JP01

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

JPM BASIS INFORMATION

TASK: 1250440201 Perform Event Control Actions for a Control Room Fire

TASK STANDARD: Diesel Generator "B" supplying loads on PBB-S04

K/A:	4.2.068.AA1.10	K/A RATING:	RO:	3.7	SRO:	3.9
K/A:	4.2.068.AA1.31	K/A RATING:	RO:	3.9	SRO	4.0

APPLICABLE POSITION(S): AO/RO/SRO

VALIDATION TIME: 25 min. TIME CRITICAL - 15 MINUTES FROM THE TIME D/G "B" IS STARTED UNTIL SP "B" IS STARTED

REFERENCES: 40AO-9ZZ19, Control Room Fire

SUGGESTED TESTING ENVIRONMENT: SIMULATOR _____ PLANT X

***NOTE: Alternate path JPM**

***NOTE: Time Critical JPM**

APPROVAL

DEVELOPER: T. Stahler

REVISION DATE: 04/08/03

TECH REVIEW:

APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JP01

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

1. SIMULATOR SETUP:

A. IC# : N/A

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.		
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of Appendix E of 40AO-9ZZ19

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Vocalize the following items when simulating equipment operation.
  a. Condition / indication you would check to determine equipment status.
  b. Component you would operate indicating direction of travel.
  c. Expected change in indications as a result of operation.
- You may use any source of information normally available.

INITIATING CUE:

- **The control room has been evacuated due to a fire.**
- **There has been a loss of offsite power. No automatic start and loading of the Emergency Diesel Generators, or load shed has occurred.**
- **The CRS directs you to complete Appendix E of 40AO-9ZZ19 as the D/G AO to manually start and load the "B" Diesel Generator.**
- **Assume you have a portable lantern.**
- **This JPM contains a time critical element.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- The complete load shed and manual sequencing of loads will not be performed.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Supervisor of in-plant JPM performance.
- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Elements and Standards are met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.		• Direct the Lower Auxiliary Building Operator to Perform Appendix H, step 2.	Same as Element. **If Requested CUE:** Lower Auxiliary Building Operator reports Appendix H, step 2 has been completed.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Place the following Control Room Disconnect Switches in 'LOCAL' (100 ft Control Bldg Switchgear Room B).	Examinee simulates placing the following handswitches in the "local" position: **NOTE:** See CUE's below as switches are being manipulated.
		• PHB-M3209, Battery Charger D PKD-H14.	PHB-M3209, Battery Charger D PKD-H14 handswitch 'C' is in 'Local'
		• PHB-M3205, Control Room Circuits Disconnect Switches (4 switches).	PHB-M3205 is in 'Local' PHB-M3205 is in 'Local' PHB-M3205 is in 'Local' PHB-M3205 is in 'Local'
			If requested CUE: Evaluator may cue switches in "local" position either individually as manipulated, or as a group when complete.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
3.		Ensure that Both of the following breakers are open: • PHB-M3209, Battery Charger D PKD-H14 • PHB-M3210, To Voltage Regulator for 120VAC Vital Dist Panel PND-V28	Examinee simulates moving breaker switch to open.. **If requested cue:** • PHB-M3209 breaker is in open position; all lights are out. • PHB-M3210 breaker is in open position; all lights are out..

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.	*	Place all of the disconnects switches on DGB-C01, DG Disconnect cabinet in 'LOCAL' 100 ft Control Bldg Switchgear room B)	Examinee simulates placing the following handswitches in the "local" position: **If requested CUE: Evaluator may cue switches in "local" position either individually as manipulated, or as a group when complete.** J-DGB-HS-2A in local J-DGB-HS-2B in local E-PEB-HS-2 in local J-HDB-HS-14A in local J-DFB-HS-22C in local

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.	*	Ensure that the disconnect switches for ALL of the following breakers on PBB-S04 are in 'LOCAL'.	Examinee **simulates** placing the following handswitches in LOCAL:
		PBB-S04S	Disconnect (CS-3) in LOCAL **If requested CUE: PBB-S04S disconnect is in LOCAL**
		PBB-S04N	Disconnect (CS-3) in 'LOCAL'. **If requested CUE: PBB-S04N disconnect is in LOCAL.**
		PBB-S04M	Disconnect (CS-3) in LOCAL **If requested CUE: PBB-S04M disconnect is in LOCAL.**
		PBB-S04L	Disconnect (CS-3) in LOCAL. **If requested CUE: PBB-S04L disconnect is in LOCAL.**
		PBB-S04K	Disconnect (CS-3) in. **If requested CUE: PBB-S04K disconnect is in LOCAL.**
		PBB-S04J	Disconnect (CS-3) in LOCAL. **If requested CUE: PBB-S04J disconnect is in LOCAL.**
		PBB-S04H	Disconnect (CS-3) in LOCAL. **If requested CUE: PBB-S04H disconnect is in LOCAL.**
		PBB-S04G	Disconnect (CS-3) in LOCAL. **If requested CUE: PBB-S04G disconnect is in LOCAL.**
			Disconnect (CS-3) in LOCAL.

COMMENTS:

PBB-S04F	**If requested CUE: PBB-S04F disconnect is in LOCAL.**
PBB-S04C	Disconnect (CS-3) in LOCAL. **If requested CUE: PBB-S04C disconnect is in LOCAL.**
PBB-S04B	Disconnect (CS-3) in LOCAL. **If requested CUE: PBB-S04B disconnect is in LOCAL.**

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
6.	*	Ensure that ALL of the following breakers on PBB-S04 are open:	For any closed Breaker Examinee simulates turning the Local hand switch to Open.
		PBB-S04B	PBB-S04B Breaker is open. **If requested cue:** PBB-S04B Breaker Red Light off, Green Light on.
		PBB-S04C	PBB-S04C Breaker is open. **If requested cue:** PBB-S04C Breaker Red Light off, Green Light on.
		PBB-S04F	PBB-S04F Breaker is open. **If requested cue:** PBB-S04 F Breaker Red Light off, Green Light on.
		PBB-S04G	PBB-S04G Breaker is open. **If requested cue:** PBB-S04G Breaker Red Light off, Green Light on.
		PBB-S04K	PBB-S04K Breaker is open. **If requested cue:** PBB-S04K Breaker Red Light off, Green Light on.
		PBB-S04L	PBB-S04L Breaker is open. **If requested cue:** PBB-S04L Breaker Red Light off, Green Light on.
		PBB-S04M	PBB-S04M Breaker is open. **If requested cue:** PBB-S04M Breaker Red Light off, Green Light on.
		PBB-S04S	PBB-S04S Breaker is open. **If requested cue:** PBB-S04S Breaker Red Light off, Green Light on.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
7.	*	Place all of the following disconnect switches in 'LOCAL' • CS-2/B2 on PGB-L36B1 • CS-1/B2 on PGB-L34B1 • CS-1/B2 on PGB-L32B1 • CS-1/C4 on PGB-L32C1	Disconnect switches are placed in 'LOCAL' **If requested cue:** CS-2/B2 on PGB-L36B1 is in 'local' CS-1/B2 on PGB-L34B1 is in 'local' CS-1/B2 on PGB-L32B1 is in 'local' CS-1/C4 on PGB-L32C1 is in 'local'

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
8.	*	Open PGB-L32C4, Charging Pump 2 CHB-P01.	Examinee simulates opening PGB-L32C4 by depressing the stop pushbutton. **If requested cue:** PGB-L32C4: Green light is on and Red light is off.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
9.	*	Manually start D/G 'B' by pressing EMERGENCY START (SIMULATED LOP), DGB-HS-31, push button.	Examinee simulates starting 'B' D/G by depressing DGB-HS-31. **INFORM CUE: D/G 'B' started.** **NOTE:** Time critical portion starts here. START Time _____

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
10.		Check that Both of the following conditions for closing the DG Output Breaker are met: • Diesel Generator B voltage is 3740 – 4580 • Diesel Generator B frequency is 58.8-61.2 Hz.	Examinee identifies indication of Diesel Generator control cabinet. **INFORM CUE**: Diesel Generator B voltage is 4220 V; frequency is 60 Hz

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
11.	*	Close breaker PBB-S04B, Diesel Generator PEB-G02, using the local control switch.	Examinee simulates closing PBB-S04B. **INFORM CUE**: Nothing changed when Handswitch was taken to 'close'. PBB-S04B Green light is lit at normal brightness, Red light is out. **If Requested Cue:** All indicating lights indicate as you see them. (note: this cue should indicate to the examinee that there is not a DC control problem.) **If Requested Cue:** CRS directs you to manually close PBB-S04B.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
12.	*	If breaker PBB-S04B, Diesel Generator PEB-G02 will be closed manually, Then perform the following:	Note the indications for this step are located inside the breaker cubical. The evaluator may ask for a description of component locations or, with control room concurrence, locate components on the spare breaker.
		a) Check the closing spring indicates "CHGD"	**If Requested Cue:** The closing spring indicates charged.
		b) Press the 'MANUAL CLOSE' plunger for the breaker.	**If Requested Cue:** PBB-S04B Closed.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
13.	*	Start Spray Pond Pump 'B' by using control switch CS-1 at PBB-S04C.	Examinee simulates positioning 'local' breaker PBB-S04C CS-1 handswitch to START. **If requested CUE: PBB-S04C indicates Red light ON, green light OFF** **NOTE:** Spray pond pump must be started within 15 minutes following D/G start with no load. **NOTE:** TIME CRITICAL PORTION ENDS HERE. FINISH Time _____ Time recorded in step 9 till finish time must be less than 15 minutes. **INFORM CUE:** Another operator will complete this appendix.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JP01

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
2	10/10/96	6	New Format
3	10/11/96	3,6	More format changes per OTG-02
04	01/03/97	6	Task Standard Change
05	04/08/03	3	Procedure change.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

JP01

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- You may use any source of information normally available.

INITIATING CUE:

- **The control room has been evacuated due to a fire.**
- **There has been a loss of offsite power. No automatic start and loading of the Emergency Diesel Generators, or load shed has occurred.**
- **The CRS directs you to complete Appendix E of 40AO-9ZZ19 as the D/G AO to manually start and load the "B" Diesel Generator.**
- **Assume you have a portable lantern.**
- **This JPM contains a time critical element.**

SAFETY CONSIDERATIONS:

- None

JP02

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

JPM BASIS INFORMATION

TASK: 1100020401, Operate CEDMCS

TASK STANDARD: Transfer CEA's to the hold bus

K/A: 3.1.001.A2.14		K/A RATING:	RO: 3.7	SRO: 3.9	
K/A:		K/A RATING:	RO:	SRO:	
APPLICABLE POSITION(S):	RO/SRO	VALIDATION TIME:	15 minutes TIME CRITICAL – 10 MINUTES FROM THE TIME THE RCA IS ENTERED UNTIL THE CEA'S ARE PLACED ON THE HOLD BUS.		

REFERENCES: 40AL-9SF01 Local Alarm Panel J-SFN-C01D Responses

SUGGESTED TESTING ENVIRONMENT: SIMULATOR _____ PLANT X

***NOTE: Time Critical JPM**

APPROVAL

DEVELOPER:	W. Drey	TECH REVIEW:	
REVISION DATE:	7/13/00	APPROVAL:	

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JP02

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

1. SIMULATOR SETUP:

A. IC# : NA

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of 40AL-9SF01.

JP02

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Vocalize the following items when simulating equipment operation.
  a. Condition / indication you would check to determine equipment status.
  b. Component you would operate indicating direction of travel.
  c. Expected change in indications as a result of operation.
- You may use any source of information normally available.

INITIATING CUE:

- **With the plant at 100% power the control room has received a CEDMCS Trouble alarm. Continuous Gripper High Voltage is indicated. The CRS directs you to place the affected subgroup on the hold bus.**
- **This is a time critical JPM.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Comply with the REP. Do not enter contaminated, airborne, or high radiation areas. You may be required to discuss actions to be taken.

SAFETY CONSIDERATIONS:

- Proper personal protective equipment
- Slip/Fall hazard on stairways.
- Pinch points at doorways.
- Equipment is located in high noise areas.

STEP	ELEMENT	STANDARD
1.	Proceed to CEDMCS room and obtain alarm response procedure.	Examinee goes to CEDMCS room and obtains copy of 40AL-9SF01. TIME START: _____ **NOTE:** Start time is when examinee has entered the RCA.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
2.	Evaluate supervisory panels for alarms and indications.	Examinee evaluates local panel for indications and alarms. **INFORM CUE: When Examinee looks at SFN-C01C for subgroup 16 CUE: Red LED's 17 and 19 for continuous gripper high voltage on subgroup 16 are lit. No other LED's are lit.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
3.	Notify the Reactor Operator of the alarm.	Examinee contacts control room and notifies them of alarm. **INFORM CUE: Reactor Operator acknowledges communication and instructs you to continue with alarm response and place the affected subgroup on the hold bus.**

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
4.		Determine number of CEDM subgroups affected by checking for lit CGHV LED's on the bays of each cabinet where CEA subgroup power assemblies exist.	Examinee determines subgroup 16 is the only subgroup affected. **If requested CUE: No other LED's are lit.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
5.		It is determined that only one subgroup is affected.	Examinee determines only subgroup 16 is affected. **If requested CUE: CRS instructs you to place subgroup 16 on the hold bus IAW the alarm response procedure.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.	*	Notify the Reactor Operator to place CEDMCS in standby.	Examinee instructs RO to place CEDMCS in standby. **If requested CUE: RO acknowledges communication and reports CEDMCS is in standby.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.		Obtain keys for CEDMCS cabinet back panels and the Hold Bus panel.	Examinee obtains key. **INFORM CUE: Key is in Examinee's possession as Area 3.**

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
8.		Check that no other subgroups are on the Hold Bus.	Examinee determines that no other subgroups are on the hold bus. When examinee checks Hold Bus, **INFORM CUE: All subgroups (except for subgroup 16) lights are extinguished on the Hold Bus panel.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
9.	*	Unlock and open hold bus control panel.	Examinee unlocks and opens hold bus control panel. **When Requested CUE: Hold bus control panel is open.**

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
10.		Check for Hold Bus voltage of greater than 50 volts.	Examinee simulates verifying Hold Bus voltage greater than 50 volts. When Hold Bus voltage is checked, **If requested CUE: Hold Bus voltage 70 VDC.**

SAT UNSAT (UNSAT requires comments)

STEP		ELEMENT	STANDARD
11.	*	Select subgroup 16 by adjusting the SG/SEL thumbwheel to 16.	Examinee selects subgroup 16 on the SG/SEL thumbwheel. **If Requested CUE: SG/SEL thumbwheel indicates 16.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
12.	*	Operate transfer switch to latch the subgroup selected.	Examinee simulates placing transfer switch in transfer position and notes red "Transfer" light illuminates as well as the affected subgroup light. **If Requested CUE: Transfer switch is in the transfer position. Transfer light and subgroup 16 lights are illuminated.**

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
13.	*	One at a time, open the four individual CEA breakers on the appropriate Subgroup Power Switch Assembly for the Subgroup that was placed on the Hold Bus. Verify the correct breaker is opened by ensuring no CEA's drop.	Examinee simulates opening the following breakers and verifies with the Control Room that no CEA's drop. • XESFNCEA55 • XESFNCEA58 • XESFNCEA61 • XESFNCEA64 **When Requested CUE: No CEA's drop.** End Time _____ **CEA's must be transferred to hold bus within 10 minutes .** **NOTE:** End time is when final breaker is open.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
14.	Notify the Reactor Operator that subgroup 16 is on the Hold Bus.	Examinee notifies RO that subgroup 16 is on the Hold Bus. **INFORM CUE: Another AO will investigate the problem with I&C assistance.**

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JP02

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	7/13/00	6	New JPM

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

JP02

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Vocalize the following items when simulating equipment operation.
  d. Condition / indication you would check to determine equipment status.
  e. Component you would operate indicating direction of travel.
  f. Expected change in indications as a result of operation.
- You may use any source of information normally available.

INITIATING CUE:

- **With the plant at 100% power the control room has received a CEDMCS Trouble alarm. Continuous Gripper High Voltage is indicated. The CRS directs you to place the affected subgroup on the hold bus.**
- **This is a time critical JPM.**

SAFETY CONSIDERATIONS:

- Proper personal protective equipment
- Slip/Fall hazard on stairways.
- Pinch points at doorways.
- Equipment is located in high noise areas.

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

JPM BASIS INFORMATION

TASK: 1250270201 Establish Control of the Plant at the Remote Shutdown Panels
TASK STANDARD: SG levels are being maintained at 35 - 80% WR using AFA.
K/A: 4.2.068.AA1.02 K/A RATING: RO: 4.3 SRO: 4.5
APPLICABLE POSITION(S): RO VALIDATION TIME: 10 min
REFERENCES: 40AO-9ZZ18, Shutdown Outside Control Room
SUGGESTED TESTING ENVIRONMENT: SIMULATOR _____ PLANT X

APPROVAL

DEVELOPER: P. Capehart TECH REVIEW:
REVISION DATE: 10/16/98 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

1. SIMULATOR SETUP:

A. IC# : NA

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of Appendix E of 40AO-9ZZ18

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Vocalize the following items when simulating equipment operation.
  a. Condition / indication you would check to determine equipment status.
  b. Component you would operate indicating direction of travel.
  c. Expected change in indications as a result of operation.
- You may use any source of information normally available.

INITIATING CUE:

- **The Control Room is evacuated due to a bomb threat.**
- **"B" train Class Auxiliary Feed Pump (AFB-P01) is under clearance and unavailable.**
- **The CRS directs you to start the "A" train Class Auxiliary Feed Pump (AFA-PO1), and maintain steam generator levels between 35 and 80% WR in accordance with 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.**
- **Current level in both steam generators is 25% WR**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- Slip/Fall hazard on stairways
- Pinch points at doorways
- Equipment may auto start at any time
- Equipment is located in high noise areas
- Hot piping and components are located within the JPM performance area.

