

Facility: Ginna  
 Exam Level (circle one): (RO) SRO(I) / SRO(U)

Date of Examination: Feb 11, 2002  
 Operating Test No.: 02-01

### B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. 001 Control Rod Drive System J001.001 Perform Rod Exercises Per PT-1	D, A, S	1
b. 004 Chemical and Volume Control System J004.011 Place Excess Letdown in Service	D, S	2
c. 005 Residual Heat Removal System (PRI) J005.005 Line Up RCDT Pump For Core Cooling	M, A, S, L	4
d. 061 Auxiliary/Emergency Feedwater System (SEC) (ESF) J061.001 Place the Standby AFW System in Service	D, S, L	4
e. 062 AC Electrical Distribution J062.024 Transfer 1A Inst. Bus to Maintenance Power	D, S	6
f. 012 Reactor Protection System J012.003 Defeat Failed RCS Temperature Channel	D, S	7
g. 006 Emergency Core Cooling System J006.006 Transfer ECCS to Cold Leg Recirculation	M, A, S, L	3

### B.2 Facility Walk-Through

a. 004 Chemical and Volume Control System J004.009 Take Local Manual Control or Charging Pump	D, R	2
b. 064 Emergency Diesel Generators (ESF) J064.004 Start "A" EDG Locally Per ER-FIRE.1	M, A, L	6
c. 086 Fire Protection System J086.001 Reconnect Fire System	D, C	8

\* 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

Facility: GinnaDate of Examination: Feb 11, 2002Exam Level (circle one): RO / SRO(I) / SRO(U)Operating Test No.: 02-01**B.1 Control Room Systems**

System / JPM Title	Type Code*	Safety Function
a. 005 Residual Heat Removal System (PRI) J005.005 Line Up RCDT Pump For Core Cooling	M, A, S, L	4
b. 061 Auxiliary/Emergency Feedwater System (SEC) (ESF) J061.001 Place the Standby AFW System in Service	D, S, L	4
c. 012 Reactor Protection System J012.003 Defeat Failed RCS Temperature Channel	D, S	7
d.		
e.		
f.		
g.		

**B.2 Facility Walk-Through**

a. 004 Chemical and Volume Control System J004.009 Take Local Manual Control or Charging Pump	D, R	2
b. 064 Emergency Diesel Generators (ESF) J064.004 Start "A" EDG Locally Per ER-FIRE.1	M, A, L	6
c.		

\* 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

## JPM COVER SHEET

JPM NO: J001.001 REV # 09 REVIEW DATE 09/07/99

JPM TITLE: PERFORM ROD EXERCISES PER PT-1

OPTIONS: 1) NO FAULT 2) STEP COUNTER/PPCS DISAGREEMENT  
3) STUCK ROD

LOCATION: SIMULATOR

EST. TIME TO COMPLETE: 1) 15 MINS. 2) 15 MINS. 3) 15 MINS.

DATE:

CANDIDATE:

SOC. SEC # \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS:

CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J001.001

### NOTE

THE EVALUATOR WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EVALUATOR WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

100% MOL

### INITIATING CUE

THE SHIFT SUPERVISOR HAS DIRECTED YOU TO PERFORM PT-1 TO PROVE ROD POSITION INDICATION OPERABILITY OF CONTROL BANK D.

## JPM PREP SHEET

JPM NO.: J001.001

TASK TO BE PERFORMED:

PERFORM ROD EXERCISE GROUP D.

REFERENCE PROCEDURE(S):

PT-1, ROD CONTROL SYSTEM

INITIAL PLANT CONDITIONS:

ANY AT POWER IC

REQUIRED JPM PREP:

ENSURE PPCS OPERATING, AND ROD BANKS UPDATED. OPTION 2) HAVE PPCS BANK VALUE DIFFER FROM MCB VALUE. OPTION 3) USE MALF ROD-3 TO CAUSE ONE OF THE BANK D RODS (G3, C7, K7, G11) TO BE STUCK.

REQUIRED HANDOUT MATERIAL:

AVAILABLE FOLLOW-UP QUESTIONS:

J001.001 A, B, C, D

OTHER:

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	
		INITIATING CUE: THE SHIFT SUPERVISOR HAS DIRECTED YOU TO PERFORM PT-1 TO PROVE ROD POSITION INDICATION OPERABILITY OF CONTROL BANK D.		
1.0	OBTAIN CONTROLLED COPY OF PT-1.	SAME AS ELEMENT		
2.0	REVIEW PROCEDURE, VERIFY PRECAUTIONS AND INITIAL CONDITIONS MET	SAME AS ELEMENT  CUE: SCHEDULED LOAD CHANGES ARE NOT PLANNED. LOAD DISPATCHER HAS BEEN NOTIFIED.		
3.0	SELECT THE CBAW SCREEN ON PPCS  OPTION 2)	SAME AS ELEMENT  OPTION 2) PPCS VALUE FOR BANK D AT 215 STEPS.		
*4.0	IF ANY COMPUTER BANK VALUE IS NOT IN AGREEMENT WITH ITS RESPECTIVE CONTROL BOARD STEP COUNTER, THEN UPDATE THE COMPUTER VALUE.	VERIFIES COMPUTER BANK VALUES AND UPDATES PPCS AS NECESSARY. a) SELECTS RBU b) ENTERS 210 (OR PER ORIGINAL VALUE FROM I/C) ON BANK D c) F2 SAVE	N/A if option 2 not used	
5.0	PLACE ROD BANK SELECTOR SWITCH TO MANUAL POSITION.	PLACE SWITCH IN MANUAL POSITION		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	
6.0	ENSURES BOTH GROUPS IN BANK D ARE LEVEL.	SAME AS ELEMENT		
7.0	PLACE ROD CONTROL BANK SELECTOR SWITCH TO THE BANK POSITION WHICH IS TO BE TESTED.	PLACE ROD BANK SELECTOR SWITCH TO CBD POSITION		
8.0	BEFORE MOVING SELECTED BANK, RECORD THE INDIVIDUAL ROD POSITION INDICATION AND GROUP STEP COUNTER VALUES FOR THAT BANK.	RECORDS BANK D MRPI AND STEP COUNTER VALUES ON ATTACHMENT 1.		
9.0	REFERS TO ATTACHMENT 2 TO DETERMINE WHEN A CHANGE TO INDIVIDUAL ROD POSITION WILL OCCUR.	SAME AS ELEMENT.		
*10.0	MOVE BANK D IN THE DESIRED DIRECTION. WHEN EACH ROD TRANSITIONS ON MRPI, STOP AND RECORD ITS POSITION ON ATTACHMENT 1. REPEAT PROCESS UNTIL ALL BANK D RODS HAVE TRANSITIONED.	<p>- INSTRUCTOR RECORD TAVG FOR FUTURE REFERENCE ____°F</p> <p>- MOVES BANK D STOPPING TO RECORD POSITION ON ATTACHMENT 1 AT EACH ROD TRANSITION, UNTIL ALL RODS HAVE TRANSITIONED.</p> <p><b>OPTION 3)</b></p> <p>- WHEN INDIVIDUAL ROD POSITION INDICATION IS GREATER THAN 2 STEPS BEYOND THE INDIVIDUAL DETECTOR COIL (PER ATTACHMENT 2 OF PT-1.1), <u>AND</u> THE DEMAND TO INDICATED DEVIATION IS LESS THAN OR EQUAL TO 12 STEPS; DISCONTINUE ROD MOTION AND NOTIFY SUPERVISION.</p> <p>TEMPERATURE CHANGES &lt; 4°F PER PRECAUTION 5.4.</p> <p><b>OPTION 3)</b></p> <p>NOTE: IF STUCK ROD OPTION WAS USED, N/A THE REMAINING STEPS OF THIS JPM AND GIVE FINAL CUE.</p>		
*11.0	RETURN THE SELECTED BANK TO ITS ORIGINAL POSITION AS INDICATED BY GROUP STEP COUNTERS.	SAME AS ELEMENT.	N/A	
12.0	RECORD THE INDIVIDUAL AND	SAME AS ELEMENT	↓	

