressure SI and main steamline isolation. The crew has completed 19000 through step 28.

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Deleted: ECCS termination criteria monitored and evaluated.

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: A point source reads as shown on the survey map provided. The entry point to the room is 3 feet from the radiation source.

ASSIGNED TASK: Using the room survey map provided, calculate the dose rate at the door and determine the appropriate minimum posting required at the entry door to the room indicated on the survey map.

TASK STANDARD: Proper minimum HP posting determined.

JPM STEPS

START TIME: _____

STEP 1

CRITICAL (♦)

SAT UNSAT

Calculate dose rate at entry point into room,

☞ Dose rate at room entry = $545 \text{ Rem/hr} \times (0.5/36)^2 = 105 \text{ mRem/hr}$

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Deleted: Determine subcooling

Deleted: ♦ Subcooling determined to be > 24°F

STEP 2

CRITICAL (♦)

SAT UNSAT

Determine Room entry posting requirements,

☞ Dose rate > 100 mrem/hr and < 1000 mrem/hr entrance to room should be posted as a high radiation area as a minimum. Note due to large point source student may select to post room as a locked high radiation area.

Deleted: STEP 2

SAT UNSAT

Verify adequate heat sink

☞ Either of the following observed:

- AFW flow > 570 gpm

or

- NR level in at least one SG > 10%

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Deleted: Determine RCS pressure response

Deleted: RCS pressure observed to be lowering

Deleted: STEP 4

CRITICAL (♦)

SAT UNSAT

Report to USS

☞ ECCS should not be reduced

STOP TIME: _____

Field Notes



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CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

.....
CALCULATE SHUTDOWN MARGIN
.....

|| Deleted: RQ-JF-14005-002 ||

|| Deleted: - SCENARIO 2 ||

|| Deleted: Revision 9||

|| Deleted: June 2, 2004||

Deleted: Written By : S. N.
Dyer . Date: 6/2/2004||
||
Approved By : Richard
Brigdon . Date: 6/2/2004||

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: The reactor tripped from 100% power 28 hours ago.

Assigned Task: The SS has directed you to "Calculate Shutdown Margin taking credit for Xenon and Samarium using 14005".

Task Standard: Shutdown margin calculated (current).

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Deleted: shutdown to Mode 3 has been performed

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___/___/___

JPM TITLE: Calculate Shutdown Margin

REVISION: _____

COMPLETION TIME: 55 minutes

Application: RO/SRO
Task Number: 27003
K/A Number: 192002K1.13 RO: 3.5 SRO: 3.7
10CFR55.45 Ref.: 12

Deleted: - Scenario 2

Deleted: 9 June 2, 2004

Evaluation Method Performed Simulated
Evaluation Location Simulator Control Room Unit 1 Unit 2
Performance Time: _____ minutes

OVERALL JPM EVALUATION **SATISFACTORY** **UNSATISFACTORY**

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 14005-1. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS:**
1. 14005, Shutdown Margin and Keff Calculations
 2. Plant Technical Data Book (Unit 1)
 3. Plant shutdown data (provided by examiner)

SIMULATOR SETUP: Performance of this JPM does not require the simulator.

This JPM is based on Unit 1 Cycle 12 data.

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: The reactor tripped from 100% power 28 hours ago.

ASSIGNED TASK: The USS has directed you to "Calculate Shutdown Margin taking credit for Xenon and Samarium using 14005".

TASK STANDARD: Shutdown margin calculated.(Current)

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Deleted: shutdown to Mode 3 has been performed

JPM STEPS

START TIME:

STEP 1
CRITICAL (♦)
 SAT UNSAT

Select appropriate Data Sheets

♦ Data Sheet 2 section E selected
 • Current conditions recorded (1)
 • C.4 Xenon power of 100%.

CUES:
 (1) If asked, "Xenon worth should be considered in the calculation".

Deleted: ♦ Data Sheet 5 selected

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STEP 2
 SAT UNSAT

Determine reactivity values using PTDB

Note: If a discrepancy exist in the values of this JPM and the values calculated by the examinee, all work performed by the examinee should be collected and evaluated to determine where error exist. If the error is determined to be a math or interpolation error and the error does not affect the acceptance criteria, then the JPM should be considered as satisfactory. If the error is due to improper usage of the procedure or the tables in the PTDB, then the JPM should be considered unsatisfactory.

• E.1 .8534 pcm
 • E.2 .887 pcm
 • E.3 .9995 pcm
 • E.4 0.87476
 • E.5 2399 pcm
 • E.6 1037 pcm
 • E.7 3436 pcm
 • E.8 3006 pcm
 • E.9 1035 pcm
 • E.10 0 pcm
 • E.11 0 pcm
 • E.12 1545 pcm
 • E.13 1.545%
 • E.14 0.98479

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 Deleted: 0.968 3271 Keff (not required)

STEP 3
CRITICAL (♦)
 SAT UNSAT

Determine Shutdown Margin

Note: Interpolation and rounding may result in values slightly different from those provided.

♦ E.13 Shutdown Margin of 1.545% + 2% calculated

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JPM STEPS

STEP 4
SAT UNSAT

Report to USS

• Shutdown margin calculation complete

STOP TIME: _____

Field Notes

Plant Data

Power History 100% for 200 days
Cycle Burnup 16000 MWD/MTU
Boron Concentration 750 ppm
Tavg 400 °F
Current Rod Height All Rods at Bottom
Axial Offset Correction 0 pcm

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The plant tripped from 100% power 28 hours ago. All 4 RCPs are in service.

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Deleted: The reactor was declared shutdown 1 hour ago.

Deleted: The power history is as follows:

Time	Average Power
1 - 2 hours ago	33%
2 - 3 hours ago	66%
3 - 4 hours ago	100%
> 4 hours ago	100%

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: Unit 1 is currently in mode 5, with loops filled, preparing for a post refueling start up with the following conditions: RCS temperature 210 degrees F, loops filled RCP's 1 & 4 are running PZR level at 25%, with steam bubble established RHR A in service for Decay Heat Removal RHR B in standby for Decay Heat Removal SG's NR level at 65%
Equipment OOS: CCP-1A NSCT fan #2 MDAFWP 1A SG ARV loop 2 Both SI pumps in PTL PZR level channel 461 failed low – B/S tripped RE-2562A, CNMT process particulate radiation monitor

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Assigned Task: Determine if requirements for mode entry 4 satisfied. If not, identify all restraints for mode 4 entry.

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¶
Assigned Task: The USS has directed you to "Evaluate the CSFSTs and identify any required transition". ¶

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Task Standard: Appropriate mode 4 restraints, if any, identified.
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JPM INFORMATION

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Deleted: 19200-001

OPERATOR'S NAME: _____

EVALUATION DATE: ___/___/___

JPM TITLE: Determine mode change requirements

COMPLETION TIME: 30 minutes

Application: RO/SRO

Task Number: 63013

K/A Number: G2.1.10

10CFR55.45 Ref.: 13

RO: 2.7

SRO: 3.9

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CSFSTs - Core Cooling
Deleted: REVISION:
Deleted: 2
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Deleted: April 30, 2001
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Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____ minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS: 1. Technical Specifications and Bases
2. Technical Requirements Manual

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: Unit 1 is currently in mode 5, with loops filled, preparing for a post refueling start up with the following conditions:

- RCS temperature 210 degrees F, loops filled
RCP's 1 & 4 are running
PZR level at 25%, with steam bubble established
RHR A in service for Decay Heat Removal
RHR B in standby for Decay Heat Removal
SG's NR level at 65%

Equipment OOS:

- CCP-1A
NSCT fan #2
MDAFWP 1A
SG ARV loop 2
Both SI pumps in PTL
PZR level channel 461 failed low - B/S tripped
RE-2562A, CNMT process particulate radiation monitor

ASSIGNED TASK: Determine requirements for mode entry 4.

TASK STANDARD: Appropriate mode 4 restraints, if any, identified.

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SETUP: 1. Reset to IC14 (MOL 100%)
2. Insert malfunction RC03A (DBA LOCA)
3. Stop all RCPs

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4. Throttle AFW to = 200 gpm/SG
5. Set RF: ED02(TC > Sat) = 0.2

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6. Set RF: ED01(O/R CETCs) = OVERRIDE
7. Set RF: ED02

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... [1]

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JPM STEPS

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START TIME: _____

STEP 1

CRITICAL (♦)

SAT UNSAT

Determine LCO's impacted

♦ NSCT fan #2

LCO 3.7.9 Ultimate Heat Sink (UHS), applies and condition B applicable

♦ 1RE-2562A, CNMT process particulate radiation monitor

LCO 3.4.15 RCS Leakage Detection Instrumentation, applies but is still met (INFO LCO)

♦ CCP-1A

LCO 3.5.3 ECCS -- Shutdown, applies but is still met (INFO LCO)

♦ MDAFW Pump 1A

LCO 3.7.5 Auxiliary Feedwater (AFW) System, does not apply until mode 3

♦ SG ARV loop 2

LCO 3.7.4 Atmospheric Relief Valves (ARVs), does not apply until mode 3

♦ Both SI pumps in PTL

LCO 3.4.12 Cold Overpressure Protection Systems (COPS), applicable and met

♦ PZR level transmitter 461 failed low – B/S tripped

LCO 3.3.1 Reactor Trip System (RTS) Instrumentation, Functional Unit 9,

does not apply until mode 1 > P-7

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STEP 2

CRITICAL (♦)

SAT UNSAT

Determine that Mode 4 entry is restrained

♦ LCO 3.7.9 condition B applies to mode 4 and LCO 3.0.4 is applicable. This condition would NOT allow continued operation of the unit for an unlimited period of time.