STEP		ELEMENT	STANDARD
1.		Obtain procedure 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.	Examinee obtains procedure 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Adjust AFA-SK-52B , AFA speed to minimum	Examinee simulates adjusting speed to minimum **If requested CUE: Speed is at minimum**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	Place AFA-HS-52A, speed control transfer, to the remote shutdown position.	Examinee simulates putting AFA-HS-52A, speed control transfer to the remote shutdown position **If requested CUE: AFA-HS-52A is in the "Remote Shutdown" position**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.	*	Open one of the following steam supply valves • SGA-UV-134 • SGA-UV-138	Examinee simulates opening one of the valves. **If requested CUE: SGA-UV-134B <u>or</u> SGA-UV-138B is open.** **NOTE:** Either valve is acceptable.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.	*	Adjust turbine speed using AFA-SK-52B to 3590 -3600 rpm for Unit's 1 & 3, 3560-3570 for Unit 2.	Examinee simulates adjusting turbine speed using AFA-SK-52B to 3590 - 3600 rpm.. **If requested CUE: Speed is 3600 rpm (if on Unit 1 or 3) Speed is 3570 rpm (if on Unit 2).**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.	*	Open both of the following AFW pump A to SG down stream valves: • AFA-UV-37 • AFC-UV-36	Examinee simulates placing handswitches to OPEN. **If requested CUE: AFA-UV-37 and AFC-UV-36 have the red light on and the green light off.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.	*	Maintain SG levels at 35 - 80% WR by opening the following valves: • AFA-UV-32 • AFC-UV-33	Examinee simulates placing handswitches to OPEN and establishes AFW flow to SGs. **NOTE:** S/G levels are indicated on "B" Train. **INFORM CUE: Feed flow to SG 1 and SG 2 using AFW Pump "A" is 250 GPM.** **INFORM CUE: SG 1 and SG 2 level is being maintained between 35 – 80% WR**

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
14	09/24/96	6	New Format
15	11/07/97	3	New procedure changed steps
16	01/21/98	6	Update step 6
17	05/08/98	6	Update Task Statement
18	10/16/98	6	Updated step 4 to include Unit difference and to correct administrative items.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Vocalize the following items when simulating equipment operation.
    a. Condition / indication you would check to determine equipment status.
    b. Component you would operate indicating direction of travel.
    c. Expected change in indications as a result of operation.
- You may use any source of information normally available.

INITIATING CUE:

- **The Control Room is evacuated due to a bomb threat.**
- **"B" Train Class Auxiliary Feed Pump (AFB-P01) is under clearance and is unavailable.**
- **The CRS directs you to start the "A" Train Class Auxiliary Feed Pump (AFA-PO1), and maintain steam generator levels between 35 and 80% WR in accordance with 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.**
- **Current level in both steam generators is 25% WR**

SAFETY CONSIDERATIONS:

- None

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

JPM BASIS INFORMATION

TASK: 1250270201 Establish Control of the Plant at the Remote Shutdown Panels
TASK STANDARD: SG levels are being maintained at 35 - 80% WR using AFA.
K/A: 4.2.068.AA1.02 K/A RATING: RO: 4.3 SRO: 4.5
APPLICABLE POSITION(S): RO VALIDATION TIME: 10 min
REFERENCES: 40AO-9ZZ18, Shutdown Outside Control Room
SUGGESTED TESTING ENVIRONMENT: SIMULATOR _____ PLANT X

APPROVAL

DEVELOPER: P. Capehart TECH REVIEW:
REVISION DATE: 10/16/98 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

1. SIMULATOR SETUP:

A. IC# : NA

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of Appendix E of 40AO-9ZZ18

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Vocalize the following items when simulating equipment operation.
  a. Condition / indication you would check to determine equipment status.
  b. Component you would operate indicating direction of travel.
  c. Expected change in indications as a result of operation.
- You may use any source of information normally available.

INITIATING CUE:

- **The Control Room is evacuated due to a bomb threat.**
- **"B" train Class Auxiliary Feed Pump (AFB-P01) is under clearance and unavailable.**
- **The CRS directs you to start the "A" train Class Auxiliary Feed Pump (AFA-PO1), and maintain steam generator levels between 35 and 80% WR in accordance with 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.**
- **Current level in both steam generators is 25% WR**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- Slip/Fall hazard on stairways
- Pinch points at doorways
- Equipment may auto start at any time
- Equipment is located in high noise areas
- Hot piping and components are located within the JPM performance area.

STEP		ELEMENT	STANDARD
1.		Obtain procedure 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.	Examinee obtains procedure 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Adjust AFA-SK-52B , AFA speed to minimum	Examinee simulates adjusting speed to minimum **If requested CUE: Speed is at minimum**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	Place AFA-HS-52A, speed control transfer, to the remote shutdown position.	Examinee simulates putting AFA-HS-52A, speed control transfer to the remote shutdown position **If requested CUE: AFA-HS-52A is in the "Remote Shutdown" position**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.	*	Open one of the following steam supply valves • SGA-UV-134 • SGA-UV-138	Examinee simulates opening one of the valves. **If requested CUE: SGA-UV-134B <u>or</u> SGA-UV-138B is open.** **NOTE:** Either valve is acceptable.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.	*	Adjust turbine speed using AFA-SK-52B to 3590 -3600 rpm for Unit's 1 & 3, 3560-3570 for Unit 2.	Examinee simulates adjusting turbine speed using AFA-SK-52B to 3590 - 3600 rpm.. **If requested CUE: Speed is 3600 rpm (if on Unit 1 or 3) Speed is 3570 rpm (if on Unit 2).**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.	*	Open both of the following AFW pump A to SG down stream valves: • AFA-UV-37 • AFC-UV-36	Examinee simulates placing handswitches to OPEN. **If requested CUE: AFA-UV-37 and AFC-UV-36 have the red light on and the green light off.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.	*	Maintain SG levels at 35 - 80% WR by opening the following valves: • AFA-UV-32 • AFC-UV-33	Examinee simulates placing handswitches to OPEN and establishes AFW flow to SGs. **NOTE:** S/G levels are indicated on "B" Train. **INFORM CUE: Feed flow to SG 1 and SG 2 using AFW Pump "A" is 250 GPM.** **INFORM CUE: SG 1 and SG 2 level is being maintained between 35 – 80% WR**

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
14	09/24/96	6	New Format
15	11/07/97	3	New procedure changed steps
16	01/21/98	6	Update step 6
17	05/08/98	6	Update Task Statement
18	10/16/98	6	Updated step 4 to include Unit difference and to correct administrative items.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

JP03

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Vocalize the following items when simulating equipment operation.
    a. Condition / indication you would check to determine equipment status.
    b. Component you would operate indicating direction of travel.
    c. Expected change in indications as a result of operation.
- You may use any source of information normally available.

INITIATING CUE:

- **The Control Room is evacuated due to a bomb threat.**
- **"B" Train Class Auxiliary Feed Pump (AFB-P01) is under clearance and is unavailable.**
- **The CRS directs you to start the "A" Train Class Auxiliary Feed Pump (AFA-PO1), and maintain steam generator levels between 35 and 80% WR in accordance with 40AO-9ZZ18, Shutdown Outside the Control Room, Appendix E.**
- **Current level in both steam generators is 25% WR**

SAFETY CONSIDERATIONS:

- None

JS01

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

JPM BASIS INFORMATION

TASK: 1250010301 Respond to a condition requiring emergency boration instructions and contingencies.

TASK STANDARD: In order to Emergency Borate, operate HPSI pumps in lieu of Charging pumps.

K/A: 4.2.024.AK3.02 K/A RATING: RO: 4.2 SRO: 4.4

K/A: K/A RATING: RO: SRO:

APPLICABLE POSITION(S): RO VALIDATION TIME: 15 min

REFERENCES: 40AO-9ZZ01, Emergency Boration

SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

***NOTE: Alternate Path JPM**

APPROVAL

DEVELOPER: T. Stahler TECH REVIEW:

REVISION DATE: 4/15/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____

(print)

EVALUATOR NAME: _____

(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JS01

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

1. SIMULATOR SETUP:

A. IC# : 4 Mode 5

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	RST 4	Reset to IC-4 Mode 5
2.	MRF B302:CHBP01 Rack_Out	'B' Charging Racked Out
3.	MRF B302:CHEP01 Rack_Out	'E' Charging Racked Out
4.	**When** CHN-UV-501 is closed: **Then:** IMF DP06:CHAP01.	Charging Pump 'A' trips.

C. SPECIAL INSTRUCTIONS:

- Perform events 1,2,3.
- Place Charging Pumps 'B' & 'E' in Pull-To-Lock.
- ACK any alarms.
- FREEZE Simulator.
- Provide Initiating Cue.
- Go to RUN on Simulator.
- IMF DP06:CHAP01 at appropriate time during JPM. (after CHN-UV-501 is closed)

D. REQUIRED CONDITIONS:

- 'B' & 'E' Charging Pumps inoperable
- 'A' Charging Pump running
- 'B' HPSI pump available. (breaker indicating lights on)
- 'A' HPSI is unavailable. (breaker indicating lights are out)

2. SPECIAL TOOLS/EQUIPMENT:

- None

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available.

INITIATING CUE:

- **The unit is in Mode 5 with 'B' LPSI on Shutdown cooling.**
- **An "Emergency Boration" due to inadequate shutdown margin is required.**
- **Charging pumps B&E are inoperable.**

The CRS directs you to Emergency Borate per 40AO-9ZZ01, Section 3 Emergency Boration.

- **Inform the CRS when adequate flow is established.**

SAFETY CONSIDERATIONS:

- None

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.

SAFETY CONSIDERATIONS:

- None

STEP	ELEMENT	STANDARD
1.	Obtains 40AO-9ZZ01, Emergency Boration and refers to section 3 Emergency Boration.	Correct procedure referenced.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
2.	Check that a Charging Pump is available for Emergency Boration.	'A' Charging Pump is running.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
3.	Check Both of the following: • RWT level is greater than 73% • RWT is available for Emergency Boration	RWT level is approximately 90%. **IF REQUESTED CUE:** The CRS has determined that the RWT is available for Emergency Boration.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
4.	*	Perform the following to align CHN-HV-536, RWT to Charging Pump Suction: • Refer to Appendix F, Simplified Drawings for a basic flow view. • Ensure the BAMP(s) are stopped • Open CHE-HV-536. • Close CHN-UV-501, Volume Control Tank Outlet.	BAMP(s) are off. Examinee Opens CHE-HV-536. Examinee Closes CHN-UV-501

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
5.	Ensure CHN-UV-527, VCT Bypass, is closed.	Examinee checks CHN-UV-527 Closed. Note: Charging Pump 'A' will trip during this step or at the end of the previous step.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
6.	Charging pump 'A' trip.	The examinee acknowledges the 'A' Charging Pump trip. INFORM CUE: The CRS has assigned another operator to investigate the Charging Pump Trip. The CRS directs you to establish Emergency Boration to the RCS.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP	ELEMENT	STANDARD
7.	Examinee reevaluates step 1. With no Charging Pumps now available he goes to section 4 HPSI Pump.	Examinee goes to HPSI Pump, section 4.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
8.	Refer to Appendix F, simplified Drawings for a basic flow view.	May refer to Appendix. **Inform Cue: CRS directs using 'B' HPSI pump.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
9.	Check that the HPSI 'B' Pump breaker is racked in.	HPSI 'B' Pump has breaker indication on the control board. **If Requested Cue:** HPSI 'B' Pump breaker is Racked in.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
10.	Check that the HPSI 'B' pump lockout relay is reset.	Normal green indication at breaker indication **If Requested Cue:** HPSI Pump Lockout relay is reset.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP	ELEMENT	STANDARD
11.	Check that the HPSI 'B' Pump UC fuses are 'ON'	Normal green indication at breaker indication. **If Requested Cue:** HPSI Pump breaker UC fuses are in the 'ON' position.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
12.	If HPSI Pump 'B' will be used for emergency boration. Then perform the following: a) Ensure all of the following valves are closed: • SIB-UV-668, LPSI Pump B Miniflow Recirc. • SIB-UV-665, CS Pump B Miniflow Recirc. • SIB-HV-609, HPSI Pump B Long Term Recirc Isolation. • All Train 'B' HPSI Cold Leg Injection Valves.	Examinee closes SIB-UV-665. All other valves are verified CLOSED.
	b) Ensure ALL of the following valves are open: • CHB-HV-530, RWT to Train B Safety Injection. • SIB-UV-667, HPSI Pump B Miniflow recirc. • SIB-UV-659,Train B Pumps Combined Recirc.	All valves are verified OPEN.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
13.	*	Start The appropriate HPSI Pump	Examinee starts HPSI pump 'B'

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
14.	*	Throttle open one of the HPSI Cold Leg Injection Valves to obtain 75 gpm or more.	Flow of greater than 75 GPM established through a 'B' train HPSI Cold Leg Injection Valve. **NOTE**: Approx. 50% valve position will give flowrate of between 75 - 100 gpm. **NOTE:** From Initiating cue, the examinee should inform the CRS Emergency Boration Flow is established at this point. **Inform Cue: Another RO will complete the remaining actions.**

SAT UNSAT (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JS01

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
12	05/30/97	6	New Format
13	04/15/03	6	New Format/revised CUES

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available.

INITIATING CUE:

- **The unit is in Mode 5 with 'B' LPSI on Shutdown cooling.**
- **An "Emergency Boration" due to inadequate shutdown margin is required.**
- **Charging pumps B&E are inoperable.**

The CRS directs you to Emergency Borate per 40AO-9ZZ01, Section 3 Emergency Boration.

- **Inform the CRS when adequate flow is established.**

SAFETY CONSIDERATIONS:

- None

JS02

PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1240021701 Direct Containment Hydrogen Control

TASK STANDARD: 'B' Hydrogen Recombiner Control Board Alignment completed, AO directed to start recombiner 'B'

K/A: 3.5.028.A4.03 K/A RATING: RO: 3.1 SRO: 3.3

K/A: K/A RATING: RO: SRO:

APPLICABLE POSITION(S): RO/SRO VALIDATION TIME: 10 min

REFERENCES: 40EP-9EO10, Standard Appendices, Appendix 19

SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: T. Stahler TECH REVIEW:

REVISION DATE: 4/15/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#: 20

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.		
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- Go to run on simulator. (if being performed with other JPM's simultaneously, the following actions are not required.)
- IMF th01a at 3%
- Secure RCPs
- Allow CSAS to actuate. (Run time about 4 minutes)
- Acknowledge alarms.
- FREEZE simulator.
- Provide initiating CUE
- Go to RUN on simulator

D. REQUIRED CONDITIONS:

- RCS LOCA.
- RCPs secured.
- CSAS actuated.

2. SPECIAL TOOLS/EQUIPMENT:

- none

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **A Reactor Trip due to a Large LOCA has occurred**
- **You are in Unit 1 Control Room.**

The Control Room Supervisor has directed you to place the Hydrogen Recombiner "B" in service using 40EP-9EO10, Standard Appendix 19.

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.		Determine need to perform Attachment 19-E.	From initiating cue Examinee goes to Attachment 19-E. **If Requested Cue:** Purge Exhaust is not desired.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.		Inform Radiation Protection that Recombiner "B" is being aligned for use.	Radiation Protection informed of Recombiner "B" use. **When requested CUE: RP has been informed.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	Request that I&C Maintenance perform Attachment 19-G.	I&C Maintenance requested to perform Attachment 19-G. **When requested CUE: I&C has been informed and Attachment 19-G has been completed.**

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
4.	*	Direct an operator to perform Attachment 19-F.	Operator directed to perform Attachment 19-F. **When requested CUE: Attachment 19-F has been completed. The AO reports Recombiner "B" is ready to start.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
5.	WHEN all of the following conditions are met: • Attachment 19-G is complete. • The operator performing Attachment 19-F has reported that Recombiner B is ready to Start. THEN Inform the CRS that Recombiner B is ready for operation.	Examinee informs CRS. **If Requested Cue:** The CRS directs starting Recombiner B.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
6.	Inform RP that Recombiner B will be started.	Examinee informs RP. **If Requested:** RP acknowledges Recombiner will be started.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.	*	Open HPB-UV-2, Control System "B" Supply Isolation valve.	Examinee overrides and opens HPB-UV-2.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
8.	*	Open HPB-UV-4, Control System "B" to Recombiner Isolation Valve.	Examinee overrides and opens HPB-UV-4..

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
9.	*	Open HPB-UV-6, Control System "B" From Recombiner Isolation Valve.	Examinee overrides and opens HPB-UV-6.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
10.	*	Direct the Operator to start Recombiner "B".	Operator directed to start Recombiner "B". **If requested CUE: The Recombiner "B" has been started.**

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
7	10/10/96	6	New Format
8	10/11/96	6	More format changes per OTG-02
9	4/15/03	3	Minor enhancements

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
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6. Other (explain in comments)

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **A Reactor Trip due to a Large LOCA has occurred**
- **You are in Unit 1 Control Room.**

The Control Room Supervisor has directed you to place the Hydrogen Recombiner "B" in service using 40EP-9EO10, Standard Appendix 19.

SAFETY CONSIDERATIONS:

- None

Task JS03

PVNGS JOB PERFORMANCE MEASURE

NRC 2003

JPM BASIS INFORMATION

TASK: 1250800201 Unload the Turbine Rapidly as Directed By ECC.
TASK STANDARD: Completes Appendix A Steps 1-9.
K/A: 3.4.045.A4.02 K/A RATING: RO: 2.7 SRO: 2.6
APPLICABLE POSITION(S): RO VALIDATION TIME: 15 minutes
REFERENCES: 40AO-9ZZ25 ECC Directed Turbine Unloading, Rev. 3
SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: T Stahler TECH REVIEW:
REVISION DATE: 04/01/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

Task JS03

PVNGS JOB PERFORMANCE MEASURE

NRC 2003

1. SIMULATOR SETUP:

A. IC# : 20

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	None	
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- Simulator in Run
- Acknowledge alarms

D. REQUIRED CONDITIONS:

- Verify Main Generator Gross MW at about 1320 MW on ERFDADS point MAJ1.

2. SPECIAL TOOLS/EQUIPMENT:

- none

Task JS03

PVNGS JOB PERFORMANCE MEASURE

NRC 2003

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available.

INITIATING CUE:

The following plant conditions exist:

- **You are in Unit 1.**
- **Reactor Power is 100%.**
- **ECC just requested that Palo Verde reduce generator output.**

The CRS directs you to align the unit to prepare for turbine unloading using

40AO-9ZZ25 Appendix A steps 1 through 9.

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.

SAFETY CONSIDERATIONS:

- None

STEP	ELEMENT	STANDARD
1.	Candidate refers to 40AO-9ZZ25 Appendix A.	Obtains 40AO-9ZZ25 Appendix A.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
2.	Inform Chemistry of the intention to dump steam to the condenser.	Contacts chemistry. **If Requested CUE:** Chemistry acknowledges intention to dump steam to the condenser.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
3.	Record Main Generator Gross MW.	Records valid Main Generator Gross MW. IC 20 reads approximately 1320 MW **If Requested CUE:** CRS directs using ERFDADS/PMS point MAJ1.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
4.	Record position of the Load Limit Potentiometer.	Records position. Note: Load Limit Potentiometer reads approximately 7.72 in IC 20.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.		Override and energize pressurizer backup heaters.	Examinee energizes all pressurizer backup heaters. **If Requested CUE:** CRS directs energizing all pressurizer backup heaters.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.		Lower the setpoint on RCN-PIC-100, Pressurizer Pressure Controller to 2220 psia.	Setpoint lowered. Main Spray valve modulate open slightly.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.	*	Place CEDMCS in a mode other than Auto Sequential.	CEDMCS removed from Auto Sequential. **If Requested CUE:** CRS concurs with any recommended position or directs Manual Sequential.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
8.	*	Place SGN-PIC-1010, SBCS Master Control in Local Auto.	Examinee places SGN-PIC-1010 to Local Auto.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
9.	*	Lower the Local Auto setpoint (black pen) on SGN-PIC-1010, SBCS Master to 20 PSIG above the indicated actual pressure(red pen).	Black pen is set to approximately 1005 psig in IC 20. Note: Critical nature of step is to lower set-point to less than auto setpoint (black and white pen) and above system pressure (as verified by SGN-PV-1001 remaining closed when given a permissive in the following step).