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	
	GROUP STEP COUNTER VALUES ON ATTACHMENT 1.		N/A	
13.0	RETURN THE ROD CONTROL BANK SELECTOR SWITCH TO THE AUTO OR MANUAL POSITION AS DESIRED.	<p>OBSERVES NOTE PRIOR TO STEP 6.6.6.</p> <p>- RETURNS THE ROD CONTROL BANK SELECTOR SWITCH TO AUTO OR MANUAL.</p> <p>- IF RODS ARE RETURNED TO AUTO, NO IMMEDIATE ROD MOTION OCCURS.</p>		
14.0	NOTIFY LOAD DISPATCHER THE CONTROL ROD EXERCISE IS COMPLETE.	<p>SAME AS ELEMENT</p> <p>CUE: LOAD DISPATCHER ACKNOWLEDGES YOUR MESSAGE.</p> <p>CUE: NO FURTHER ACTION IS REQUIRED.</p>		



## JPM COVER SHEET

JPM NO: J004.011 REV # 01 REVIEW DATE 09/08/99

JPM TITLE: PLACE EXCESS LETDOWN IN SERVICE

LOCATION: SIMULATOR

EST. TIME TO COMPLETE: 15 MINUTES

DATE:

CANDIDATE: SOC. SEC. #. \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO/SRO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS: CANDIDATE'S INITIAL \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J004.011

### NOTE

THE EXAMINER WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EXAMINER WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

A LEAK TO ATMOSPHERE HAS DEVELOPED ON THE INLET FLANGE TO V-209 (RELIEF VALVE DOWNSTREAM OF PCV-135). THE WORK REQUEST IS COMPLETE. NORMAL LETDOWN HAS BEEN ISOLATED TO FACILITATE THE REPAIRS.

### INITIATING CUE

NORMAL LETDOWN IS ISOLATED AND EXCESS LETDOWN MUST BE PLACED IN SERVICE TO FACILITATE REPAIR OF RELIEF VALVE RV-209 DOWNSTREAM OF PCV-135. THE SHIFT SUPERVISOR DIRECTS YOU TO PLACE EXCESS LETDOWN IN SERVICE, PER S-3.2E, STEPS 5.1.1 TO 5.1.9

THE OTHER BOARD OPERATOR MAY ACKNOWLEDGE ALARMS AND OPERATE CHARGING PUMPS UNDER YOUR DIRECTION ONLY.

## JPM PREP SHEET

JPM NO.: J004.011

### TASK TO BE PERFORMED:

PLACE EXCESS LETDOWN IN SERVICE

### REFERENCE PROCEDURE(S):

S-3.2E

### INITIAL PLANT CONDITIONS:

A LEAK TO ATMOSPHERE HAS DEVELOPED ON THE INLET FLANGE TO V-209 (RELIEF VALVE DOWNSTREAM OF PCV-135). THE WORK REQUEST IS COMPLETE. NORMAL LETDOWN HAS BEEN ISOLATED TO FACILITATE THE REPAIRS.

### REQUIRED JPM PREP:

IC-19

ISOLATE NORMAL LETDOWN

### REQUIRED HANDOUT MATERIAL:

### AVAILABLE FOLLOW-UP QUESTIONS:

J004.011A, B, C, D, E

### OTHER:

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		INITIATING CUE: NORMAL LETDOWN IS ISOLATED AND EXCESS LETDOWN MUST BE PLACED IN SERVICE TO FACILITATE REPAIR OF RELIEF VALVE RV-209 DOWN STREAM OF PCV-135. THE SHIFT SUPERVISOR DIRECTS YOU TO PLACE EXCESS LETDOWN IN SERVICE, PER S-3.2E.		
1.0	OBTAIN CONTROLLED COPY OF S-3.2E. REVIEW PRECAUTIONS.	SAME AS ELEMENT		
*2.0	PLACE AOV-312 TO NORMAL.	PLACE SWITCH TO NORMAL		
3.0	VERIFY MOV-313 OPEN.	CHECK RED LIGHT ON AND SWITCH IN AUTO		
*4.0	OPEN AOV-745 CCW FROM EXCESS LETDOWN HEAT EXCHANGER	OPEN AOV-745 AND VERIFY RED LIGHT ON		
5.0	VERIFY HCV-123 CLOSED.	CHECK DEMAND-ZERO AND VALVE POSITION CLOSED		
*6.0	OPEN AOV-310 INLET TO EXCESS LETDOWN HEAT EXCHANGER.	OPEN VALVE NOTE: VERIFY FLOW BY E/L T/P INC. PRESS (PI-121)<=100#, TEMP (TI-122)<=195 DEG		
*7.0	ESTABLISH FLOW BY THROTTLING OPEN HCV-123.	INCREASE DEMAND SIGNAL TO OPEN VALVE		
8.0	ENSURE PZR LEVEL NORMAL FOR PLANT CONDITIONS BY ADJUSTING E/L /CHARGING FLOW	NOTE: AT STABLE CONDITIONS E/L FLOW DETERMINED TO BE ~19 GPM AT 90# ON PI-121		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
9.0	PLACE CH PUMP IN AUTO AND ADJUST E/L FLOW SLOWLY TO ENSURE RCP LABYRINTH SEAL DP >20" AND <80"	CH PUMP IN AUTO LAB SEAL DP SATISFIED		
10.0	ADJUST CCW FLOW FROM SEAL WATER RETURN HX OUTLET ISOLATION VALVE (V-768) TO MAINTAIN TEMP ON TI-120 >=75DEG AND <=100 DEG	V-768 THROTTLED TI-120 IN BAND CUE: NO FURTHER ACTIONS		

JPM COVER SHEET

JPM NO: J005.005 REV # 00 REVIEW DATE 03/02/94

JPM TITLE: LINEUP RCDT PUMP FOR CORE COOLING

LOCATION: SIMULATOR

EST. TIME TO COMPLETE: 16 MINUTES

DATE:

CANDIDATE: SOC. SEC. #: \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO/SRO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS: CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J005.005

### NOTE

THE EVALUATOR WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EVALUATOR WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### NOTE

FOR VERIFICATION STEPS, THE EXAMINEE SHOULD TAKE ACTIONS TO INDICATE TO THE EVALUATOR, THAT THE EXAMINEE HAS PERFORMED THE REQUIRED VERIFICATION. THESE ACTIONS MAY INCLUDE VOCALIZING THE REQUIRED VERIFICATION OR POINTING TO THE ASSOCIATED METER, SWITCH, ANNUNCIATOR ETC.

### INITIAL PLANT CONDITIONS

THE PLANT WAS PERFORMING A NORMAL COOLDOWN. BOTH RHR PUMPS TRIPPED. AP-RHR.1 WAS ENTERED AND ATTEMPTS TO RESTART THE PUMPS WERE UNSUCCESSFUL.

### INITIATING CUE

THE SHIFT SUPERVISOR DIRECTS YOU TO LINEUP THE RCDT PUMPS TO PROVIDE CORE COOLING, PER ER-RHR.1 SECTION 4.2 CLOSED LOOP RCS TO RHR COOLING. CONTAINMENT INTEGRITY IS ESTABLISHED PER O-1.1B. CONTAINMENT IS CLEAR OF PERSONNEL.