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JPM STEPS

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STEP 3
SAT UNSAT
Report to SS
 • Mode 4 entry reviewed and is restrained by NSCT fan #2 being out of service

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STOP TIME: _____

Field Notes

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(TC > Sat) = {725 - current CETC}

8. Set RF: ED04(Target RVLIS) = {current RVLIS FR value}
9. Set RF: ED03(O/R RVLIS) = OVERRIDE
10. Set RF: ED04(Target RVLIS) = 57
11. Ack/Reset Alarms
12. Freeze simulator
13. **Turn off all IPC monitors (Ensure IPC in computer room is also turned off)**

Note: The simulator should remain in FREEZE for this JPM

Setup time:

INITIAL CONDITIONS: Following a transition from 19000-C, the crew determined that Critical Safety Function monitoring should be implemented.

The USS has directed you to "Evaluate the CSFSTs and identify any required transition".

Appropriate FRP identified for existing CSF challenges.



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**CONTROL ROOM OPERATOR
JOB PERFORMANCE MEASURE**

RQ-JP-17213-002

MANUALLY ISOLATE A LIQUID WASTE RELEASE

Revision 0

March 29, 2005

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Deleted: January 25, 2001

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

⌚ THIS IS A TIME CRITICAL JPM ⌚

**REMEMBER: All steps required for this task are to be simulated.
Plant equipment is not to be operated.**

Initial Conditions: During the release of WMT #10 on UNIT 2, a high alarm was received on 2RE-0018, but 2RV-0018 failed to automatically isolate.

Assigned Task: The USS has directed you to "Locally isolate the release by closing WMT discharge isolation valves 2-1901-U4-175 and A-1901-U4-259".

Task Standard: Liquid waste release locally isolated.

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INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 17213 & 17100. Verify this JPM is in accordance with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 1. RWP and associated dosimetry

COMPONENT LOCATION: Unit 2 Aux Bldg, Level D (*NOTE: Valve locations are not given in the procedure*)

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

**REMEMBER: All steps required for this task are to be simulated.
Plant equipment is not to be operated.**

***** This is a TIME CRITICAL JPM *****

INITIAL CONDITIONS: During the release of WMT #10 on UNIT 2, a high alarm was received on 2RE-0018, but 2RV-0018 failed to automatically isolate.

ASSIGNED TASK: The USS has directed you to "Locally isolate the release by closing WMT discharge isolation valves **2-1901-U4-175** and **A-1901-U4-259**".

TASK STANDARD: Liquid waste release locally isolated.

START TIME: _____ TIME CRITICAL ☉

STEP 1
CRITICAL (♦)
SAT UNSAT

Manually isolate liquid release
Note: During a release A-1901-U4-259 would be unlocked and open. The operator should not be required to obtain a key to the valve.

close _____

♦ 2-1901-U4-175 located
 ♦ 2-1901-U4-175 closed
 ♦ A-1901-U4-259 located
 ♦ A-1901-U4-259 closed

STEP 2
SAT UNSAT

Report to USS

• Liquid release isolated

STOP TIME: _____

Field Notes:



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CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

RQ-JP-13405-001

PLACE A 1E 125VDC BATTERY CHARGER IN SERVICE

Revision 9

April 18, 2005

Deleted: 8

Deleted: August 16, 2001

Deleted: 1
Written By : M. C.
Henry . . Date: . . 8/16/2001 1
1
Approved By : R. D.
Brigdon Date: . 8/16/2001 1

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

REMEMBER: All steps required for this task are to be simulated.
Plant equipment is not to be operated.

INITIAL CONDITIONS: A loss of 125VDC Bus _____D1 has occurred due to a fault on the battery bank, _____D1B. The plant has been stabilized in MODE 3, and the crew is responding per AOP 18034. The battery bank has been removed from service and the crew is preparing to re-energize the bus from a battery charger.

Deleted: _____

ASSIGNED TASK: The USS has directed you to " Place battery charger _____D1C _____ in service by initiating 13405-_____."

Deleted: _____

TASK STANDARD: Battery charger in service, supplying 125VDC Swgr.

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___/___/___

JPM TITLE: Place a 1E 125VDC Battery Charger in Service

REVISION: 09 April 18, 2005

COMPLETION TIME: 13 minutes

Application: RO/SRO
 Task Number: LO-TA-60040
 K/A Number: 058AA1.03 RO: 3.1 SRO: 3.3
 10CFR55, Ref. 41.7/45.5.6

Deleted: 6
 Deleted: August 16, 2001
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Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____ minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

This JPM is based on 13405-1. Verify this JPM is in accord with the latest procedural revision prior to use. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 13405-(1/2)

COMPONENT LOCATION: Locations are not given in the procedure.

Note to Examiner: *Review the note accompanying Step 6 prior to administering this JPM.*

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

REMEMBER: *All steps required for this task are to be simulated.
Plant equipment is not to be operated.*

INITIAL CONDITIONS: A loss of 125VDC Bus _____ D1 has occurred due to a fault on the battery bank, _____ D1B. The plant has been stabilized in MODE 3, and the crew is responding per AOP 18034. The battery bank has been removed from service and the crew is preparing to re-energize the bus from a battery charger.

ASSIGNED TASK: The USS has directed you to "Place battery charger _____ D1C. ____ in service by initiating 13405-_____."

TASK STANDARD: Battery charger in service, supplying 125VDC Swgr.

JPM STEPS

START TIME: _____

STEP 1

SAT UNSAT **Select proper procedure and section**

- 13405-1/2, section (4.1.3, 4.1.4, 4.1.5, 4.1.6)

STEP 2

SAT UNSAT **Verify Initial Prestart Conditions**

Note: For local breaker indication, the mechanical flag indicators must be used, light indication is not available at this time.

- 1(2) ___ D1-01 verified OPEN (1)
 • AC input breaker on B/C verified OPEN (2)
 • DC output breaker on B/C verified OPEN (2)

CUES:

- (1) Once identified, provide indication that 1(2) ___ D1-01 is open (green light &/or green flag).
 If examinee attempts to close the battery breaker, if requested, provide the indication that the breaker momentarily closed (red light only) but now indicates tripped (green & amber).
 (2) Once identified, provide indication that breaker is open.

STEP 3

SAT UNSAT **Verify associated 480VAC MCC is Energized and Supply Breaker Closed**

- Correct MCC and breaker selected and verified closed. (1)

CUES:

- (1) Once operator indicates correct MCC, "Control room operators report MCC 1(2) ___ B ___ - ___ is closed and energized."

STEP 4

CRITICAL (◆)SAT UNSAT **Place Battery Charger in FLOAT mode of Operation**

- ◆ B/C Normal/Equalize switch placed in Normal and Equalize Timer set to zero.

JPM STEPS

STEP 5

SAT UNSAT **Verify Associated Bus Voltage is \leq 135 VDC**

• DC bus voltage verified \leq 135 VDC (1)

CUES:

(1) Provide indication that bus voltage is 0 VDC or that bus potential lights are dark.

STEP 6

CRITICAL

SAT UNSAT **Place Battery Charger in Operation**

Note: If the B/C DC switchgear breaker is not closed in an expeditious manner after closure of the B/C DC output breaker an overvoltage trip of the B/C AC input breaker will occur in \approx 5 - 10 seconds. Cue 2 should be provided to the operator promptly if step is performed correctly. If operator fails to demonstrate the need to close the B/C DC switchgear breaker quickly, provide audible indication or indicate 0 VDC on B/C volt meter for Cue 3. This step may still be performed satisfactorily if the step is repeated in its entirety. If step not repeated then performance is to be considered UNSAT.

The following actions must be performed in sequence

- B/C 125 VDC switchgear breaker(1/2 ___ D1- ___) to battery charger OPEN (1)
- B/C DC output breaker CLOSED
- B/C AC input breaker CLOSED (2)
- B/C 125 VDC switchgear breaker(1/2 ___ D1- ___)CLOSED (3)
- Verify proper B/C operation (4)
- Verify DC bus voltage (4)

CUES:

- (1) If requested, provide indication that the breaker is open (mechanical flag is only indication).
- (2) If performed correctly, provide indication that B/C voltage is \geq 130 VDC & charging spring motor for B/C 125 VDC switchgear breaker stopped.
- (3) If performed correctly, provide indication that the red light is illuminated.
- (4) Provide indication that voltage is \approx 135 VDC and if requested, "The CBO will perform the IV."

STOP TIME: _____

Field Notes:



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CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

RQ-JP-19030-006

LOCALLY OPERATE STEAM GENERATOR ARV

Revision 18

December 4, 2003

Written By: **S. N. Dyer**

Date: 12/4/2003

Approved By: **R. D. Brigdon**

Date: 5/14/2004

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

 **THIS IS A TIME CRITICAL JPM** 

REMEMBER: All steps required for this task are to be simulated.
Plant equipment is not to be operated.

