INITIAL SUBMITTAL

VOGTLE EXAM
50-424, 425/2001-301

MAY 14 - 18 & 21 - 25, 2001

INITIAL SUBMITTAL JPMS

ADMINISTRATIVE JPMs/QUESTIONS
SIMULATOR JPMs,
IN-PLANT JPMs, AND
INITIAL ADMIN TOPICS OUTLINE
(ES-301-1),
CONTROL ROOM SYSTEMS &
FACILITY WALK-THROUGH OUTLINE
(ES-301-2)

Facility: _**Vogtle Electric Generating Plant** Date of Examination: 5/15-24/01
Examination Level (circle one): RO / SRO Operating Test Number: _____

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	JPM	Calculate Keff for Withdrawal of Shutdown Banks 14005-003
	JPM	Evaluate Operator Overtime Usage NRC-2
A.2	JPM	Determine Axial Flux Difference With AFD Monitor Inoperable NRC-1
A.3	JPM	Calculate Stay Time for Maintenance Work NRC-3
A.4	JPM	Classify Event and Make Protective Action Recommendation (SRO)
		Make Emergency Notification 40101-002-01a (RO)

Facility: **Vogtle Electric Generating Plant** Date of Examination: **5/15-24/01**

Exam Level (circle one): **RO / SRO(I) / SRO(U)** Operating Test No.: ___1____

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Place Letdown in service TI 130 Fails (U) NRC-4	N/A/S	3
b. Respond to Failure of RCP Seal #1 16401-003-01	D/L/S	2
c. Transfer Containment Spray Recirculation 37113-001-02	M/A/S	5
d. Establish Required Subcooling For RCS Depressurization (U) RQ-JP-37311-001	N/A/L/S	4
e. Trip Protection System Bistables (Pzr Press) (U) 60301-007-01C	D/C	7
f. Respond to CVI with Failure of Dampers to Close 13125-001	N/A/S	6
g. Dilute Containment With Service Air	D/C	9

B.2 Facility Walk-Through

a. Operate Containment H2 Recombiner (U) 37061-001-01	D	5
b. Manually Rack 4160v Breaker 13435-001	D/lab	6
c. Locally Isolate RCP Seals (U) 37031-001-01	D/R	2

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

NRC EXAM HL-11

CALCULATE SHUTDOWN MARGIN K_{EFF} DETERMINED TO BE UNSAT TO WITHDRAW SHUTDOWN BANKS

March 24, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: CALCULATE SHUTDOWN MARGIN K_{EFF} DETERMINED TO BE UNSAT TO WITHDRAW SHUTDOWN BANKS

COMPLETION TIME: 30 minutes

Application: RO/SRO

Task Number:

K/A Number:

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. 14005-1, Shutdown Margin and Keff Calculations
2. Plant Technical Data Book (Unit 1)
3. Data sheet at end of this JPM

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

This JPM is based on Unit 1 Cycle 10 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 crew is performing a reactor startup following a trip from 100% power, steady state conditions.

ASSIGNED TASK: In accordance with UOP 12003, the USS has directed you to "Determine K_{eff} for withdrawal of the shutdown banks using 14005".

TASK STANDARD: K_{eff} calculated for withdrawal of the Shutdown Banks.

START TIME: _____

STEP 1

CRITICAL (♦)

SAT ☐ UNSAT ☐

Select appropriate Data Sheet

☐ ♦ Data Sheet 3 selected
☐ • Current conditions recorded

STEP 2

CRITICAL (♦)

SAT ☐ UNSAT ☐

Determine reactivity values using PTDB
Note: If a discrepency 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.

☐ • Xe/Sm free integral boron worth (J1) of 3857 pcm
☐ • Xe/Sm free critical boron worth (J2) of 688 ppm
☐ • Xe/Sm free integral boron worth (J3) of 6514 pcm
☐ • Boron correction factor (J4) of 0.91916
☐ • Corrected Xe/Sm worth (J6) of 3285 pcm
☐ • Shutdown reactivity (J8) of 628 pcm

STEP 3

CRITICAL (♦)

SAT ☐ UNSAT ☐

Determine K_{eff}

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

☐ ♦ K_{eff} of 0.994 calculated

STEP 4

CRITICAL (♦)

SAT ☐ UNSAT ☐

Report to USS

☐ ♦ Keff is NOT acceptable for SD bank withdrawal

STOP TIME: _____

Field Notes

DATA REQUIRED FOR K_{EFF} CALCULATION

PROVIDE THIS SHEET TO THE CANDIDATE

Power History	100% for 410 days
Cycle Burnup	19,000 MWD/MTU
Boron Concentration	400 ppm
Tavg	557 °F
Current Rod Height	All rods are inserted
Delta AO x Delta Bu	0 % MWD/MTU
Length of shutdown	28 hours
Boron-free Xenon plus Samarium Worth Obtained from Rx Engineering	3574 pcm

DATA SHEET 3 Sheet 2 of 2

J. **KEFF CALCULATION**

NOTE

For all calculations, record the ABSOLUTE VALUES of the reactivity values obtained from the PTDB.

J.1 Xe/Sm free Integral Boron Worth at ARI, Temperature (H.2), Boron Concentration (H.4) and Burnup (G.2) (PTDB TAB 1.3.1) + 3857 pcm

J.2 Xe/Sm free Critical Boron Concentration with Control Banks Only Inserted, Temperature (H.2) and Burnup (G.2) (PTDB TAB 1.3.5) + 688 ppm

J.3 Xe/Sm free Integral Boron Worth at ARI, Temperature (H.2), Critical Boron Concentration (J.2) and Burnup (G.2) (PTDB TAB 1.3.1) + 6514 pcm

J.4 Correction factor for Boron effect on Xenon and Samarium at Critical Boron Worth (J.3) (PTDB TAB 1.4.5) + .91916

J.5 Boron free Xenon plus Samarium Worth at (H.3) hours after shutdown from Power Level (G.3) and Burnup (G.2) (obtain from Reactor Engineering.) + 3574 pcm

J.6 Corrected Xenon plus Samarium Worth: [(J.4) x (J.5)] + 3285 pcm

J.7 Axial Offset Reactivity Correction (From Reactor Engineering) + 0 pcm

J.8 Shutdown Reactivity:
[(J.1) - (J.3) + (J.6) - (J.7)] =

3857 - 6514 + 3285 - 0 = ( ) 628 pcm

J.9 Keff: 1.0000 / [1.0000 + ((J.8)/100,000)] =

1.0000 / [1.000 + (628/100,000)] = + .994

ACCEPTANCE CRITERIA

Keff (J.9) shall be less than +0.99.

[ ] YES [X] NO

Completed By: _____
Signature Date/Time

Verified By: _____
Signature Date/Time

ANSWER SHEET 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.

INITIAL CONDITIONS:	The crew is performing a reactor startup following a trip from 100% power, steady state conditions.
ASSIGNED TASK:	In accordance with UOP 12003, the USS has directed you to "Determine K_{eff} for withdrawal of the shutdown banks using 14005".
TASK STANDARD:	K_{eff} calculated for withdrawal of the Shutdown Banks.

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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

EVALUATE OPERATOR OVERTIME USAGE

April 15, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Evaluate Operator Overtime Usage

REVISION: 0

COMPLETION TIME: 15 minutes

Application: RO/SRO
Task Number:
K/A Number: G2.1.1 3.7/3.8
10CFR55.45 Ref.: 41.1/45.3

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

REQUIRED ITEMS: TS 5.2.2

SIMULATOR SETUP: N/A

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 following is the schedule of 2 operators for a seven day period.

ASSIGNED TASK: Using the attached schedule, determine whether overtime guidelines may have been violated. Consider each case seperately and list all applicable violations.

TASK STANDARD: Overtime Usage Correctly Evaluated.

START TIME: _____

STEP 1
CRITICAL (♦)
SAT ☐ UNSAT ☐

Determines Overtime Limitations

☐ • Reviews TS 5.2.2

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Evaluates overtime usage of both opertors.

☐ • Determines hours worked each day for both operators.

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐

Evaluates hours worked against overtime limitations.

☐ (♦) Determines overtime usage in accordance with answer key. (4/5)

STOP TIME: _____

Field Notes

ANSWER KEY

	Operator #1 (Dayshift)	Operator #2 (Dayshift)
Mon.	0600-1800 (12)	0600-1800 (12)
Tues.	0700-1900 (12) (came in late, holdover)	0600-1800 (12)
Wed.	0200-1800 (16) (called in early)	0600-1800 (12)
Thurs.	0600-1800 (12)	0600-1200 (6) (call out, day off)
Fri.	OFF	0600-1300 (7) (went home sick)
Sat.	0600-1800 (12)	0600-1800 (12)
Sun.	0600-1800 (12)	0600-1800 (12)
	>72 hours in 7 days < 8 hours rest Tuesday/Wednesday >24 hours in 48 hours Tues/Wed & Wed/Thur (2)	>72 hrs in 7 days

Initial Conditions: The following is the schedule of 2 operators for a seven day period.

Initiating Cue: Using the attached schedule, determine whether overtime guidelines may have been violated. Consider each case seperately and list all applicable violations.

	Operator #1 (Dayshift)	Operator #2 (Dayshift)
Mon.	0600-1800	0600-1800
Tues.	0700-1900 (came in late, holdover)	0600-1800
Wed.	0200-1800 (called in early)	0600-1800
Thurs.	0600-1800	0600-1200 (call out, day off)
Fri.	OFF	0600-1300 (went home sick)
Sat.	0600-1800	0600-1800
Sun.	0600-1800	0600-1800

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 following is the schedule of 2 operators for a seven day period.
Assigned Task:	Using the attached schedule, determine whether overtime guidelines may have been violated. Consider each case seperately and list all applicable violations.

Task Standard:	Use of Overtime evaluated.

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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

DETERMINE AXIAL FLUX DIFFERENCE

April 15, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Calculate AFD

COMPLETION TIME: 15 minutes

Application: RO/SRO
Task Number:
K/A Number: 015000A105 RO: 3.7 SRO: 3.9
10CFR55.45 Ref.:

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 14915-1 . 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 examinee during performance of this JPM.