## JPM PREP SHEET

JPM NO.: J005.005

TASK TO BE PERFORMED:

LINEUP RCDT PUMP FOR CORE COOLING.

REFERENCE PROCEDURE(S):

ER-RHR.1

AP-RHR.1

INITIAL PLANT CONDITIONS:

THE PLANT WAS PERFORMING A NORMAL COOLDOWN. BOTH RHR PUMPS TRIPPED. AP-RHR.1 WAS ENTERED AND ATTEMPTS TO RESTART THE PUMPS WERE UNSUCCESSFUL. THE S/G'S ARE DRAINED FOR MAINTENANCE.

REQUIRED JPM PREP:

SIMULATOR IN A SHUTDOWN I.C. (NOT LOW LOOP) WITH RCS PRESSURE < 75#. INSERT MALF RHR1A AND RHR1B.

REQUIRED HANDOUT MATERIAL:

COPY OF ER-RHR.1

AVAILABLE FOLLOW-UP QUESTIONS:

J005.005 A, B, C, D, E, F

FOLLOW-UP QUESTION REFERENCES:

OTHER:



STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		INITIATING CUE: THE SHIFT SUPERVISOR DIRECTS YOU TO LINEUP THE RCDT PUMPS TO PROVIDE CORE COOLING, PER ER-RHR.1 SECTION 4.2 CLOSED LOOP RCS TO RHR COOLING. CONTAINMENT INTEGRITY IS ESTABLISHED PER O-1.1B. CONTAINMENT IS CLEAR OF PERSONNEL.		
1.0	OBTAIN CONTROLLED COPY OF ER-RHR.1.	SAME AS ELEMENT  NOTE: EVALUATOR MAY GIVE EXAMINEE COPY.		
2.0	VERIFY RCS PRESSURE LESS THAN 100 PSIG	MCB INSTRUMENTATION OR PPCS MAY BE USED TO PERFORM THIS STEP		
3.0	MONITOR INCORE THERMOCOUPLES AND RCS T <sub>c</sub> INDICATION	SAME AS ELEMENT  NOTE: PPCS MAY BE USED TO PERFORM THIS STEP.		
*4.0	CLOSE RHR SUCTION VALVES MOV-851A, MOV-851B	SHIFT SWITCH TO CLOSED POSITION. VERIFY VALVES CLOSE (LOA EDS 11 AND 12 IF NEEDED)		
*5.0	OPEN RHR SUCTION VALVES MOV-850A, MOV-850B	SWITCHES TO OPEN POSITION. VERIFY VALVE OPEN.		
*6.0	CLOSE RCDT PUMP SUCTION VALVES LCV-1003A, LCV-1003B	DIRECTS AO TO CLOSE LCV-1003A AND LCV-1003B. (LOA MIS 67 AND MIS 68 SET TO ZERO)  CUE: AO REPORTS LCV-1003A AND		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		LCV-1003B CLOSED.		
*7.0	CLOSE RCDT PUMP DISCHARGE VALVES V-1726, V-1727	DIRECT A.O. TO CLOSE VALVES (LOA MIS 5,6)  CUE: A.O. REPORTS VALVES CLOSED		
*8.0	OPEN RCDT PUMP DISCHARGE VALVES V-1811A, V-1811B	DIRECT A.O. TO OPEN VALVES (LOA MIS 9,10) CUE: A.O. REPORTS VALVES OPEN NOTE: VALVES REMAIN CLOSED		
*9.0	CLOSE RHR HEAT EXCHANGER BYPASS ISOLATION V-712A.	DIRECT A.O. TO CLOSE VALVE  CUE: A.O. REPORTS VALVE CLOSED (LOA RHR 5)		
*10.0	CLOSE RHR PUMP DISCHARGE VALVES V-709A	DIRECT A.O. TO CLOSE VALVE 709A  CUE: A.O. TO CLOSE VALVE 709B LOA-RHR-1		
*11.0	CLOSE RHR PUMP DISCHARGE VALVES V-709B	DIRECT A.O. TO CLOSE VALVE 709B  CUE: A.O. REPORTS VALVE 709B CLOSED (LOA-RHR-2)		
*12.0	UNLOCK AND CLOSE BREAKERS FOR MOV-1813A AND MOV-1813B.	DIRECT A.O. TO UNLOCK AND CLOSE BREAKERS. (LOA EDS 55,56)  CUE: A.O. REPORTS BREAKERS UNLOCKED AND CLOSED.		
*13.0	OPEN RCDT PUMP SUCTION VALVES MOV-1813A, MOV-1813B	SWITCHES TO OPEN POSITION		
*14.0	START RCDT PUMP A	SWITCH TO START POSITION		
*15.0	START RCDT PUMP B	SWITCH TO START POSITION		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
*16.0	OPEN RHR HEAT EXCHANGER OUTLET VALVES HCV-625	CONTROLLER TO OPEN POSITION		
*17.0	OPEN RHR HEAT EXCHANGER OUTLET VALVE HCV-624	CONTROLLER TO OPEN POSITION		
18.0	VERIFY DISCHARGE PRESSURE ON RCDT PUMPS.	CUE: A.O. REPORTS DISCHARGE PRESSURE 121 PSIG		
19.0	VERIFY FLOW ON FI-626.	OBSERVE FI-626  NOTE: NO FLOW OBSERVED		
20.0	DIRECT AO TO CHECK VALVE LINE- UP	CUE: AO REPORTS VALVES V- 1811A&B WERE FOUND CLOSED		
21.0	DIRECT AO TO OPEN V-1811A&B	CUE: AO REPORTS VALVES V- 1811A&B ARE OPEN		
22.0	VERIFY FLOW ON FI-626	OBSERVE FI-626  CUE: NO FURTHER ACTIONS		

JPM COVER SHEET

JPM NO: J061.001 REV # 13 REVIEW DATE 09/07/99

JPM TITLE: PLACE THE STANDBY AFW SYSTEM IN SERVICE

LOCATION: SIMULATOR

MAX. TIME TO COMPLETE: 10 MINUTES TIME CRITICAL

DATE:

CANDIDATE: SOC. SEC. # \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO/SRO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS: CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J061.001

### NOTE

THE EVALUATOR WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EVALUATOR WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

THE PLANT WAS AT POWER WHEN BOTH MAIN FEEDWATER PUMPS TRIPPED. THE TDAFW PUMP WAS HELD. CST LEVELS DECREASED TO 5 FEET. THE SHIFT IS RESPONDING PER ER-AFW.1 ALTERNATE WATER SUPPLY TO THE AFW PUMPS.

### INITIATING CUE

SHIFT SUPERVISOR TELLS YOU TO LINEUP AND INITIATE FEED TO BOTH S/G'S USING STANDBY AFW PER ER-AFW.1, SECTION 4.5.

## JPM PREP SHEET

JPM NO.: J061.001

TASK TO BE PERFORMED: PLACE THE STANDBY AFW SYSTEM IN SERVICE.

REFERENCE PROCEDURE(S):

E-0, REACTOR TRIP AND SAFETY INJECTION

ER-AFW.1, ALTERNATE WATER SUPPLY TO THE AFW PUMPS R18

FR-H.1

TIME CRITICAL REF ITS 3.7.5 BASIS

INITIAL PLANT CONDITIONS:

THE PLANT WAS AT POWER WHEN BOTH MAIN FEEDWATER PUMPS TRIP. THE TDAFW PUMP WAS HELD. CST LEVELS DECREASED TO 5 FEET. THE SHIFT IS RESPONDING PER ER-AFW.1 ALTERNATE WATER SUPPLY TO THE AFW PUMPS.