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
10.	*	Give both of the following a Manual Permissive: SGN-PV-1001, Valve 1 SGN-PV-1004, Valve 4	Examinee places both valves in Manual Permissive. Both valves should remain closed.

SAT UNSAT (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

Task JS03

PVNGS JOB PERFORMANCE MEASURE

NRC 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	04/01/03	6	New JPM

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

Task JS03

PVNGS JOB PERFORMANCE MEASURE

NRC 2003

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

The following plant conditions exist:

- **You are in Unit 1.**
- **Reactor Power is 100%.**
- **ECC just requested that Palo Verde reduce generator output.**

The CRS directs you to align the unit to prepare for turbine unloading using 40AO-9ZZ25 Appendix A steps 1 through 9.

SAFETY CONSIDERATIONS:

- None

JS04

PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 0100010401 Operate the Pressurizer Pressure Control System
TASK STANDARD: Pressurizer pressure restored to 2250 ± 25 psia
K/A: 4.2.027.A1.01 K/A RATING: RO: **4.0** SRO: **3.9**
APPLICABLE POSITION(S): RO/SRO VALIDATION TIME: 10 Minutes
REFERENCES: 40AL-9RK4A, Panel B04A Alarm Responses
SUGGESTED TESTING ENVIRONMENT: SIMULATOR XX PLANT _____
***NOTE: ALTERNATE PATH JPM**

APPROVAL

DEVELOPER: L. Wilhelm TECH REVIEW:
REVISION DATE: 06/18/02 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#: Any normal operating pressure IC (IC 20 preferred).

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	IMF RC02A 0	Fails Pressurizer Spray Valve 100E Closed
2.	IMF RC02B 0	Fails Pressurizer Spray Valve 100F Closed
3.	IOR ZDRCNHS100 ASIS	Fails PPCS selector switch to the "X" position
4.	IMF TR01:RCNPT100X 1500	Fails Pressurizer Pressure Control Channel "X" to 1500 psia

C. SPECIAL INSTRUCTIONS:

- Reset to any normal operating pressure IC (IC 20 preferred).
- Go to run on the SIM.
- Ensure PPCS on channel X.
- Insert the Malfunctions and Overrides
- Acknowledge alarms and FRZ the SIM when PZR pressure is > 2285 psia and the Pressurizer pressure alarm is in.
- Provide initiating CUE and go to RUN.

D. REQUIRED CONDITIONS:

- RCS Pressure > 2285 psia
- Pressurizer Spray Valves RCE-100E and 100F are failed Closed
- Pressurizer Pressure RCN-PT100X is fail to 1500 psia.

2. SPECIAL TOOLS/EQUIPMENT:

- NONE

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **Pressurizer Pressure is >2285 psia and increasing.**
- **The CRS directs you to restore pressurizer pressure to 2250 psia, in accordance with 40AL-9RK4A Window 4A01B.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- NOTE: Alternate Path JPM
- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Supervisor of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- NONE

STEP		ELEMENT	STANDARD
1.		Obtain Annunciator Alarm Response Manual 40AL-9RK4A, Window 4A01B, Group B.	Examinee obtains 40AL-9RK4A. Goes to 4A01B Group B for PZR PRESS High.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Trip reactor if high pressure trip is impending (≥ 2383 psia) and proceed to 40EP-9EO01.	Examinee determines Pressurizer Pressure < 2383 psia. TERMINATE JPM, IF REACTOR IS TRIPPED. JPM would be UNSAT.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.		Verify pressurizer pressure high alarm by observing RCN-PIC-100X and/or RCN-PIC-100Y on recorder RCN-PR-100 (B04).	Examinee determines actual high pressure condition exists.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.		Verify controlling channel transmitter has not failed.	Examinee determines CH "X" is inaccurate.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.		Switch to unaffected channel using RCN-HS-100.	Examinee selects Channel "Y " **NOTE:** Will have no affect due to switch failure.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.		Manually initiate pressurizer spray flow using RCN-PIK-100, Pressurizer Spray Control to reduce pressure to normal band.	Examinee determines normal spray doesn't respond.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.	*	Initiates Aux Spray to reduce RCS pressure to normal band using CHA-HS-205 and/or CHB-HS-203 on B03.	Examinee initiates Aux Spray Flow and observes pressure lowering.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
8.	*	Stops Aux Spray when pressure is approximately 2250 psia..	Examinee secures Aux Spray Flow and observes pressure stabilizing then slowing increasing at approximately 2250 psia. **Note:** Step 9 may be performed prior to step 8.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP	ELEMENT	STANDARD
9.	Deenergize Pressurizer Heaters as required to limit pressure increases.	De-energize Pressurizer heaters as required to limit pressure increases. When Pressurizer Pressure is controlled at approximately 2250 PSIA: **INFORM CUE: Another RO will take actions to maintain Pressurizer Pressure at approximately 2250 PSIA.**

SAT UNSAT (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
13	07/25/96	3,6	New Format per OTG-02
14	10/10/96	6	More Format changes per OTG-02
15	06/18/02	3	Procedure revised

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **Pressurizer Pressure is >2285 psia and increasing.**
- **The CRS directs you to restore pressurizer pressure to 2250 psia, in accordance with 40AL-9RK4A Window 4A01B.**

JS05

PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 0780031301, Transfer 13.8KV bus S01 From 13.8KV Bus S03 to the Unit Auxiliary Transformer MAN-X02

TASK STANDARD: Transfers 13.8KV bus S01 From 13.8KV Bus S03 to the Unit Auxiliary Transformer MAN-X02

K/A: 3.6.062.K1.04 K/A RATING: RO: **3.7** SRO: **4.2**

APPLICABLE POSITION(S): RO/SRO VALIDATION TIME: 15 Minutes

REFERENCES: 41OP-1NA01, 13.8KV Electrical System (NA)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: T. Stahler TECH REVIEW:

REVISION DATE: 05/14/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

1. SIMULATOR SETUP:

A. IC#: 20 or any IC with the Main Generator on line at ≥ 20%

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	None	

C. SPECIAL INSTRUCTIONS:

- Go to RUN on Simulator; ensure Main Generator on line at ≥ 20%.
- Ensure NAN-S01 and S02 are transferred to S03 and S04 respectively, then acknowledge alarms.
- FREEZE Simulator and provide initiating cue.
- Go to RUN on Simulator.

D. REQUIRED CONDITIONS:

- Main Generator on line at ≥ 20%; NAN-S01 and S02 are powered from offsite power

2. SPECIAL TOOLS/EQUIPMENT:

- None

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **The Unit's power is being supplied from offsite power (startup transformers).**
- **The CRS directs you to transfer Unit loads to the Unit Auxiliary Transformer MAN-X02 in accordance with 40OP-9NA03.**
- **All prerequisites have been performed.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.		Obtain procedure 40OP-9NA03 and goes to section 4.8 or section 4.9.	40OP-9NA03 obtained. **Note:** If examinee goes to section 4.9 first, then start at JPM step 8.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Turn the Synch Switch for 13.8KV Bus NAN-S01 Supply Breaker, NAN-SS-S01A to ON, and check for proper synchronization.	Examinee places synch switch NAN-SS-S01A to ON and verifies proper synchronization.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	Close the 13.8 KV Bus NAN-S01 Supply Breaker, NAN-S01A by turning handswitch NAN-HS-S01A to CLOSE.	NAN-S01A is closed.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.		Check that the 13.8KV Bus NAN-S03-1S01 Supply Breaker, NAN-S03B, automatically opens when handswitch NAN-HS-S01A is released.	Examinee verifies NAN-S03B opens when NAN-HS-S01A is released.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.		Check that 13.8KV Bus NAN-S01 voltage is between 12.42 - 14.49KV.	Examinee verifies voltage between 12.42 and 14.49 KV.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.		Turn Synch Switch for 13.8KV Bus NAN-S01 Supply Breaker, NAN-SS-S01A to OFF.	NAN-SS-S01A is placed to off. Key removed.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.		Evaluate need to perform Appendix D.	Examinee evaluates the step as N/A. Only one unit off Start-up Transformers X03Z and X01Y.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
8.	*	Turn Synch Switch for 13.8KV Bus NAN-S02 Supply Breaker, NAN-SS-S02A to ON and check for proper synchronization.	Examinee places NAN-SS-S02A to ON and verifies proper synchronization.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
9.	*	Close the 13.8 KV Bus NAN-S02 Supply Breaker, NAN-S02A by turning handswitch NAN-HS-S02A to CLOSE.	NAN-S02A is closed.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP	ELEMENT	STANDARD
10.	Check that the 13.8KV Bus NAN-S04 – NAN-S02 Supply Breaker NAN-S04B, automatically opens when handswitch NAN-HS-S02A is released.	Examinee verifies NAN-S04B automatically opens when NAN-HS-S02A is released.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
11.	Check that 13.8KV Bus NAN-S02 Voltage is between 12.42 - 14.49 KV.	Examinee verifies voltage between 12.42 and 14.49KV.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
12.	Turn Synch Switch for 13.8KV Bus NAN-S02 Supply Breaker, NAN-SS-S02A to OFF.	NAN-SS-S02A is placed to OFF.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
13.	Evaluate need to perform Appendix D.	Examinee evaluates the step as N/A. Only one unit off Start-up Transformers MAN-X02Y and MAN-X01Z.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
12	07/25/96	3	OTG-02
13	10/15/96	6	New format per OTG-02
14	07/14/98	6	Changed a few Inform CUE's to If Requested Steps 6 and 11
15	07/24/98	6	Typo corrections and added information to Initiating CUE
16	10/13/98	6	Correct K & A reference and administrative items.
17	06/07/01	3	Ensure JPM steps comply with procedure
18	06/18/02	3	Procedure revised
19	04/16/03	6	Removed if requested cues.
20	5/14/03	3	Added evaluation if Appendix D needs to be performed.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **The Unit's power is being supplied from offsite power (startup transformers).**
- **The CRS directs you to transfer Unit loads to the Unit Auxiliary Transformer MAN-X02 in accordance with 40OP-9NA03.**
- **All prerequisites have been performed.**

SAFETY CONSIDERATIONS:

- None

1

JS06

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

JPM BASIS INFORMATION

TASK: 1030011001 Place BOP ESFAS modules in Bypass
TASK STANDARD: FBEVAS 'A' BOP ESFAS module is in Bypass.
K/A: 3.7.016.A4.01 K/A RATING: RO: 3.9 SRO: 2.8
APPLICABLE POSITION(S): RO VALIDATION TIME: 15 minutes
REFERENCES: 40OP-9SA01, BOP ESFAS Modules Operation.
SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: T Stahler TECH REVIEW:
REVISION DATE: 04/01/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JS06

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

1. SIMULATOR SETUP:

A. IC# : 20

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	.	
2.		

C. SPECIAL INSTRUCTIONS:

- Simulator in Run
- Place FBEVAS 'B' in bypass.
- Acknowledge alarms.
- Acknowledge BOP ESFAS alarms on B05 as they come in

D. REQUIRED CONDITIONS:

- FBEVAS 'B' is in bypass
- Lamp test both BOP ESFAS panels and replace any burnt out bulbs.

2. SPECIAL TOOLS/EQUIPMENT:

- None

JS06

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

The following plant conditions exist:

- **The CRS has directed you to place BOP ESFAS FBEVAS 'A' in bypass in accordance with 40OP-9SA01 SECTION 4.6, due to RU-31 power supply degradation.**
- **Prerequisites have <u>NOT</u> been performed.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Supervisor of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- None

JS06

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

STEP	ELEMENT	STANDARD
1.	Perform prerequisites	Permission given in initiating cue.
	CRS has given permission to place 'A' FBEVAS in bypass.	**If Requested CUE:** The CRS has directed you to place BOP ESFAS PBEVAS 'A' in bypass. The CRS and STA have reviewed applicable LCOs and ODCM requirements.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
2.	Continues prerequisites	
	Checks redundant module in Train 'B' is not in bypass.	Examinee identifies Train 'B' FBEVAS is in bypass. **If Requested CUE:** CRS directs you to remove Train 'B' FBEVAS from bypass, then continue to bypass FBEVAS 'A'

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
3.	Examinee goes to section 4.7	Section 4.7 removing BOP ESFAS Modules From Bypass is entered.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

JS06

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

STEP	ELEMENT	STANDARD
4.	Examinee identifies Train 'B' FBEVAS module is not tripped.	Examinee identifies prerequisites are met. Goes to step 4.7.3.1.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
5.	Perform a lamp test on BOP ESFAS 'B'	Lamp test is performed No intentional burnt out bulbs**.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
6.	Perform the appropriate section below: • 4.7.4 Removing FBEVAS, CREFAS and CPIAS Modules from Bypass.	Identifies section 4.7.4. as the appropriate section.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
7.	If the BOP ESFAS module(s) is not tripped, them GO TO step 4.7.4.	Determines FBEVAS Train 'B' not tripped and goes to step 4.7.4.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
8.	*	Remove Train 'B' FBEVAS module from bypass by performing all the following:	
		1. Check that all lights except the 'BYPASS' light are clear (not lit) for module to be removed from Bypass.	Only the 'Bypass' light is lit. **If Requested CUE:** Concurrent Verification has been performed.
		2. Turn Bypass key for the desired module counterclockwise approximately ¼ turn.	**Turn Bypass key for Train 'B' FBEVAS counterclockwise approximately ¼ turn.**
		3. Remove the key.	Key is removed.
		4. Check 'BYPASS' light is clear (not lit).	'BYPASS' light is out.
		5. Independently verify the module has been removed from bypass.	**If Requested CUE:** Independent verification has been performed
		Return bypass key to key storage location	Key may be used to bypass Train 'A' FBEVAS without returning it to the key locker. **Evaluator note: Critical nature of step is the channel is removed from bypass.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
9.	Examinee returns to section 4.6 and performs a lamp test on BOP ESFAS train 'A'.	Lamp test performed. No intentional burnt out bulbs.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

STEP		ELEMENT	STANDARD
10.		Check That the redundant module (FBEVAS Train 'B') is not in bypass.	Addressed previously.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
11.		Place a check mark in the column provided for the module(s) to be placed in Bypass.	Examinee places check mark on RU-31/ FBEVAS 'A' row.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
12.	*	Bypass module(s) checked in step 4.6.3.8 by performing ALL of the following:	
		Place Bypass key in key slot for the selected Module.	
		Turn the key clockwise approximately1/4 turn or until the bypass light comes on.	Examinee places FBEVAS 'A' in bypass. Bypass light is lit. **If Requested CUE:** Independent verification is complete.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JS06

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	04/01/03	6	New JPM, TES.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number) Procedure upgrade
3. Procedure upgrade.
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

The following plant conditions exist:

- **The CRS has directed you to place BOP ESFAS FBEVAS 'A' in bypass in accordance with 40OP-9SA01 SECTION 4.6, due to RU-31 power supply degradation.**
- **Prerequisites have NOT been performed.**

SAFETY CONSIDERATIONS:

- None

JS07

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

JPM BASIS INFORMATION

TASK: 0150030901 Perform reactor coolant makeup – dilution mode.
TASK STANDARD: Dilute the RCS. Stop Dilution when System Auto Stop Fails.
K/A: 3.2.004.A.4.07 K/A RATING: RO: 3.9 SRO: 3.7
K/A: K/A RATING: RO: SRO:
APPLICABLE POSITION(S): RO VALIDATION TIME: 10 min
REFERENCES: 40OP-9CH01 CVCS Normal Operations
SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____
***NOTE: Alternate Path JPM**

APPROVAL

DEVELOPER: T Stahler TECH REVIEW:
REVISION DATE: 4/25/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JS07

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

1. SIMULATOR SETUP:

A. IC# : Reset to any at power steady state IC.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	After dilution is started: IOR ZDCHFQIS210X RESET To activate: • Go to page CV10 • Click on FQIS 210X in the upper right of the screen. • Select 'Override Switches'. • Select 'Insert Override' • Select 'Reset'	This override causes the dilution to continue after 40 gallons have been added. The operator can stop the make-up by going to auto on the mode select switch, or closing CHN-UV210X (in either manual or auto on the flow controller.).

C. SPECIAL INSTRUCTIONS:

- Reset both Reactor Makeup Water Flow Totalizers to 0.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- none

JS07

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **You are directed to dilute the RCS by adding 40 gallons of Reactor Makeup Water, at a rate of 40 gpm, to the charging pump suction (Using 40OP-9CH01 and with CHN-FIC-210X in automatic).**
- **All Prerequisites are complete.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Supervisor of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- None

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

STEP		ELEMENT	STANDARD
1.		Obtain procedure 40OP-9CH01.	40OP-9CH01 obtained.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.		If a small change in boron concentration is desired (less than 1 ppm) Then determine the gallons of Reactor Makeup Water required.	From cue: 40 gallons is a small change and amount is given to examinee. Note: steps 7.3.2 through 7.3.5 are N/A due to the small volume of Reactor Makeup Water being added.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.		Set RMW controller CHN-FIC-210X to flow rate as determined in step 7.3.1.	Examinee adjusts Setpoint to 40 gpm

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.	*	Set RMW flow totalizer FQIS-210X to desired volume (40 gal).	Totalizer set to 40 gal. Note: step 7.3.8 is N/A

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.	*	Start the dilution as follows: 1. Place CHN-HS-210 in the DILUTE position. 2. Depress the "Reset" pushbutton – the left pushbutton. 3. Depress the "Start" pushbutton – The left pushbutton on the Totalizer/counter module (Micro-Motion)	 Dilute selected. Controller reset. Start pushbutton depressed.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
6.	Check for both of the following: • Verify an RMW pump running. • CHN-FIC-210Y indicates no flow, (CHN-FV-210Y closed)	Examinee checks: RMW pump running. No boration flow.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
7.	Verify CHN-UV-527, Makeup to Charging Pumps, is open.	CHN-UV-527 is open in 'auto'.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
8.	On the Foxboro Module check that 'Process Flow' increases towards the Auto setpoint, over shoots the Auto setpoint and the stabilizes at the Auto setpoint.	GPM flow indicated 40 $\pm$ 5.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
9.		Determines that Auto Dilution did not stop when 40 gallons was injected.	Recognizes Auto dilution fails.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
10.	*	Stop the dilution by performing any one of the following: a) Decrease auto setpoint on CHN-FIC-210X to 0%. b) Place controller in manual and decrease output to 0%. c) Select "AUTO" on the Make-up Mode Selector Switch.	Dilution stopped prior to 75 gallons being added. After dilution is stopped give the following Cue. **IMFORM CUE**: Another RO will restore Make-up to normal after the totalizer failure is investigated.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JS7

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
1	4/25/03	3	Revision 28 of 40OP-9CH01

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

JS7

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **You are directed to dilute the RCS by adding 40 gallons of Reactor Makeup Water, at a rate of 40 gpm, to the charging pump suction (Using 40OP-9CH01 and with CHN-FIC-210X in automatic).**
- **All Prerequisites are complete**.