REQUIRED ITEMS:
1. 14915, Special Conditions Surveillance Logs
2. Plant Technical Data Book

SIMULATOR SETUP:
1. Reset to 74 % IC 92 power with NI 42C reads 69.5 .
2. AFD readings : 41C -15 42C -21
   43C -20 44C -15

The simulator should remain in FREEZE during the performance of this JPM.

Setup time: 3 minutes

This JPM is based on the Current Unit 1 Cycle.

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 has recently recovered from a load rejection. The unit is at 74% power. NI-42C has a failed detector , the channel has been BTI per 13509. Instrument power fuses are currently installed for troubleshooting and repair.

Assigned Task: I&C has reported that the AFD monitor alarm ALB10-F6 is inoperable. The USS has directed you to determine the required actions and perform any necessary surveillences for this condition.

TASK STANDARD: AFD calculated and LCO evaluatedoubleshooting per13509-C.

START TIME: _____

STEP 1
CRITICAL (♦)
SAT ☐ UNSAT ☐

Determines AFD must be determined for each OPERABLE excore channel within 1 hour using 14915-1 Tab 6.0 .

☐ • Reviews TS 3.2.3 and refers to 14915-1.

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Determine upper and lower limits of AFD from PTDB Tab 6.0

☐ • Upper and lower limits recorded

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐

Determine AFD

☐ • 1-NI-41C value recorded. -15
☐ • 1-NI-42C value recorded (Note: instrument is inoperable and reading -21)
☐ • 1-NI-43C value recorded -20
☐ • 1-NI-44C value recorded -15

Recognizes 1-NI-42C is not operable and records N/A on data sheet.

STEP 4
SAT ☐ UNSAT ☐

Verify AFD is within limits of PTDB 6.0

☐ (•) AFD within limit of PTDB

STOP TIME: _____

Field Notes

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 has recently recovered from a load rejection. The unit is at 74% power. NI-42C has a failed detector , the channel has been BTI per 13509. Instrument power fuses are currently installed for troulbleshooting and repair
Assigned Task:	I&C has reported that the AFD monitor alarm ALB10-F6 is inoperable. The USS has directed you to determine the required actions and perform any necessary surveillences for this condition.

Task Standard:	AFD calculated and LCO evaluated.

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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

NRC EXAM HL-11

CALCULATE WORKER STAY TIME TO PERFORM MAINTENANCE ON VALVE

April 24, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: CALCULATE WORKER STAY TIME TO PERFORM MAINTENANCE ON VALVE

COMPLETION TIME: 20 minutes

Application: RO/SRO

Task Number:

K/A Number:

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: _____

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: **After Unit One refueling outage the RCDT discharge header isolation from containment drain valve 1-1901-X4-028 has developed a bad packing leak which requires repair. The RCDT System has been tagged and drained to support the work by operations. Two mechanics have been assigned the task. Listed below is the workers accumulated yearly dose following the refueling outage.**

Worker #1	**4450 mrem**
Worker #2	**4375 mrem**

Assigned Task: **Using the Fuel Handling Building HP Room survey maps provided calculate how long each worker may remain in the area to perform the maintenance before reaching the administrative exposure limits for plant Vogtle.**

TASK STANDARD: **EACH MAINTENANCE WORKERS MAXIMUM STAY TIME CALCULATED.**

START TIME: _____

STEP 1

SAT ☒ *UNSAT* ☐

Worker #1 (4500- 4450 = 50 mrem) General radiation dose in area is 5 mrem/hr
50mren ÷ 5mrem/hr = 10 hours

Worker #2 (4500- 4375 = 125 mrem) General radiation dose in area is 5 mrem/hr
125mrem ÷ 5 mrem/hr = 25 hours

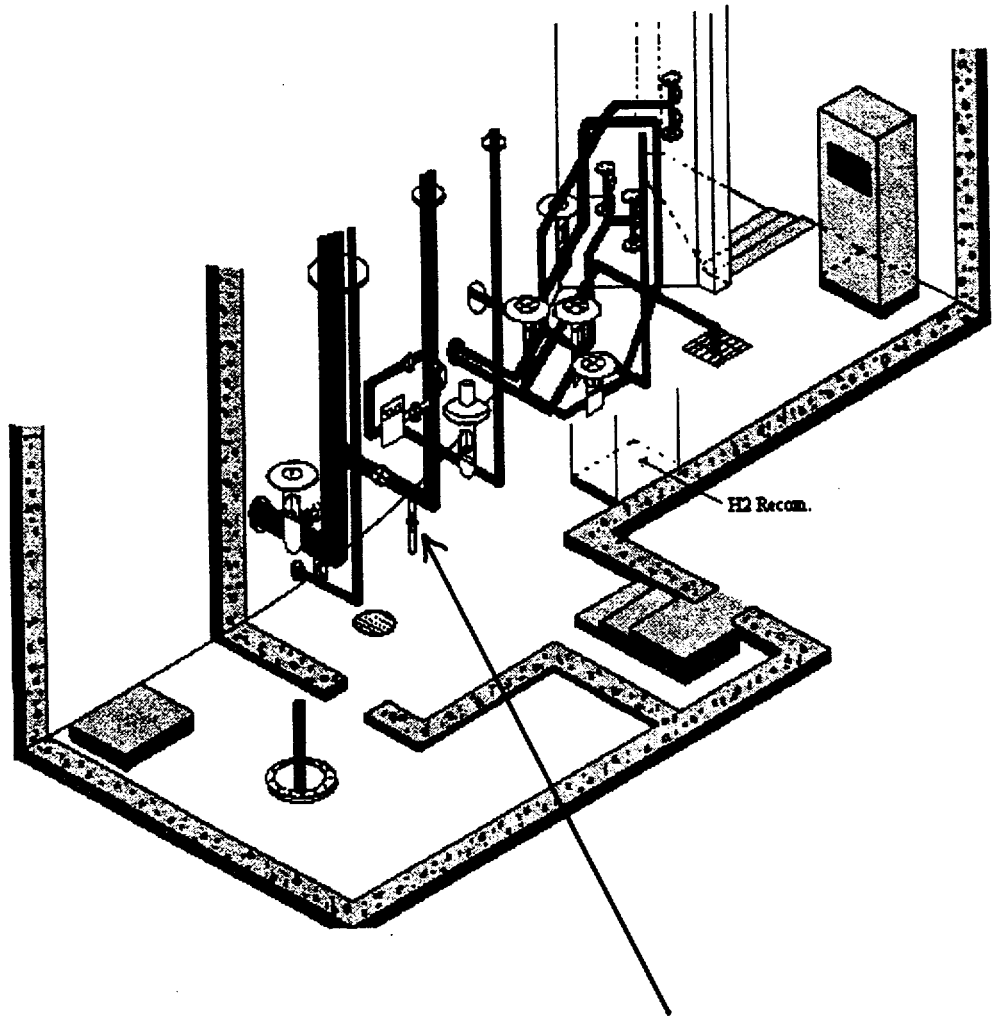
Stop Time _____

Field Notes

Plant Vogtle

Radiological Information Survey

Pipe penetration Room (1FHBA10)	Survey # _____ Date/Time _____



Smear Results
DPM/100cm2
*Indicates Alpha Smear

01) _____
02) _____
03) _____
04) _____
05) _____
06) _____
07) _____
08) _____
09) _____
10) _____
11) _____
12) _____
13) _____
14) _____
15) _____
16) _____
17) _____
18) _____
19) _____
20) _____
21) _____
22) _____
23) _____
24) _____
25) _____

RCDT Discharge Header
Drain valve 1-1901-x4-028
Note: Valve to be Repacked
Mwo # xxxx

CAUTION
DANGER
KEEP OUT
RCA/DOS REQD /RWP REQD
RADIATION AREA
HIGH RADIATION AREA
CONTAMINATED AREA
HP ESCORT REQD FOR ENTRY
NOTIFY HP PRIOR TO ENTRY
HP TO SURVEY PRIOR TO ENTRY
RADIOACTIVE MATERIALS

Add additional posting if needed

LEGEND
(#) = Smear Location
NO. = Gamma Dose Rate
NO. = Contact Gamma
mRAD/h = Beta Dose Rate
mRAD/h = Contact Beta
△= Neutron Dose Rate
(•) = Air Sample Location
ALL DOSE RATE ARE IN mREM/h UNLESS OTHERWISE NOTED

Performed By: _____
Approved By: _____

% Reactor Power: _____
Reactor Mode: _____
System Running: _____

Purpose: _____
arks: _____
ponent: _____

ASR #s _____
RWP #s _____

Particulate _____DAC
Iodine _____DAC
Noble Gas _____DAC

Inst Type _____ Ser # _____ Cal Due _____
Inst Type _____ Ser # _____ Cal Due _____
Inst Type _____ Ser # _____ Cal Due _____