REQUIRED JPM PREP:

IC-12. PULL STOP AND HOLD TAG THE TDAFW PUMP. IND OVRD CND 6A AND 6B, SET TO 20%, 0, 0. INSERT MALF FDW02A/02B. THIS WILL TRIP TURBINE RX. COMPLETE E-0 UP TO STEP 15. ENSURE MOV'S 4616, 4615, 4734 AND 4735 ARE OPEN.

REQUIRED HANDOUT MATERIAL:

ER-AFW.1, ALTERNATE WATER SUPPLY TO THE AFW PUMPS  
(CAN USE SIMULATOR COPY)

AVAILABLE FOLLOW-UP QUESTIONS:

J061.001A,B,C,D

FOLLOW-UP QUESTION REFERENCES:

FR-H.1, RGE-42, RGE-70

OTHER:

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		INITIATING CUE: SHIFT SUPERVISOR TELLS YOU TO LINEUP AND INITIATE FEED TO BOTH S/G'S USING STANDBY AFW PER ER-AFW.1, SECTION 4.5.		
1.0	OBTAIN A COPY OF ER-AFW.1 AND REVIEW PRECAUTIONS.			
2.0	READ NOTE PRIOR TO STEP 4.5.1	SAME AS ELEMENT		
3.0	DIRECT HP TECH TO SECURE SW CHLORINATION	CUE: CHLORINATION HAS BEEN SECURED		
4.0	RESET SI AS NECESSARY	SAME AS ELEMENT		
5.0	VERIFY SAFWP DISCHARGE VALVES OPEN. MOV'S 9701 A,B	SAME AS ELEMENT		
6.0	VERIFY SAFWP ISOLATION VALVES OPEN. MOV'S 9704 A,B	SAME AS ELEMENT		
7.0	VERIFY SAFWP PUMP D EMERG DISCH VLV OPEN. MOV 9746	SAME AS ELEMENT		
*8.0	OPEN SERVICE WATER SUCTION TO SAFWP MOV'S. 9629 A,B	SAME AS ELEMENT		
9.0	VERIFY MOV'S 4616 AND 4615 ARE OPEN.	SAME AS ELEMENT		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
10.0	VERIFY ASSOCIATED MDAFWP SWITCH IN STOP POSITION.	SAME AS ELEMENT OR PUMPS MAY BE PLACED IN PULL STOP.		
*11.0	START BOTH SAFWP'S TO SUPPLY FEEDWATER TO BOTH STEAM GENERATORS	<p>CUE: SS DIRECTS START OF BOTH SBAFW PUMPS.</p> <p>EXAMINEE STARTS BOTH SBAFW PUMPS. ENSURE FLOW &gt;200 BUT &lt;230 GPM PER PUMP</p> <p>CUE: NO FURTHER ACTIONS</p>		



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# JPM COVER SHEET

JPM NO: J062.024 REV # 01 REVIEW DATE 09/21/97

JPM TITLE: TRANSFER 1A INSTRUMENT BUS TO MAINTENANCE POWER  
SUPPLY

LOCATION: SIMULATOR

MAX. TIME TO COMPLETE: 15 MIN

DATE:

CANDIDATE: SOC. SEC. # \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO/SRO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS: CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J062.024

### NOTE

THE EXAMINER WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EXAMINER WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

INVERTER A HAS FAILED. INSTRUMENT BUS A IS TO BE PLACED ON MAINTENANCE SUPPLY IN PREPARATION FOR TRANSFERRING BUS 14 TO A DG.

### INITIATING CUE

THE SHIFT SUPERVISOR DIRECTS YOU TO TRANSFER INSTRUMENT BUS 1A FROM NORMAL POWER SUPPLY TO MAINTENANCE SUPPLY PER ER-INST.3, INSTRUMENT BUS POWER RESTORATION, STEP 4.2. AN A-52.4 FOR THE 1A INSTRUMENT BUS HAS ALREADY BEEN INITIATED. NO OTHER TEMPERATURE AND PRESSURE CHANNELS ARE DEFEATED.

## JPM PREP SHEET

JPM NO.: J062.024

### TASK TO BE PERFORMED:

TRANSFER INSTRUMENT BUS 1A FROM NORMAL TO MAINTENANCE POWER SUPPLY.

### REFERENCE PROCEDURE(S):

ER-INST.3, INSTRUMENT BUS POWER RESTORATION

### INITIAL PLANT CONDITIONS:

ANY AT POWER IC

INVERTER A HAS FAILED. INSTRUMENT BUS A IS TO BE PLACED ON MAINTENANCE SUPPLY IN PREPARATION FOR TRANSFERRING BUS 14 TO A DG. MALF EDS09, A INVERTER.

### REQUIRED JPM PREP:

NONE

### REQUIRED HANDOUT MATERIAL:

### AVAILABLE FOLLOW-UP QUESTIONS:

J062.024 A, C, D, E

### OTHER:

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		<p>INITIATING CUE: THE SHIFT SUPERVISOR DIRECTS YOU TO TRANSFER INSTRUMENT BUS 1A FROM NORMAL POWER SUPPLY TO MAINTENANCE SUPPLY PER ER-INST.3, INSTRUMENT BUS POWER RESTORATION, SECTION 4.2. AN A-52.4 FOR THE 1A INSTRUMENT BUS HAS ALREADY BEEN INITIATED. NO OTHER TEMPERATURE AND PRESSURE CHANNELS ARE DEFEATED.</p> <p>NOTE: GIVE EXAMINEE CURRENT COPY OF ER-INST.3, AND PROTECTION RACKS KEY.</p>		
*1.0	VERIFY MAINTENANCE SUPPLY .	CHECK MAINTENANCE SUPPLY VOLTAGE APPROXIMATELY 120 VOLTS.		
2.0	VERIFY NO OTHER INSTRUMENT BUS ON MAINTENANCE.	<p>VERIFY NORMAL POWER SUPPLY.</p> <p>RELOCK INSTRUMENT BUS DOOR.</p> <p>REPEAT FOR EACH INSTRUMENT BUS</p>		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
3.0	OBSERVE STEP 4.2.3.	SAME AS ELEMENT.  CUE: AN A-52.4 FOR INSTRUMENT BUS A HAS BEEN INITIATED.		
4.0	OBSERVES NOTES AND CAUTION AT BEGINNING OF ATTACHMENT INSTRUMENT BUS A.	SAME AS ELEMENT.  CUE: NO OTHER TEMPERATURE AND PRESSURE CHANNELS ARE DEFEATED.		
*4.1	VERIFY L/428A IN NORMAL.	UNLOCKS PLP RACK DOOR.  VERIFY L/428A IN NORMAL.		
*4.2	VERIFY P/429A IN NORMAL (PT-430 - PT-449)	VERIFY P/429A IN NORMAL (PT-430 - PT-449)  RELOCK PLP RACK DOOR		
*5.0	TRANSFER INSTRUMENT BUS TO MAINTENANCE SUPPLY	UNLOCK A INSTRUMENT BUS DOOR.  OPERATE MECHANICAL INTERLOCK SUCH THAT AN EXPEDITIOUS TRANSFER TO MAINTENANCE SUPPLY OCCURS.		
9.0	VERIFY INSTRUMENT BUS DOOR CLOSED AND LOCKED.	SAME AS ELEMENT.  CUE: NO FURTHER ACTIONS		

## JPM COVER SHEET

JPM NO: J012.003 REV # 06 REVIEW DATE 03/09/95

JPM TITLE: DEFEAT FAILED RCS TEMPERATURE CHANNEL

LOCATION: SIMULATOR

MAX. TIME TO COMPLETE: 9 MINUTES

DATE:

CANDIDATE: SOC. SEC. # \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

COMMENTS: CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J012.003

### NOTE

THE EVALUATOR WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EXAMINER WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

THE PLANT WAS OPERATING AT 100% POWER WHEN TI-401 FAILED LOW. THE OPERATORS TOOK APPROPRIATE ACTIONS TO STABILIZE THE PLANT.