SAFETY CONSIDERATIONS:

- None

JS08
PVNGS JOB PERFORMANCE MEASURE
2003 NRC EXAM

JPM BASIS INFORMATION

TASK: 1250030401, Perform Actions for Loss of NC
TASK STANDARD: RCPs are tripped, and Seal Bleedoff Isolated
K/A: 3.4.003.A2.02 K/A RATING: RO: 3.7 SRO: 3.7
K/A: K/A RATING: RO: SRO:
APPLICABLE POSITION(S): RO VALIDATION TIME: 3 min
TIME CRITICAL - 10 MINUTES FROM THE START UNTIL THE JPM IS COMPLETED.

REFERENCES: 40AO-9ZZ03, Loss of Cooling Water
SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____
***NOTE: Alternate path JPM**
***NOTE: Time Critical JPM**

APPROVAL

DEVELOPER: T Stahler TECH REVIEW:
REVISION DATE: 04/25/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

JS08

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

1. SIMULATOR SETUP:

A. IC# : 20

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	IMF MV03:NCBUV403	Spurious closure of NCW supply upstream containment isolation valve. (in containment.)
2.	When NCBUV403 is closed Then IMF MV06:NCBUV403	Mechanically fails NCB-UV403 in the closed position.
3.	Acknowledge alarms.	

C. SPECIAL INSTRUCTIONS:

- Go to Run
- Enter Malfunctions
- Acknowledge any alarms
- Provide Initiating Cue.
- Go to Run on Simulator

D. REQUIRED CONDITIONS:

- NCB-UV403 closed.

2. SPECIAL TOOLS/EQUIPMENT:

- None

JS08

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **The plant is operating at 100% power.**
- **A Loss of Nuclear Cooling Water to the RCPs has occurred.**
- **The CRS directs you to perform Section 4 of 40AO-9ZZ03, Loss of Cooling Water.**
- **This is a Time Critical JPM.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Supervisor of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- None

STEP	ELEMENT	STANDARD
1.	If seal injection is in service and cooling water is **NOT** restored to any operating RCP within 10 minutes of the initial loss, **THEN** perform **ALL** of the following: Ensure that the Reactor is tripped. Stop all of the RCPs Isolate controlled bleedoff.	Examinee will note time. NOTE TO EXAMINER: The examinee is only expected to note the time at this point and **NOT** trip the Reactor. **START TIME:** _____

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
2.	**IF no** Nuclear Cooling Water pumps are running, **AND** at least one is available, **THEN** perform **ALL** of the following to start a NC Pump.	Examinee will determine that a NCW Pump is operating.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
3.	**IF** at least one Nuclear Cooling Water Pump is running, **AND** "NCWS PMPS DSCH HDR PRESS HI-LO" (7A07B) is in alarm due to low pressure, **THEN** perform **ANY** of the following:	Examinee will determine that operating NCW Pump is operating normally and no low discharge pressure alarm exists. Step is marked N/A

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP	ELEMENT	STANDARD
4.	**IF ANY** of the NC Containment Isolation Valves have failed closed, **AND** there is **NOT** a valid CSAS signal present, **THEN** perform **Both** of the following:	Examinee will recognize that NCB-UV-403 has failed closed.
	Open **ANY** closed isolation valves.	Examinee will attempt to open NCB-UV-403. It will **not** open. If Examinee recommends locally operating NCB-UV-403 THEN: INFORM CUE: The CRS has determined a containment entry can not be performed.

SAT UNSAT (UNSAT requires comments)

STEP	ELEMENT	STANDARD
5.	**IF ANY** of the NC Containment Isolation Valves will **NOT** open, **THEN** perform **ALL** of the following:	
	1) Close all NC CTMT isolation valves.	Examinee closes NC Containment Valves NCB-UV-401 and NCA-UV-402.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.	*	**2)** Ensure that the Reactor is tripped.	Examinee trips the Reactor. **If requested cue:** another RO has verified Reactivity Control Safety function is met.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
7.	*	**3)** Stop all of the RCPs.	Examinee stops all of the RCPs.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
8.	*	Isolate seal bleedoff.	Isolate seal bleedoff from all RCPs **Inform CUE: The CRS will evaluate TECH Spec 3.6.3** **Other ROs will perform SPTA's.** **STOP TIME: _____** **NOTE:** JPM must be completed within 10 minutes.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

JS08

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
01	02/08/97	6	New Format
02	11/06/97	6	Updated Steps and Cue's
03	01/28/98	6	Updated Steps and Cue's
04	04/25/03	6	Updated format; simulator commands.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

JS08

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- Operate the simulator as you would the unit.
- The examiner will provide all responses and indications required from outside the control room.
- Vocalize what indications you are checking and why.
- You may use any source of information normally available

INITIATING CUE:

- **The plant is operating at 100% power.**
- **A Loss of Nuclear Cooling Water to the RCPs has occurred.**
- **The CRS directs you to perform Section 4 of 40AO-9ZZ03, Loss of Cooling Water.**
- **This is a Time Critical JPM**.

SAFETY CONSIDERATIONS:

- None

RA1-1

PVNGS JOB PERFORMANCE MEASURE

NRC 2003 EXAM

ADMIN TASK BASIS INFORMATION

TASK: 1270057402 Direct Power Ascension Above 20%.
TASK STANDARD: Complete Appendix O of 40OP-9ZZ05 for planned power ascension from 40% to 60% at 4 EFPD. Calculated dilution 1900 ± 100 gallons.
K/A: 2.1.20 K/A RATING: RO: 4.3 SRO: 4.2
APPLICABLE POSITION(S): RO/SRO VALIDATION TIME: 30 Minutes
REFERENCES: 40OP-9ZZ05, Power Operations
SUGGESTED TESTING ENVIRONMENT: SIMULATOR **X** PLANT _____

APPROVAL

DEVELOPER: Joe W. Allison TECH REVIEW:
REVISION DATE: 6/13/01 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

RA1-1

PVNGS JOB PERFORMANCE MEASURE

NRC 2003 EXAM

1. SIMULATOR SETUP:

A. IC# : N/A

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Core Data Book Unit S Cycle 7.
- Simulator computers to LAN and open Boron OAP.
- Clean, current copy of 40OP-9ZZ05, Appendix O.

RA1-1

PVNGS JOB PERFORMANCE MEASURE

NRC 2003 EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Use Core Data Book S cycle 7 (simulator core data book)
- You may use any source of information normally available.

INITIATING CUE:

Given the following conditions:

- **The reactor is critical at 40% power, BOL, 4 EFPD following a Refueling Outage.**
- **Power ascension to 60% is planned over the next 12 hours.**
- **RCS temperature for the power ascension will remain "On Program".**
- **RCS Boron Concentration is 1200 ppm.**
- **Reactor Engineering has provided the following information:**

Parameter	Initial	Final
Reg CEA Position	150	150
PLCEA Position	150	150
[Xenon]	72%	70%
[Iodine]	40%	49%
Reactivity (Xe)	-1839	-1786

- **The Power Change Worksheet program is not available.**

You have been directed to calculate a dilution using 40OP-9ZZ05 Power Operations, Appendix O, Power Change Worksheet manual version.

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.	*	Enter the requested information on the Appendix O, Manual Power Change Worksheet.	***Note:*** *Examinee refers to values in the Core Data Book to find the corresponding reactivity value/worth*. Examinee enters initial and final reactivity values for the following:

COMMENTS:

STEP	ELEMENT	STANDARD
2. *	Determines net pcm (total) and delta rho boron (pcm)	Determines net pcm of **-235 pcm** and delta rho boron of **+235 pcm**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
3. *	Determines delta ppm boron	**-30ppm** Delta ppm boron calculated

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
3. *	Examinee determines delta gallons dilution amount using the BORON OAP	Examinee calculates a required dilution amount to be **1900 ± 100 gals**.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

RA1-1

PVNGS JOB PERFORMANCE MEASURE

NRC 2003 EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	3/10/99	6	New Admin Task JPM
1	8/12/99	6	Modified JPM steps to enhance CUE's, more clearly identify critical steps, and enhance required band of required dilution.
2	8/29/99	6	Modified Iodine numbers to represent actual numbers.
3	6/13/01	6	Modified JPM for 2001 Audit to require a Manual Calculation.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

RA1-1

PVNGS JOB PERFORMANCE MEASURE

NRC 2003 EXAM

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Use Core Data Book S cycle 7 (simulator core data book)
- You may use any source of information normally available.

INITIATING CUE:

Given the following conditions:

- **The reactor is critical at 40% power, BOL, 4 EFPD following a Refueling Outage.**
- **Power ascension to 60% is planned over the next 12 hours.**
- **RCS temperature for the power ascension will remain "On Program".**
- **RCS Boron Concentration is 1200 ppm.**
- **Reactor Engineering has provided the following information:**

Parameter	Initial	Final
Reg CEA Position	150	150
PLCEA Position	150	150
[Xenon]	72%	70%
[Iodine]	40%	49%
Reactivity (Xe)	-1839	-1786

- **The Power Change Worksheet program is not available.**

You have been directed to calculate a dilution using 40OP-9ZZ05 Power Operations, Appendix O, Power Change Worksheet manual version.

RA2

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

JPM BASIS INFORMATION

TASK: 1290310301 Perform a Tech Review of a Permit
TASK STANDARD: Tech Review a Permit and determine three errors
K/A: 2.2.13 K/A RATING: RO: 3.6 SRO: 3.8
APPLICABLE POSITION(S): RO VALIDATION TIME: 20 minutes
REFERENCES: 40DP-9OP29, Permit and Tagging Process
Drawings 01-E-DWB-01 & 01-M-DWP-02
SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: T Stahler TECH REVIEW:
REVISION DATE: 5/03/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

RA2

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

1. SIMULATOR SETUP:

A. IC# : Any at power IC (20 preferred)

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.		
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of Test Permit 1-050603-1 Permit Details and Tag Assignment Sheet.

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- You may use any source of information normally available.

INITIATING CUE:

Unit 1 is 100% power

SWMS is down.

The CRS has directed you to perform Tech Review of Permit 1-050603-1.

- **Identify three (3) errors (Non-clerical – not typos).**
- **Determine any required action(s) that need to be done as a result of these 3 errors.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.		Reviews Permit or Work Order to determine scope of work to be performed.	Examinee reviews Permit or Work Order and determines work scope to be replacing gasket on 1P-DWN-V050.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Reviews Tag Assignment Sheet and Prints to verify Permit adequacy for job scope.	Examinee determines the following inaccuracies/inadequacies. • Tag 2 is the wrong circuit breaker (breaker is for the "A" pump) • Tag 5 has wrong position (OPEN) for the discharge valve. • Tag 7 has right valve but wrong system DS.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	Examinee returns Permit for correction by the Preparer	Examinee returns Permit for correction (i.e. deficiencies noted shall not be corrected by the Tech Reviewer).

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

RA2

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	05/03/03	6	New JPM.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- You may use any source of information normally available.

INITIATING CUE:

Unit 1 is 100% power

SWMS is down.

The CRS has directed you to perform Tech Review of Permit 1-050603-1.

- **Identify three (3) errors (Non-clerical – not typos).**
- **Determine any required action(s) that need to be done as a result of these 3 errors.**

SAFETY CONSIDERATIONS:

- None

RA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

ADMIN TASK BASIS INFORMATION

TASK: 1290020301 Conduct On Shift Operations IAW Conduct of Shift Operations
TASK: 1290010301 Implement verification of plant activities.
TASK STANDARD: Determine proper REP task, determine RCA entry requirements.
K/A 2.3.10 K/A RATING: RO: **2.9** SRO: **3.3**
K/A: 2.3.4 K/A RATING: RO: **2.5** SRO: **3.1**
APPLICABLE POSITION(S): RO VALIDATION TIME: 20 minutes
REFERENCES: NGW01, Initial Radiation Worker Practices.
SUGGESTED TESTING ENVIRONMENT: SIMULATOR _____ PLANT **X**

APPROVAL

DEVELOPER: T Stahler TECH REVIEW:
REVISION DATE: 05/03/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT **X**

TESTING METHOD: SIMULATE _____ PERFORM **X**

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

RA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

SIMULATOR SETUP:

IC# : N/A

MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	

SPECIAL INSTRUCTIONS:

- None

REQUIRED CONDITIONS:

- None

SPECIAL TOOLS/EQUIPMENT:

- A copy of the Unit 3 outage REP.
- A copy of the Pressurizer Spray Valve galleries RP survey maps.
- A copy of 40TD-9RC01 section 3.

RA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

A COPY OF THE FOLLOWING IS ATTACHED:

- **UNIT 3 OUTAGE REP.**
- **Pressurizer Spray Valve galleries RP survey maps.**
- **40TD-9RC01 section 3.**

INITIATING CUE:

Given the following initial conditions:

- **Unit 3 is in a refueling outage.**
- **Pressurizer Spray Valve RCE-PV-0100F has been isolated.**
- **You have been directed to drain and depressurize the Loop 1B Pressurizer Spray Valve RCE-PV-100F using 40TD-9RC01 Reactor Coolant System Step 3.2.6.**

Your tasks are to:

1. **Determine proper task for this evolution.**
2. **Is a RP Pre-Job Brief required prior to entering Pressurizer spray valve RCE-PV-100F valve gallery?**
3. **Determine RP coverage during job performance.**
4. **Determine dress-out requirements.**
5. **Determine required EPD settings.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set, then ensure the examinee has been briefed IAW NUREG 1021.

Step sequence is not critical unless noted or will prevent achieving the task standard.

SAFETY CONSIDERATIONS: none

STEP		ELEMENT	STANDARD
1.	*	Examinee reviews REP and survey and determines task he can enter on.	Examinee determines entry on task 2 is required. **Note:** Only one REP was given to the examinee. PVNGS operations have only one REP active for each unit, at a given time.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Examinee determines if RP pre-job Brief is required for entry into Pressurizer Spray valve RCE-PV-100F valve gallery.	Determines must perform RP pre-job brief .

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	Examinee determines RP coverage requirements during job performance..	RP coverage is continuous for connect and disconnect of vent/drain equipment. Otherwise intermittent coverage is required.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.	*	Examinee determines dress-out requirements.	Clothing/protection requirements are Double set. Full set for containment entry. Second set for valve gallery. (RP may determine and authorize modified Double Set).

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.	*	Determine the REP Dosemetry requirements.	Examinee determines EPD is required with settings of 25 mRem dose and 500 mREM/hr Dose Rate (as stated on the REP)

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

1. Determine proper task for this evolution.

Proper task is task 2.

2. Is a RP Pre-Job Brief required prior to entering Pressurizer spray valve RCE-PV-100F valve gallery?

Yes.

3. Determine RP coverage during job performance.

RP coverage is continuous for connect and disconnect of vent/drain equipment. Otherwise intermittent coverage is required.

4. Determine dress-out requirements.

Clothing/protection requirements are Double set. Full set for containment entry.

Second set for valve gallery. (RP may determine and authorize modified Double Set).

5. Determine required EPD settings.

Examinee determines EPD is required with settings of 25 mRem dose and 500 mREM/hr Dose Rate (as stated on the REP)

COMMENTS:

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	05/03/03	6	New Admin Task JPM

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

RA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

A COPY OF THE FOLLOWING IS ATTACHED:

- **UNIT 3 OUTAGE REP.**
- **Pressurizer Spray Valve galleries RP survey maps.**
- **40TD-9RC01 section 3.**

INITIATING CUE:

Given the following initial conditions:

- **Unit 3 is in a refueling outage.**
- **Pressurizer Spray Valve RCE-PV-0100F has been isolated.**
- **You have been directed to drain and depressurize the Loop 1B Pressurizer Spray Valve RCE-PV-100F using 40TD-9RC01 Reactor Coolant System Step 3.2.6.**

Your tasks are to:

1. **Determine proper task for this evolution.**
2. **Is a RP Pre-Job Brief required prior to entering Pressurizer spray valve RCE-PV-100F valve gallery?**
3. **Determine RP coverage during job performance.**
4. **Determine dress-out requirements.**
5. **Determine required EPD settings.**

SAFETY CONSIDERATIONS:

- None

1. **Determine proper task for this evolution.**

2. **Is a RP Pre-Job Brief required prior to entering Pressurizer spray valve RCE-PV-100F valve gallery?**

3. **Determine RP coverage during job performance.**

4. **Determine dress-out requirements.**

5. **Determine required EPD settings.**

S/RA1-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

JPM BASIS INFORMATION

TASK: 1280010801, Perform Surveillance Test

TASK STANDARD: Completes Steps 8.1-8.8 in ≤ 15 minutes and notifies CRS of criteria not met.

K/A: 2.1.19 K/A RATING: RO: 3.0 SRO: 3.0

APPLICABLE POSITION(S): RO VALIDATION TIME: 12 minutes TIME CRITICAL - 15 MINUTES FROM THE START UNTIL THE JPM IS COMPLETED.

REFERENCES: 72ST-9RX03 (COLSS out of service)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: T Stahler TECH REVIEW:

REVISION DATE: 5/08/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

S/RA1-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

1. SIMULATOR SETUP:

A. Classroom setting

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	**IMF RJ01**	COLSS Failure
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Clean, Current copy of 72ST-9RX03. with data from cue entered in.
- Clean Current copy of Unit 1 COLR rev. 9.

S/RA1-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- You may use any source of information normally available.

INITIATING CUE:

The following plant conditions exist:

- **The CRS has just declared COLSS Inoperable/Out of Service.**
- **Reactor Power is 100%.**
- **All (4) four CPC Channels are operable and <u>not</u> tripped.**
- **CEAC's are Operable**
- **Section 7.0 Prerequisites of 72ST-9RX03 are completed.**
- **The following data was obtained from CPCs for use in step 8.2**

Parameter	CPC 'A'	CPC 'B'	CPC 'C'	CPC 'D'
DNBR (PID 406)	+1.923	+1.926	+1.920	+1.919
ASI (PID 187)	-0.0231	-0.0229	-0.0221	-0.0233
LHR (PID 179)	+12.50	+12.48	+12.47	+12.52

The CRS directs you to perform steps 8.1 through 8.8 of 72ST-9RX03 and immediately inform him of any acceptance criteria not met.

This is a time critical JPM.