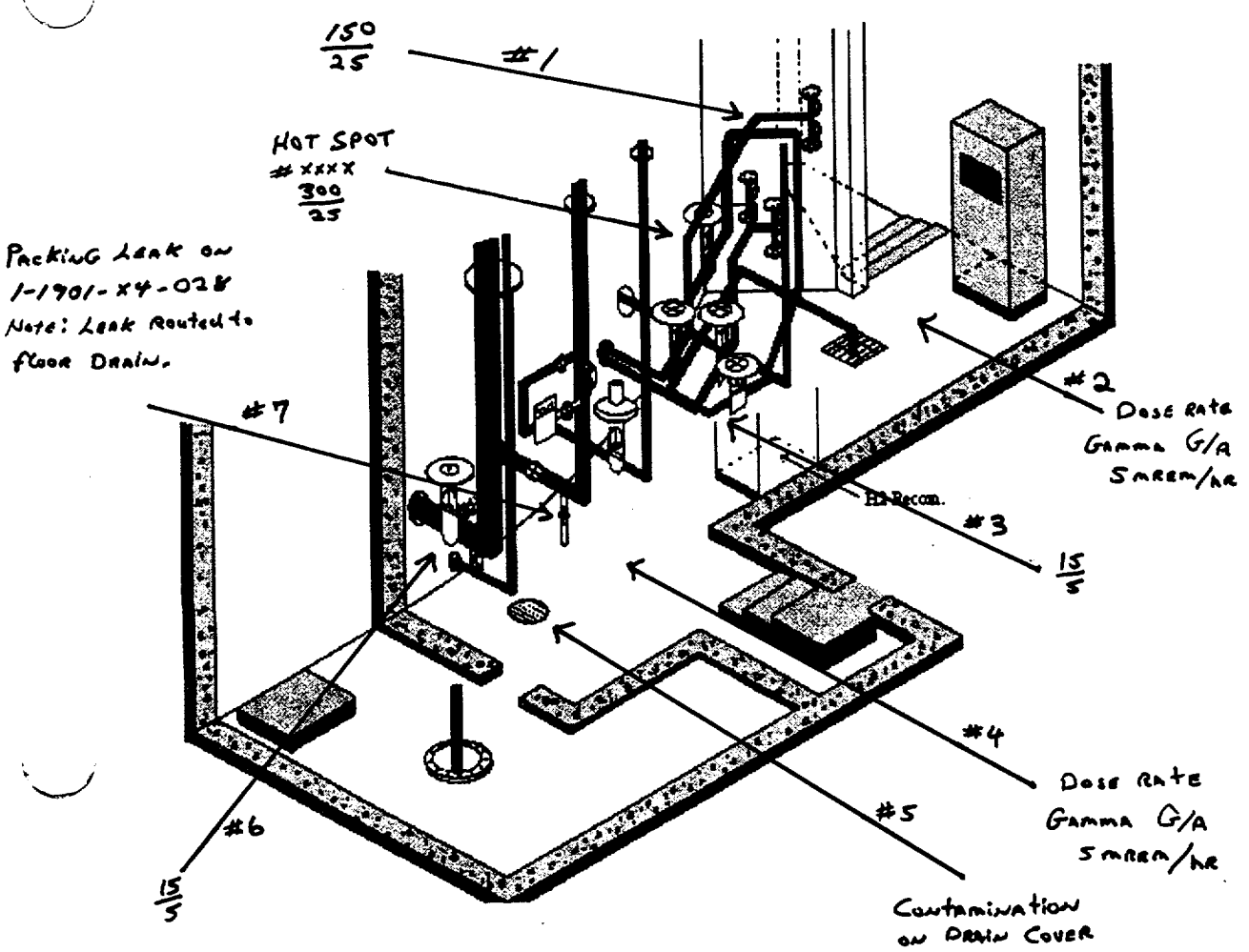
Plant Vogtle

Radiological Information Survey

Pipe penetration Room (1FHBA10)

Survey # 00000

Date/Time 00/00/00 00:00



Smear Results
DPM/100cm2
*Indicates Alpha Smear

01)	< 20
02)	
03)	
04)	
05)	2000
06)	< 20
07)	1500
08)	
09)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
21)	
22)	
23)	
24)	
25)	

G/A = General Area

CAUTION
DANGER
KEEP OUT
RCA/DOS REQD /RWP REQD
RADIATION AREA
HIGH RADIATION AREA
CONTAMINATED AREA
HP ESCORT REQD FOR ENTRY
NOTIFY HP PRIOR TO ENTRY
HP TO SURVEY PRIOR TO ENTRY
RADIOACTIVE MATERIALS

Add additional posting if needed

LEGEND
(#) = Smear Location
NO. = Gamma Dose Rate
NO. = Contact Gamma
mRAD/h = Beta Dose Rate
mRAD/h = Contact Beta
△ = Neutron Dose Rate
⊙ = Air Sample Location
ALL DOSE RATE ARE IN mREM/h UNLESS OTHERWISE NOTED

Performed By: John Doe

Approved By: Mary Smith

% Reactor Power: 100

Reactor Mode: 1

System Running: YES

Purpose:

Remarks:

Component:

ASR #s 01-0647

RWP #s 01-0100

Particulate < 0.3 DAC

Iodine ↓ DAC

Noble Gas ↓ DAC

Inst Type Ludlum 177 Ser # xxxx Cal Due xx/xx/xx

Inst Type Telepole Ser # xxxx Cal Due xx/xx/xx

Inst Type ↓ Ser # ↓ Cal Due ↓

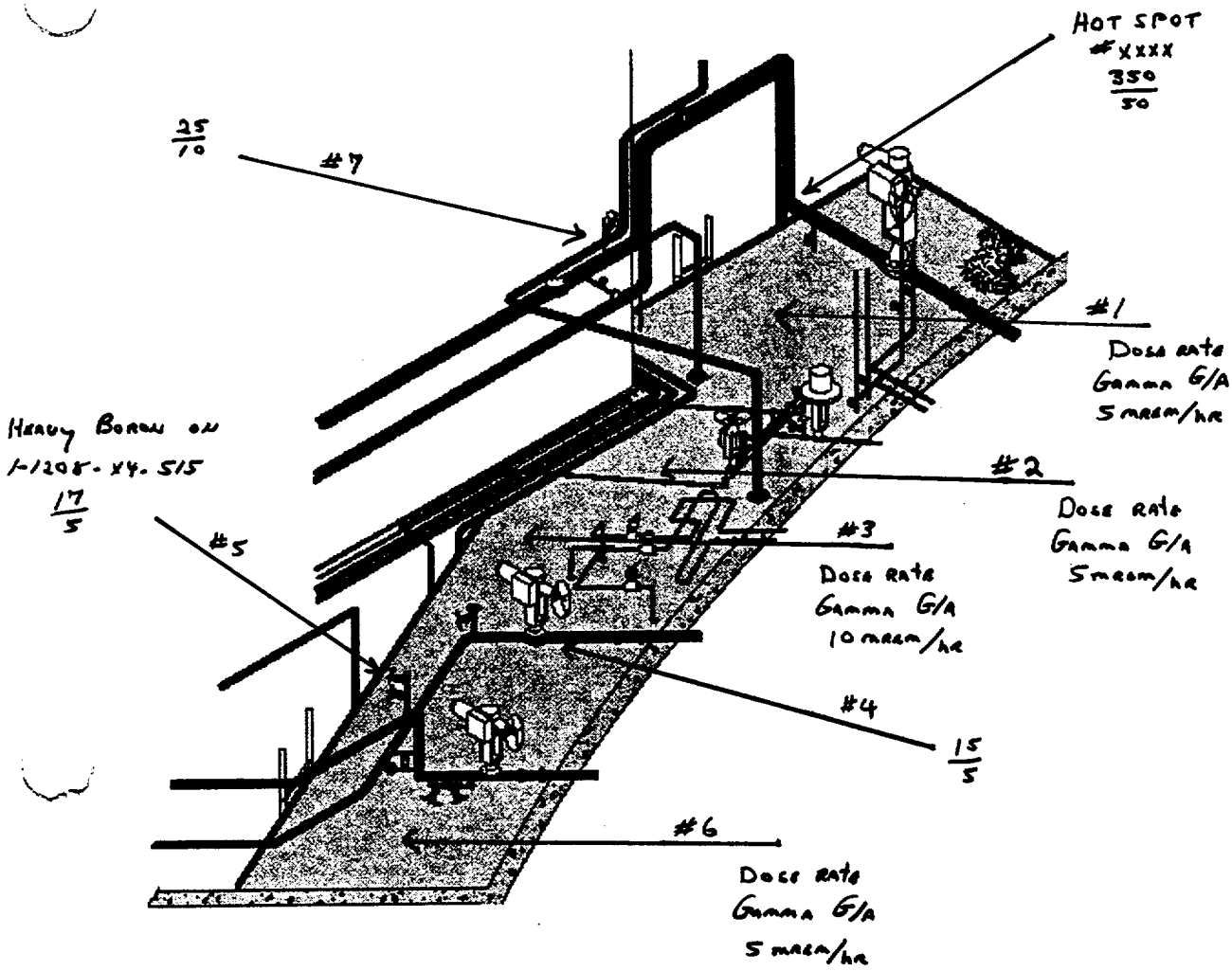
Plant Vogtle

Radiological Information Survey

Pipe Penetration Rm Mezz (1FHBA10M)

Survey # 00000

Date/Time 00/00/00 00:00



Smear Results
DPM/100cm2
*Indicates Alpha Smear

01)	<20
02)	
03)	
04)	
05)	3000
06)	<20
07)	
08)	
09)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
21)	
22)	
23)	
24)	
25)	

G/A = General Area

CAUTION
DANGER
KEEP OUT
RCA/DOS REQD /RWP REQD
RADIATION AREA
HIGH RADIATION AREA
CONTAMINATED AREA
HP ESCORT REQD FOR ENTRY
NOTIFY HP PRIOR TO ENTRY
HP TO SURVEY PRIOR TO ENTRY
RADIOACTIVE MATERIALS

Add additional posting if needed

LEGEND
(#) = Smear Location
NO. = Gamma Dose Rate
NO. = Contact Gamma
mRAD/h = Beta Dose Rate
mRAD/h = Contact Beta
△ = Neutron Dose Rate
⊙ = Air Sample Location
ALL DOSE RATE ARE IN mREM/h UNLESS OTHERWISE NOTED

Performed By: John Doe

Approved By: Mary Smith

% Reactor Power: 100

Reactor Mode: 1

System Running: yes

Purpose:

Remarks:

Component:

ASR #s 01-0647

RWP #s 01-0100

Particulate <0.3 DAC

Iodine ____ DAC

Noble Gas ____ DAC

Inst Type Ludlum 177 Ser # XXXX Cal Due XX/XX/XX

Inst Type Telepole Ser # XXXX Cal Due XX/XX/XX

Inst Type ____ Ser # ____ Cal Due ____

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:	**After Unit One refueling outage the RCDT discharge header isolation from containment drain valve 1-1901-X4-028 has developed a bad packing leak which requires repair. The RCDT System has been tagged and drained to support the work by operations. Two mechanics have been assigned the task. Listed below is the workers accumulated yearly dose following the refueling outage.** **Worker #1 4450 mrem** **Worker #2 4375 mrem**
Assigned Task:	**Using the Fuel Handling Building HP Room survey map provided calculate how long each worker may remain in the area to perform the maintenance before reaching the administrative exposure limits for plant Vogtle.**
TASK STANDARD:	**EACH MAINTENANCE WORKERS MAXIMUM STAY TIME CALCULATED.**

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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

RQ-JP-40101-002-01A

MAKE EMERGENCY NOTIFICATIONS

Revision 2

June 1, 2000

Need ENH DATA sheet to give to CO

Written By : M. C. Henry Date: 6/01/2000

Approved By : R. D. Brigdon Date: 6/13/2000

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Make Emergency Notifications

REVISION: 2 June 1, 2000

COMPLETION TIME: **15 minutes** **TIME CRITICAL** ⏲

Application: RO / SRO
Task Number: 40003
K/A Number: 194001A1.16 RO: 3.1 SRO: 4.4
10CFR55.45 Ref.: 11

Evaluation Method [ ] Performed [ ] Simulated

Evaluation Location [ ] Simulator [ ] Control Room

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 91002-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. Procedure 91002-C, Emergency Notifications, Checklist 2
2. VEGP Emergency Response Telephone Directory

SIMULATOR SETUP: Simulator not required for JPM performance

Notes to Examiner:

(1) Checklist 2, Sheet 2, Emergency Notification, should be completed with the exception of Steps 3, 4, and 6 prior to the start of this JPM. Step 1.A, THIS IS A DRILL, should always be recorded.