### INITIATING CUE

TI-401 FAILED LOW. THE OPERATORS TOOK ALL APPROPRIATE ACTIONS. THE SHIFT SUPERVISOR DIRECTS YOU TO DEFEAT AFFECTED RCS TEMPERATURE CHANNEL AS PER ER-INST.1, STEP 4.3.5. GIVE OPERATOR PROTECTION RACK KEYS.

## JPM PREP SHEET

JPM NO.: J012.003

TASK TO BE PERFORMED:

DEFEAT FAILED RCS RTD CHANNEL.

REFERENCE PROCEDURE(S):

ER-INST.1, REACTOR PROTECTION BISTABLE DEFEAT AFTER  
INSTRUMENTATION FAILURE.

INITIAL PLANT CONDITIONS:

THE PLANT WAS OPERATING AT 100% POWER WHEN TI-401 FAILED LOW. THE  
OPERATORS TOOK APPROPRIATE ACTIONS TO STABILIZE THE PLANT.

REQUIRED JPM PREP:

IC-16  
FAIL TI-401 LOW (THOT LOW)  
RODS IN MANUAL  
CHARGING IN MANUAL

REQUIRED HANDOUT MATERIAL:

AVAILABLE FOLLOW-UP QUESTIONS:

OTHER:



STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		INITIATING CUE: TI-402 FAILED LOW. THE OPERATORS TOOK ALL APPROPRIATE ACTIONS. THE SHIFT SUPERVISOR DIRECTS YOU TO DEFEAT AFFECTED RCS TEMPERATURE CHANNEL PER ER-INST.1, STEP 4.3.5. GIVE OPERATOR PROTECTION RACK KEYS.		
1.0	OBTAIN CONTROLLED COPY OF ER-INST.1.	SAME AS ELEMENT		
2.0	REFER TO STEP 4.3.5 OF ER-INST.1.	SAME AS ELEMENT		
3.0	VERIFY ROD CONTROL IN MANUAL.	GO TO MCB LEFT SECTION AND VERIFY RODS IN MANUAL		
4.0	VERIFY CHARGING PUMPS SPEED CONTROLLERS IN MANUAL.	CHECK CHARGING PUMP SPEED CONTROLLERS ON MCB IN MANUAL		
*5.0	PLACE SWITCH T405E TO LOOP A - UNIT 1.	GO TO RIL CABINET UNLOCK AND OPEN  SHIFT SWITCH TO UNIT #1		
*6.0	PLACE SWITCH T-401A TO LOOP A - UNIT 1.	GO TO STEAM DUMP CABINET UNLOCK AND OPEN  SHIFT SWITCH TO UNIT #1		
*7.0	TRIP HIGH TAVG (401 LOOP A-1) BISTABLE.	GO TO R-1 PROTECTION CABINET UNLOCK AND OPEN PULL OUT AND LIFT SWITCH		
*8.0	TRIP LOW TAVG (401 LOOP A-1) BISTABLE.	PULL OUT AND LIFT SWITCH		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
*9.0	TRIP OVERTEMPERATURE TRIP BISTABLE. (405 LOOP A-1)	PULL OUT AND LIFT SWITCH		
*10.0	TRIP OVERPOWER TRIP (405 LOOP A-1) BISTABLE.	PULL OUT AND LIFT SWITCH		
11.0	VERIFY THE FOUR BISTABLE LIGHTS ARE LIT	VERIFIES BISTABLE LIGHTS LIT ON MCB		
12.0	DELETE 401/405 FROM PPCS IF PPCS OPERABLE (NOT REQUIRED IF PPCS INOPERABLE).	DELETE PER STEP 7.  CUE: NO FURTHER ACTIONS		

JPM COVER SHEET

JPM NO: J006.006 REV # 01 REVIEW DATE 02/23/00

JPM TITLE: TRANSFER ECCS TO COLD LEG RECIRCULATION

OPTIONS: 1) NO FAULTS 2) MOV 850 A FAILED CLOSED

LOCATION: SIMULATOR

EST. TIME TO COMPLETE: 1) 15 MINUTES 2) 16 MINUTES

DATE:

CANDIDATE: SOC. SEC. #. \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO/SRO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS: CANDIDATE'S INITIAL \_\_\_\_\_  
SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J006.006

### NOTE

THE EVALUATOR WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EVALUATOR WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### NOTE

FOR VERIFICATION STEPS, THE EXAMINEE SHOULD TAKE ACTIONS TO INDICATE TO THE EVALUATOR, THAT THE EXAMINEE HAS PERFORMED THE REQUIRED VERIFICATION. THESE ACTIONS MAY INCLUDE VOCALIZING THE REQUIRED VERIFICATION OR POINTING TO THE ASSOCIATED METER, SWITCH, ANNUNCIATOR ETC.

### INITIAL PLANT CONDITIONS

REACTOR TRIP WITH SI OCCURRED. CRF INITIATED LOSS OF COOLANT ACTION. RWST DECREASING TOWARD 28%, CURRENTLY AT STEP 19 OF E-1.

### INITIATING CUE

THE CRF DIRECTS YOU TO TRANSFER COLD LEG RECIRCULATION PER ES-1.3, WHEN RWST LEVEL IS LESS THAN 28%.

## JPM PREP SHEET

JPM NO.: J006.006

TASK TO BE PERFORMED: TRANSFER ECCS TO COLD LEG RECIRCULATION.

REFERENCE PROCEDURE(S):

ES-1.3

ATTACHMENT RHR NPSH (OPTION 2)

INITIAL PLANT CONDITIONS:

REACTOR TRIP WITH SI OCCURRED. CRF INITIATED LOSS OF COOLANT ACTION. RWST DECREASING TOWARD 28%.

REQUIRED JPM PREP:

ANY AT POWER IC. MAX BREAK LOCA. COMPLETE E-1 UP TO STEP 19 WITH RWST LEVEL >28% (~30%). FREEZE SIM UNTIL OPERATOR READY TO START THEN GO TO RUN.

OPTION 1) NO FAULT

2) MOV 850A FAILS TO OPEN

REQUIRED HANDOUT MATERIAL:

ES-1.3

AVAILABLE FOLLOW-UP QUESTIONS:

J006.006A,B,C,D,E

J005.002F

J005.004E

J103.002D

J005.006D

J006.007A,B

J005.001A,B,C,D

FOLLOW-UP QUESTION REFERENCES:

OTHER:

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		INITIATING CUE: THE CRF DIRECTS YOU TO TRANSFER COLD LEG RECIRCULATION PER ES-1.3 WHEN RWST LEVEL IS LESS THAN 28%. CURRENTLY STEP 19 OF E-1 CONTINUE WITH E-1 UNTIL TRANSITION REQUIRED.		
		INSTRUCTOR NOTE: JPM STEPS 7-11 MAY BE PERFORMED WHILE IN E-1 STOPPING OF ANY ECCS EQUIPMENT PRIOR TO TRANSFER TO ES-1.3 MAKES FOR AN UNSAT JPM PERFORMANCE		
1.0	OBTAIN A CONTROLLED COPY OF ES-1.3.	SAME AS ELEMENT		
2.0	REVIEW CAUTIONS AND NOTES PRIOR TO STEP ONE AND MONITOR FOLDOUT PAGE.	SAME AS ELEMENT		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
*3.0	MONITOR RWST LEVEL >15%	IF RWST LEVEL DECREASES TO < 15% PRIOR TO STEP 10 THEN PULL STOP ALL CS PUMPS PULL STOP ALL RHR PUMPS PULL STOP ALL CHARGING PUMPS PULL STOP ALL BUT 1 SI PUMP.  WHEN PUMPS PULL STOPPED AND TRANSITION TO ECA 1.1 MADE CUE CRF WILL PERFORM ECA 1.1. YOU ARE DIRECTED TO COMPLETE TRANSFER TO COLD LEG RECIRC PER ES-1.3		
*4.0	VERIFY CNMT SUMP B LEVEL > 113 INCHES.	SAME AS ELEMENT		
5.0	REVIEW NOTE	SAME AS ELEMENT		
*6.0	RESET SI.	DEPRESS SI RESET PUSHBUTTON OR VERIFY SI RESET		
*7.0	VERIFY AT LEAST TWO SW PUMPS RUNNING.	SAME AS ELEMENT		
*8.0	VERIFY AUX BLDG SW ISOLATION VALVES OPEN.	MOV-4615, MOV-4734, MOV-4616 MOV-4735 OPEN		
9.0	NOTIFY AO TO VERIFY S.W. FLOW TO CCW HX > 5000 GPM.	CALL AO ON RADIO OR PHONE <i>2 HXS + 5200 GPM</i> CUE: SW FLOW > 5000 GPM (5200 GPM)		
*10.0	CHECK BOTH CCW PUMPS RUNNING.	START 2 <sup>ND</sup> CCW PUMP		
*11.0	OPEN CCW VALVES TO RHR HXs MOV-738A, MOV-738B	SAME AS ELEMENT		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
12.0	REVIEW CAUTION.	SAME AS ELEMENT		
*13.0	VERIFY BOTH RHR PUMPS RUNNING AND FLOW < 1500 PER OPERATING PUMP. ADJUST FLOW AS NECESSARY.			
*14.0	STOP C SI PUMP AND PLACE BOTH SWITCHES IN PULL STOP.	SAME AS ELEMENT		
*15.0	STOP BOTH RHR PUMPS AND PLACE IN PULL STOP.	SAME AS ELEMENT		
*16	PULL STOP ONE CNMT SPRAY PUMP	SAME AS ELEMENT		
*17	PLACE NAOH OUTLET VALVES AOV 836A AND B IN MANUAL FULL OPEN	SAME AS ELEMENT		
*18	RESET CNMT SPRAY	SAME AS ELEMENT		
*19	CLOSE DISCHARGE VALVES FOR SECURED PUMP PUMP A MOV 860 A/B PUMP B MOV 860 C/D	SAME AS ELEMENT		
20	VERIFY RHR SUCTION VALVES (MOV- 700 AND MOV-701) AND DISCHARGE VALVES (MOV-720 AND MOV-721) CLOSED.	SAME AS ELEMENT		



STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQD FOR UNSAT
21	<p>VERIFY THE FOLLOWING RHR VALVES OPEN:</p> <p>RHR PUMP SUCTION VALVES: MOV-704A, MOV-704B</p> <p>RHR PUMP DISCHARGE TO RX VESSEL: DELUGE, MOV-852A, MOV-852B</p> <p>RHR SUCTION FROM SUMP B: MOV-851A, MOV-851B</p>	SAME AS ELEMENT		
22.0	<p>VERIFY RCDT SUCTION VALVES FROM SUMP B CLOSED MOV-1813A, MOV-1813B</p>	SAME AS ELEMENT		
*23.0	CLOSE MOV-856	TURN ON D.C. POWER. SAME AS ELEMENT		
*24.0	<p>OPEN RHR SUCTION VALVES FROM SUMP B</p> <p>MOV-850A, MOV-850B</p>	<p><b>OPTION 1:</b> BOTH VALVES OPEN</p> <p><b>OPTION 2:</b> 1) MOV 850A FAILS TO OPEN 2) INITIATE ONE TRAIN RHR RECIR (REFER TO ATTACHMENT RHR NPSH)</p>		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
*25	START BOTH RHR PUMPS (SKIP FOR OPTION 2)	SAME AS ELEMENT		
*26		INSTRUCTOR NOTE RWST LEVEL WHEN RHR PUMPS STARTED PER ES-1.3 STEP 9 RWST LEVEL _____ IF LEVEL IS <5%  JPM PERFORMANCE IS UNSAT		
*27	CHECK RWST LEVEL  IF <15% STOP PUMPS TAKING SUCTION FROM RWST  IF >15% DO NOT CONTINUE WITH PROCEDURE	SAME AS ELEMENT  SAME AS ELEMENT  CUE: NO FURTHER ACTIONS		

*Stop after Step 11*

JPM COVER SHEET

JPM NO: J004.009 REV # 02 REVIEW DATE 02/17/98

JPM TITLE: TAKE LOCAL MANUAL CONTROL OF CHARGING PUMP

LOCATION: PLANT (AUXILIARY BUILDING)

EST. TIME TO COMPLETE: 8 MINUTES

DATE:

CANDIDATE: SOC. SEC. #. \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO/SRO

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS: CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J004.009

### NOTE

THE EVALUATOR WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EVALUATOR WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

A FIRE IN THE CABLE TUNNEL REQUIRES EVACUATION OF THE CONTROL ROOM. ER-FIRE.2 IS BEING IMPLEMENTED.

### INITIATING CUE

THERE WAS A FIRE IN THE CABLE TUNNEL FORCING LOCAL CONTROL OF CHARGING PUMPS. THE SHIFT SUPERVISOR DIRECTS YOU TO PERFORM LINEUPS OF THE CHARGING PUMP IN ACCORDANCE WITH PROCEDURE ER-FIRE.2 ATTACHMENT 4. CONTINUE UNTIL CHARGING FLOW IS VERIFIED TO THE RCS. YOU HAVE COMPLETED ALL PREVIOUS STEPS OF THE PROCEDURE. SIMULATE ONLY, DO NOT MANIPULATE ANY SWITCHES OR VALVES.

## JPM PREP SHEET

JPM NO.: J004.009

### TASK TO BE PERFORMED:

PERFORM OPERATIONS AND VALVE ALIGNMENTS FOR LOCAL OPERATION OF 1A CHARGING PUMP.

### REFERENCE PROCEDURE(S):

ER-FIRE.2 ALTERNATE SHUTDOWN FOR A CABLE TUNNEL FIRE

### INITIAL PLANT CONDITIONS:

A FIRE IN THE CABLE TUNNEL REQUIRES EVACUATION OF THE CONTROL ROOM ER-FIRE.2 IS BEING IMPLEMENTED.

### REQUIRED JPM PREP:

DISCUSS ACTION TO BE PERFORMED WITH SHIFT SUPERVISOR REGARDING

1) OPENING THE CHARGING PUMP LOCAL CONTROL PANEL

2) OPENING THE DC THROWOVER ENCLOSURE ON THE BACK OF BUS 14.

OBTAIN APPENDIX R LOCKER AND LOCKED VALVE KEY FROM THE SHIFT SUPERVISOR

### REQUIRED HANDOUT MATERIAL:

COPY OF ER-FIRE.2 ALTERNATE SHUTDOWN FOR A CABLE TUNNEL FIRE.