INFORMATION FOR EVALUATOR'S USE:

- Steps 8.1 through 8.8 of 72ST-9RX03 are time critical and must be completed <u>within 15minutes</u> from the time COLSS was declared inoperable. This should be measured from the time the CUE is completed and understood by the candidate.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.		Record the date and time that COLSS was declared out of service in Appendix A and page 3 of 3 of Appendix B.	Examinee enters the data. **INFORM CUE: The date of the loss is today's date and the time is 1 minute ago.** Record actual time Initiating Cue was given: _____

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.		Examinee refers to data on Appendix A	Note: Data has been entered in procedure.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	If any DNBR value is outside the region of acceptable operation specified in the COLR for Tech. Spec. 3.2.4c or Tech. Spec. 3.2.4.d. Circle the value in Appendix A.	Examinee determines that DNBR valves are outside the region of acceptable operation, and circles the values as appropriate.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.	*	Determine success or failure of the DNBR surveillance using Appendix A criteria (NOTE 1)	Examinee applies criteria from Appendix A and determine that the DNBR surveillance is a failure. Examinee denotes "NO" in Appendix "A" as appropriate.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
5.	*	If DNBR LCO is not met in step 8.4, then commence monitoring DNBR at intervals of ≤ 15 minutes per Appendix C to satisfy Tech. Spec. 3.2.4 action B.1	Examinee informs CRS that the DNBR LCO is not met and that monitoring is required at intervals of ≤ 15 minutes. **INFORM CUE: Another RO will monitor DNBR at 15 minute intervals.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
6.	If any LHR valve exceeds the maximum value specified in Tech. Spec. 3.2.1, circle the value in Appendix A.	Examinee determines that LHR values met Tech Spec requirements.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
7.	Determine success or failure of the LHR Surveillance using Appendix A criteria (NOTE 2).	Examinee determines that the LHR surveillance succeeded. Examinee denotes "YES" in Appendix "A" as appropriate.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
8.	If the LHR LCO is not met in step 8.7, then commence monitor LHR at intervals of ≤ 15 minutes per Appendix D. To satisfy Tech. Spec. 3.2.1 Action B.1	Examinee determines that the LHR LCO is met and informs the CRS, prior to exceeding 15 minutes time limit. Record actual time step 8.8 complete: _____ *Total Time: _____ (< 15 minutes. Critical element)

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

S/RA1-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	09/03/98	6	New JPM
1	06/14/01	6	Added COLSS failure malfunction to simulator setup to provide more realism.
2	05/08/03	6	Added values to cue to allow performance in classroom setting.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

S/RA1-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

INITIATING CUE:

The following plant conditions exist:

- **The CRS has just declared COLSS Inoperable/Out of Service.**
- **Reactor Power is 100%.**
- **All (4) four CPC Channels are operable and <u>not</u> tripped.**
- **CEAC's are Operable**
- **Section 7.0 Prerequisites of 72ST-9RX03 are completed.**
- **The following data was obtained from CPCs for use in step 8.2**

Parameter	CPC 'A'	CPC 'B'	CPC 'C'	CPC 'D'
DNBR (PID 406)	+1.923	+1.926	+1.920	+1.919
ASI (PID 187)	-0.0231	-0.0229	-0.0221	-0.0233
LHR (PID 179)	+12.50	+12.48	+12.47	+12.52

The CRS directs you to perform steps 8.1 through 8.8 of 72ST-9RX03 and immediately inform him of any acceptance criteria not met.

This is a time critical JPM.

SAFETY CONSIDERATIONS:

- None

SA1-1
PVNGS JOB PERFORMANCE MEASURE

ADMIN TASK BASIS INFORMATION

TASK: 1290190102 Ensure Compliance With Tech Specs.
TASK STANDARD: Review the completed SFDP forms, annotate three significant errors.
K/A: 2.1.12 K/A RATING: RO: 2.9 SRO: 4.0
APPLICABLE POSITION(S): SRO VALIDATION TIME: 30 Minutes
REFERENCES: 40DP-9OP37, Safety Function Determination Procedure
SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: W. Drey TECH REVIEW:
REVISION DATE: 7/31/00 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)
EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC# : N/A

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- A marked up copy of 40DP-9OP37, Safety Function Determination Procedure, Appendix B, Safety Function Determination Worksheet and Appendix C, Safety Function Determination Tracking Sheet.
- Technical Specifications.

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- You may use any source of information normally available.

INITIATING CUE:

- **Unit 3 is in Mode 1 at 100% power.**
- **The B Essential Chiller (ECB-E01) is on the schedule to be removed from service for routine maintenance at 0900.**
- **LCO 3.0.6 will be implemented.**
- **The STA has performed all required sections of 40DP-9OP37, Safety Function Determination Procedure, including Appendix B, Safety Function Determination Worksheet and Appendix C, Safety Function Determination Tracking Sheet.**
- **You, as the CRS, are to review and approve the Safety Function Determination.**
- **Identify at least three errors (non-clerical, non-typos) with corrections noted to the evaluator.**
- **The current time for purposes of this task is 0700 on today's date.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- None

PVNGS JOB PERFORMANCE MEASURE

STEP		ELEMENT	STANDARD
1.		Examinee obtains 40DP-9OP37, Safety Function Determination Program.	Procedure is obtained. **EVALUATOR NOTE:** Steps 2, 3, and 4 may be performed in any order. **NOTE:** If the candidate starts to perform 40DP-9OP37, Safety Function Determination Program procedure, then provide the following CUE: **INFORM CUE: This portion of the procedure has already been completed by the STA.**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Review Appendix C, Safety Function Determination Tracking Sheet.	**NOTE:** An incorrect reference is made to 40ST-9ZZ02, Inoperable Power Sources Action Statement on the Appendix C. Error - incorrect Surveillance test is noted. (This is the critical portion of this step.) The correct surveillance under the special instructions on Appendix C is 40ST-9EC03, Essential Chill Water & Ventilation System Inoperable Action Surveillance.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
3.	*	Review Appendix B, Safety Function Determination Worksheet.	Error - incorrect LCO Completion Time of 240 hrs. and/or Maximum Out of Service Time (MOST) of 312 hrs for AFB-P01 are noted. (This is the critical portion of this step.) The correct LCO Completion Time, and Maximum Out of Service Time (MOST) are as follows: • **LCO Completion Time – 72 hours.** • **Maximum Out of Service Time (MOST) – 144 hours. 72 hours from Auxiliary Feedwater plus 72 hours from Essential Chill Water System LCO 3.7.10 Action A.1)** **NOTE:** The incorrect LCO Completion Time entry of 240 hrs. has driven the MOST time error. If examinee counts this error as two errors, inform the examinee that this entry counts as one error.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
4.	*	Refer to Appendix D, Support and Supported LCO Matrix.	**NOTE:** An incorrect reference is made to LCO 3.7.11.A.1 Control Room Essential Filtration System (CREFS). Error - incorrect Supported LCO is noted. (This is the critical portion of this step.) The correct Supported LCO on the Appendix C is as follows: • **Supported LCO - 3.7.12 CREATCS. (From Appendix D)** • **The LCO completion time should be 720 hours and MOST time should be 792 hours on Appendix B.** **NOTE**: The incorrect LCO Entry has resulted in incorrect LCO completion time and MOST times for LCO 3.7.12. The entry into the wrong LCO and wrong LCO completion time and wrong MOST time calculations count as one error. If examinee counts these errors as three errors, inform the examinee that this entry counts as one error.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
5.	Examinee reports three errors and does not approve Appendix C.	Examinee reports three errors and does not approve Appendix C without corrections.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

Appendix C

SAFETY FUNCTION DETERMINATION TRACKING SHEET

SFD#: **3-99-SFD-XXXX**	INOPERABLE SUPPORT FEATURE NAME / EQ ID# **EC / 3M3CBE01**	
LCO / Reqd. action(s) **3.7.10 /ACTION A.1**	Date & time LCO Entered **Today 9:00**	TSCCR# **3-99-XXXX**

Restrictions and additional actions**:**

**Required TRM Actions

TRM T3.5.201.A.1 – restore within 72 hours

**** Required Cascaded Tech Spec Actions**

If there is a need to exit 3.0.6, then the required cascaded actions are found in Appendix B "Safety Function Determination Worksheet" in the Support / Supported Feature Table.

****OD's used or affected – NONE**

****Support Features required Position – NONE SPECIFIED**

Additional information (references):

****Special instructions:**

This SFDP supports train B outage work to be performed in Unit 3 starting Today. Work is to be performed on the "b" train EC.

When EC becomes inoperable:

1) Enter LCO 3.7.10.A.1 (EC)and 3.3.11.B.1 (RSDP), and T3.5.201.a.1 (SDC).
2) Invoke LCO 3.0.6 for LCO's listed in Appendix B (attached).
3) Perform 40ST-9ZZ02.

Should be Perform 40st-9EC03

****Expected conditions while SFDP is in effect.**

Mode 1 – conditions as described above.

****Clarification for action of condition – NONE**

****Changes / Revisions with approvals – NONE**

PREPARED BY: Samey Thomas Samey Thomas today 07:00
PRINT & SIGN NAME DATE / TIME

APPROVED BY: _____ _____
SHIFT MANAGER or CRS PRINT & SIGN NAME DATE / TIME
(Preparer can NOT sign Approval)

Closeout comments:

Closed BY: _____
SHIFT MANAGER or CRS PRINT & SIGN NAME DATE / TIME

Appendix B
Safety Function Determination Worksheet
SFD 3-03-XXXX

INOPERABLE SUPPORT FEATURE

NAME/EQUIPMENT	Redundant feature Operable? Y/N	LCO/ required action	LCO Completion Time	Inoperable	Operable
				Date/Time	Date/Time
3MECBP01	Y	3.7.10.A.1	72 hrs	TODAY 0900	

SUPPORT/SUPPORTED FEATURE

Name/Equip ID	Redundant Feature operable? Y/N	LCO required action #	LCO Completion time	MOST	Inoperable	Operable
					Date/Time	Date/Time
ECCS operating LPSI	Y	3.5.3.A.1	168 hrs	240 hrs	Today 0900	
ECCS operating HPSI	Y	3.5.3.B.1	72 hrs	144 hrs	Today 0900	
3MSIBP03 (CS)	Y	3.6.6.A.1	72 hrs	144 hrs	Today 0900	
3MEWBP01 (EW)	Y	3.7.7.A.1	72 hrs	144 hrs	Today 0900	
3MAFBP01 (AF)	Y	3.7.5.B.1	240 hrs **Should be 72 hrs**	312 hrs **Should be 144 hrs**	Today 0900	
3MHJBF04 (CREFS) **Should be (CREATCS)**	Y	3.7.11.A.1	168 hrs **Should be 720 hrs**	240 hrs **Should be 192 hrs**	Today 0900	

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	3 /24/99	6	New Admin Task JPM
1	8/12/99	6	Clarified initiating CUE.
2	8/29/99	6	Modified initiating CUE and CUEs in JPM to facilitate examinee performance.
3	7/31/00	6	Clarified CUEs and corrected typos in sample form.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

INITIATING CUE:

- **Unit 3 is in Mode 1 at 100% power.**
- **The B Essential Chiller (ECB-E01) is on the schedule to be removed from service for routine maintenance at 0900.**
- **LCO 3.0.6 will be implemented.**
- **The STA has performed all required sections of 40DP-9OP37, Safety Function Determination Procedure, including Appendix B, Safety Function Determination Worksheet and Appendix C, Safety Function Determination Tracking Sheet.**
- **You, as the CRS, are to review and approve the Safety Function Determination.**
- **Identify at least three errors (non-clerical, non-typos) with corrections noted to the evaluator.**
- **The current time for purposes of this task is 0700.**

SAFETY CONSIDERATIONS:

- None

Appendix C

SAFETY FUNCTION DETERMINATION TRACKING SHEET

SFD#:	INOPERABLE SUPPORT FEATURE NAME / EQ ID#	
3-99-SFD-XXXX	**EC / 3M3CBE01**	
LCO / Reqd. action(s)	Date & time LCO Entered	TSCCR#
3.7.10 /ACTION A.1	**Today 9:00**	**3-99-XXXX**

Restrictions and additional actions**:**

**Required TRM Actions

TRM T3.5.201.A.1 – restore within 72 hours

**** Required Cascaded Tech Spec Actions**

If there is a need to exit 3.0.6, then the required cascaded actions are found in Appendix B "Safety Function Determination Worksheet" in the Support / Supported Feature Table.

****OD's used or affected – NONE**

****Support Features required Position – NONE SPECIFIED**

Additional information (references):

****Special instructions:**

This SFDP supports train B outage work to be performed in Unit 3 starting Today. Work is to be performed on the "b" train EC.

When EC becomes inoperable:

4) Enter LCO 3.7.10.A.1 (EC)and 3.3.11.B.1 (RSDP), and T3.5.201.a.1 (SDC).
5) Invoke LCO 3.0.6 for LCO's listed in Appendix B (attached).
6) Perform 40ST-9ZZ02.

****Expected conditions while SFDP is in effect.**

Mode 1 – conditions as described above.

****Clarification for action of condition – NONE**

****Changes / Revisions with approvals – NONE**

PREPARED BY: Samey Thomas Samey Thomas today 07:00
PRINT & SIGN NAME DATE / TIME

APPROVED BY: _____ _____
SHIFT MANAGER or CRS PRINT & SIGN NAME DATE / TIME
(Preparer can NOT sign Approval)

Closeout comments:

Appendix B
Safety Function Determination Worksheet
SFD 3-03-XXXX

INOPERABLE SUPPORT FEATURE

NAME/EQUIPMENT	Redundant feature Operable? Y/N	LCO/ required action	LCO Completion Time	Inoperable	Operable
				Date/Time	Date/Time
3MECBP01	Y	3.7.10.A.1	72 hrs	TODAY 0900	

SUPPORT/SUPPORTED FEATURE

Name/Equip ID	Redundant Feature operable? Y/N	LCO required action #	LCO Completion time	MOST	Inoperable	Operable
					Date/Time	Date/Time
ECCS operating LPSI	Y	3.5.3.A.1	168 hrs	240 hrs	Today 0900	
ECCS operating HPSI	Y	3.5.3.B.1	72 hrs	144 hrs	Today 0900	
3MSIBP03 (CS)	Y	3.6.6.A.1	72 hrs	144 hrs	Today 0900	
3MEWBP01 (EW)	Y	3.7.7.A.1	72 hrs	144 hrs	Today 0900	
3MAFBP01 (AF)	Y	3.7.5.B.1	240 hrs	312 hrs	Today 0900	
3MHJBF04 (CREFS)	Y	3.7.11.A.1	168 hrs	240 hrs	Today 0900	

•

SA-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

JPM BASIS INFORMATION

TASK: 12B0010202, Review Surveillance Tests
TASK STANDARD: Identify four (4) errors and Direct Boration.
K/A: 2.2.12 K/A RATING: RO: SRO: 3.4
APPLICABLE POSITION(S): SRO VALIDATION TIME: 15 min.
REFERENCES: 72ST-9RX14, Shutdown Margin Modes 3,4,and 5
SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

APPROVAL

DEVELOPER: T. Stahler TECH REVIEW:
REVISION DATE: 05/01/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

SA-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

1. SIMULATOR SETUP:

A. IC# : No Simulator setup required. This JPM may be run in-plant or in the Simulator.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Completed copy of 72ST-9RX14 with 4 errors.

SA-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- You may use any source of information normally available.
- Use Unit S Cycle 7 Core Data Book

INITIATING CUE:

- **Unit 2 is in mode 4 in a short notice outage.**
- **The Core is at 130 EFPD**
- **RCS Boron is 890 ppm per sample (today @ 06:00)**
- **RCS Temperature is 250°F**
- **All CEAS are fully inserted, RTSG breakers are open**
- **The Reactor has been shutdown for 120 hours**
- **A heat-up is planed for this shift with the RCS expected to be at 450°F.**

  The required Shutdown Margin Modes 3,4,and 5 Surveillance Test (72ST-9RX14), for an expected RCS temperature of 450°F is complete.

Your task is to:

- **Perform the Team Leader review of the Surveillance as the CRS.**
- **Identify 4 Errors (Non-clerical, not typos)**
- **Determine any required action(s) that need to be done as a result of these 4 errors to achieve desired plant conditions.**
- **Markup procedure as needed to assist in place keeping in 72ST-9RX14.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

SAFETY CONSIDERATIONS:

- None

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

STEP		ELEMENT	STANDARD
1.		Verify the completion of the prerequisites section.	Examinee verified that Section 7.0 is initialed as complete.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.		Verify that the applicable Step(s) of Section 7 were performed	Examinee determines that Section 8.1 is required when all full length CEAs fully inserted.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.	*	Verify the data in Step 8.1.2 is correct for this performance.	Examinee notes that the RCS Boron is incorrectly listed as 980 ppm Should be 890 ppm, from initiating cue. Additionally a cognitive error in the Tcold picked (350 ^{O}F) is the one requiring the least amount of Boron. Step 6.5 is referenced, it directs selection the Tcold that requires the most amount of Boron. Two errors are addressed in this step.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
4.	*	Procedure step 8.1.3 refers performer to Section 3.1 of Core Data Book (Unit S Cycle 7), to verify RCS Boron Value.	Examinee verifies correct Boron. The value of 825 ppm is correct for the Temperature selected (350 ^{O}F) in the previous step. However the required Boron is 1000 ppm at 450 ^{O}F. Note incorrect Boron value 3rd error.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
5.	*	Verify the response to Step 8.1.4 is correct, based on actual values.	Examinee determines that Step 8.1.4 directs continuing to step 8.1.5. 'Current Boron' is less than required.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
6.	Evaluate Step 8.1.5 for inclusion of negative reactivity from Xenon	Examinee determines that (at 85 hours past shutdown) the Core is essentially Xenon free. Cannot use Xenon adjustment. **INFORM CUE: Reactor Engineering has determined the Xenon Reactivity to be 'zero'.**

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
7.	*	ACCEPTANCE CRITERIA (Step 8.1.9) Current RCS is greater than Required RCS Boron (Step 8.1.3) Acceptance Criteria Satisfied No.	The examinee determines that the ACCEPTANCE CRITERIA is **NOT** met. This is the 4th error.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
8.	*	Address Step 8.1.11. If Acceptance Criteria is not satisfied Then perform All of the following: 1) Notify the CRS. 2) Borate the RCS to restore Shutdown Margin within limit. Notify Reactor Engineering.	Examinee determines Boration is required to achieve shutdown margin within limit. (1000 ppm for 450 ^{O}F.) Required action.

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

Four Errors

1. RCS Boron from latest Chemistry sample (Step 8.1.2) is transposed:
    a. should be 890 ppm
    b. recorded as 980 ppm

2. Most conservative Tcold (Step 8.1.2):
    a. Should be 450 ^{O}F.
    b. Recorded as 350 ^{O}F.

3. Required Boron (Step 8.1.3):
    a. Should be 1000 ppm
    b. Recorded as 825 ppm

4. ACCEPTANCE ERITERIA (Step 8.1.9)
    a. Should be **NOT** Satisfied.
    b. Recorded as Satisfied

COMMENTS:

SA-2

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	09/08/98	6	New JPM
1	05/01/03	6	Modified to make Tc selected one of the errors.