Initial Conditions: Complications from an electrical fault have resulted in a reactor trip and main steamline isolation on Unit _____. The crew has subsequently diagnosed a steam generator tube rupture. Due to the electrical fault, the crew has determined that local ARV operation will be required and has dispatched the ABO to open the breakers for the ARV hydraulic pumps.

Assigned Task: The USS has directed you to "Locally open ___-PV-_____ (___MSVR) using 13601-___."

Task Standard: Steam Generator ARV locally opened.

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Locally Operate Steam Generator ARV

REVISION: 18 December 4, 2003

COMPLETION TIME: **13 minutes** **TIME CRITICAL** ☹Note: Performance of this task should begin at Control Building Room 117,
Unit 2 Control Room Access Point.*This time is based on FSAR Chapter 15, table 15.6.3-1, as amended by REA 97-VAA600*

Application: RO/SRO

Task Number: 21007

K/A Number: EPE038EA1.16 RO: 4.4 SRO: 4.3

10CFR55.45 Ref.: 6, 12,

Evaluation Method Performed SimulatedEvaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____ minutes

OVERALL JPM EVALUATION **SATISFACTORY** **UNSATISFACTORY**

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

This JPM is based 19030-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "⊙..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 1. 13601, Steam Generator and Main Steam System Operation

COMPONENT LOCATION: **SMSVR:** PV-3000 PV-3030
NMSVR: PV-3010 PV-3020

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

***REMEMBER: All steps required for this task are to be simulated.
 Plant equipment is not to be operated.***

This is a TIME CRITICAL JPM

INITIAL CONDITIONS: Complications from an electrical fault have resulted in a reactor trip and main steamline isolation on Unit _____. The crew has subsequently diagnosed a steam generator tube rupture. Due to the electrical fault, the crew has determined that local ARV operation will be required and has dispatched the ABO to open the breakers for the ARV hydraulic pumps.

ASSIGNED TASK: The USS has directed you to "Locally open ___-PV-_____ (___MSVR) using 13601-___."

TASK STANDARD: Steam Generator ARV locally opened.

JPM STEPS

START TIME: _____ TIME CRITICAL ☺

STEP 1

SAT UNSAT **Establish communications with Control Room**

Note: Communications may be established using the sound powered phone system, plant P/A, telephone, or radio.
 The breakers for the ARVs are: 1(2)PV-3000 - 1(2)ABB-25 1(2)PV-3010 - 1(2)BBB-25
 1(2)PV-3020 - 1(2)BBB-26 1(2)PV-3030 - 1(2)ABB-26

- Verify the hydraulic pump breaker is open (1)
- ARV Local Hand Pump station located
- Communications established with Control Room (2)

CUES:

- (1) If requested, "The ABO reports that ___-__BB-2___ is open." (see note above)
- (2) Once demonstrated or discussed: "Communications have been established."

STEP 2

SAT UNSAT **Align and verify proper operation of hand pump**

- Level verified in hydraulic fluid reservoir sightglass
- Selector Valve 2 in NEUTRAL
- Hand pump bleed off valve CLOSED
- Hand pump stroked freely

STEP 3

CRITICAL (◆)SAT UNSAT **Depressurize ARV accumulator**

- ◆ Reservoir Inlet valve 11A CLOSED.
- ◆ Accumulator Dump Pilot Supply valve 11B OPEN.
- ◆ Hand pump stroked to maintain fluid pressure \geq 2000 psig for 1 minute.
- Verify accumulator was fully dumped by observing reservoir oil level at top of scale or greater (1)
- ◆ Reservoir inlet valve 11A OPEN.
- Fluid pressure dropped to 0 psig.
- ◆ Accumulator dump pilot supply valve 11B CLOSED.
- Reservoir inlet valve 11A CLOSED.

CUES:

- (1) If the ARV oil reservoir is checked, state: "The ARV main oil reservoir level is at the top of scale."

JPM STEPS

STEP 4

CRITICAL (♦)

SAT UNSAT

Open the ARV

- ♦ Selector Valve 2 in OPEN
- ♦ Hand pump stroked to OPEN selected ARV (1)
- Selector Valve 2 in NEUTRAL

CUES:

(1) If requested: "The Control Room desires that the ARV be fully opened."

STOP TIME: _____

STEP 5

SAT UNSAT

Report to USS

- ARV is open.

Field Notes



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CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

NRC-JP-18035-001

PERFORM CONTROL ROOM ISOLATION,
FOR
TOXIC GAS RELEASE

Revision 0

March 29, 2005

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- Deleted: 37011-001-04A
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This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

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THIS IS A TIME CRITICAL JPM

Initial Conditions: The plant is at 100% power. You are the Balance of Plant operator. A transfer truck accident just outside the plant entrance has caused chlorine fumes to begin entering the Control Room.

Assigned Task: The USS has directed you to "Perform a Control Room Isolation due to a Toxic Gas Release".

Deleted: Assigned Task: The USS has directed you to assume the

Task Standard: Control Room Isolation correctly performed.

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JPM INFORMATION

- Deleted: RO
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OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Perform Control Room Isolation for Toxic Gas Release

REVISION: 0 March 29, 2005

COMPLETION TIME: 5 minutes TIME CRITICAL

Application: RO/SRO
 Task Number: 60013
 K/A Number: 068G2.4.49 RO: 4.0 SRO: 4.0
 Safety Function: Service Systems
 10CFR: 41.10/ 43.2/ 45.6

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Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____ minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

JPM INFORMATION

This JPM is based on the latest revisions of 18035-C and 13301-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "@"... are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 1. AOP18035-C and SOP 13301

- SIMULATOR SETUP:
1. Reset to IC14 (MOL 100%)
 2. Insert Override - Switch HS 12195A to Normal (A Train Man Act)
 3. Insert Override - Switch HS 12120 to STOP (CREF A)
 4. Set Trigger 1 to the following Overrides:
 - Switch HS 12121 to STOP (CREF B)
 - Yellow Light for HS 12121 - ON
 5. Freeze simulator
 6. When directed, go to run.

Setup time: 3 minutes

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

This is a TIME CRITICAL JPM

INITIAL CONDITIONS: The plant is at 100% power. You are the Balance of Plant operator. A transfer truck accident just outside the plant entrance has caused chlorine fumes to begin entering the Control Room.

Assigned Task: The USS has directed you to "Perform a Control Room Isolation due to a Toxic Gas Release".

Task Standard: Control Room Isolation properly aligned.

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- Deleted: Insert malfunction ES03 (Failure of RTB B to open)
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- Deleted: insert malfunction ES05
- Deleted: with a 8 second time delay
- Deleted: 3
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- Deleted: The plant is at 100% power. You are the Balance of Plant Operator. A chemical spill has caused ammonia fumes to enter the control room.
- Deleted: chemical spill has caused ammonia fumes to enter the control room.
- Deleted: The USS has directed you to "Isolate the Control Room for Toxic Gas Release".
- Deleted: ASSIGNED TASK: The USS has directed you to assume the "At the Controls" function.
- Deleted: TASK STANDARD: Plant conditions correctly diagnosed and
- Deleted: immediate
- Deleted: Immediate operat

JPM INFORMATION

START TIME: _____ TIME CRITICAL ☉

STEP 1
CRITICAL (◆)
 SAT UNSAT

Initiate Control Room Isolation

◆ HS-12196A positioned to ACTUATE (1)

CUES:

(1) HS-12195A will not function.

☉ In the plant, if requested after simulated CRI actuation, provide feedback that the 'CR ISO' white indicator lights on HS-12125B and HS-12196B are lit.

STEP 2
CRITICAL (◆)
 SAT UNSAT

Shut Outside Air Supply Dampers
 NOTE: Opposite unit dampers will be simulated in the Simulator

◆ -HS-12114 positioned to CLOSE
 ◆ -HS-12115 positioned to CLOSE
 ◆ -HS-12114 positioned to CLOSE (1)
 ◆ -HS-12115 positioned to CLOSE (1)

CUES:

(1) (Simulator Only) When requested, "The USS will ensure 2-HS 12114 and 2-HS-12115 are placed in the CLOSE position."

☉ In the plant, if requested after simulated operation, provide feedback that the CLOSE green indicator lights on HS-12114 and HS-12115 are lit.

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JPM INFORMATION

STEP 3

CRITICAL (♦)

SAT UNSAT

Verification of Proper Control Room Isolation Alignment

(Per the direction of AOP 18035 step 2, the examinee may refer to 13301-C to verify proper CRI alignment)

- Identify the trip of the B CREF unit.
- Starts the A train CREF unit. (1)

(1) Sim Operator: Delete O/R on the A train CREF unit when it's HS is taken to START.

STEP 4

SAT UNSAT

Report to USS

- Control Room Isolation completed

STOP TIME: _____

Field Notes

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N/A if performed in-plant

CRITICAL (♦)

SAT UNSAT N/A

Verify both AC Emergency busses energized Shut Outside Air Supply Dampers on the other unit

Identify the need to shut dampers on the other unit

CUES:

In the simulator, when requested, "The USS will ensure isolation of the other unit"

4160 1E busses AA02 and BA03 at 4100 to 4200 volts and/or Bus Potential lights lit/verified ENERGIZED

[19]

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NA if performed in the simula ... [20]

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IMMEDIATE OPERATOR ACTIONS

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FOLLOWING REACTOR TRIP

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Centered

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3

Approved By :

Page 1: [5] Deleted Student 03/29/2005 1:13:00 PM

R. D. Brigdon Date: 4/18

Page 4: [6] Deleted Student 03/29/2005 1:22:00 PM

Immediate operator actions performed correctly.