(2) Step 3 of the Emergency Notification form must be completed within 15 minutes of the time documented in Step 6.A. The start time of this JPM should be the time recorded in Step 6.A.

(3) ENSURE that the ENN telephone jack in the rear of the ENN telephone has the "Simulator" line installed.

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: An emergency has been declared and the Shift Superintendent has assumed the duties of the Emergency Director.

ASSIGNED TASK: The Emergency Director has directed you to "Perform the duties of the ENN Communicator".

TASK STANDARD: Communications established and the Emergency Notification form transmitted to all State and Local authorities.

JPM STEPS

START TIME: _____ **TIME CRITICAL** ⊕

STEP 1
CRITICAL (♦)
SAT ☐ **UNSAT** ☐

Initiate roll call

*Note: The Emergency Response Telephone Directory, or the dial code card, should be consulted as needed for requried ENN dial codes. The dial code, **, should be used initially to ring ALL required agencies.*

☐ ♦ Burke County notified ***(1)***
☐ ♦ GEMA notified
☐ ♦ Aiken County notified
☐ ♦ SRS notified
☐ ♦ Allendale County notified
☐ ♦ State of South Carolina notified
☐ ♦ Barnwell County

CUES:

(1) When requested, provide cue that the emergency center hailed has responded.

STEP 2
SAT ☐ UNSAT ☐

Transmit fascimile

Note: On the Fax machine in the simulator, the pushbutton labelled "NOTIFY(Training)" should be depressed to simulate "NOTIFY", if necessary a cue to the examinee should be provided that for simulation purposes, the "NOTIFY (Training)" pushbutton should be used to transmit the fax.

☐ • Place message face down in transmit tray
☐ • NOTIFY(Training) pushbutton depressed

JPM STEPS

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐

Communicate notification via ENN 87

Note: Examiner should arbitrarily pick a number between 1 and 100 and verfiy that authentication code is correctly identified by examinee.

- ☐ • Lines 1 & 2 transmitted
- ☐ ♦ Examinee's name provided in Line 2, "Reported By"
- ☐ ♦ Line 3, Transmittal time & date completed ***(1)***
- ☐ • Control Room confirmation phone number transmitted

CUES:

(1) After completion of ENN form line 3, "The State of South Carolina request that you authenticate number ___."

STOP TIME: _____

STEP 4
CRITICAL (♦)
SAT ☐ UNSAT ☐

Message authentication

Note: The authentication codes are located in the Emergency Response Telephone Directory. The codeword provided should match the number given in the cue of JPM Step 3.

- ☐ ♦ Authentication codeword correctly provided.

STEP 5
CRITICAL (♦)
SAT ☐ UNSAT ☐

Transmit classification data

- ☐ ♦ Emergency Classification
- ☐ ♦ Emergency declaration time and date
- ☐ • Emergency description

STEP 6
CRITICAL (♦)
SAT ☐ UNSAT ☐

Transmit current plant radiological conditions

- ☐ • Plant condition
- ☐ ♦ Emergency rad release status
- ☐ ♦ Current meteorological data
- ☐ • Recommended protective actions
- ☐ • ED approval,time, & date

JPM STEPS

STEP 7
SAT ☐ UNSAT ☐

Record Acknowledgements

☐ • Perform a second roll call and record names of individuals receiving the message ***(1)***

CUES:
(1) Give names as appropriate for each agency

STEP 8
SAT ☐ UNSAT ☐

Notify ED

☐ • Initial Emergency Notification completed

Field Notes:

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JOB PERFORMANCE MEASURE

NRC

CLASSIFY AN EMERGENCY EVENT - GENERAL EMERGENCY
IMPLEMENT OFFSITE PROTECTIVE ACTION RECOMMENDATIONS - PAR 1

May 4, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Classify an Emergency Event - General Emergency

COMPLETION TIME: 15 minutes

Application: **SRO ONLY**
Task Number:
K/A Number:

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: _____

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:	An emergency has been declared and the Shift Superintendent has assumed the duties of the Emergency Director.
Assigned Task:	The Emergency Director has directed you to "Perform the duties of the ENN Communicator".

Task Standard:	Communications established, and the Emergency Notification form transmitted, to all State and Local authorities.

INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 91001-C. Verify this JPM is in accord with the latest procedural revision prior to use. Cues proceeded 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

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 was at 90% Reactor Power to remove the "A" HDT Pump from service for maintenance when the loop #1 MFRV started drifting shut. The control room operators manually tripped the reactor and while stabilizing the plant in mode 3, S/G #4 developed a 750 gpm tube rupture. While performing the cooldown step in 19030-C the loop #4 ARV (1PV-3030) failed open. The crew had entered EOP-19131-C when the chemistry Forman reported the primary activity of 311 μCi/gm equivalent I-131. Local actions to isolate the loop #4 ARV (1PV-3030) were not successful due the high radiation levels in the south main steam valve room. Engineering dose assessment shows that severe core damage has not occurred and containment radiation monitors 1RE-005/1RE-006 are indicating 111mrem/hr. The IPC indicates the wind direction is from 111°.

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" and make the initial notification PAR recommendation.

TASK STANDARD: Emergency event classified and PAR recommendation on the initial notification to offsite authorities.

JPM STEPS

START TIME: _____

STEP 1
CRITICAL (♦)
SAT ☐ UNSAT ☐

Classify the event

☐ • Plant conditions evaluated
☐ ♦ Emergency event classified as a **General Emergency**

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Determine correct Protective Action Recommendations

PAR 1

☐ ♦ Evacuate Zone A
☐ ♦ Evacuate Zones D-5, E-5, F-5
☐ ♦ Evacuate SRS out to 2 miles
☐ ♦ Shelter remainder of 10 mile EPZ

STOP TIME: _____

Field Notes

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 was at 90% Reactor Power to remove the "A" HDT Pump from service for maintenance when the loop #1 MFRV started drifting shut. The control room operators manually tripped the reactor and while stabilizing the plant in mode 3, S/G #4 developed a 750 gpm tube rupture. While performing the cooldown step in 19030-C the loop #4 ARV (1PV-3030) failed open. The crew had entered EOP-19131-C when the chemistry Forman reported the primary activity of 311 μCi/gm equivalent I-131. Local actions to isolate the loop #4 ARV (1PV-3030) were not successful due the high radiation levels in the south main steam valve room. Engineering dose assessment shows that severe core damage has not occurred and containment radiation monitors 1RE-005/1RE-006 are indicating 111mrem/hr. The IPC indicates the wind direction is from 111°.
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" and make the initial notification PAR recommendation.

Task Standard:	Emergency event classified and PAR recommendation on the initial notification to offsite authorities.

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JOB PERFORMANCE MEASURE

NRC

Return Normal Charging and Letdown to service

May 1, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Return Normal Charging and Letdown to service

REVISION: 1 May 1, 2001

COMPLETION TIME: 20 minutes

Application: RO/SRO
Task Number:
K/A Number:

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 13006-1. 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. 13006, Chemical and Volume Control System

SIMULATOR SETUP:

1. Reset to IC14 MOL 100%
2. Ensure LV-459,460 closed, HV-8149A,B,C, closed and HV-8152 and HV-8106 closed.
3. Ack/Reset alarms
4. Freeze simulator

Setup time: 7 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:	Unit 1 removed normal CVCS letdown from service 3 days ago to repair and leak on the REGEN heat exchanger. The repairs have been completed and the USS has directed you to restore normal charging and letdown to service using SOP-13006-1 section 4.4.2.
ASSIGNED TASK:	Using SOP-13006-1 section 4.4.2 return normal charging and letdown to service.
TASK STANDARD:	Normal charging and letdown inservice with a 75 gpm orifice.

START TIME: _____

STEP 1
CRITICAL (♦)
SAT ☐ UNSAT ☐

Establish normal system alignment:

- ☐ • Section 4.4.2 of 13006 selected
- ☐ • Orifice isolations HV-8149A, B, & C CLOSED
- ☐ • Letdown isolations LV-459 and LV-460 CLOSED
- ☐ • Pressurizer AUX spray valve HV-8145 CLOSED
- ☐ • Letdown Pipe break isolation valve HV-15214 OPEN
- ☐ • CVCS letdown isolation CNMT HV-8160 OPEN
- ☐ ♦ CVCS letdown isolation CNMT HV-8152 OPEN
- ☐ • Pressure controller PIC-131 in MAN at 50% to 75% demand
- ☐ • Temperature controller TIC-0130 in MAN at 50% demand
- ☐ • PRZR level verified > 17%
- ☐ • RCS normal charging to loop 1 HV-8146 OPEN (1)

CUES:
(1) If requested this is an even-numbered fuel cycle

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Establish charging flow:

☐ ♦ Charging line isolation HV-8106 OPEN
☐ • Charging line isolation HV-8105 OPEN
☐ • Adjust charging flow to between 80 to 90 gpm.
☐ • Adjust RCP seal injection between 8 to 13 gpm.