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS

- You may use any source of information normally available.
- Use Unit S Cycle 7 Core Data Book

INITIATING CUE:

- **Unit 2 is in mode 4 in a short notice outage.**
- **The Core is at 130 EFPD**
- **RCS Boron is 890 ppm per sample (today @ 06:00)**
- **RCS Temperature is 250°F**
- **All CEAS are fully inserted, RTSG breakers are open**
- **The Reactor has been shutdown for 120 hours**
- **A heat-up is planed for this shift with the RCS expected to be at 450°F.**

  The required Shutdown Margin Modes 3,4,and 5 Surveillance Test (72ST-9RX14), for an expected RCS temperature of 450°F is complete.

Your task is to:

- **Perform the Team Leader review of the Surveillance as the CRS.**
- **Identify <u>4 Errors</u> (Non-clerical, not typos)**
- **Determine any required action(s) that need to be done as a result of these 4 errors to achieve desired plant conditions.**
- **Markup procedure as needed to assist in place keeping in 72ST-9RX14.**

SA3
PVNGS JOB PERFORMANCE MEASURE

ADMIN TASK BASIS INFORMATION

TASK: 1290270202 Authorize Gaseous Radioactive Release.
TASK STANDARD: Identify three (3) errors on the existing Release Permit
K/A: 2.3.6 K/A RATING: RO: 2.1 SRO: 3.1
K/A: K/A RATING: RO: SRO:
APPLICABLE POSITION(S): SRO VALIDATION TIME: 15 minutes
REFERENCES: 40OP-9GR01 Gaseous Radioactive Waste Procedure
74RM-9EF20, Gaseous Radioactive Release Permits and Offsite Dose Assessment
SUGGESTED TESTING ENVIRONMENT: SIMULATOR **X** PLANT _____

APPROVAL

DEVELOPER: Tom Stahler TECH REVIEW:
REVISION DATE: 05/05/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)
EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

SA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

1. SIMULATOR SETUP:

A. IC# : N/A

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	None	

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Effluent Release Permit
- Copy of 40OP-9GR01, Operation of the Gaseous Radwaste System Section 5.0
- Copy of 74RM-9EF20, Gaseous Radioactive Release Permits and Offsite Dose Assessment.

SA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

INITIATING CUE:

- **A Unit 1 Waste Gas Decay Tank release permit has been generated to account for a planned radioactive release.**
- **The effluent tech brings you the release permit for review per 40OP-9GR01, Operation of the Gaseous Radwaste System and 74DP-9EF20, GASEOUS RADIOACTIVE RELEASE PERMITS AND OFFSITE DOSE ASSESSMENT.**
- **You are to review the release permit.**
- **Identify three errors (non-clerical, non-typos) to the evaluator.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW OTG-01.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- This JPM is based on Step 5.1.2 of 40OP-9CP01. Examinee may refer to 74RM-9EF20.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.		Obtains 74RM-9EF20 Section 8.0.	Examinee obtains 74RM-9EF20 Section 8.0.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Verifies permit number correct, per step 8.1.1.1.	The documentation has a discrepancy, the Release Permit Request and the Release Log lists 'WGDT 'B', the Release Permit lists WGDT 'A'. **(Error 1)**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
3.		Verifies the Start date/time and the expiration date/time are correct, per step 8.1.1.2.	Examinee determines that the release is for the allowed 24 hr. Note: The duration time (5.72 hrs) is a calculated value based on the tank pressure and flow rate. The permit expiration should be longer than this time.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
4.	*	Verifies the sample data present and signed for, collected and analyzed and required Lower Limits of Detection for all release samples have been met.	Examinee determines sample data present. **If Requested Cue:** all results entered as 'Zero' were less than Lower Limits of Detection. Sample results have been reviewed. **NOTE: Critical nature of this step is to determine that release limits are exceeded. (Error 2)**

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
5.		Verifies all Technical Specification and ODCM Surveillances have been performed.	Examinee identifies proper signature For 74ST-9SQ06 on Release Permit. If the examinee want to review 74ST-9SQ06 then give the following cue. **If Requested Cue:** All required RU and flow instruments are available with correct setpoints as verified by 74ST-9SQ06.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
6.	*	Verifies release is approved by appropriate level per step 8.2.2	Examinee determines that the permit does not have RP approval.. **(Error 3).** **NOTE:** After 3 errors are found give the following Cue: **INFORM CUE: The RP supervisor will review the release and correct the noted errors.**

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

SA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	05/05/03	6	New

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

SA3

PVNGS JOB PERFORMANCE MEASURE

2003 NRC EXAM

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

INITIATING CUE:

- **A Unit 1 Waste Gas Decay Tank release permit has been generated to account for a planned radioactive release.**
- **The effluent tech brings you the release permit for review per 40OP-9GR01, Operation of the Gaseous Radwaste System and 74DP-9EF20, GASEOUS RADIOACTIVE RELEASE PERMITS AND OFFSITE DOSE ASSESSMENT.**
- **You are to review the release permit.**
- **Identify three errors (non-clerical, non-typos) to the evaluator.**

SAFETY CONSIDERATIONS:

- None

SA4

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

ADMIN TASK BASIS INFORMATION

TASK: 1240100202 Classify events requiring emergency plan implementation
1240100302 Direct an emergency response as the emergency coordinator (EC)
1240100402 Determine protective action recommendations (PAR)

TASK STANDARD: An Alert is declared within 15 minutes; form EP-0541 is filled out, Notification directed within 15 minutes of classification

K/A: 2.4.38 K/A RATING: SRO: 4.0

APPLICABLE POSITION(S): SRO

VALIDATION TIME: 15 minutes
TIME CRITICAL-15 MINUTES FROM THE INITIATED CUE TO CLASSIFICATION **AND** 15 MINUTES FROM CLASSIFICATION UNTIL NOTIFICATION BEGINS.

REFERENCES: EPIP-01, Satellite Technical Support Center Actions

SUGGESTED TESTING ENVIRONMENT: SIMULATOR **X** PLANT _____

***NOTE: Time Critical JPM**

APPROVAL

DEVELOPER: T. Stahler TECH REVIEW:
REVISION DATE: 05/01/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____

TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

SATISFACTORY _____ UNSATISFACTORY _____

Time Start _____ Time Stop _____

REMEDIAL TRAINING REQUIRED? YES _____ NO _____

SA4

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

1. SIMULATOR SETUP:

A. IC# : 18, At the end of NRC scenario #1.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	NRC LOIT Scenario #1	ESD / ATWAS

C. SPECIAL INSTRUCTIONS:

- Ensure the following:

  All alarms are acknowledged on RMS.

  The simulator is in FREEZE following completion of Scenario #1

D. REQUIRED CONDITIONS:

none

2. SPECIAL TOOLS/EQUIPMENT:

- Form EP-0541 available, blocks 1, 4 and 6 complete.
- A watch or clock to time event classification and notifications.

SA4

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

INITIATING CUE:

The following plant conditions apply:

- **You are in Unit 1.**
- **A plant event resulting an ATWAS, with PPS setpoints exceeded, occurred. The Reactor Trip was completed by de-energizing CEDMCS from the Control Room. Following the Reactor Trip an ESD outside containment occurred.**

Based on this event and current conditions, perform all On-shift Emergency Coordinator duties for this event until properly relieved.

- **This is a time critical JPM.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- This JPM has **two (2)** Time Critical elements. The first is to classify the event within 15 minutes from the time the initiating cue is given, the second is to initiate/direct the NAN notification by the STSC Communicator within 15 minutes from the time the classification is made.
- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed IAW NUREG-1021.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.

SAFETY CONSIDERATIONS:

- None

STEP		ELEMENT	STANDARD
1.		Obtain Procedure EPIP-01	EPIP-01 obtained. **Note to evaluator**: The critical time to classify the event is 15 minutes from the time the examinee has received the initiating cue. **START TIME:** _____

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
2.	*	Determines EAL Level currently being met or exceeded.(5.4)	Uses Appendix A and determines EAL as: Failure of Reactor Protection System Instrumentation to Complete or Initiate a Automatic Reactor Scram Once a Reactor Protection Setpoint has Been Exceeded and Manual Scram Was Successful. **Note to evaluator**: This step may be performed at Step 4. **If requested CUE:** An RO reports that all four channels of DNBR and LPD were in 'TRIP' prior to de-energizing CEDMCS.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
3.		Directs the On shift STA or another EC qualified individual to independently verify EAL determination. (4.1)	Directs the On-shift STA or another EC qualified individual to independently verify EAL determination. **If requested CUE:** The STA concurs with your determination

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
4.	*	Classify the event. (4.1)	Classifies event as an **ALERT** within 15 minutes of step 1 START TIME. **Record CLASSIFICATION TIME**: _____ ***Total time to classify (Critical ≤15 min)** _____ **Record NOTIFICATION START TIME:** **_____(same as Classification Time above)** **If requested CUE:** The STA concurs with your determination

SAT _____ UNSAT _____ (UNSAT requires comments)

Steps 5 and 6 may be performed in any order

COMMENTS:

STEP		ELEMENT	STANDARD
5.	*	Completes form EP-0541, Palo Verde NAN Emergency Message Form. (4.2)	Examinee completes steps 3 and 5 of Form EP-0541 as follows: • Step 3 **ALERT**, UNIT 1 Status Code **5-4** • Step 5 **NO Radioactive release is in progress. NO Protective Actions are required (see step 7 below)** *After STSC Communicator completes steps 1,4 and 6* • Reviews form for accuracy/**signs step 6.** **If requested CUE: The STSC Communicator has arrived in the Unit 1 Control Room.** *STSC Communicator(Examiner) provides information for examinee to fill out steps 1,4 and 6 of Form EP-0541.* **INFORM CUE: Provide the examinee with the EP-0541 form with blocks 1,4, and 6 filled out**: Reviews form for accuracy and signs step 6.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
6.	*	Contact Security (CAS) (5.1) **Note: In Section 5.1, Procedure <u>actions</u> are in Bold text. Non-bolded text is generally for information only.**	Using the telephone or radio contacts CAS and directs the CAS operator to notify the Security Operations Section Leader to **complete supplemental notifications and activate the auto dialer.** **If requested CUE:**CAS has been notified.

COMMENTS:

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
7.		Determine appropriate Protective Action Recommendations.(5.1)	Consults Appendix B, Protective Action Recommendations. Protective Actions are **NONE** Recommended **Note to evaluator:** Examinee may have previously completed this action since it is information to be included on form EP-0541.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP		ELEMENT	STANDARD
8.	*	Direct the STSC Communicator to complete and transmit the Palo Verde NAN Emergency Message form.(5.1) **Note: This step may have been performed at step 5 above**.	Directs the STSC Communicator to transmit NAN form within 15 minutes of event CLASSIFICATION TIME in step 4.above. **Time STSC Communicator directed:** _____ ***Total time since Classification START TIME (Critical <15 Minutes.)** _____ **If requested CUE:** The STSC Communicator has initiated the NAN Message form.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:

STEP	ELEMENT	STANDARD
9.	Notify Site Manager. (5.1) .	Site Manager notified of the Emergency Situation and directed to come to the UNIT 1 Control room to assume the role of On-shift Emergency Coordinator. **If requested CUE:** Site Manager has been informed to report to the Unit 1 Control Room.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
10.	Assemble the Onshift Emergency Response Organization (ERO) staff for an initial briefing in the STSC general area. (5.1)	Assembles ERO staff for briefing. **INFORM CUE: The Radiation Protection Monitor and Shift Technical Advisor have not yet arrived in the STSC. The briefing can be performed when the ERO staff has assembled in the STSC.**

SAT UNSAT (UNSAT requires comments)

COMMENTS:

STEP		ELEMENT	STANDARD
11.	*	Conduct onsite notification using Step 5.1 Flowchart..	As a minimum, step 5.1.5 **"Standard Notification" message for ALERT** is transmitted over the Unit Evacuation System **Note:** examinee may direct the following (Recommended unless the EC is fairly certain plant conditions will not deteriorate.): • "Assembly Notification"(step 5.1.20) and, • "Accountability Request"(step 5.1.3) **If requested CUE:** Notifications are complete. **INFORM CUE: The Site Manager has relieved you as the Emergency Coordinator.**

SAT _____ UNSAT _____ (UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:

SA4

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	05/01/03	6	New Admin Task JPM for NRC EXAM 2003 scenario #1

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

SA4

PVNGS JOB PERFORMANCE MEASURE

NRC EXAM 2003

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

INITIATING CUE:

The following plant conditions apply:

- **You are in Unit 1**
- **A plant event occurred resulting an ATWAS, with PPS setpoints exceeded. The Reactor Trip was completed by de-energizing CEDMCS from the Control Room. Following the Reactor Trip an ESD outside containment occurred.**

Based on this event and current conditions, perform all On-shift Emergency Coordinator duties for this event until properly relieved.

- **This is a time critical JPM.**

SAFETY CONSIDERATIONS:

- None

Facility: PVNGS Scenario No.: 1 Op-Test No: 2003

Examiners: _____ Operators: _____

_____ _____

_____ _____

Initial Conditions: IC #16, 50% power, MOC.

Turnover: The following equipment is out of service: HPSI pump "B" (6 hours); PW pump "B" (20 hours); DG "B" (2 hours). MFP "B" has been started and is ready to be placed in service to support increasing plant power to 100%.

Event No.	Malf. No.	Event Type*	Event Description
1		N (CO)	Place 'B MFP in service (CRS to direct and CO to perform)
2		R (ALL)	Power increase (CRS to direct and RO/CO to coordinate and perform)
3	TR01:MTNP T11A 839	I (CO) *AOP*	TLI 1 instrument fails high (CO to diagnose and perform actions and CRS to direct actions and refer to Tech Specs).
4	CV03A 0	C (RO) *AOP*	CHN-UV-110P Flow control valve fails closed causing a loss of letdown (RO to diagnose and perform actions and CRS to direct recovery)
5	RD02E 100 RD02F 100	C (ALL) *AOP*	CEA#86 drops into core Five minutes later a second CEA#89 drops into core (RO to diagnose and CRS to direct reactor trip)
6	ATWS	C (ALL)	Reactor Protection system failure to open Reactor Trip Switchgear breakers (**PRA Significant**) (Crew to diagnose and take action and CRS to Direct response) (Critical Task to trip reactor by opening L03 and L10 prior to leaving SPTAs)
7 End point	MS03C 40 TD 7 min	M (ALL)	A main steam line on #2 SG breaks outside containment upstream of the MSIV's (after reactor trip EOP is entered) (Crew to diagnose and take actions and CRS to diagnose ESD and direct stabilization). (Critical task to stop feeding and steaming #2 SG) Crew stabilizes heat removal on #1 SG (Critical Task to control RCS parameters to prevent lifting Pzr Safeties)

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Scenario Overview

1. The crew will complete the startup of 'B' MFP and then commence a power increase.
2. The crew will then experience a failure of a TLI instrument. This will require the crew to respond to the failure and take actions per RRS Malfunctions AOP. The crew will select the unaffected instrument per the AOP.
3. The crew will then experience a failure of the in service letdown flow control valve causing a loss of letdown. This will require the crew to stabilize CVCS and refer to Technical Specifications.
4. The crew will then experience a dropped CEA. The crew will respond to the dropped CEA and take actions per the CEA Malfunction AOP. Then a second CEA will drop requiring a manual reactor trip.
5. The crew will experience an ATWS condition. The crew is expected to open supply breakers for L03 and L10 in response to the ATWS.
6. When the crew has entered the Reactor Trip EOP a steam line on #2 SG will break inside containment resulting in an ESD.
7. The crew will transition from Reactor Trip to ESD and stabilize the plant following SG dryout.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Supplemental Turnover

Plant conditions:

The unit is at 50% power, steady state conditions and core life is 225 EFPD. (Boron concentration is 831 PPM per chemistry sample.)

Equipment out of service:

Emergency Diesel Generator "B" is out of service for emergent work following discovery of a broken air connection on the safety system shutdown. T.S. 3.8.1 was entered 2 hours ago. Maintenance is expected to be completed in 4 hours.

High Pressure Safety Injection pump "B" is out of service for emergent work to replace a pump bearing that failed during its scheduled Surveillance Test 6 hours ago. Maintenance is expected to be completed in 14 hours. T.S. 3.5.3 condition B was entered 6 hours ago.

Plant Cooling Water pump "B" was removed from service 20 hours ago for scheduled maintenance on the pump motor. Maintenance is expected to be completed in 4 hours.

Planned shift activities:

The plant has been started up after an electrical grid disturbance caused a reactor/plant trip four (4) days ago. After startup, power was held at 50% for DFWCS testing and adjustment of nuclear instrumentation (NI). All tests were satisfactory.

Extended warm weather and the outages of several non-nuclear stations have caused a power shortage situation. Station management directs the crew to **immediately** begin a power ascension following turnover. ECC has been notified.

Procedure 40OP-9ZZ05 has been performed up to step 4.3.38.2.

Main Feedwater Pump "B" has been started using 40OP-9FT02, Feedwater Pump Turbine and is currently at ~1000 rpm. Continue the MFP startup with step 4.3.39.1.

Following completion of the 'B' main feed pump startup, the crew is to recommence the power ascension to 100% power over the next 6 hours.

The required dilution has been calculated and verified by an STA to be 6511 gallons of Reactor Makeup Water (see power change worksheet). A dilution rate of 18 gpm will support the 8% per hour ascension rate allowed by 40OP-9ZZ05 fuel preconditioning guidelines.

The normal, shiftly surveillance's are complete.

Note:

The crew will walk down the control boards and assume the shift and then perform a reactivity brief prior to the commencement of the evaluation.

Facility: PVNGS Scenario No.: 2 Op-Test No: 2003

Examiners: _____ Operators: _____

_____ _____

_____ _____

Initial Conditions: IC #20, 100% power, MOC.

Turnover: The following equipment is out of service: HPSI pump "B" (6 hours); PW pump "B" (20 hours); DG "B" has just completed a surveillance test run and is to be shutdown and placed in standby.