### AVAILABLE FOLLOW-UP QUESTIONS:

J004.009 B,C

J004.002 B

### FOLLOW-UP QUESTION REFERENCES:

### OTHER:

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		INITIATING CUE: THERE WAS A FIRE IN THE CABLE TUNNEL FORCING LOCAL CONTROL OF CHARGING PUMPS. THE SHIFT SUPERVISOR DIRECTS YOU TO PERFORM LINEUPS OF THE CHARGING PUMP IN ACCORDANCE WITH PROCEDURE ER-FIRE.2 ATTACHMENT 4. CONTINUE UNTIL CHARGING FLOW IS VERIFIED TO THE RCS. YOU HAVE COMPLETED ALL PREVIOUS STEPS OF THE PROCEDURE. SIMULATE ONLY, DO NOT MANIPULATE ANY SWITCHES OR VALVES.		
1.0	LOCATE APPROPRIATE SECTION OF PROCEDURE.	NOTE: GIVE STUDENTS AN APPENDIX "R" PACKAGE. THIS WILL INCLUDE ER-FIRE.2 PROCEDURE AND LOCKED VALVE KEY AND APPENDIX 'R' KEY.		
*2.0	CLOSE MOV-856 TO (WEST SIDE OF RWST)	LOCATE MOV-856, SIMULATE CLOSING CUE: VALVE NO LONGER TURNS, VALVE POSITION ROD IS DOWN.		
*3.0	POSITION THE 1A CHARGING PUMP LOCAL/REMOTE SWITCH TO THE LOCAL POSITION.	OPEN CABINET, LOCATE SWITCH SIMULATE POSITIONING SWITCH  CUE: SWITCH IS IN LOCAL  CUE: BUS 14 HAS BEEN PREVIOUSLY REENERGIZED		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
*4.0	AT THE BACK OF BUS 14 REMOVE ALL DC CONTROL POWER FUSES	SIMULATES REMOVING DC CONTROL POWER FUSES  CUE: ALL FUSES REMOVED		
5.0	LOCALLY TRIP THE LISTED BREAKERS ON BUS 14	SIMULATES TRIPPING BREAKERS LISTED IN STEPS 4.1, 4.2 CUE: ALL BREAKERS ARE TRIPPED		
6.0	NOTIFY SS THAT BUS 14 IS READY TO BE LOADED	SAME AS ELEMENT		
7.0	WHEN SS DIRECTS, LOCALLY CLOSE POS. 18C&22C ON BUS 14	SIMULATES CLOSING 18C&22C CUE: BREAKERS ARE CLOSED		
8.0	NOTIFY SS: BUS 14 AND MCC C ARE ENERGIZED	SAME AS ELEMENT		
*9.0	AT BACK OF BUS 14: UNLOCK 1A CHG PMP ALT DC ACCESS DOOR, SELECTOR SWITCH TO LOCAL, LOCK ACCESS DOOR	SIMULATES OPENING DOOR AND PERFORMING ACTIONS  CUE: SWITCH IS IN LOCAL		
10.0	OPEN VALVE V-384C	SIMULATES OPENING VALVE CUE: IF VALVE IN CONTAMINATED AREA, POINT OUT LOCATION, DO NOT ENTER-VALVE IS OPEN		
11.0	CLOSE VALVE V-289	SIMULATES CLOSING VALVE CUE: VALVE IS CLOSED		
*12.0	LOCALLY OPEN VALVE V-358 TO ALIGN RWST TO CHARGING	LOCATE VALVE. SIMULATE OPENING VALVE.  CUE: VALVE NO LONGER TURNS		
*13.0	LOCALLY START THE CHARGING PUMP	OPEN CABINET, LOCATE PUSH BUTTONS. SIMULATE STARTING THE CHARGING PUMP.		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		CUE: CHARGING PUMP IS RUNNING		
14.0	VERIFY ABELIP ENERGIZED	CUE: ABELIP NOT ENERGIZED SIMULATES ENERGIZING PANEL BY PUSHING ON BUTTON CUE: PANEL IS ENERGIZED		
15.0	NOTIFY THE SS THAT THE CHARGING PUMP "A" HAS BEEN STARTED, WILL CONTROL FLOW AS DIRECTED AND MONITOR PZR LEVEL	SIMULATE CALLING SHIFT SUPERVISOR.  CUE: SS ACKNOWLEDGES, NO FURTHER ACTION		



JPM COVER SHEET

JPM NO: J064.004 REV # 10 REVIEW DATE 09/15/98

JPM TITLE: START "A" EDG LOCALLY PER ER-FIRE.1

LOCATION: A D/G RM

EST. TIME TO COMPLETE: 22 MINUTES

DATE:

CANDIDATE: SOC. SEC. # \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

JOB LEVEL: RO/SRO/STA

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS: CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J064.004

### NOTE

THE EVALUATOR WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EVALUATOR WILL BE TAKING NOTES, ASK FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

THERE HAS BEEN A FIRE IN THE CONTROL ROOM, AND THE SHIFT SUPERVISOR HAD DIRECTED THAT THE CONTROL ROOM BE EVACUATED PER AP-CR.1 STEP 3. ER-FIRE.1 HAS BEEN IMPLEMENTED.

### INITIATING CUE

THE SS HAS DIRECTED YOU TO PROCEED TO THE 1A EMERGENCY DIESEL GENERATOR AND PERFORM ATTACHMENT 2 STA. SIMULATE ONLY, DO NOT MANIPULATE ANY EQUIPMENT.

## JPM PREP SHEET

JPM NO.: J064.004

### TASK TO BE PERFORMED:

PERFORM ACTIONS PER ER-FIRE.1 REQUIRED TO START THE "A" EMERGENCY DIESEL GENERATOR (STA FUNCTIONS). SIMULATE ONLY. DO NOT MANIPULATE ANY PLANT EQUIPMENT.

### REFERENCE PROCEDURE(S):

ER-FIRE.1, ALTERNATIVE SHUTDOWN FOR CONTROL COMPLEX FIRE

### INITIAL PLANT CONDITIONS:

THERE HAS BEEN A FIRE IN THE CONTROL ROOM, AND THE SHIFT SUPERVISOR HAD DIRECTED THAT THE CONTROL ROOM BE EVACUATED PER AP-CR.1, STEP 3. ER-FIRE.1 HAS BEEN IMPLEMENTED.

### REQUIRED JPM PREP:

### REQUIRED HANDOUT MATERIAL:

ER-FIRE.1, ALTERNATIVE SHUTDOWN FOR CONTROL COMPLEX FIRE

### AVAILABLE FOLLOW-UP QUESTIONS:

J064.003A, B, C, D  
J064.004A, C, D, G, H, J, K, L  
J064.005A, B, C, D

### OTHER:

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
		INITIATING CUE: THE SS HAS DIRECTED YOU TO PROCEED TO THE 1A EMERGENCY DIESEL GENERATOR AND PERFORM ATTACHMENT 2, STA. <u>SIMULATE ONLY</u> , DO NOT MANIPULATE ANY EQUIPMENT		
1.0	PROCEED TO 1A D/G ROOM, OBTAIN PROCEDURE AND RADIO FROM APPENDIX R LOCKERS. PERFORM RADIO CHECK.	LOCATE LOCKER.  NOTE: GIVE EXAMINEE COPY OF ER-FIRE.1  CUE: YOU HAVE BROKEN THE LOCK WITH THE HAMMER, OBTAINED THE PROCEDURE AND RADIO AND HAVE PERFORMED A RADIO CHECK. SIMULATE THAT YOU HAVE A RADIO.  CUE: DIESEL IS RUNNING.		
*2.0	ISOLATE "A" D/G BY PLACING MODE SELECT TO EMERG	LOCATES SWITCH  CUE: EMERGENCY NOT SELECTED  CUE: DIESEL IS RUNNING		
*3.0	PERFORM FOLLOWING AT ELCP PANEL: -PLACE START-STOP SWITCH TO STOP - IMMEDIATELY PUSH VOLT. S/D CONTROL BUTTON	SAME AS ELEMENT		
4.0	INFORM SS D/G IS ISOLATED	SIMULATE CALLING SHIFT SUPERVISOR.  CUE: SS ACKNOWLEDGES, DIRECTS YOU TO START THE 1A D/G. O/S TRIP NEEDS RESET		
5.0	RESET FIELD RESET K4	SAME AS ELEMENT CUE: FIELD IS RESET		