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐

Establish letdown flow

☐ ♦ Letdown isolations LV-459 and LV-460 OPEN
☐ ♦ Orifice isolation HV-8149B or HV-8149C OPEN
☐ • PIC-131 adjusted to attain 360 to 380 psig on PI-131A

STEP 4
SAT ☐ UNSAT ☐

Place letdown controllers in automatic:

☐ • PIC-131 in AUTO
☐ • Letdown pressure 360 to 380 psig on PI-131A
☐ • TIC-130 in AUTO
☐ • Letdown temperature ≤ 115 °F on TI-130

STEP 5
SAT ☐ UNSAT ☐

Verify proper system operation:
When checking Pressurizer level Simulator operator will fail 1TIS-130 to no cooling flow to the letdown heat exchanger this will result in high outlet temperature to the CVCS demins. When this happens the demin divert valve will fail to automatically divert to the VCT position.

☐ • Regen heat exchanger outlet (letdown) on TI-127 verified < 380 °F
☐ • Maintain PRZR level within 1% of program *(1)*
☐ ♦ Student isolates letdown.
OR
☐ ♦ Student quickly takes manual control of TIC-130 and lowers temperature.
OR
☐ ♦ Student delays in taking manual control of TIC-130 but recognizes the failure of the temperature divert valve 1TV-0129 and bypasses the demin manually then takes manual control of TIC-130 and lowers temperature OR isolates letdown.

CUES:

The following action will be considered satisfactory:

(1) Student isolates letdown.
(2) Student quickly takes manual control of TIC-130 and lowers temperature
(3) Student delays in taking manual control of TIC-130 but recognizes the failure of the temperature divert valve 1TV-0129 and bypasses the demin manually.

STOP TIME: _____

Field Notes

Need Temp of Resin for UNSAT Performance

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 removed normal CVCS letdown from service 3 days ago to repair a leak on the REGEN heat exchanger. The repairs have been completed and the USS has directed you to restore normal charging and letdown to service using SOP-13006-1 section 4.4.2.
Assigned Task:	Using SOP-13006-1 section 4.4.2 return normal charging and letdown to service.

Task Standard:	Normal charging and letdown inservice with a 75 gpm orifice.

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JOB PERFORMANCE MEASURE

RQ-JP-16401-003-01

RESPOND TO FAILURE OF RCP SEAL #1

Revision 17

July 3, 2000

Written By	: M. C. Henry	Date:	7/3/2000
Approved By	: Richard D. Brigdon	Date:	7/4/2000

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Respond to Failure of RCP Seal #1

REVISION: 17 July 3, 2000

COMPLETION TIME: **5 minutes TIME CRITICAL**

Application: RO/SRO
Task Number: 16008
K/A Number: 00300A201 RO: 3.5 SRO: 3.9
10CFR55.45 Ref.: 3, 4, 6, 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 13003-1. 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. 13003-1, Reactor Coolant Pump Operation

SIMULATOR SETUP:

1. Reset to IC7
2. Ack/Reset alarms
3. Freeze simulator
4. Insert malfunction RP06A(B,C, or D) with a Final Value of 100% and a ramp time of 8 seconds

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.

This is a TIME CRITICAL JPM

INITIAL CONDITIONS: The plant is at 10% power. Preparations are underway to synch the generator to the grid.

ASSIGNED TASK: You have been directed by the USS to "Assume the duties of the RO".

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

JPM STEPS

STEP 1
SAT ☐ UNSAT ☐

Determine RCP seal abnormality

☐ • RCP Controlled Lkg Hi/Lo Flow annunciator in alarm 1A2-A05 (17008-1)
☐ • Seal leakoff flow indications increasing

STEP 2
SAT ☐ UNSAT ☐

Select procedure and section

☐ •13003, section 4.2.1 selected

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐

Evaluate RCP status
Note: RCP parameters may be monitored on IPC if available, but are not required for satisfactory performance.

☐ • Trend data listed in Table 2 of 13003. ***(1)***
☐ ♦ Determines #1 seal leakoff flow exceeds normal limits (> 5.5 gpm)

CUES:
(1) "The USS will ensure Table 2 data monitoring performed by BOP"

© Indicate the following; Seal injection flow is 9 gpm; Seal injection temperature is 105°F"; Seal leakoff flow is offscale high on the high range recorder.

START TIME: _____ **TIME CRITICAL**

STEP 4
CRITICAL (♦)
SAT ☐ UNSAT ☐

Stop the RCP
Note: RCP #2 and #3 have no associated spray valve and critical step would not apply

☐ • START oil lift pump
☐ • Initiate 18005-C, Partial Loss of Flow ***(1)***
☐ ♦ STOP affected RCP
☐ ♦ If RCP #1 or #4 was stopped, place associated spray valve in MANUAL and CLOSE.(PIC-455C or PIC-455B) *(See Note above for RCP #2 and #3.)*
☐ ♦ CLOSE HV-8141A(B,C, or D)
☐ • STOP oil lift pump

CUES:
(1) "The USS will initiate 18005-C."

STOP TIME: _____

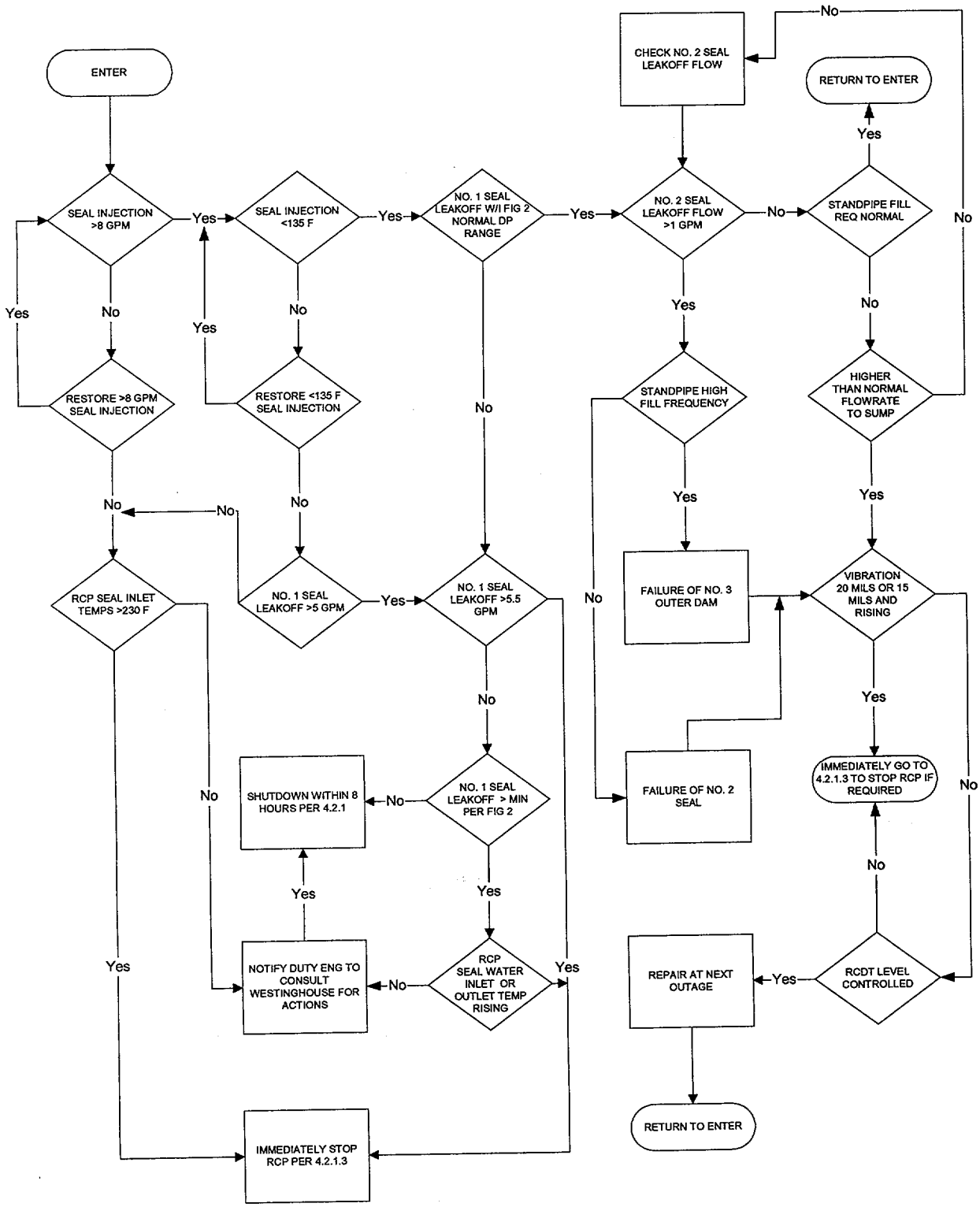
STEP 5
SAT ☐ UNSAT ☐

Report to USS

☐ • The affected RCP has been stopped

Field Notes

FIGURE 1 - RCP SEAL ABNORMALITIES DECISION TREE



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:	The plant is at 10% power. Preparations are underway to synch the generator to the grid.
Assigned Task:	You have been directed by the USS to "Assume the duties of the RO".

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

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JOB PERFORMANCE MEASURE

RQ-JP-37113-001-02

TRANSFER CONTAINMENT SPRAY SYSTEM TO RECIRCULATION (ALTERNATE PATH)

Revision ~~16~~ 17

~~July 1, 1999~~ April 15, 2001

New

Written By : ~~M. C. Henry~~ Date: ~~7/1/99~~

Approved By : ~~Leon Ray~~ Date: ~~7/26/1999~~

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 large break LOCA has occured. The crew performed the cold leg recirculation lineup using 19013, and returned to 19010. After transitioning to 19010, RWST level decreased below 10%. The Auxiliary Building Operator is standing by the local Containment Spray suction and discharge pressure gauges with communications on line 1.
Assigned Task:	The USS has directed you to "Align Containment Spray for recirculation beginning with 19013, step 8".

Task Standard:	Containment spray system operating in the recirculation mode.

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Transfer Containment Spray System to Recirculation

REVISION: 16 July 1, 1999

COMPLETION TIME: 8 minutes

Application: RO/SRO
Task Number: 37009
K/A Number: 000011EA112 RO: 4.1 SRO: 4.4
10CFR55.45 Ref.: 6, 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 19013-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. 19013, Transfer to Cold Leg Recirculation

SIMULATOR SETUP:

1. Reset to IC90 (MOL 100%)
2. Insert malfunction RC03C (DBA LOCA)
3. Trip all RCPs
4. Throttle AFW flow to ≈ 200 gpm/SG
5. When Containment Emergency Sump levels are ≈ 15": set RF: TK02 = 39% (RWST)
6. Perform 19013-C steps 1 thru 6
7. Set RF: TK02 = 10%
8. Close HV-9001B (Remove after CS is reset)
9. Ack/Reset alarms
10. Freeze simulator

NOTE: Simulator operator ramp containment pressure up when CS Pump A is secured in JPM step 2. (8# to 15 # over 20 minutes.)