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All DRPI "Rod Bottom" lights

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• Second switch positioned to ACTUATE

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• RTA, RTB, and BYA

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OPEN

• RTB observed

Page 5: [12] Deleted MCHENRY 10/30/2000 5:58:00 PM

• HS-40007 and HS-40002 positioned to TRIP

Page 5: [13] Deleted EJKOZINS 07/22/2002 2:07:00 PM

• Neutron flux observed

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LOWERING
 ♦ HS-40007 and HS-40002 positioned to TRIP

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Page 5: [15] Deleted Student 03/30/2005 9:50:00 AM

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Page 5: [18] Deleted Student 04/05/2005 11:00:00 AM

Page 6: [19] Deleted sndyer 04/18/2003 1:40:00 PM

STEP 3A - Simulator N/A if performed In-plant
CRITICAL (♦)
SAT UNSAT N/A

Verify both AC Emergency busses energized Shut Outside Air Supply Dampers on the other unit.

 ♦ Identify the need to shut dampers on the other unit

CUES:
In the simulator, when requested, "The USS will ensure isolation of the other unit".
 ♦ 4160 1E busses AA02 and BA03 at 4100 to 4200 volts and/or Bus Potential lights lit/verified ENERGIZED
 ♦ All 480 1E busses verified ENERGIZED

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STEP 3B - In-Plant NA if performed in the simulator

CRITICAL (↔)

SAT UNSAT N/A

Shut Outside Air Supply Dampers on the other unit.

- ♦ HS-12114 positioned to CLOSE on opposite unit.
- ♦ HS-12115 positioned to CLOSE on opposite unit.)

CUES:

⊙ In the plant, if requested after simulated operation, provide feedback that the CLOSE green indicator lights on HS-12114 and HS-12115 are lit.

STEP 4

SAT UNSAT

Check if SI is actuated or required

Note: After IOAs of 19000-C is completed, provide following cue to examinee: **"The USS will initiate 19001-C."**

- SI annunciators darkNOT LIT
- BPLBP window 1-4, "SI Actuated", darkNOT LIT
- Verify PRZR pressure > **1870 psig**
- Verify Steamline pressure > **585 psig**
- Verify Containment pressure < **3.8 psig**
- Verify **No NO alignment ALIGNMENT** of ECCS equipment to injection phase **(1)**

CUES:

(1) After IOAs of 19000-C completed, cue the examinee "The USS will initiate 19001-C."



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CONTROL ROOM OPERATOR
JOB PERFORMANCE MEASURE

NRC-JP-18007-001

RESPOND TO LOSS OF CHARGING FLOW

Revision 0

March 31, 2005

Deleted: RQ

Deleted: 1

Deleted: 4

Deleted: FAILURE OF PRZR
LEVEL INSTRUMENT

Deleted: 14

Deleted: January 24, 2001

Deleted: 1

Deleted: 1

Written By : M. C.
Henry Date: 1/24/2001

1

1

Approved By : R. D.
Brigdon Date: 1/25/2001

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: The plant is at 100% power.

Assigned Task: The USS has directed you to "Assume the duties of the Reactor Operator."

Task Standard: Plant conditions correctly diagnosed and corrective actions completed.

JPM INFORMATION

Deleted: RO
Deleted: 1
Deleted: 4

OPERATOR'S NAME: _____

EVALUATION DATE: ____/____/____

JPM TITLE: Respond to Loss of Charging Flow

REVISION: 0 March 31, 2005

COMPLETION TIME: 19 minutes

Application: RO/SRO
Task Number: 60017
K/A Number: 000028EA212 RO: 3.1 SRO: 3.5
10CFR55.45 Ref.: 3, 4, 5

Deleted: Failure of PRZR Level Instrument
Deleted: 14
Deleted: January 24, 2001
Deleted: 6
Deleted: 60030

Evaluation Method Performed Simulated
Evaluation Location Simulator Control Room Unit 1 Unit 2
Performance Time: _____ minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

This JPM is based on 18007-C. Verify this JPM is in accordance with the latest procedural revision prior to use. Cues preceded by a "@..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 1. 18007, Section B, Loss of Charging Flow

- SIMULATOR SETUP:**
1. Reset to IC14 (MOL 100%)
 2. Insert malfunction CV07 on Trigger 1.
 3. Ack/Reset alarms
 4. Freeze simulator

Setup time: 3 minutes

- Deleted: 1
- Deleted: Primary Systems Instrumentation Malfunction
- Deleted: PR03A
- Deleted: at 100% with a 8 second time del
- Deleted: ay
- Deleted: Ensure LI-459 is the controlling channel[
.4.
- Deleted: 5

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: The plant is at 100% power.

ASSIGNED TASK: The USS has directed you to "Assume the duties of the Reactor Operator."

TASK STANDARD: Plant conditions correctly diagnosed and corrective actions completed.

JPM STEPS

START TIME: _____

STEP 1
CRITICAL (♦)
 SAT UNSAT

Identify Charging Pump Trip and Perform Immediate Operator Action

Identify trip of Normal Charging Pump
 ♦ Letdown manually isolated (IOA of 18007-C, Section B):
 • Letdown Orifice Isolation valve closed (HV-8149A,B,orC)
 • Letdown Isolation Valves closed (LV-459 and -LV-460)

NOTES & CUES:

(1) With a loss of charging flow through the Regenerative Heat Exchanger, letdown flow should be promptly isolated to minimize the possibility of equipment damage. If the examinee refers to the AOP prior to taking this action, then the step is considered UNSAT.

- Deleted: n
- Deleted: failed channel
- Deleted: PRZR level indications referenced
- Formatted: Font: Bold
- Deleted: LT-459 instrument failure identified
- Formatted: Font: Bold
- Deleted: CUES
- Deleted: :

STEP 2
 SAT UNSAT

Check Key Parameters on Plant Computer

Monitor and trend RCP parameters and refer to 13003, "RCP Operation" (1)
 ♦ Check for indications of gas binding/loss of suction to charging pump (2)

NOTES & CUES:

(1) RCP parameters should be monitored due to the loss of RCP seal injection. ACCW is available to cool the thermal barrier, so no significant challenges to continued RCP operation will be present.

(2) No indications of gas binding (fluctuations in discharge pressure or flow, low VCT level, etc.) will be present. The examinee is expected to check for these indications on the IPC or chart trends. If IPC trend length is an issue due to simulator reset, a cue can be provided to let the examinee know that the trend indications prior to the pump trip were present for 30 minutes.

- Deleted: ☉ Provide indication that LI-459 is = 100% with PRZR level lowering on the other channels.
- Deleted: CRITICAL (♦)¶
- Deleted: Restore PRZR level to program
- Deleted: ♦ Charging flow controller FIC-121 adjusted to increase charging flow¶
- Deleted: ♦
- Deleted: PRZR level restored between 56% and 60%¶
- Formatted: Font: Bold
- Formatted: Underline
- Deleted: • Seal injection flow 8 to 13 gpm

JPM STEPS

STEP 3
 SAT UNSAT

Investigate Cause of Charging Loss

• Verify no indications of leakage are present (1)

NOTES & CUES:

(1) No indications of leakage will be present, however the examinee may dispatch operators to the field to inspect the NCP and its breaker, as well as to look for any leakage indications.

If dispatched, report back from the field that 1NA05-08 has Overcurrent flags indicated on all three phases, and that there is a scorched smell in the pump room coming from the motor area. No leakage indications are present.

Deleted: CRITICAL (♦)

Deleted: Select valid input to PRZR Level Control and Recorder

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Deleted: PRZR level controller LS-459D in 461/460

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Deleted: • PRZR level recorder LS-459E in 461

Deleted: Restore PRZR level control to auto

Deleted: Note: Due to the reset time constants of the controller, this step does not have to be completed to be evaluated as SAT.

If desired, provide examinee with the cue given below.

Deleted: • FIC-121 in AUTO
 • PRZR level maintained by FIC-121 (1)

Deleted: CUE

Deleted: (1) "The Extra RO will monitor Przr level and return the controller to automatic

Deleted: "

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Page Break

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STEP 4
 SAT UNSAT

Verify ACCW System in Service

• At least one ACCW pump verified running.

NOTE:
 This action would most likely already be performed while checking RCP parameters.

STEP 5
 SAT UNSAT

Check if Charging Flow can be Re-established

• Charging flowpath checked for indications of valve failure
 • Determines that charging and letdown flow can be restored per 13006-1 (1)

NOTES & CUES:

(1) If examinee informs SS that no indications are present that would prevent restoration of charging, then provide a cue that the SS desires that charging flow be returned to service if conditions permit.

JPM STEPS

STEP 6

SAT UNSAT

CRITICAL (♦)

Charging Flow Established

- Charging flowpath aligned for start (1)
- ♦ Selected CCP started
- ♦ HC-182 adjusted to restore seal injection flow 8 to 13 gpm
- FIC-121 adjusted to establish desired charging flow (2)
- Initiate section 4.4.2 for letdown restoration (3)

CUE:

(1) SOP 13006-1, Section 4.4.2 will direct startup of charging pump per Section 4.4.13. Cue the examinee that BOL conditions are NOT present so flushing will not be required. Pre-start checks have been completed on both CCP's so either pump can be started.