STEP # *CRITICAL	ELEMENT	STANDARD	S/U	COMMENTS REQ'D FOR UNSAT
6.0	RESET EG1A SHUTDOWN (R3) RESET R3	SAME AS ELEMENT CUE: SHUTDOWN IS RESET		
*7.0	LOCALLY START D/G A WITH LOCAL START-STOP SWITCH	LOCATES SWITCH, STARTS D/G AND GOES TO LOWER ON FREQ.  CUE: THE D/G STARTED.		
*8.0	ADJUST FREQUENCY TO ~ 60 HZ	SAME AS ELEMENT CUE: FREQUENCY IS 58 HZ, THEN 60 HZ AFTER ADJ.		
9.0	VERIFY UNIT/PARALLEL SWITCH IN UNIT	SAME AS ELEMENT  CUE: SWITCH IS IN UNIT		
10.0	VERIFY VOLTAGE MAN/AUTO SWITCH IN AUTO	SAME AS ELEMENT  CUE: SWITCH IS IN AUTO		
*11.0	ADJUST AUTO VOLTAGE CONTROL RHEOSTAT TO ~480V	LOCATE METER  CUE: VOLTAGE IS 460V, THEN 480V AFTER ADJ.		
12.0	NOTIFY SS THAT 1A D/G IS STARTED AND READY TO BE LOADED	SIMULATE CALLING SHIFT SUPERVISOR  CUE: NO FURTHER ACTIONS		

## JPM COVER SHEET

JPM NO: J086.001 REV # 00 REVIEW DATE: 05-15-92

JPM TITLE: Reconnect Fire System

LOCATION: Control Room, Relay Room

EST. TIME TO COMPLETE: 20 minutes

DATE:

CANDIDATE:

SOC. SEC. # \_\_\_\_\_

EVALUATOR:

ACTUAL TIME REQUIRED:

EVALUATION:  
(SAT/UNSAT)

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

FOLLOW-UP QUESTION NO.:

EVALUATION:

COMMENTS:

CANDIDATE'S INITIAL: \_\_\_\_\_

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## JPM INFORMATION SHEET

JPM NO.: J086.001

### NOTE

THE EXAMINER WILL EXPLAIN THE JPM INITIAL CONDITIONS AND PROVIDE CLARIFICATION AS REQUIRED. THE EXAMINEE MAY USE ANY CONTROLLED COPY REFERENCES THAT ARE NORMALLY AVAILABLE IN THE CONTROL ROOM, INCLUDING LOGS. MAKE ALL WRITTEN REPORTS, ORAL REPORTS, AND LOG ENTRIES AS IF THE EVOLUTION WAS ACTUALLY BEING PERFORMED. THE EXAMINER WILL BE TAKING NOTES, ASKING FOR CLARIFICATION OF JPM REQUIREMENTS PRIOR TO THE BEGINNING OF JPM PERFORMANCE.

### INITIAL PLANT CONDITIONS

PLANT IS AT 97% POWER WITH FIRE DETECTION SYSTEM Z-22 STILL DISCONNECTED FOLLOWING THE COMPLETION OF PT-16.1 TURBINE AUXILIARY FEEDWATER PUMP FLOW BALANCE.

### TASK STANDARD

THE SHIFT SUPERVISOR REQUESTS THAT Z-22 BE RECONNECTED PER SC-3.16.2.4 SHIFT SUPERVISOR RECEIVED PERMISSION FROM ADAMS TO RECONNECT AND HAS VERIFIED ON OPERABILITY TEST IS NOT REQUIRED AND NO HOLDS WERE PLACED ON Z-22.

## JPM PREP SHEET

JPM NO.: J086.001

TASK TO BE PERFORMED: Reconnect Z-22

REFERENCE PROCEDURE(S): SC-3.16.2.4

INITIAL PLANT CONDITIONS: 97% power following completion of PF-16.1 Turbine Auxiliary Feedwater Pump Flow Balance

REQUIRED JPM PREP: SC-3.16.2.4 filled out up to 7.1.2 and attachment 15 has column I and II filled out for Z-22. All other detection zones on attachment 15 N/A'd.

REQUIRED HANDOUT MATERIAL: SC-3.16.2.4

AVAILABLE FOLLOW-UP QUESTIONS:

FOLLOW-UP QUESTION REFERENCES:

OTHER:



CRITICAL STEP #	ELEMENT	STANDARD	S/U	FOR IN
		Initiating Cue: Shift Supervisor requests that Z-22 be reconnected per SC-3.16.2.4 Shift Supervisor received permission from Adams to reconnect and has verified an operability test is not required and no holds were placed on Z-22. Simulate only.		
1.0	Locate appropriate section of procedure.	Cue: Given student SC-3.16.2.4.		
2.0	Reviews Step 7.1 and notes following step 7.1.	Same as Element		
3.0	N/A's steps 7.2 and 7.3 and proceeds to Step 7.4.	Same as Element		
4.0	Opens cabinet door.	Same as Element. Sees yellow flashing light, switch in "off," tape on side of affected module.		
*5.0	Turn on disconnect switch for Z-22 and documents on Column III.	When "ON" get TRBL light and audio alarm Cue: Switch is on and is documented per element.		
6.0	N/A's steps 7.5 and 7.6.	Same as Element		
7.0	N/A's step 7.8 (step for Holding Fire System).	Same as Element		
8.0	Reset SSA			
*8.1	Depress alarm off and acknowledges trouble signal.	Cue: Alarm off button depressed. Alarm is silenced.		
*8.2	Operates reset switch for 4-5 seconds.	Same as Element		
*8.3	Verify system clear of alarms.	Cue: System free of alarms.		
*8.4	Release alarm off button.	Cue: Trouble light out.		
9.0	Reset of SSC.	Cue: SSC is free of alarms and trouble alarms.		
10.0	N/A's reset of SSC.	Same as Element		
11.0	Reset of SSB.			
*11.1	Depress alarm off button and acknowledges trouble signal.	Cue: Alarm off button depressed, trouble signal silent.		
*11.2	Holds lamp test switch in while operating reset switch on SSB for 4-5 seconds. Releases lamp test switch one second after release of reset switch.	Cue: System is free of alarms.		

*CRITICAL STEP #	ELEMENT	STAND	S/U	FO
*11.3	Release alarm off button.	Cue: Trouble light goes out.		
12.0	N/A steps 7.12 thru 7.17.	Same as Element		
13.0	Repeat reset if applicable.	Cue: Trouble light goes out.		
14.0	Initial appropriate attachment for Z-22.	Same as Element		
15.0	Remove tape by Z-22 on FCP1/FCP2.	Cue: Tape removed		
16.0	N/A's step 7.21 (verification of suppression, isolation valve open)	Same as Element		
17.0	Checks cabinet doors locked with trouble lights out.	Cue: Doors are locked, all trouble lights out.		
18.0	Initials equipment restored by	Same as Element		
19.0	Returns procedure to a licensed operator or knowledgeable fire and safety person for independent verification.	Cue: No further actions required.		