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 large break LOCA has occured. The crew performed the cold leg recirculation lineup using 19013, and returned to 19010. After transitioning to 19010, RWST level decreased below 10%. The Auxiliary Building Operator is standing by the local Containment Spray suction and discharge pressure gauges with communications on line 1.

ASSIGNED TASK: The USS has directed you to "Align Containment Spray for recirculation beginning with 19013, step 8".

TASK STANDARD: Containment spray system operating in the recirculation mode.

JPM STEPS

START TIME: _____

STEP 1
CRITICAL (♦)
SAT ☐ **UNSAT** ☐

Reset containment spray

☐ ♦ Cntmt Spray reset handswitches HS-40058 and HS-40059 in RESET
☐ • ALB 06 D06 clear (Cnmt spray actuation)

STEP 2
CRITICAL (♦)
SAT ☐ **UNSAT** ☐

Align Train A for recirculation

☐ ♦ Sump suctions HV-9002A ~~opens~~ open and **HV-9003A fails to OPEN (1)** (HV-9003A)
☐ ♦ Stop CS Pump 1A **(2)**

CUES:

(1) HV-9003A is inaccessable due to High Radiation levels.

(2) **If asked for: "Suction pressure (PI-972) is 2 psig; Discharge pressure (PI-974) is rapidly oscillating from 15 psig to 75 psig".**

STEP 3
CRITICAL (♦)
SAT ☐ **UNSAT** ☐

Align Train B for recirculation

☐ ♦ Sump suction HV-9002B and HV-9003B open
☐ ♦ RWST suction HV-9017B closed
☐ • Local gauges for pump suction and discharge pressure verified ***(1)***
☐ • CNMT pressure verified stable or decreasing **(Containment pressure increasing)**
☐ ♦ ~~Verify~~ Valve Alignment Incorrect and Opens HV-9001B Identify Bold or Highlight

CUES: **If asked for:**

(1) **"Suction pressure (PI-973) is 16 psig; Discharge pressure (PI-975) is 250 psig."**

STEP 4
SAT ☐ UNSAT ☐

Report to USS

☐ • Containment spray Pump B aligned for recirculation

STOP TIME: _____

Field Notes

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JOB PERFORMANCE MEASURE

NRC EXAM HL-11

ESTABLISH REQUIRED SUBCOOLING FOR RCS DEPRESSURIZATION

April 24, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Establish Required Subcooling for RCS Depressurization

COMPLETION TIME: 11 minutes

Application: RO/SRO

Task Number:

K/A Number:

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 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 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 ≈ 200 gpm per SG
5. Verify ruptured SG level > 10%
6. Perform 19030 steps 3 through 5
7. Ensure ruptured SG pressure increases above 1100 psig
8. Block the Low Steam Line pressure SI/SLI (both trains)
9. Ensure the RCP are left in service to support the cooldown.
10. Ack/Reset alarms
11. Freeze simulator

Setup time: 8 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 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 using step 6 of 19030".

TASK STANDARD: Core exit thermocouple temperatures less than required for RCS depressurization.

START TIME: _____

STEP 1

SAT ☐ UNSAT ☐

Determine required core exit temperature

- ☐ • Ruptured SG pressure between 1100 and 1200 psig
- ☐ • Required core exit temperature determined to be 518°F (530 too high) (Possibly a critical step if applicant chooses target temperature significantly lower than 518)

CUES:

STEP 2

CRITICAL (♦)

SAT ☐ UNSAT ☐

MAKE additional steps

Initiate RCS cooldown

Note: When the operator to takes the steam dumps to the bypass interlock position the simulator operator will insert a C-9 failure. The operator must recognize the problem and continue RCS cooldown with the ARV's on the intact S/G's.

- ☐ • AFW flow increased to intact SGs
- ☐ ♦ HS-500C in STEAM PRESSURE mode
- ☐ ♦ HS-500A and HS-500B in BYP INTLK (required when RCS temp < 550 °F)
- ☐ ♦ With C-9 failure the Steam Dumps will not be available and the operator must cooldown using the intact S/G ARV's (1)

CUE:

(1) After the student establishes the cooldown using the ARV's inform them that the BOP will continue the cooldown per 19030-C step 6.

STOP TIME: _____

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 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 using step 6 of 19030".
Task Standard:	Core exit thermocouple temperatures less than required for RCS depressurization.

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JOB PERFORMANCE MEASURE

RQ-JP-60301-007-01C

TRIP PROTECTION SYSTEM BISTABLES
PRESSURIZER PRESSURE CHANNEL

Revision 1

March 9, 1998

Written By : George Gunn Date: 3/9/98

Approved By : Leon Ray Date: 3/9/98

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Trip Protection System Bistables - Pressurizer Pressure Channel

REVISION: 1 March 9, 1998

COMPLETION TIME: 6 minutes

Application: RO/SRO
Task Number: 60029
K/A Number: 012000A404 RO: 3.3 SRO: 3.3
10CFR55.45 Ref.:

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: _____

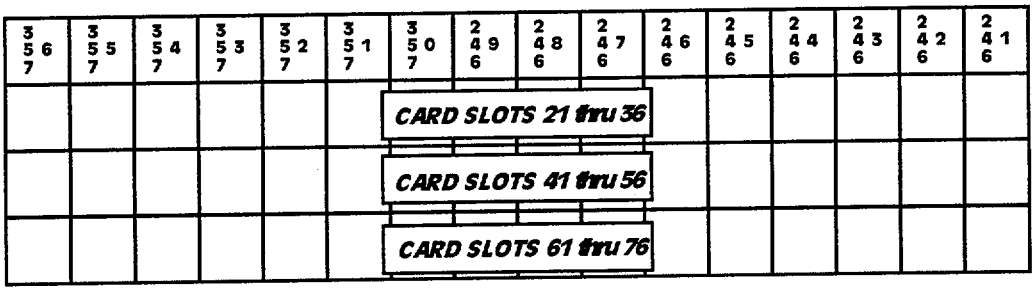
INSTRUCTIONS TO EXAMINER

This JPM is based on the latest rev of 18001-C. 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:
1. 18001-C
2. Process System Protection Cabinets Key

COMPONENT LOCATION: Main Control Room, 7300 Rx Protection Cabinets

CARD LOCATION REFERENCE:



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: Unit __ Pressurizer pressure channel __ PT-455 has failed. The control room operators have stabilized the plant in accordance with the AOP.

ASSIGNED TASK: The USS has directed you to "Trip the Pressurizer pressure channel __ PT-455 bistables listed in Table C1 of 18001-C and place the associated Master Test Switch in TEST".

TASK STANDARD: The failed instrument channel placed in a tripped condition.

JPM STEPS

START TIME: _____

Permisssion should be obtained from the applicable Control Room staff in order to access the 7300 Protection Cabinet.

STEP 1
SAT ☐ UNSAT ☐

Locate protection cabinet

☐ • Protection Cabinet 1 located
☐ • Card Frame 8 located

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Place Bistables in a Tripped condition

☐ ♦ Card 46, B/S switches 1, 3, & 4 placed in TEST
☐ ♦ Card 22, B/S switches 3 & 4 placed in TEST

STEP 3
SAT ☐ UNSAT ☐

Place Master Test switch in TEST

☐ • Card 74, TEST switch 5 placed in TEST
☐ • Card 72, TEST switch 1 placed in TEST

STEP 4
SAT ☐ UNSAT ☐

Report to USS

☐ • Bistables are tripped and the Master test Switch is in TEST.

STOP TIME: _____

Field Notes

Need Feedback cues/details

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: Unit __ Pressurizer pressure channel __ PT-455 has failed. The control room operators have stabilized the plant in accordance with the AOP.

Assigned Task: The USS has directed you to "Trip the Pressurizer pressure channel __ PT-455 bistables listed in Table C1 of 18001-C and place the associated Master Test Switch in TEST".

Task Standard: The failed instrument channel placed in a tripped condition.

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JOB PERFORMANCE MEASURE

NRC EXAM HL-11

RESPOND TO CVI WITH FAILURE OF DAMPERS TO CLOSE
(alternate path)

April 25, 2001

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: RESPOND TO CVI WITH FAILURE OF DAMPERS TO CLOSE

COMPLETION TIME: 15 minutes

Application: RO/SRO

Task Number:

K/A Number:

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 13125-1. Verify this JPM is in accord with the latest procedural revision prior to use. Cues proceeded 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. 13125, Containment Purge System

SIMULATOR SETUP:

1. Reset to IC14
2. Place the Containment Mini-Purge System in service
3. Override dampers 1-HV-2629B and 1-HV-2628B open.
3 Ack/Reset alarms
4. Freeze simulator

Setup time: 10 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: The plant is at 100% power.

ASSIGNED TASK: The USS has directed you to, "Assume the duties of the Balance of Plant Operator (BOP)".

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

START TIME: _____

STEP 1

SAT ☐✍ UNSAT ☐✍

Determine CVI signal has actuated

✍☐ • ARP referenced for " CNMT VENT ISO ACTUATION" (ALB06 E01) and HIGH Radiation (ALB05 C03) due to 1RE-2565 failing high.

CUES:

NOTE: Simulator operator is to fail 1-RE-2565 "HIGH" after the student assumes the BOP position.

STEP 2

CRITICAL (♦)

SAT ☐✍ UNSAT ☐✍

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION".

✍☐ • Using the QMCB MLB's verify proper CVI alignment.

Note: student may refer to Plant Computer (IPC) indications to verify CVI or they may use individual damper indications on control panels.

✍☐ ♦ CNMT MINI PURGE EXH damper 1-HV-2628B SHUT (1)
✍☐ ♦ CNMT MINI PURGE EXH damper 1-HV-2629B SHUT (1)

CUES:
Note: Simulator operator is to remove the handswitch override for 1-HV-2628B and 1-HV-2629B when the operator places the handswitch to the shut position.
(1) The SOP-13125-1 may be used to remove Containment Mini-Purge from service, but is only required to check the CVI dampers SHUT for satisfactory perfomance.