(2) Charging flow will be raised to 80-90 gpm in Section 4.4.2.

(3) This JPM can be terminated at this time. Letdown restoration will require another 13 minutes, and is evaluated in a number of other settings. If desired, provide a cue to the examinee that:

"The extra operator will perform the remainder of 13006-1 to restore letdown flow."

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STOP TIME: _____

JPM STEPS

STEP 7
 SAT UNSAT

Letdown Flow Established

- ♦ Verify Pressurizer level is greater than 17%
- PIC-131 adjusted to 50-75% to support letdown restoration
- TIC-130 adjusted to approximately 50% to support letdown restoration (1)
- Charging flow adjusted to 80-90 gpm to support letdown flow
- ♦ Letdown isolation valves opened
- ♦ Letdown orifice isolation valve opened
- PIC-131 adjusted to establish letdown pressure of 360-380 psig and returned to Auto (1)
- TIC-130 adjusted to maintain letdown temperature less than 115 0F and returned to Auto (1)
- Monitor system parameters for proper response
- Return Pressurizer level control system to Auto, when conditions permit (3)

CUE:

(1) This action may be necessary while opening the Letdown Orifice Isolation Valve.

(3) This JPM can be terminated at this time. Letdown restoration is evaluated in a number of other settings.

STEP 8
 SAT UNSAT

Initiate Tech Specs

- Need for Tech Spec implementation identified (1)

CUES:

(1) When requested, "The USS will evaluate Tech Specs for applicability."

STEP 9
 SAT UNSAT

Report to USS

- Operator actions completed

Field Notes

- Deleted: 5
- Deleted: corrective actions for failed instrument
- Deleted: Note: Identifying the associated bistables and Master Test switch is evaluated using a separate JPM and is therefore not considered critical for this task.
- Deleted: corrective actions
- Deleted: (2)
- Deleted: the need to bypass the affected channel
- Deleted: (2) When requested, "The USS will notify I&C and ensure the associated Bistable Test/Master Test switches are positioned to TEST."
- Deleted: 6
- Deleted: STOP TIME: 1



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JOB PERFORMANCE MEASURE

NRC-JP-13427-002

**D/G 1B PARALLEL OPERATION
WITH FAILURE OF LOAD POT**

Revision 0

March 30, 2005

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: Following a 7 day D/G 1B outage, Maintenance and Engineering Support are standing by for a D/G 1B test run. D/G 1B was just started, and is now operating unloaded with the D/G output breaker open. You are relieving the BOP, and will be performing the remainder of this test run. The outside area SO is stationed at the D/G to support the evolution.

Assigned Task: The applicable portions of 13145-1 have been completed for starting DG-1B. After reviewing the Precautions and Limitations of 13427-1, parallel D/G 1B to 1BA03 and raise DG-1B load to 7000 kw per Section 4.2.1.

Task Standard: DG-1B paralleled to 1BA03 per 13427-1

JPM INFORMATION

OPERATOR'S NAME:

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: D/G 1B PARALLEL OPERATION WITH FAILURE OF LOAD POT

Application: RO/SRO
 Task Number: 11021
 K/A Number: 062A1.01 RO: 3.4 SRO: 3.8
 Safety Function: 6 - Electrical
 10CFR55.45 Ref.: 5

REVISION: 0

COMPLETION TIME: 21 minutes

Evaluation Method Performed Simulated
 Evaluation Location Simulator Control Room Unit 1 Unit 2
 Performance Time: _____ minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature:

INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 13427-1. Verify this JPM is in accordance with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 1. 13427-1 and 17038-1

SIMULATOR SETUP:

1. Reset to IC 14
2. Start D/G 1B allow it to run unloaded until all annunciators are clear
3. Set **Trigger 1** with the following overrides:
DG 1B (A) Load Pot to 100% over 30 seconds
ALB 38 E01 – ON (DG 1B Trouble)
ALB 38 A04 – ON with a 10 sec time delay (LO outlet temp)
ALB 38 C04 – ON with a 20 sec time delay (JW outlet temp)
4. Set **Trigger 2** with the following overrides:
DG 1B kW meter from 7700 to 8100 over 30 seconds
5. Acknowledge alarms and freeze simulation

Setup time: 5 minutes

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: Following a 7 day D/G 1B outage, Maintenance and Engineering Support are standing by for a D/G 1B test run. D/G 1B was just started, and is now operating unloaded with the D/G output breaker open. You are relieving the BOP, and will be performing the remainder of this test run. The outside area SO is stationed at the D/G to support the evolution.

Assigned Task: The applicable portions of 13145-1 have been completed for starting DG-1B. After reviewing the Precautions and Limitations of 13427-1, parallel D/G 1B to 1BA03 and raise DG-1B load to 7000 kw per Section 4.2.1.

Task Standard: DG-1B paralleled to 1BA03 and operated per 13427-1

JPM STEPS

START TIME: _____

STEP 1SAT UNSAT **Paralleling Diesel Generator To 1BA03**

- ENSURE the Diesel Generator 1B Sync Mode Selector Switch TS-DG1B is in AUTO
- ENSURE Breaker 1BA03-05 and 1BA03-01 Synchronization Switches are OFF
- ♦ PLACE the Breaker 1BA03-19 Synchronization Switch to ON
- ♦ VERIFY Diesel Generator is in the Parallel Mode by observing the blue DSL GEN 1B UNIT MODE/FAST START light is not illuminated.
- SET the Diesel Generator Load Pot 1-SE-4915 to 1.00

STEP 2**CRITICAL (♦)**SAT UNSAT **Adjust D/G 1B voltage and frequency**

- SELECT 1BA03 4160V Bus phase voltage of the highest value
- SELECT the Diesel Generator 1B voltage of the lowest value
- VERIFY Sync Scope Meter is rotating, Synchronizing Lights are bright at the 6 o'clock position, Synchronizing lights are dark at the 12 o'clock position, and the Red AUTO SYNC PERMISSIVE LIGHT comes on near the 12 o'clock position
- ADJUST generator voltage to approximately 50V above the highest phase of the bus voltage
- ♦ ADJUST the generator speed until the Sync Scope needle is rotating slowly in the clockwise direction (fast)

NOTE: When the DG is paralleled to 1BA03 during the next step, the DG will uncontrollably pick up maximum load.

JPM STEPS

STEP 3**CRITICAL (◆)**SAT UNSAT **Closing D/G 1B output breaker**

- ◆ When the Sync Scope needle reaches the 11 o'clock position DEPRESS and HOLD the Diesel Generator 1B AUTO SYNC PERMISSIVE PUSHBUTTON PB-DG1B
- VERIFY that the DG1B OUTPUT BRKR 1BA03-19 CLOSSES

NOTE TO SIMULATOR INSTRUCTOR:

After the DG output breaker is closed, INSERT Trigger 1.

STEP 4**CRITICAL (◆)**SAT UNSAT **Respond to Uncontrollable DG Load Increase**

- ◆ Recognize that DG load is NOT stable at minimum load (700 kW), and that it is increasing uncontrollably.
- Attempt to lower load using DG load pot
- ◆ Perform either of the following: (1)
 - OPEN the DG output breaker
 - or
 - TRIP the DG

(1) If the DG is not manually tripped within 5 minutes, trip the DG due to a Lube Oil or Jacket Water trip.

STOP TIME:



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JOB PERFORMANCE MEASURE

NRC-JP-13009-001

PERFORM A MANUAL MAKEUP WITH A LOSS OF BORIC ACID FLOW

Revision 0 / NRC Exam 2005

March 29, 2005

- Deleted: RQ
- Deleted: 1
- Deleted: EMERGENCY BORATE FROM THE BAST
- Deleted: 6
- Deleted: December 3, 2003

Deleted: Written By : S. N. Dyer Date: 12/3/2003

Deleted: 1

Deleted: 1

Approved By : R. D. Brigdon Date: 5/14/2004

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This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: VCT level is 32%.

Assigned Task: The SS has directed you to perform a Manual Makeup per 13009-1 to raise VCT to 50%.

Task Standard: VCT level raised by correctly performing 13009.

Deleted: ~~THIS IS A TIME CRITICAL JPM~~

Deleted: A reactor trip has occurred and the plant has been stabilized in hot standby conditions. Per step 3 of 19001-C, the crew determined 3 control rods failed to fully insert.

Deleted: The USS has directed you to "initiate emergency boration of the RCS per step 3 RNO of 19001-C."

Deleted: Emergency boration flow established

JPM INFORMATION

Deleted: RO

Deleted: 1

OPERATOR'S NAME: _____

EVALUATION DATE: ___/___/___

JPM TITLE: Perform Manual Makeup with Loss of Boric Acid Flow

REVISION: 0 March 29, 2005

COMPLETION TIME: 19 minutes

Application: RO/SRO

Task Number: 090

K/A Number: APE024AA1.17 RO: 3.9 SRO: 3.9

Safety Function: 1 - Reactivity

10CFR55.45 Ref.: 6, 8, 12

Deleted: Emergency Borate from the BAST

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Deleted: December 3, 2003

Deleted: 8

Deleted: Time Critical

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Comment [end1]: Changed the K/A number from a knowledge K/A to an ability K/A number which changed the importance factor

Evaluation Method Performed Simulated

Evaluation Location Simulator Control Room Unit 1 Unit 2

Performance Time: _____minutes

OVERALL JPM EVALUATION SATISFACTORY UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

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This JPM is based on the latest rev of 13009-1. Verify this JPM is in accordance with the latest procedural revision prior to use. Cues preceded by a "@" are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS:**
1. 13009, CVCS Reactor Makeup Control System
 2. Reactivity Briefing Sheet for BOL 100% conditions

- SIMULATOR SETUP:**
1. Reset to IC10 (BOL 100%)
 2. Set Trigger 1 with RF CV 22 (1208-U4-292 closed over 5 seconds)

Setup time: 3 minutes

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DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: VCT level is 32%.