Event No.	Malf. No.	Event Type*	Event Description
1	DG06	N (CO)	Remove DG 'B' from service/DG trips (CRS to direct/refer to Tech Specs and CO to perform and diagnose)
2	MC01A 3	R (ALL) *AOP*	Condenser vacuum degrades requiring downpower (CO to diagnose and perform actions and CRS to direct stabilization)
3	CN01:CHNF IC 241 100	I (RO) *AOP*	Seal Injection flow controller fails valve closed (RO to diagnose and perform actions and CRS to direct recovery)
4	ED02	C (ALL)	Grid disturbance results in a Loss of Offsite power (Crew to diagnose and perform actions and CRS to direct actions)
5	RD03G RD03L	C (RO)	Two CEAs fail to fully insert (RO to diagnose and perform actions and CRS to direct boration) (Critical Task to establish boration to meet safety function requirements prior to completion of the SPTA's)
6	FW21B	C (CO)	Loss of Feedwater (CO to diagnose and perform actions and CRS to direct recovery)
7	FW22	M (ALL)	Loss of All Feedwater (Crew/CRS to diagnose and CRS to direct transition to FRP) Crew transitions to FRP and cross ties PBA-S03 to PBB-S04 (CO to perform actions and CRS to diagnose and direct actions) (Critical Task to establish feedwater to a SG prior to lifting primary safeties) **(PRA Significant)**
End point			Crew stabilizes plant with AFB feeding at least one SG.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Scenario Overview

1. While securing the "B" Emergency Diesel Generator "B" from a test run it will trip/fail to properly stop. The CRS will declare it inoperable and enter T.S. 3.8.1 action B.
2. Condenser vacuum will then degrade requiring the CRS to take the actions outlined in 40O-9ZZ07, Loss of Vacuum (a power reduction will be required). When an operator is sent to investigate, a leaking dogbone seal will be discovered. The water seal will be reestablished and vacuum will recover.
3. The crew will then experience a failure of the seal injection flow controller (CHNFIC241) resulting in a loss of seal injection flow to RCP 1A. The CRS will refer to 40AO-9ZZ04, Reactor Coolant Pump Emergencies for further information.
4. Grid instabilities in California will then result in a loss of the grid. This will result in a reactor trip due to a loss of offsite power.
5. Two CEA's will stick on the trip requiring the RO to initiate emergency boration. Following SPTA's the CRS will enter 40EP-9EO07, LOOP/LOFC (PBB-S04 is deenergized).
6. The crew will then experience a loss of feedwater (AFA-P01 will overspeed and AFN will trip on electrical fault) requiring the CRS to enter 40EP-9EO09, Functional Recovery (the CRS may enter 40EP-9EO06, Loss of All Feedwater first but due to a lack of MVAC, he will be redirected to the functional recovery procedure).
7. The CRS will jeopardize MVAC-2 and cross tie PBA-S03 powered by Diesel Generator "A" to PBB-S04 in order to use AFB-P01.
8. The scenario will terminate when feedwater is restored to at least one steam generator.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Supplemental Turnover Sheet

Plant Conditions:

The unit is at 100% power, steady state conditions and core life is 225 EFPD. (Boron concentration is 675 ppm per chemistry sample.)

Equipment out of service:

Emergency Diesel Generator "B" is running unloaded in test mode following a surveillance test.

High Pressure Safety Injection pump 'B' is out of service for emergent work to replace a pump bearing that failed during its scheduled Surveillance Test 6 hours ago. Maintenance workers expect to finish pump repairs in 14 hours from now. T.S. 3.5.3 condition B was entered 6 hours ago.

Plant Cooling Water pump 'B' was removed from service 20 hours ago for scheduled maintenance on the pump motor. Maintenance workers expect to finish pump repairs in 24 hours total time.

Planned shift activities:

The crew is to shutdown the diesel generator per 40OP-9DG02, Emergency Diesel Generator "B", continuing with step 7.3.7.4.

No other evolution's are planned at this time

The normal, shiftly surveillance's are complete.

Note:

The crew will walk down the control boards and assume the shift and then perform a reactivity brief prior to the commencement of the evaluation.

Facility: PVNGS Scenario No.: 3 Op-Test No: 2003

Examiners: _____ Operators: _____

Initial Conditions: IC #20, 100% power, MOC.

Turnover: The following equipment is out of service: HPSI pump "B" (6 hours); PW pump "B" (20 hours); DG "B" (2 hours). A leak in "A" low pressure feedwater heater string requires a downpower to 80%. See Supplemental Turnover for more details.

Event No.	Malf. No.	Event Type*	Event Description
1		R (All)	Downpower to 80% power. (CRS to direct and RO/CO to coordinate and perform)
2	RP06H1	I (RO) *AOP*	Inadvertent CSAS actuation (RO to diagnose and perform actions and CRS to direct and addresses Technical Specifications)
3	TC13	C (All) *AOP*	Turbine Trip/ Load Reject/Reactor Power Cutback (Crew to diagnose and perform actions and CRS to direct stabilization)
4	RD11B	C (All)	CEAs continue to insert/Manual Reactor Trip (Crew to diagnose and perform actions and CRS to direct reactor trip)
5	TR01: SGNPT1024 (980)	I (CO)	Steam bypass control system instrument failure (CO to diagnose and perform actions and CRS to direct stabilization) (Critical Task to control RCS parameters to prevent lifting Pressurizer Safeties)
6	ED02	M (All)	Loss of Off-Site Power on Reactor Trip (Crew to diagnose and CRS to direct actions) (Critical Task to establish feed to S/G's for level control)
7	EG06A	C (CO)	"A" DG Fails **(PRA Significant)** (CO to diagnose and CRS to direct transition to Blackout)
End point			CRS directs powering PBA-S03 with gas turbine generator

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Scenario Overview

1. The crew will commence a downpower using boration in preparation for removing low pressure feedwater heater string "A" from service for emergent work.
2. An inadvertent CSAS will occur requiring the crew to stop the running containment spray pumps and override and close containment spray valves. The crew will address affected containment HVAC equipment and restore as necessary. CRS may address technical specifications 3.3.5 and 3.3.6.
3. A turbine trip/large load reject/reactor power cutback will then occur. The crew will respond and attempt to stabilize the plant.
4. Following the reactor power cutback, CEAs will continue to drive into the core. The crew will attempt to stop the rod motion but will be unsuccessful requiring the CRS to direct a manual Rx. trip.
5. Upon the reactor trip, SBCS will fail due to an instrument failure requiring the CO to manually control SG pressure and Tc.
6. The crew will perform SPTAs and may enter the Reactor Trip EOP. Once SG pressure is under control a loss of offsite power will occur requiring entry into the LOOP/LOFC EOP.
7. When the CRS enters into the LOOP/LOFC EOP, the 'A' diesel generator will trip requiring entry into the Blackout EOP.
8. The scenario will end when PBA-S03 has been reenergized using at least one GTG.

Op-Test No: 2003 Scenario No.: 1 Event No: 1 Page 1 of 9

Event Description: Place "B" Main Feed Pump in service

Time	Position	Applicant's Actions or Behavior
T=0	CRS	Refers to 40OP-9ZZ05, Power Operations, Section 4.3 for power increase • Directs crew activities • Briefs crew appropriately for coordination of "B" Main Feedwater Pump start and power increase
	CO	Refers to 40OP-9FT02, FW Pump Turbine "B", step 4.3.39.1 • Close FTN-HV10 • Adjust FTN-HS54 to match pump discharge pressures • Ensure discharge valve is open (FWN-HV-32) • Adjust FWPT manual/auto speed setpoints to same value • Adjust bias on SGN-FIC-1108 to obtain zero deviation • Place FWPT "B" speed control in AUTO (FTN-HS-100) • Balance FWPT A & B performance using bias's on speed controllers on "A" & "B" FWPT's

Op-Test No: 2003 Scenario No.: 1 Event No: 2 Page 2 of 9

Event Description: Power increase. Crew to initiate power increase as directed in turnover. CRS to use 40OP-9ZZ05 to control power change.

Time	Position	Applicant's Actions or Behavior
T=0	CRS	Refers to 40OP-9ZZ05, Power Operations, Section 4.3 for power increase • Directs crew activities • Directs RO to initiate dilution per turnover
	RO	Initiates dilution of RCS at rate determined from turnover/power change worksheet • Uses 40OP-9CH01, Section 7.0 • Observes plant for indication of dilution • Reactor power • RCS temperature
	CO/RO	Adjusts turbine load to maintain RCS temperature in program band (manipulation may be performed by RO).

Op-Test No: 2003 Scenario No.: 1 Event No: 3 Page 3 of 9

Event Description: TLI 1 instrument fails high. Crew to determine that it is an instrument failure and take actions as directed by RRS Malfunctions AOP (40AO-9ZZ16).

Time	Position	Applicant's Actions or Behavior

T=25	CO	Recognizes TLI 1 failed high.
		• Responds to B04 alarms
		  • AMI (Auto Motion Inhibit (Window 4A 10B)
		  • RRS Input CH Deviation (RK alarm)
		  • Tave/Tref HiLo (Window 4A 8B)
		• Reports condition to RO and CRS
		• Verifies conditions do not support instrument reading and plant response

	CRS	Assesses plant condition and directs crew activities as directed by 40AO-9ZZ16, RRS Malfunctions
		• Verifies conditions do not support instrument reading and plant response (Tref higher than expected)
		• Ensures CEDMCS NOT in Auto Sequential
		• May ensure SBCS NOT in Remote Automatic
		• Determines impact of failed instrument
		  • Tref >Tave
		  • CEA withdrawal light illuminated
		• Directs removal of failed instrument from service

	RO	Ensures CEDMCS Not in Auto Sequential
	CO	• Ensures SBCS NOT in Remote Automatic • Validates TLI instrument failure • Selects the unaffected TLI instrument at the RRS Test Panel
	RO	Monitors plant parameters to ensure perturbations are minimized • Monitor Tavg/Tref mismatch is 3ºF or less • Returns CEDMCS to Auto Sequential per CRS direction
	CO	Returns SBCS to Remote Automatic operation per CRS direction

Op-Test No: 2003 Scenario No.: 1 Event No: 4 Page 4 of 9

Event Description: Letdown flow control valve (CHN-UV0110P) fails closed resulting in a loss of Letdown. Crew should take appropriate actions to cope with loss of letdown. It is not expected that letdown will be recovered.

Time	Position	Applicant's Actions or Behavior
T=35	CRS	Directs response to B03 alarms • LD HDR SYS TRBL (Window 3A 10A) • LD Process Mon TRBL (Window 3A 10B) Assess condition and operator inputs • Letdown flow and backpressure trending down • Letdown control valve 110P indicates closed Enters 40AO-9ZZ05, Loss of Letdown Directs operator to investigate in field
	RO	Observes B03 alarms and refers to Alarm Response • Diagnose letdown control valve 110P indicates closed/loss of letdown • Secures one charging pump
	CO	Monitors secondary systems and continues power increase
	CRS	May direct recovery per Appendix F (Loss of Letdown) Addresses TS (LCO 3.4.9) for Pressurizer level May brief crew on impact of event and associated Tec Specs.
	RO	May review restoration of letdown using Appendix F if time permits.

Op-Test No: 2003 Scenario No.: 1 Event No: 5 Page 5 of 9

Event Description: One CEA will drop to the bottom of the core. While the crew is responding to this Malfunction per 40AO-9ZZ11, CEA Malfunctions, a second CEA will drop into the core requiring a manual trip from B01.

Time	Position	Applicant's Actions or Behavior
T=45	RO	Determines a CEA has dropped into the core by observing Core mimic/B04 alarms/CEDMCs control panel Alarms include: • CEA Tech Spec Violation (Window 4A 4B) • CEA Position Out of Limits (Window 4A 6B) • CWP (Window 4A 9B) • CPC/CEAC TRBL (Window 5A 13B)
	CRS	Implements 40AO-9ZZ11 • Directs CEDMCS to "STANDBY" • Directs stopping dilution • Monitors CEA's • May direct completion of 73ST-RX03 COLSS Operability
	RO	Places CEDMCS in "STANDBY" Stops dilution
	CO	Continues to adjust turbine load to match Tave/Tref
	RO/CO	Notices second dropped CEA and informs CRS
	CRS	Verifies second dropped CEA Directs manual reactor trip per 40AO-9ZZ11, CEA Malfunctions
	RO	Attempts to trip reactor using manual reactor trip pushbuttons on BO5

Op-Test No: 2003 Scenario No.: 1 Event No: 6 Page 6 of 9

Event Description: Reactor protection system fails to open reactor trip switchgear breakers (PRA significant) when RPS setpoints are exceeded.

Time	Position	Applicant's Actions or Behavior
T=47	CRS	Recognizes Reactor has not tripped using manual push buttons. Directs opening L03 and L10 supply breakers.
	RO	Opens L03 and L10 supply breakers. (Critical Task to trip reactor by opening L03 and L10 prior to completion of SPTAs) May reclose after 5 seconds.
	RO/CO	Verifies reactor tripped.
	CRS	Implements SPTA's
	RO	Determines Reactivity safety function • Reactor power decreasing • Negative SUR • All CEA's inserted
	CO	Determines Maintenance of Vital Auxiliaries safety function • Main turbine tripped • Main generator breakers open • Station loads transfer to offsite power • Vital/non-vital busses energized

T=47	RO	Determines RCS Inventory Control safety function
		• Pressurizer level control
		• RCS subcooling $\geq$ 24°F
		• All RCP's have BOTH
		  • Seal injection
		  • Nuclear Cooling water
		Determines RCS Pressure control safety function
		• Pressurizer pressure 1837-2285 psia
		• Pressurizer pressure trending to 2225-2275
		Determines Core Heat Removal safety function
		• At least one RCP operating
		• Loop delta T < 10°F
		• RCS subcooling $\geq$ 24°F

Op-Test No: 2003 Scenario No.: 1 Event No: 6 (Continued) Page 7 of 9

Event Description: Reactor protection system fails to open reactor trip switchgear breakers (PRA significant) when RPS setpoints are exceeded. (Continued)

Time	Position	Applicant's Actions or Behavior

T=47
Continued
	CO	Determines RCS Heat Removal safety function
		• At least one SG with BOTH:
		  • Level ≥ 35% WR
		  • Feedwater restoring or maintaining level 45-60% NR
		• Tc 560 - 570°F
		• SG pressure 1140 – 1200 psia
		Determines Containment Isolation safety function
		• Containment pressure < 2.5 psig
		• Check radiation monitors:
		  • no valid containment area alarms
		  • no valid steam plant activity alarms
		Determines CTPC safety function
		• Containment temperature <117°F
		• Containment pressure <2.5 psig

	CRS	Completes SPTA Diagnostic and proceeds to 40EP-9EO02, Reactor Trip

Op-Test No: 2003 Scenario No.: 1 Event No: 7 Page 8 of 9

Event Description: Steam line break outside containment upstream of MSIV's when CRS implements 40EP-9EO02, Reactor Trip.

Time	Position	Applicant's Actions or Behavior
T=55	Crew	Recognizes plant response to steam leak Possible MSIS/SIAS/CIAS
	CRS	Diagnoses steam leak outside containment and transitions to 40EP-9EO05, Excessive Steam Demand (ESD) Confirms diagnosis and directs crew activities Ensures SG sample valves open Directs Chemistry to perform 74DP-9ZZ05, Abnormal Occurrence Checklist Ensures event is being classified Opens placekeeper and enters EOP entry time IF RCS pressure drops to SIAS setpoint, verify SIAS actuates
	RO	When RCS pressure drops below SIAS setpoint, verify SIAS actuation. Verify HPSI pumps start Verify LPSI pumps start Verify adequate SI flow
	CO	Ensures MSIS actuated
	RO	IF pressurizer pressure remains below SIAS setpoint: • Ensure one RCP is stopped in each loop
	CRS	Determines #2 SG is most affected and directs isolation of #2 SG
	CO	Isolates #2 SG Stops feeding and steaming #2 SG (Critical task to stop feeding and steaming #2 SG) Secures all auxiliary feed valves to #2 SG Secures steam from #2 SG to AFA-P01
	RO/CO	Monitor RCS parameters for SG blowdown/RCS rebound • Select target temperature/pressure • RCS T-cold stable/increasing • RCS pressure increasing
	CO	Upon rebound indication, uses SG #1 ADV to control RCS temperature and pressure (Critical Task to control RCS parameters to prevent lifting Pressurizer Safeties)

Op-Test No: 2003 Scenario No.: 1 Event No: 7 (Continued) Page 9 of 9 .

Event Description: Steam line break outside containment upstream of MSIV's when CRS implements 40EP-9EO02, Reactor Trip.

Time	Position	Applicant's Actions or Behavior
T=55 Continued	RO	Throttle SI flow as required. (Critical Task to control RCS parameters to prevent lifting Pressurizer Safeties)
	RO/CO	Perform Safety Function Status Check for ESD every 15 minutes
T≈65	END	Scenario will end when RCS has been stabilized and the unisolated Steam Generator Level is being maintained 40–60% NR OR Actions have been taken for plant stabilization and the unisolated Stem Generator level is trending towards 40-60% NR

Op-Test No: 2003 Scenario No.: 2 Event No: 1 Page 1 of 9

Event Description: Remove DG 'B' from service following completion of a surveillance test.

Time	Position	Applicant's Actions or Behavior
T=0	CRS	Directs CO to remove DG 'B' from service using 40OP-9DG02, Emergency Diesel Generator "B".
	CO	Refers to 40OP-9DG02, Emergency Diesel Generator "B", step 7.3.74 • Stops DG 'B' by placing DGB-HS-1 to the "STOP" position
	CO	Notices that DG 'B' immediately stops (Does NOT go through expected cooldown cycle) Reports malfunction to CRS
	CRS	Directs CO to investigate May send operator to investigate conditions at Diesel Generator Directs implementation of 41ST-1ZZ02, Inoperable Power Sources May call maintenance for troubleshooting Refers to Technical Specification 3.8.1.b • Enters actions B.1 AND B.2

Op-Test No: 2003 Scenario No.: 2 Event No: 2 Page 2 of 9

Event Description: Condenser vacuum degrades requiring downpower. Vacuum is restored after A reduction in power when the area operator restores vacuum breaker seal water.

Time	Position	Applicant's Actions or Behavior
T=10	CO	Notices degrading vacuum in 'A' condenser shell and reports event to CRS
	CRS	Assesses plant conditions directs crew activities per 40AO-9ZZ07, Loss of Condenser Vacuum • Directs AO to investigate conditions in field • Addresses diagnostic flowchart
	CO	Ensures that 'D' Air Removal Pump is running and is aligned to 'A' condenser shell.
	CRS	Determines power reduction of at least 5% is required Calculated boration required to achieve power reduction Directs downpower
	RO	Initiates a downpower using boration and/or CEA insertion
	RO/CO	Adjusts turbine load to maintain Tave/Tref ± 5ºF Monitors condenser vacuum and reports improvement when AO has restored vacuum breaker water seal

Op-Test No: 2003 Scenario No.: 2 Event No: 3 Page 3 of 9

Event Description: Seal injection flow controller fails closed. Crew addresses loss of seal injection to an operating RCP.