STOP TIME _____

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 Balance of Plant Operator (BOP)".
Task Standard:	Plant conditions correctly diagnosed and corrective actions completed.

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JOB PERFORMANCE MEASURE

NRC EXAM HL-11

RESPOND TO CVI WITH FAILURE OF DAMPERS TO CLOSE

Revision 1

April 25, 2001

Written By : Al Sweat **Date: 04/25/2001**

Approved By : **Date:**

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: RESPOND TO CVI WITH FAILURE OF DAMPERS TO CLOSE

REVISION: 1 April 25, 2001

COMPLETION TIME: 15 minutes

Application: RO/SRO

Task Number:

K/A Number:

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 13125-1. Verify this JPM is in accord with the latest procedural revision prior to use. Cues proceeded 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. **13125, Containment Purge System**

SIMULATOR SETUP:

1. **Reset to IC14**
2. **Place the Containment Mini-Purge System in service**
3. **Override dampers 1-HV-2629B and 1-HV-2628B open.**
3. **Ack/Reset alarms**
4. **Freeze simulator**

Setup time: 10 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: **The plant is at 100% power.**

ASSIGNED TASK: **The USS has directed you to, "Assume the duties of the Balance of Plant Operator (BOP)".**

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

START TIME: _____

STEP 1

SAT ☐✍ UNSAT ☐✍

Determine CVI signal has actuated

✍☐ • ARP referenced for " CNMT VENT ISO ACTUATION" (ALB06 E01) and HIGH Radiation (ALB05 C03) DUE TO 1RE-2665failing high.

CUES:

NOTE: Simulator operator is to fail 1-RE-2565 "HIGH" after the student assumes the BOP position.

STEP 2

CRITICAL (♦)

SAT ☐✍ UNSAT ☐✍

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for CNMT AIR RAD MONITOR INL/OUT isolation dampers.

✍☐ • CNMT AIR RAD MONITOR INL damper 1-HV-12975 SHUT
✍☐ • CNMT AIR RAD MONITOR INL damper 1-HV-12976 SHUT
✍☐ • CNMT AIR RAD MONITOR OUT damper 1-HV-12977 SHUT
✍☐ • CNMT AIR RAD MONITOR OUT damper 1-HV-12978 SHUT

CUES:

STEP 3

CRITICAL (♦)

SAT ☐✍ **UNSAT** ☐✍

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for CNMT PREACCESS PURGE SUPPLY isolation dampers.

✍☐ • **CNMT PREACCESS PURGE SUPPLY damper 1-HV-2626A SHUT (1)**
✍☐ • **CNMT PREACCESS PURGE SUPPLY damper 1-HV-2627A SHUT (1)**

CUES:

(1) The QMCB MLB's or the IPC cpmputer point may be used to verify position.

STEP 4

CRITICAL (♦)

SAT ☐✍ UNSAT ☐✍

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for CNMT MINI PURGE SUPPLY isolation dampers.

☒☐ • CNMT MINI PURGE SUPPLY damper 1-HV-2626B SHUT (1)
☒☐ • CNMT MINI PURGE SUPPLY damper 1-HV-2627B SHUT (1)

CUES:

(1) The SOP-13125-1 may be used to remove Containment Mini-Purge from service, but is only required to check the CVI dampers SHUT for satisfactory perfomance.

STEP 5

SAT ☐✍ UNSAT ☐✍

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for CNMT PREACCESS PURGE EXH isolation dampers.

☒☐ • CNMT PREACCESS PURGE EXH damper 1-HV-2628A SHUT (1)
☒☐ • CNMT PREACCESS PURGE EXH damper 1-HV-2629A SHUT (1)

CUES:

(1) The QMCB MLB's or the IPC cpmputer point may be used to verify position.

STEP 6

CRITICAL (♦)

SAT ☐✍ **UNSAT** ☐✍

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for CNMT MINI PURGE EXH isolation dampers.

✍☐ ♦ **CNMT MINI PURGE EXH damper 1-HV-2628B SHUT (1)**
✍☐ ♦ **CNMT MINI PURGE EXH damper 1-HV-2629B SHUT (1)**

CUES:

Note: Simulator operator is to remove the handswitch override for 1-HV-2628B and 1-HV-2629B when the operator places the handswitch to the shut position.

(1) The SOP-13125-1 may be used to remove Containment Mini-Purge from service, but is only required to check the CVI dampers SHUT for satisfactory perfomance.

STEP 7

CRITICAL (♦)

SAT ☐ UNSAT ☐

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for CTM POST LOCA PURGE EXH isolation dampers.

☐ • **CTM POST LOCA PURGE EXH damper 1-HV-2624A SHUT**
☐ • **CTM POST LOCA PURGE EXH damper 1-HV-2624B SHUT**

CUES:

STEP 8

CRITICAL (♦)

SAT ☐ UNSAT ☐

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for AUX BLDG VENT SYS SUPPLY/RETURN isolation dampers.

☐ • **AUX BLDG VENT SYS SUPPLY damper 1-HV-12604 SHUT**
☐ • **AUX BLDG VENT SYS RETURN damper 1-HV-12605 SHUT**
☐ • **AUX BLDG VENT SYS RETURN damper 1-HV-12606 SHUT**
☐ • **AUX BLDG VENT SYS SUPPLY damper 1-HV-12607 SHUT**

CUES:

STEP 9

CRITICAL (♦)

SAT ☐ UNSAT ☐

Verify proper CVI alignment per ARP (ALB06 E01) " CNMT VENT ISO ACTUATION" for RECYCLE HOLDUP TANK isolation dampers.

☐ • **RECYCLE HOLDUP TANK damper 1-HV-12596 SHUT**
☐ • **RECYCLE HOLDUP TANK damper 1-HV-12597 SHUT**

CUES:

NOTE: When damper alignment is complete, inform student the "SSS will complete the ARP actions".

STOP TIME: _____

Field Notes

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 Balance of Plant Operator (BOP)".**
Task Standard:	**Plant conditions correctly diagnosed and corrective actions completed.**

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JOB PERFORMANCE MEASURE

NRC
HL-11

DILUTE CONTAINMENT WITH SERVICE AIR

Revision 1

May 4, 2001

Written By : Al Sweat Date: May 4, 2001

Approved By : Date:

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Dilute Containment with Service Air

REVISION: 1 May 4, 2001

COMPLETION TIME: 7 minutes

Application: RO/SRO
Task Number: 37009
K/A Number: 000028A4.01 RO: 4.0 SRO: 4.0
10CFR55.45 Ref.: 6

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 13130-1. 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: 13130, Post-Accident Hydrogen Control

SIMULATOR SETUP: N/A (To be performed in plant)

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".

TASK STANDARD: Service Air aligned to Containment atmosphere.

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

☐ ♦ HS 40120 **and** 40122 positioned to RESET (CIA) **(1)**
☐ ♦ HS 9385A positioned to OPEN (spring return to auto) **(2)**
☐ ♦ HS 9385B held in OPEN position until HV 9385 fully opened **(2)**
(spring return to auto)
(which A or B?)

CUE:
(1) When both the control room CIA reset handswitches are simulated to be positioned to the reset position, **CUE** that the CIA annuncaitor has **CLEARED.**
(2) When **BOTH** the HS-9385A and HS-9385B handswitches are simulated to be position to the open position, **CUE** that the green light is **OFF** for both handswitches and the the red light is **ON**. If only one handswitch is placed in the open position then the green lights remain on and the red light stays off.
9385A did reposition until 9385B was selected to open.

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐
cue to follow each step

Initiate Service Air Purge

☐ ♦ HV 9380A - **OR** - HV 9380B opened **(1)**
(spring return to auto)
☐ • Verify Service Air pressure > 80 psig **(2)**
☐ • Monitor CNMT H_2 concentration **(3)**
☐ • Verify CNMT pressure remains < 40 **psig** **(4)**

CUE:
(1) When **EITHER** the HS-9380A **OR** HS-9380B handswitch is simulated to be position to the open position, **CUE** that the green light is **OFF** for the selected handswitch and the the red light is **ON**.
(2) When service air pressure indication is referenced (PT-9377) , **CUE** that pressure is at 110 psig.
(3) When requested, "The Extra RO will monitor H_2 concentration."
(4) When requested, "The Extra RO will monitor containment pressure."

STEP 4
SAT ☐ UNSAT ☐

Report to USS

☐ • Service Air aligned to CNMT atmosphere

STOP TIME: _____

Field Notes

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".

Task Standard:	Service Air aligned to Containment atmosphere.

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JOB PERFORMANCE MEASURE

RQ-JP-37061-001-01

OPERATE CONTAINMENT HYDROGEN RECOMBINER

Revision 18

June 1, 2000

Written By : *M. C. Henry* Date: 6/01/2000

Approved By : T. A. Polito Date: 6/02/2000

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Operate Containment Hydrogen Recombiner

REVISION: 18 June 1, 2000

COMPLETION TIME: 7 minutes

Application: RO/SRO
Task Number: 29014
K/A Number: 028000A401 RO: 4.0 SRO: 4.0
10CFR55.45 Ref.: 6, 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 13130-1. 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. 13130, Post Accident Hydrogen Control
2. PTDB Tab 13, H_2 Recombiner Reference Power
3. Calculator

COMPONENT LOCATION: Control Building 1E 480 VAC Swgr Rooms *(not provided in 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.

INITIAL CONDITIONS: The crew has implemented 19251 following a large LOCA on Unit_____ . The following containment parameters have been recorded:

H_2 concentration	-	5%
pre-LOCA temperature	-	90°F
post-LOCA pressure	-	8 psig.

ASSIGNED TASK: Per 19251-C, the USS has directed you to "Start Unit_____ Hydrogen Recombiner_____ by initiating 13130-__, Post Accident Hydrogen Control".

TASK STANDARD: Containment hydrogen recombiner operating at the post-LOCA power setting.