Assigned Task: The USS has directed you to perform a Manual Makeup per 13009-1 to raise VCT to 50%.

TASK STANDARD: VCT level raised by correctly performing 13009.

- Deleted: 2.** Insert the following overrides:
- FI - 183 . 0%
 - HS-112D . CLOSE
 - HS-112E . CLOSE
- 3.** Insert the following malfunctions:
- RD 17E @ 12 steps (final value)
 - RD 17H @ 6 steps
 - RD 17N @ 6 steps
- 4.** Trip the RX
- 5.** Stabilize plant conditions:
- Trip both MFPS
 - Throttle AFW @ 200gpm/SG
- 6.** Place BOTH boric acid pumps in STOP
- 7.** Ack/Reset alarms
- 8.** Freeze

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Deleted: This is a TIME CRITICAL JPM

Deleted: INITIAL CONDITIONS: A reactor trip has occurred and the plant has been stabilized in hot standby conditions. Per step 3 of 19001-C, the crew determined 3 control rods failed to fully insert.

ASSIGNED TASK: The USS has directed you to "initiate emergency boration of the RCS" per step 3 RNO of 19001-C.

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Deleted: Emergency boration flow established.

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JPM STEPS

START TIME: _____

STEP 1

SAT UNSAT

Determine Boric Acid Flow Setting

- DETERMINE the Boric Acid Blender Flow 1-FIC-0110 setting for the desired makeup boron concentration using PTDB Tab 2.2, (1)

NOTE:

(1) The Boric Acid Flow setting should be already properly set for automatic operation, however the RQ would be expected to verify the setting is correct prior initiating a manual makeup.

STEP 2

CRITICAL (♦)

SAT UNSAT

Align Reactor Makeup Controls for Manual Makeup

- Place VCT Makeup Control 1HS-40001B in STOP.
- PLACE VCT MAKEUP MODE SELECT 1-HS-40001A in MAN.**
- ADJUST 1-FIC-0110 to the desired setting and ENSURE it is in AUTO. (1)**
- PLACE TOTAL MAKEUP 1-FIC-0111 in AUTO.
- RESET Boric Acid Blend Control 1-FQI-0110 and ADJUST it to desired amount of boric acid.
- RESET Boric Acid Blend Control 1-FQI-0111 and ADJUST it to the desired amount of total makeup.

(1) The examinee would be expected to refer to the Reactivity Briefing sheet for this evolution.

STEP 3

SAT UNSAT

Align Reactor Makeup Control Valves for Manual Makeup

- Ensure BA TO BA BLENDER 1-HS-0110A in AUTO
- Ensure RX MU WTR TO BA BLENDER 1-HS-0111A in AUTO
- Ensure one Boric Acid Transfer Pump RUNNING or in AUTO
- Ensure one Reactor Makeup Water Pump RUNNING or in AUTO

CUES:

Ⓢ Provide cues as needed to indicate required valve positions.

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Deleted: Start at least one Boric Acid Transfer Pump

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Deleted: Ensure a charging pump is running

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Deleted: • Verify at least one charging pump running

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Deleted: Emergency Boration using the normal makeup flowpath

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verified ¶

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Deleted: ♦ 1-FV-110B, Blend... (2)

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STEP 4
CRITICAL (♦)
 SAT UNSAT

Align Discharge Flowpath

♦ **OPEN:**
 - BLENDER OUTLET TO VCT 1-FV-0111B
 or
 - BLENDER OUTLET CHARGING PUMPS SUCTION 1-FV-0110B,

CUES:
 © Provide cues as needed to indicate required valve positions.

Deleted: Verify boration flow to the RCS

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♦ Boration flow indicator 1-FI-0110B > 30 gpm

• If FI-0110B < 30gpm, start second boric acid transfer pump.

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STEP 5
CRITICAL (♦)
 SAT UNSAT

Start Manual Makeup

♦ **PLACE VCT Makeup Mode Selector Switch 1-HS-40001A in MANUAL.**
 ♦ **PLACE VCT Makeup Control Switch 1-HS-40001B in START.**

STEP 6
 SAT UNSAT

Verify Proper Operation of Manual Makeup

- VERIFY Boric Acid Transfer Pump RUNNING.
- VERIFY Reactor Makeup Water Pump RUNNING.
- VERIFY 1-FV-0110A throttles OPEN to provide desired flow.
- VERIFY 1-FV-0111A throttles OPEN to provide desired flow.
- MONITOR Boric Acid Blend Control 1-FQI-0110 and 1-FQI-0111.

Note: Shortly after the examinee verifies proper operation of the Manual Makeup, INSERT Trigger 1.

Boric acid flow will then lower to zero due to a clogged boric acid filter. This will cause a Boric Acid Flow deviation alarm after a 30 second time delay, but no isolation will occur due to the discharge valve being placed in the hard open position. Manual operator action will be required to stop a dilution event.

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JPM STEPS

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STEP 7

CRITICAL (♦)

SAT UNSAT

Stops Manual Makeup due to Loss of Boric Acid Flow

☞ ♦ Determine that 1-FV-0110A is not providing desired boric acid flow.

☞ ♦ STOPS Manual Makeup by either:

• Closing 1-FV-0111B or 1-FV-0110B

or

• Placing VCT Makeup Control 1-HS-40001B in STOP.

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STEP 8

SAT UNSAT

Report to USS

☞ • Manual Makeup terminated due to inadequate boric acid flow.

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STOP TIME: ¶

Page Break

STEP 7¶

SAT UNSAT ¶

Observe plant parameters¶

Note: This task is considered complete when boration flow has been initiated. After this has been accomplished, provide ¶

the cue given below to the operator.¶

☞ • Pressurizer heaters energized¶

☞ • Determine the need to add 462 ppm of boron(1)¶

CUES:¶

(1) "The extra RO will monitor boron concentration and terminate emergency boration when ¶ appropriate."¶

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Field Notes

◆ 1-FV-110A, BAST to BA Blender, OPEN

◆ 1-FV-110B, Blender Outlet to Charging Pump Suction, OPEN



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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

RQ-JP-19030-002

ESTABLISH REQUIRED SUBCOOLING FOR RCS DEPRESSURIZATION

Revision 12

April 5, 2005

Deleted: 1

Deleted: May 13, 2004

Deleted: Written By : S. N.
Dyer Date: 5/13/2004
Approved By : R. D.
Brigdon Date: 5/14/2004

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

🕒 **THIS IS A TIME CRITICAL JPM** 🕒

Initial Conditions: A tube rupture has occurred on SG _____. The crew has transitioned from 19000 to 19030. Steps 1 through 5 of 19030 have been performed.

Assigned Task: The USS has directed you to "Cooldown the RCS to obtain the core exit temperature required for RCS depressurization starting with step 6 of 19030."

Task Standard: Core exit thermocouple temperatures less than required for RCS depressurization.

INSTRUCTIONS TO EXAMINER

This JPM is based on 19030-C. Verify this JPM is in accordance with the latest procedural revision prior to use. Cues preceded by a "@"... are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS:** 1. 19030-C, Steam Generator Tube Rupture Response
- SIMULATOR SETUP:**
1. Reset to IC14
 2. Insert malfunction SG01A (B,C,or D) at 50%
 3. Initiate manual Rx trip and SI
 4. Throttle AFW flow to \approx 200 gpm per SG
 5. Verify ruptured SG level > 10%
 6. Perform 19030 steps 1 through 5
 7. Ensure ruptured SG pressure increases above 1100 psig
 8. Lower RCS pressure to approx. 1850-1900 psig
 9. Ack/Reset alarms
 10. Freeze simulator

Setup time: 12 minutes

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DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

This is a TIME CRITICAL JPM

- INITIAL CONDITIONS:** A tube rupture has occurred on SG _____. The crew was transitioned from 19000 to 19030. Steps 1 through 5 of 19030 have been performed.
- ASSIGNED TASK:** The USS has directed you to "Cooldown the RCS to obtain the core exit temperature required for RCS depressurization starting with step 6 of 19030."
- TASK STANDARD:** Core exit thermocouple temperatures less than required for RCS depressurization.

JPM STEPS

START TIME: _____ TIME CRITICAL ☉

STEP 1

CRITICAL (♦)

SAT UNSAT **Block Low Steam Pressure SLI***Note: This step is CRITICAL only if not performed and a SLI occurs due to Low Steamline Pressure.*

- Check PRZR pressure < 2000 psig (P-11)
- Verify High Steamline Pressure Rate alarms clear
- ♦ Place HS-40068 and HS-40069 in BLOCK (momentary)

STEP 2

SAT UNSAT **Determine required core exit temperature**

- Ruptured SG pressure between 1100 and 1200 psig
- Required core exit temperature determined to be 518°F

CUES:

- ☉ Provide indication Ruptured SG's steamline pressure = 1120 psig.