JPM STEPS

START TIME: _____

STEP 1
SAT ☐ UNSAT ☐

Determine recombiner pressure factor

☐ • Pressure factor of 1.35 to 1.38 determined using Figure 1

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Energize the hydrogen recombiner NEED CUES

☐ • Power Available light lit
☐ • Power Adjust Potentiometer at 0 demand
☐ ♦ Power Out switch in ON
☐ • Red power out light lit Cue

STEP 3
SAT ☐ UNSAT ☐

Warm up hydrogen recombiner

☐ • Power Adjust potentiometer raised to attain: ***(1)***
4 to 6 KW for 10 minutes
9 to 11 KW for 10 minutes
18 to 22 KW for 5 minutes

CUES:
(1) At each level inform the operator the stated times have been attained.

STEP 4
CRITICAL (♦)
SAT ☐ UNSAT ☐

Determine recombiner post-LOCA setting
Note: Acceptable band for post-LOCA power setting is (1.35 x current RFP) to (1.38 x current RFP). Provide Reference Power values (per attachment) when requested.

☐ • Reference power setting determined using PTDB Tab 13
☐ ♦ Post-LOCA power setting determined within acceptable band

JPM STEPS

STEP 5
CRITICAL (♦)
SAT ☐ UNSAT ☐

Increase recombiner power to the post-LOCA setting

Note: H2 Recombiner Post-LOCA Settings: *1A: 54 – 55.2 kW* *1B: 58.3 - 59.6 kW* *2A: 60.8 – 62.1 kW* *2B: 58.2 – 59.5 kW*

☐ ♦ Power Adjust potentiometer raised to attain post-LOCA power setting
☐ • Requests containment hydrogen concentration sampling. ***(1)***

CUES:
(1) "The SSS is directing sampling per Sections 4.2.1 and 4.2.2."

STEP 6
SAT ☐ UNSAT ☐

Report to USS

☐ • Recombiner in service

STOP TIME: _____

Field Notes

From PTDB Tab 13

Unit 1 Train A: 40 KW

Unit 1 Train B: 43.2 KW

Unit 2 Train A: 45 KW

Unit 2 Train B 43.12 KW

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: The crew has implemented 19251 following a large LOCA on Unit_____ . The following containment parameters have been recorded:

H_2 concentration	-	5%
pre-LOCA temperature	-	90°F
post-LOCA pressure	-	8 psig.

Assigned Task: Per 19251-C, the USS has directed you to "Start Unit_____ Hydrogen Recombiner_____ by initiating 13130-___, Post Accident Hydrogen Control".

Task Standard: Containment hydrogen recombiner operating at the post-LOCA power setting.

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JOB PERFORMANCE MEASURE

RQ-JP-13435-001

MANUALLY RACK A 4160V CIRCUIT BREAKER

Revision 7

November 13, 2000

Written By : M. C. Henry Date: 11/13/2000

Approved By : R. D. Brigdon Date: 11/19/2000

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Manually Rack a 4160V Circuit Breaker

REVISION: 7 November 13, 2000

COMPLETION TIME: 5 minutes

Application: RO/SRO
Task Number: 01017
K/A Number: 062000A401 RO: 3.3 SRO: 3.1
10CFR55.45 Ref.:

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 13435-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. This JPM should be performed using the Training Switchgear in the Electrical Maintenance Lab. The examiner should not require the operator to locate the breaker in the plant. To access the Training Switchgear, contact the Electrical Maintenance Training Supervisor.

REQUIRED ITEMS:

1. 13435-C, Circuit Breaker Racking Procedure
2. Electrical Lab key
3. 4160V racking tool

COMPONENT LOCATION: To establish the proper switchgear setup, the following should be performed on the 4160V Training Switchgear breaker:

1. Ensure the Training Switchgear is Energized
2. Place the charging motor power control switch in OFF
3. Rack the breaker to the DISCONNECT position.
4. Remove the breaker from the cubicle enough to discharge the closing springs
5. Rack the breaker to the TEST position
6. Close the control power circuit breaker
7. Verify all switches in the rear of the breaker cabinet are aligned to the position highlighted in "black".

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 performed in the Maintenance Lab of the Training Center. **Plant equipment is not to be operated!**

INITIAL CONDITIONS: Electrical maintenance personnel have completed a routine PM on a 4160 breaker. The breaker has been restored to the TEST position.

ASSIGNED TASK: The USS has directed you to "Rack breaker 1AA02-07 to the CONNECT position using 13435-C."

TASK STANDARD: 4160V circuit breaker in the connect position and aligned for operation.

JPM STEPS

START TIME: _____

STEP 1
SAT ☐ UNSAT ☐

Prepare circuit breaker for racking
Note: The operator must open the cubicle doors to perform these steps.

- ☐ • 13435-C section 4.1.5 selected
- ☐ • Control Room directed to place the Maintenance control switch 1MS-1AA02 in MAINT *(1)*
- ☐ • Verify no clearances exist on breaker
- ☐ • Verify Charging Spring Motor Power control switch is OFF & closing springs DISCHARGED
- ☐ • Control Power circuit breaker OPEN
- ☐ • Mechanical breaker position indicator verified OPEN

CUES:
(1) "1MS-1AA02 is in MAINTENANCE."

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Engage racking crank

- ☐ ♦ Breaker cubicle door CLOSED
- ☐ • Cubicle sliding door OPEN
- ☐ ♦ Racking crank engaged
- ☐ • Unlocking lever rotated clockwise and held
- ☐ • Racking crank rotated clockwise ≥1/4 turn
- ☐ • Unlocking lever released

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐

Rack circuit breaker to the connect position

- ☐ ♦ Racking crank rotated clockwise until automatically stopped
- ☐ ♦ Breaker in CONNECT
- ☐ • Unlocking lever in the locked position

JPM STEPS

STEP 4
CRITICAL (♦)
SAT ☐ UNSAT ☐

Remove racking crank

☐ ♦Trip pushbutton verified FLUSH with breaker front
☐ • Racking crank disengaged and removed
☐ • Cubicle sliding door CLOSED

STEP 5
CRITICAL (♦)
SAT ☐ UNSAT ☐

Prepare circuit breaker for operation

☐ • Remote circuit breaker fuses verified installed
☐ ♦ Control Power circuit breaker CLOSED
☐ ♦ Charging Motor Power Control switch in ON
☐ ♦ Closing Springs CHARGED
☐ ♦ Cubicle doors CLOSED
☐ • TS-LR's green light lit
☐ ♦ Control Room directed to place bus maintenance switch 1MS-1AA02 in NORMAL *(1)*

CUES:
(1) "1MS-1AA02 in NORMAL."

STEP 6
SAT ☐ UNSAT ☐

Report to USS

☐ • 1AA02-07 racked to CONNECT

STOP TIME: _____

Field Notes

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 performed in the Maintenance Lab of the Training Center. **Plant equipment is not to be operated!**

Initial Conditions: Electrical maintenance personnel have completed a routine PM on a 4160 breaker. The breaker has been restored to the TEST position.

Assigned Task: The USS has directed you to "Rack breaker 1AA02-07 to the CONNECT position using 13435-C".

Task Standard: 4160V circuit breaker in the connect position and aligned for operation.

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PLANT VOGTLE

CONTROL ROOM OPERATOR

JOB PERFORMANCE MEASURE

RQ-JP-37031-001-01

LOCALLY ISOLATE RCP SEALS

Revision 12

May 19, 1997

Written By : George Gunn Date: 5/19/97

Approved By : Leon Ray Date: 5/19/97

JPM INFORMATION

OPERATOR'S NAME: _____

EVALUATION DATE: ___ / ___ / ___

JPM TITLE: Locally Isolate RCP seals

REVISION: 12 May 19, 1997

COMPLETION TIME: 30 minutes

Application: RO/SRO
Task Number: 37018
K/A Number: 000055EG06 RO: 3.8 SRO: 4.1
10CFR55.45 Ref.: 4, 6, 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 19100-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. RWP and associated dosimetry
2. Hearing Protection

COMPONENT LOCATION:

UNIT 1
1979 (AB-A12); 8103A/B (AB-A09); 8103C/D (FHB-A10); and 8100 (AB-A09)

UNIT 2
1979 (AB-A105); 8103A/B (AB-A103); 8103C/D (FHB-A01); and 8100 (AB-A103)

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: The crew is responding to a loss of all AC power on Unit_____ per 19100. Power has been lost for 12 minutes and is not expected to be restored in the near future.

ASSIGNED TASK: The USS has directed you to "Locally close the following Unit____ valves:

- ACCW supply isolation outside, ____-HV-1979(_____)
- RCP seal injection isolation valves, ____-HV-8103A/B(_____), and ____-HV-8103C/D(_____),
- RCP seal return isolation outside, ____-HV-8100(_____)".

TASK STANDARD: RCP seals locally isolated.

JPM STEPS

START TIME: _____

STEP 1
CRITICAL (♦)
SAT ☐ UNSAT ☐

Isolate ACCW Return from RCPs

☐ ♦ ACCW containment isolation HV-1979 located.
☐ ♦ HV-1979 closed.

STEP 2
CRITICAL (♦)
SAT ☐ UNSAT ☐

Isolate RCP seal injection
Note: If these valves are inaccessible, the path of ingress should be to the closest point allowed by radiological conditions.

☐ ♦ RCP seal injections HV-8103A and B located.
☐ ♦ HV-8103A and B closed.
☐ ♦ RCP seal injections HV-8103C and D located.
☐ ♦ HV-8103C and D closed.

STEP 3
CRITICAL (♦)
SAT ☐ UNSAT ☐

Isolate RCP seal return
Note: If this valve is inaccessible, the path of ingress should be to the closest point allowed by radiological conditions.

☐ ♦ Seal return HV-8100 located.
☐ ♦ HV-8100 closed.

STEP 4
SAT ☐ UNSAT ☐

Report to USS

☐ • RCP seals are locally isolated

STOP TIME: _____

Field Notes

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: The crew is responding to a loss of all AC power on Unit_____ per 19100. Power has been lost for 12 minutes and is not expected to be restored in the near future.

Assigned Task: The USS has directed you to "Locally close the following Unit____ valves:

- ACCW supply isolation outside, ____-HV-1979(_____)
- RCP seal injection isolation valves, ____-HV-8103A/B(_____), ____-HV-8103C/D(_____),
- RCP seal return isolation outside, ____-HV-8100(_____)".

Task Standard: RCP seals locally isolated.