STEP 3

CRITICAL (♦)

SAT UNSAT **Initiate RCS cooldown***Note: If a steamline isolation occurs, the operator should reestablish the cooldown using the intact SG's ARVs. Failure to resume the cooldown at the maximum rate is UNSAT.*

- AFW flow increased to intact SGs for cooldown
- ♦ Match demand on SG Header Pressure Controller PIC-507 and Steam Dump demand meter UI-500
- ♦ Place HS-500C in STEAM PRESSURE mode
- ♦ OPEN all available steam dumps by slowly raising demand on PIC-507
- Check if auto steam dump isolation should be bypassed
- ♦ Place HS-500A and HS-500B in BYP INTLK (If RCS Temp is above 550°F Holding bypass switches is required until temp is < 550°F)
- ♦ Strm Dump Controller PIC-507 in MAN & adjusted to fully open PV-507A, B, & C (see note above)

CUES:

- ☉ Provide indication RCS NR Tav_g ≥ 545 °F

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JPM STEPS

STEP 4
 SAT UNSAT

Perform steps 8 through 13 as time permits

Note: These steps are not required to be performed to satisfy the task standard. These steps can be performed while the RCS cooldown is in progress.

- Check intact S/G NR levels > 10%
- Check NO SG levels rising in an uncontrolled manner
- Control feed flow to maintain intact S/G NR levels between 10 – 65%
- Check power available to PORV Block valves
- Check PORVs shut
- Check at least one PORV Block valve open
- Reset SI
- Reset CIA
- Verify IA pressure > 100 psig
- HS-9378A and HS-9378B placed in open until IA to CNMT valve HV-9378 will remain open
- Check RCS pressure > 300 psig
- Stop RHR pumps

STEP 5
CRITICAL (♦)
 SAT UNSAT

Stop RCS cooldown

Note: If used earlier, the AIVs should be adjusted to stop the cooldown and maintain temperatures.

- ♦ Core exit temperatures < 518°F
- ♦ PIC-507 adjusted to stop cooldown (*see note above*)
- ♦ PIC-507 adjusted to stabilize core exit temperatures < 518°F

CUES:
 © Provide indication as needed to indicate that CETC temperatures < stated temperature.

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STOP TIME: _____

STEP 6
 SAT UNSAT

Report to USS

- Core exit thermocouples are < 518°F

Field Notes



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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

RQ-JP-13130-001

DILUTE CONTAINMENT WITH SERVICE AIR

Revision 8

April 5, 2005

Deleted: 7

Deleted: December 3, 2003

Deleted: Written By: . S. N.
Dyer . Date: . 12/3/2003
Approved By: Richard D.
Brigdon . Date: . 5/14/2004

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: A LOCA has occurred on Unit 1. The crew is performing step 19 of 19010-C. The TSC has requested that Service Air be aligned to Containment to reduce the hydrogen concentration of the Containment atmosphere.

Assigned Task: The USS has directed you to "Dilute the Containment Hydrogen concentration using Service Air per 13130-1, "Post-Accident Hydrogen Control."

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Task Standard: Service Air aligned to Containment atmosphere.

INSTRUCTIONS TO EXAMINER

This JPM is based on 13130-1. Verify this JPM is in accordance with the latest procedural revision prior to use. Cues preceded by a "@"... are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS:** 1. 13130, Post-Accident Hydrogen Control
- SIMULATOR SETUP:**
1. Reset to IC 14 (MOL 100%)
 2. Insert malf. RC05C at 100% (Hot Leg Break)
 3. Throttle AFW to 570 gpm
 4. Use Remote Function ED08 to set CNMT H₂ at 8%
 5. Use Remote Function ED07 to override CNMT H₂
 6. Use Remote Function ED06 to set CNMT Pressure at 15#
 7. Use Remote Function ED05 to override CNMT Pressure
 8. Trip RCPs
 9. Verify RCS pressure rising
 10. Reset SI
 11. Stop RHR pumps
 12. Place both Cmt H₂ Monitors in service per 13130
 13. Ack/Reset alarms
 14. Freeze simulator when Cmt H₂ concentration stabilizes

Setup Time: 20 minutes

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

- INITIAL CONDITIONS:** A LOCA has occurred on Unit 1. The crew is performing step 19 of 19010-C. The TSC has requested that Service Air be aligned to Containment to reduce the hydrogen concentration of the Containment atmosphere.
- ASSIGNED TASK:** The USS has directed you to "Dilute the Containment hydrogen concentration using Service Air per 13130-1, "Post-Accident Hydrogen Control."
- TASK STANDARD:** Service Air aligned to Containment atmosphere.

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JPM STEPS

START TIME: _____

STEP 1

SAT UNSAT **Appropriate procedure selected** • 13130, Section 4.4.2 selected

STEP 2

CRITICAL (♦)

SAT UNSAT **Align Service Air to Containment**

- Verify containment pressure < 40 psig
- ♦ HS 40120 and 40122 positioned to RESET (CIA)
- ♦ HS 9385A positioned to OPEN
- ♦ HS 9385B held in OPEN position until HV 9385 fully OPENED

STEP 3

CRITICAL (♦)

SAT UNSAT **Initiate Service Air Purge**

NOTE: Use remote function ED06 to control containment pressure from 15 psig to 17 psig with a ramp time of 600 seconds once a 9380 valve is open. This will allow verification of air to containment. Use malfunction IA02 at 5% to simulate air flow out of service air system. Expect A/Cs in standby to start.

- ♦ HV 9380A or HV 9380B OPENED
- Verify Service Air pressure > 80 psig
- Monitor Ctrnt H₂ concentration (1) (2)
- Verify Ctrnt pressure remains < 40 psig (3)

CUE:

- (1) When requested, "The Extra RO will monitor H₂ concentration."
- (2) When requested, "The USS will notify Chemistry to begin sampling."
- (3) When requested, "The Extra RO will monitor containment pressure."

STEP 4

SAT UNSAT **Report to USS** • Service Air aligned to Ctrnt atmosphere

STOP TIME: _____

Field Notes



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JOB PERFORMANCE MEASURE

RQ-JP-13011-001

PLACE RHR IN SERVICE

Revision 15

April 5, 2005

Deleted: 4

Deleted: December 3, 2003

Deleted: 1
Written By: . S. N.
Dyer . Date: . 12/3/2003
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Approved By: . R. D.
Brigdon Date: . 5/14/2004

This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: A plant cooldown from Mode 4 to Mode 5 is in progress in accordance with UOP 12006-C, Section C. In addition, power has been restored to loop suctions HV-8701A/B and HV-8702A/B per 13011.

Assigned Task: The USS has directed you to "Place RHR Train..... in service and establish a 50°F/hr cooldown rate using 13011."

Task Standard: RHR in service with a cooldown established.

INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 13011-1. Verify this JPM is in accordance with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

REQUIRED ITEMS: 1. 13011, Residual Heat Removal System

- SIMULATOR SETUP:**
1. Reset to IC3 (BOL mode 4)
 2. Ensure both trains of CCW in service
 3. Trip RCPs 02 and 03
 4. Power HV 8701A/B OR 8702A/B (selected train)
 5. Adjust ARV setpoints to est a 10°F/hr cooldown rate
 6. Ensure RCS pressure stable at approx. 350 psig.
 7. Activate RF: RH2(RH3) to align letdown from desired train
 8. Verify Hi Flux at Shutdown Alarm Reset
 9. Ack/Reset alarms
 10. Place SIP HS's in PTL and tag
 11. Freeze simulator

NOTE TO SIMULATOR INSTRUCTOR: Ensure IPC Indications (Mode Dependent Alarming) for Reactivity is indicating properly.

Setup time: 15 minutes

DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: A plant cooldown from Mode 4 to Mode 5 is in progress in accordance with UOP 12006-C, Section C. In addition, power has been restored to the _____ train loop suction per 13011.

ASSIGNED TASK: The USS has directed you to "Place RHR Train _____ in service and establish a 50°F/hr cooldown rate using 13011."

TASK STANDARD: RHR in service with a cooldown established.

- Deleted:** Stop the RHR Pump
5. Close
- Deleted:** and
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- Deleted:** Open 606/607 and Close 615/619
7. Open 8716A/B and 8812A/B
8. Momentarily start RHRP A to lower temp on TR-612
9.
- Deleted:** 10
- Deleted:** Lower HC-128's demand to 0%
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JPM STEPS

START TIME: _____

STEP 1**CRITICAL (♦)****SEQ 1**SAT UNSAT **Align RHR for operation**

- Section 4.3(4.4) selected
- Notify HP that RHR system startup could change rad levels(1)
- RHR crossconnects HV-8716A(B) CLOSED
- RHR HX outlets HV-606(607) CLOSED
- RHR HX bypasses FV-618(619) CLOSED
- RHR to cold legs HV-8809A(B) OPEN
- Independent verification requested (2)
- RHR pump A(B) in PTL
- RWST to RHR HV-8812A(B) CLOSED
- Hot leg suction HV-8701B(8702B) and HV-8701A(8702A) OPEN
- RHR pump A(B) in AUTO (3)

CUES:

- (1) "The USS will notify HP"
- (2) "The BOP will perform the IV."
- (3) When requested, "Step 4.3.4(4.4.4) has been performed."

Deleted: Note: This JPM only evaluates the selected train. Alignment of BOTH trains would violate procedure and JPM should be considered UNSAT.!

STEP 2**CRITICAL (♦)****SEQ 2**SAT UNSAT **Startup RHR system**

- Ensure CCW in service
- RHR pump miniflow FV-610(611) OPEN
- RHR pump A(B) STARTED

JPM STEPS

STEP 3
 SAT UNSAT

Establish RHR letdown per section 4.5
Note: Valves 021 (022) were opened during simulator setup using remote functions RH2 (RH3)

- RHR letdown controller HC-128 at 0% demand
- Operator directed to OPEN 1205-U4-021(022) (1)
- Independent verification requested (2)
- HC-128 adjusted to establish letdown flow (3)
- Letdown pressure controller PIC-131 and/or HC-128 to obtain 60 to 90 gpm letdown

CUES: (1) "The ABO reports that 1205-U4-021(022) is open."
 (2) "The CBO will perform the IV."
 (3) If requested, "Establish 75 gpm letdown flow."

STEP 4
 SAT UNSAT

Warmup RHR system
Note: The miniflow valve opens at appr. 750 gpm and closes at ≈ 1400 gpm.

- RHR inlet temperature indications verified stable (1)
- RHR HX bypass controller FIC-618(619) raised until miniflow FV-610(611) CLOSES
- RHR inlet temperature indications verified stable

CUES:
 (1) After short time period, if needed, provide indication that RHR inlet temperature has stabilized at 190°F.
 (2) RHR flow indicates ≈ 800 gpm and inlet temperatures indicate ≈ 190°F for 5 mins.
 (3) After opening the FV-618(9), indicate "RHR flow is ≈ 1000 gpm and inlet temperature has indicated ≈ 350°F for 5 minutes."

STEP 5
CRITICAL (♦)
 SAT UNSAT

Initiate RHR cooldown
Note: Establishing a specific cooldown rate is extremely time intensive. Because of this time factor, establishing a cooldown will satisfy the requirements of this JPM.

- ♦ FIC-618(619) adjusted to attain ≥ 3000 gpm (indicated flow needs to be 3200gpm)
- FV-610(611) CLOSED
- FIC-618(619) in AUTO with a potentiometer setting ≥ 3.6, if desired
- PIC-131 adjusted as required to maintain desired letdown flow
- ♦ HC-606(607) adjusted to establish cooldown rate (1)

CUES:
 (1) After cooldown initiated, "The Extra RO will maintain the cooldown rate ≤ 50 °F/hr."

JPM STEPS

STEP 6
SAT UNSAT

Report to USS

- RHR in service with a cooldown established

STOP TIME:

Field Notes



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JOB PERFORMANCE MEASURE

NRC-JP-19030-001

DEPRESSURIZE RCS USING AUX SPRAY TO REDUCE BREAK FLOW TO
RUPTURED STEAM GENERATOR
(PRESSURIZER SPRAYS AND PORV'S NOT AVAILABLE)

Revision 0

March 29, 2005

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Deleted: April 10, 2001

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Approved By : R. D. Brigdon Date: 7/16/2001

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This information describes the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the task before beginning. You will be allowed access to any item normally used to perform this task.

Initial Conditions: A tube rupture has occurred on SG _____. The crew has transitioned from 19000 to 19030. Steps 1 through 16 of 19030 have been performed.

Assigned Task: The USS has directed you to "Depressurize the RCS beginning with step 17 of 19030, until any one of the conditions for stopping the depressurization is satisfied."

Task Standard: RCS depressurized and break flow reduced.

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JPM INFORMATION

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OPERATOR'S NAME: _____

EVALUATION DATE: ____/____/____

JPM TITLE: Depressurize RCS Using Aux Spray to Reduce Break Flow to Ruptured Steam Generator (Pressurizer Sprays and PORV's Not Available)

REVISION: 0 March 29, 2005

COMPLETION TIME: 22 minutes

Application: RO/SRO
Task Number: 37011
K/A Number: 000038EA104 RO: 4.3 SRO: 4.1
Safety Function: 3 - Pressure Control
10CFR55.45 Ref.: 6, 7, 12

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Evaluation Method [] Performed [] Simulated
Evaluation Location [] Simulator [] Control Room [] Unit 1 [] Unit 2
Performance Time: _____ minutes

OVERALL JPM EVALUATION [] SATISFACTORY [] UNSATISFACTORY

Examiner Comments:

Examiner's Signature: _____

INSTRUCTIONS TO EXAMINER

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This JPM is based on the latest rev of 19030-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues preceded by a "©..." are provided to enhance simulation of this JPM and should only be used when the simulator is unavailable. Cues designated by (#) are to be provided to the examinee during the performance of this JPM.

- REQUIRED ITEMS:** 1. 19030-C, Steam Generator Tube Rupture
- SIMULATOR SETUP:**
1. Reset to IC14 (MOL 100%)
 2. Override PZR SPRAYS shut; SWITCH 455B & 455C to "CNT DN"
 3. Override PZR PORVS shut; SWITCH 455A & 456A to "CLOSE"
 4. Insert malfunction SG01A (B,C,or D) at 50%
 5. Initiate manual Rx Trip and SI
 6. Throttle AFW flow to ≈ 200 gpm per SG
 7. Verify ruptured SG level > 10% NR
 8. Perform 19030 steps 1 through 18a
 9. Ack/Reset alarms
 10. Freeze simulator

Setup time: 10 minutes

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DIRECTIONS TO OPERATOR

You will be given information describing the Initial Conditions, Assigned Task, and the Task Standard. Please ensure you understand the assigned task before beginning. You will be allowed access to any item normally used to perform this task.

INITIAL CONDITIONS: A large tube rupture has occurred on SG _____. The crew has transitioned from 19000 to 19030. Steps 1 through 16 of 19030 have been performed.

ASSIGNED TASK: The USS has directed you to "Depressurize the RCS beginning with step 17 of 19030, until any one of the conditions for stopping the depressurization is satisfied."

TASK STANDARD: RCS depressurized and break flow reduced.

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START TIME: _____

STEP 1
CRITICAL (♦)
SAT UNSAT

Evaluate RCS Depressurization Capability

- Spray controllers PIC-455B and PIC-455C determined to be UNAVAILABLE
- ARM one train of COPS using HS-8000G or HS-8000H
- Verify PRZR PORV block valve HV-8000A or HV-8000B comes OPEN
- Places PRZR PORV PV-455A or PV-456A to OPEN
- PORV's PV-455A and PV-456A determined to be UNAVAILABLE
- **Recognizes requirement to establish AUX SPRAY for RCS depressurization**

CUES:

- Ⓞ Provide cues as needed to indicate PZR spray valves are not functional.
- Ⓞ Provide cues as needed to indicate PZR PORV's are not functional.
- Ⓞ Indicate following conditions: RCS pressure is 1535 psig; Ruptured SG pressure is 1120 psig, PRZR level is 28%; RCS subcooling is 85°F.

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STEP 2
CRITICAL (♦)
SAT UNSAT

Establish Support Conditions for Aux Spray Operation

- Verifies at least one SI pump running
- Stops PZR heaters. (Heaters should have tripped off due to PZR level <17%)
- Verify at least one CCP running
- **Shuts BIT discharge isolation valves HV-8801A & B**

CUES:

- Ⓞ Provide cues as needed to indicate at least one SI pump and one CCP are running.
- Ⓞ Provide cues as needed to indicate that the BIT isolation valves are closed.

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JPM STEPS

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STEP 3

CRITICAL (♦)

SAT UNSAT

Depressurize RCS

- Adjust Seal Flow Control valve HC-182 to maximum seal flow
- ♦ Open Charging to RCS Isolation valves HV-8105 and HV-8106
- ♦ Open PZR Aux Spray valve HV-8145
- ♦ Close Charging Isolation valves HV-8146 and HV-8147
- Verify PZR Normal Spray valves closed
- Adjust Seal Flow Control valve HC-182 to obtain 8-13 gpm RCP seal injection flow
- ♦ Adjust Charging Flow Control FIC-121 as necessary to initiate RCS depressurization

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CUES:

Note: Simulator operator needs to ensure that RCS temperature is maintained <518 F (or target temperature determined).

☉ Provide cues as needed to indicate required valve positions.

STEP 4

CRITICAL (♦)

SAT UNSAT

Determine RCS depressurization should be stopped

(Note: Subcooling is not expected to decrease to < 24°F during depressurization.)

- ♦ Either of the following established:
 - RCS pressure < Ruptured SG pressure AND PRZR level >9%
or
 - PRZR level >75%

CUES:

☉ Provide cues to indicate that RCS pressure is ≤ Ruptured SG pressure and PZR level is 15%.

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JPM STEPS

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STEP 5
CRITICAL (♦)
SAT UNSAT

Stop depressurization

• **Open a Charging Isolation valve HV-8146 or HV-8147**
 • **Shut PZR Aux Spray valve HV-8145**
 • Check RCS pressure STABLE OR RISING

CUES:
© Provide cues as needed to indicate required valve positions.

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STEP 6
SAT UNSAT

Report to USS

• RCS depressurized and break flow reduced

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STOP TIME: _____

Field Notes