Time	Position	Applicant's Actions or Behavior
T=25	RO	Responds to B03 alarms indicating loss of seal injection to RCP 1A Verifies condition and informs CRS
	CRS	Assesses plant condition and directs RO to perform Alarm Response actions Enters 40AO-9ZZ04, Reactor Coolant Pump Emergencies
	RO	Takes actions per alarm response, RCP SEAL INJ FLOW HI-HI OR LO (Window 3A11B) • Determines that Seal injection to RCP 1A is low • Attempts manual control of RCP 1A flow controller (FIC241) • Monitors seal injection parameters per 40AO-9ZZ04, Appendix B
	CRS	May stop boration

Op-Test No: 2003 Scenario No.: 2 Event No: 4 Page 4 of 9

Event Description: Loss of Offsite power.

Time	Position	Applicant's Actions or Behavior
T=30	CRS	Observes Loss of Offsite Power Implements SPTA's
	RO	Determines Reactivity safety function • Reactor power decreasing • Negative SUR • Notes that two CEAs have failed to fully insert by observing Core mimic/CEDMCS control panel

Op-Test No: 2003 Scenario No.: 2 Event No: 5 Page 5 of 9

Event Description: Two CEAs fail to fully insert, crew initiates emergency boration.

Time	Position	Applicant's Actions or Behavior
T=30	CRS	Implements Standard Post Trip Actions • Directs RO to emergency borate
	RO	Initiates emergency boration • Ensures at least one charging pump is running • Opens CHUV536 • Closes CHUV501 • Reports to CRS that boration is initiated (Critical task to establish boration to meet safety function requirements prior to completion of the SPTA's)
	CO	Determines Maintenance of Vital Auxiliaries safety function • Main turbine tripped • Main generator breakers open • Loss of offsite power • PBA-S03 energized by Emergency Diesel Generator 'A' • Vital/non-vital DC busses energized
	RO	Determines RCS Inventory Control safety function • Pressurizer level control • RCS subcooling $\geq$ 24°F • All RCP's tripped • Seal bleedoff isolated Determines RCS Pressure control safety function • Pressurizer pressure 1837-2285 psia • Pressurizer pressure trending to 2225-2275 Determines Core Heat Removal safety function • Natural Circulation being established

Op-Test No: 2003 Scenario No.: 2 Event No: 5 (continued) Page 6 of 9

Event Description: Two CEAs fail to fully insert, crew initiates emergency boration (continued).

Time	Position	Applicant's Actions or Behavior
T=35	CO	Establishes Feedwater to SG's using AFA-P01 or AFN-P01 Establishes heat removal from both SG's using ADV's
	CRS	Completes SPTA diagnostic and transitions to 40EP-9EO07, Loss of Offsite Power/Loss of Forced Circulation
	RO	Establishes RCS pressure control using auxiliary sprays

Op-Test No: 2003 Scenario No.: 2 Event No: 6 Page 7 of 9

Event Description: Loss of Feedwater (AFA-P01 or AFN-P01 depending on which pump was Started on LOOP)

Time	Position	Applicant's Actions or Behavior
T=40	CO	Recognizes loss of feedwater and reports to CRS
	CRS	Directs starting the non-running auxiliary feedwater pump • AFA-P01 • AFN-P01

	CO	Starts non-running auxiliary feedwater pump
		• AFA-P01
		  • Opens steam supply valve to start turbine
		  • Opens aux. feedwater isolation valves to at least one SG
		• AFN-P01
		  • Opens BOTH supply isolation valves
		  • Starts AFN-P01
		  • Aligns pump discharge to at least one SG
		  • Establishes feedwater to at least one SG to restore level(s)

Op-Test No: 2003 Scenario No.: 2 Event No: 7 Page 8 of 9

Event Description: Loss of All Feedwater requiring transition to Functional Recovery Procedure

Time	Position	Applicant's Actions or Behavior
T=50	CO	Recognizes loss of running remaining auxiliary feedwater pump • AFN-P01 or • AFA-P01 Reports loss to CRS
	CRS	Verifies Loss of All Feedwater Transitions to 40EP-9EO6, Loss of All Feedwater (may transition directly to FRP) • Confirm diagnosis • Checks Safety Function Status Check Criteria • Direct Chemistry to perform Abnormal Occurrence Checklist • Verify event is classified • Open Placekeeper • Direct conserving SG inventory • Determines transition to FRP is required due to loss of MVAC (identified in step 6.1)

Op-Test No: 2003 Scenario No.: 2 Event No: 7 (cont.) Page 9 of 9

Event Description: Transition to FRP to cross tie PBA-S03 (energized by a DG) to PBB-S04.

Time	Position	Applicant's Actions or Behavior
T=50	Crew	Transitions to 40EP-9EO09, Functional Recovery Procedure • Ensures event is classified • Records EOP entry time • Directs RO/CO initial actions
	CO	Opens SG sample valves
	RO	Places Hydrogen Analyzer in service
	CRS	Identifies MVAC-2 as success path for LOAF Completes Safety Function Status Check for MVAC Directs energizing PBB-S04 from PBA-S03 using Appendix 59
	CO	Directs AO to complete attachment 59-A, Disable PBB-S04 Breakers Ensures all the following breakers are open: • NAN-S03A • PBA-S03K • PBA-S03L • NAN-S04A • PBB-S04L • PBB-S04K Ensures PBB-S04B, DG B Breaker is open Places all the following in "Pull TO Lock" • Train B containment Normal ACUs • Train B CEDM ACUs Closes PBA-S03L Normal Supply Breaker
	CO	When attachment 59-A is complete then: Parallel and close PBB-S04L, PBB-S04 Alternate Supply Breaker
	CO	Start AFB-P01 and establish feed to at least one SG (Critical Task to establish feedwater [feed ≥ steam to at least one SG prior to losing RCS pressure control)
T≈60	END	Scenario will end when feedwater has been established to at least one SG OR As deemed appropriate by the examination team.

Op-Test No: 2003 Scenario No.: 3 Event No: 1 Page 1 of 7

Event Description: Downpower to 1109 MW

Time	Position	Applicant's Actions or Behavior
T=0	CRS	Directs RO and CO commence a downpower to 1109 MW using boration and reducing turbine load as necessary to maintain Tave/Tref close. When boration is started, the CRS verifies boration

	RO	Refers to 40OP-9CH01, Charging and Letdown, section 6.3, Instructions for Makeup-Borate Mode
		• Commences a boration of 300 gallons
		  • Sets flow rate on CHN-FIC-210Y
		  • Sets "Target" volume on CHN-FQIS-210Y
		  • Places CHN-HS-210 in BORATE
		  • Depress Reset on totalizer/counter module (micro-motion)
		  • Depress Start on totalizer/counter module (micro-motion)
		  • Ensures
		  • One boric acid pump starts
		  • CHN-FIC-21X indicates no RMW flow
		  • CHN-UV-527 is open
		  • Checks for proper flow indicated on CHN-FIC-210Y

	CO	Adjusts turbine load to maintain Tave/Tref within limits as described by CRS
	Crew	Monitors the effects of boration on CEA motion, RCS temperature, and neutron level

Op-Test No: 2003 Scenario No.: 3 Event No: 2 Page 2 of 7

Event Description: Inadvertent CSAS actuation

Time	Position	Applicant's Actions or Behavior
T=15	Crew	Notices CSAS actuation
	RO	Investigates BO04 and determines "A" Containment Spray pump is running and there is no spray flow into containment (valves remain closed). May report to CRS that containment spray pump is running with no spray flow and that containment pressure is below CSAS setpoint
	CRS	Enters 40AA-9ZZ17, Inadvertent PPS-ESFAS Actuation's Section 5.0, CSAS and directs crew to respond to inadvertent CSAS: May tailboard starting CS pump if a SIAS has not actuated: Direct an AO to cycle control power to the CS pump breaker (breaker will close when control power is restored)
	RO	Stops the running Containment Spray pump Evaluates NC flow to running RCP's RO/CO to open NC containment isolation valves as necessary NCA-UV-402, NCW Cont. Downstream Return Isolation Vlv NCB-UV-403, NCW Cont. Upstream Return Isolation Vlv NCB-UV-401, NCW Cont. Upstream Supply Isolation Vlv Evaluates Letdown Overrides and stops running Control Room Essential AHUs Restores RCP Seal Bleedoff to VCT
	CO	Evaluates IA to containment Evaluates SG Blowdown isolation valves
	CO	Performs Appendix C, PPS-ESFAS Check to determine status of ESFAS equipment
	CRS	May address technical specifications 3.3.5 and 3.3.6.
	CRS	May evaluate reportability of event.

Op-Test No: 2003 Scenario No.: 3 Event No: 3 Page 3 of 7

Event Description: Turbine Trip/Load Rejection/Reactor Power Cutback

Time	Position	Applicant's Actions or Behavior
T=25	Crew	Identifies turbine trip and reactor power cutback
	CRS	Assesses plant conditions directs crew activities per 40AO-9ZZ08, Load Rejection • STA to perform Appendix F, Status Check Load Rejection • May direct stopping boration
	RO	Verify Reactor Power Cutback and CEA subgroups 4, 5, and 22 have inserted Verify that CEAs are inserting to reduce reactor power
	CO	Verify generator output breakers are open Ensure generator excitation is "OFF"
	RO	Monitor CEAs for deviations/reactor trip criteria
	CO	Restore and maintain SG levels 45-60% NR

Op-Test No: 2003 Scenario No.: 3 Event No: 4 Page 4 of 7

Event Description: CEAs continue to insert (uncontrolled) following RPCB.

Time	Position	Applicant's Actions or Behavior
T=25	RO	Identifies CEA insertion when not required (or after AMI)
	CRS	Directs CEA controls to any position other than auto sequential (AS)
	RO	Places CEA controls in directed position and verifies that CEAs continue to insert
	CRS	Directs reactor trip and SPTA's
	RO	Initiates manual reactor trip verifies reactivity safety function: • Reactor Power decreasing • Negative startup rate • All full length CEAs fully inserted
	CO	Determines Maintenance of Vital Auxiliaries safety function • Main turbine tripped • Main generator breakers open • Station loads transfer to offsite power • Vital/non-vital busses energized

	RO	Determines RCS Inventory Control safety function
		• Pressurizer level control
		• RCS subcooling $\geq$ 24°F
		• All RCP's have BOTH
		  • Seal injection
		  • Nuclear Cooling water
		Determines RCS Pressure control safety function
		• Pressurizer pressure 1837-2285 psia
		• Pressurizer pressure trending to 2225-2275
		Determines Core Heat Removal safety function
		• At least one RCP operating
		• Loop delta T < 10°F
		• RCS subcooling $\geq$ 24°F

	CO	Establishes Feedwater to SG's Establishes heat removal from both SG's

Op-Test No: 2003 Scenario No.: 3 Event No: 5 Page 5 of 7

Event Description: Loss of SBCS pressure control.

Time	Position	Applicant's Actions or Behavior
T=30	CRS	Notes failure of SBCS to modulate and control Tc Directs CO to take manual control of SBCS NOTE: Use of ADV's is not optimal but is acceptable
	CO	Determines failure mode of SBCS Controller Places Controller in Local Auto Or establishes heat removal using ADV's

Op-Test No: 2003 Scenario No.: 3 Event No: 6 Page 6 of 7

Event Description: Loss of Offsite Power.

Time	Position	Applicant's Actions or Behavior
T=35	Crew	Identifies loss of Offsite Power
	CRS	Transitions to LOOP/LOFC EOP • Directs crew actions per EOP • Confirms diagnosis • Directs Safety Function Status Check • Directs Chemistry to perform Abnormal Occurrence Checklist • Ensures the event is being classified
	RO	Ensures charging pump is running and seal injection
	CO	Actuates MSIS Verifies Tc maintained less than 570ºF using ADV's Ensures at least one SG is being maintained or restored to 45-60% NR
	RO	Ensures pressurizer level is 10-65% AND trending to 33-53% Verifies natural circulation

Op-Test No: 2003 Scenario No.: 3 Event No: 7 Page 7 of 7

Event Description: Loss of only running diesel generator (Blackout).

Time	Position	Applicant's Actions or Behavior
T=45	Crew	Identifies and acknowledges Blackout.
	CRS	Transitions to Blackout EOP Directs crews actions per Blackout EOP
	CO	Controls Tc using ADV's Establish feedwater to at least one SG using AFA-P01 (Critical task to establish feedwater to at least one SG within 30 minutes of entry into the Blackout Procedure)
	RO	Ensures Pressurizer Spray Valves are closed Performs Standard Appendix 53, "Align Deenergized Buses" Performs Standard Appendix 80 to align GTG to PBA-S03
T=60	END	Scenario will end when PBA-S03 has been energized using at least one GTG OR As deemed appropriate by the examination team.

Supplemental Information

SIMULATOR SETUP

Cert Load

- IC # 16

Malfunctions

None

Remote Functions

NOTE: See materials required to shift running PW Pumps before performing the following:

- MRF B201:PWNP01B OPEN — 'B' PW Pump control power off
- MRF B202:PWNP01B RACK_OUT — 'B' PW Pump removed from service
- MRF B201:SIBP02 OPEN — 'B' HPSI Pump control power off
- MRF B202:SIBP02 RACK_OUT — 'B' HPSI Pump removed from service

Overrides

None

Triggers

None

CAE's

- CAE! atws — prevents RTSG from opening
- CAE! oos/edgb — removes 'B' diesel generator from service

MATERIALS REQUIRED

- Start 'A' PW pump, then place 'B' PW pump in PTL
- Place yellow tags on the following handswitches:
  - 'B' PW pump
  - 'B' HPSI Pump
  - 'B' Emergency Diesel Generator handswitch
  - PBB-S04B, Diesel Generator Output Breaker
- Reset "B" Main Feedwater Pump Turbine and increase sped to ≈ 1000 RPM
- Marked up copies of the following procedures:
  - 40OP-9ZZ05, Power Operations
  - 40OP-9FT02, Feedwater Pump Turbine B
  - Power Change Worksheet
- Standard Simulator documentation

Simulator Drivers Instructions

EVENT	TIME	SYNTAX	DESCRIPTION	MISC.
1	T=0		Crew takes shift and conducts reactivity briefing	If directed as AO to observer MFP 'B' report no abnormal indications, no rubs, no vibrations
2	T = 0			Power increase requires no outside action.
3	T= 25	IMF TR01:MTNPT11A 839	TLI instrument fails high	If called as I&C tell control room that personnel will be sent to help as soon as possible.
4	T=35	IMF CV03A 0	CHN-UV-110P Fails closed	Results in a loss of letdown If directed as AO, report CHN-UV-110P has a broken air line and valve appears to be closed.
5	T=45	IMF RD02E 100	Dropped/slipped CEA #86	If called as I&C tell control room that personnel will be sent to help as soon as possible If called as AO to investigate dropped CEA at CEDMCS panels, respond that you are on the way.
	T=47	IMF RD2F 100	Dropped/slipped CEA #89	Upon dropping of second CEA crew will trip reactor. Report as AO, that CEDMCS indicated several trouble alarms.
6	T=47	Cae! ATWS In setup	Reactor fails to trip	No actions required.
7	T=55	IMF MS03C 40	Steam line break outside containment upstream of the MSIV's on #2 SG	If called as AO to look for steam leaks, report large amounts of steam from MSSS.

Supplemental Information

SIMULATOR SETUP

Cert Load

- IC # 20

Malfunctions

- IMF RD03G Stuck CEA #43
- IMF RD03L Stuck CEA #38

Remote Functions

See materials required to shift running PW Pumps before performing the following:

- MRF B201:PWNP01B OPEN ‘B’ PW Pump control power off
- MRF B202:PWNP01B RACK_OUT ‘B’ PW Pump removed from service
- MRF B201:SIBP02 OPEN ‘B’ HPSI Pump control power off
- MRF B202:SIBP02 RACK_OUT ‘B’ HPSI Pump removed from service

Overrides

None

Triggers

NOTE: Enter this trigger assignment AFTER the DG is started (this trigger will cause the DG to trip when it is shutdown.)

- Assign ZOPENEIG02.LT.0.5 (this monitors the voltage of DG ‘B’) (to do this, go to page EG3, click on the popup window “EI PEN-EI-G02”, select event trigger popup window, select “LT”, hit enter to return line to event trigger number, assign an available trigger #, then select “accept”. You now have the trigger file setup). Now link the following command to the trigger:
  - IMF EG06B

CAE’s

None

MATERIALS REQUIRED

- Start Spray Pond Pump ‘B’
- Start DG ‘B’
- Start ‘A’ PW pump, then stop ‘B’ PW pump and place HS in PTL
- Place yellow tags on the following handswitches:
  - ‘B’ PW pump
  - ‘B’ HPSI Pump
- Standard Simulator documentation

Simulator Drivers Instructions

EVENT	TIME	SYNTAX	DESCRIPTION	MISC.
1	T=0	IMF EG06B On trigger	Crew takes shift and conducts reactivity briefing DG 'B' Generator Differential Trip Make sure this malfunction occurs when the operator stops the DG	If directed as AO to investigate DG trip, report generator differential trip and DG is stopped. If requested, no problem with PBB-S04 bus and no sign of fire.
2	T= 10	IMF MC01A 5	Condenser Air Inleakage The objective is to downpower 3-5%	When sent as AO wait 5 minutes and report dogbone seal has lost water seal. Attempting to refill seal at this time.
	T= 20	DMF MC01A Wait for downpower to start.	Removes condenser air inleakage malfunction	Report as AO that water seal has been reestablished to dogbone seal.
3	T= 25	IMF CN01:CHNFIC 241 100	Seal Injection Flow Controller malfunction	
4	T= 35	IMF ED02	Loss of Grid Voltage	If called as ECC report grid down due to disturbance in California. Trying to recover at this time, estimated time to reenergize is 4 hours. PVNGS is a priority.
5		IMF RD03G IMF RD03L In setup	Two stuck CEA's	
6	T= 50	IMF FW21A Or IMF FW22	Loss of feedwater pump in use When CRS enters LOOP/LOFC EOP	Insert the malfunction for the feedwater pump that is being used to supply feedwater. *If called as AO report AFN breaker has 86 lockout but no other flags.
7	T=55	IMF FW22 Or IMF FW21A	Loss of All Feedwater	Insert the malfunction for the feedwater pump that is being used to supply feedwater. *If called as AO report AFA-P01 has broken shaft.
	T= When directed	Cae! EOP/attachment 59A DMF DG06B	Performs Attachment 59a Remove the Generator Differential trip to allow resetting the DG	Report as AO when attachment is complete.

Supplemental Information

SIMULATOR SETUP

Cert Load

- IC # 20

Malfunctions

- IMF HX02:CDNE01A 100 Feedwater Heater 1A tube leak (100%)

Remote Functions

See materials required to shift running PW Pumps before performing the following.

- MRF B201:PWNP01B OPEN — 'B' PW Pump control power off
- MRF B202:PWNP01B RACK_OUT — 'B' PW Pump removed from service
- MRF B201:SIBP02 OPEN — 'B' HPSI Pump control power off
- MRF B202:SIBP02 RACK_OUT — 'B' HPSI Pump removed from service

Overrides

None

Triggers

Assign RPSCHC to a trigger file and link the following command:

- IMF TR01:SGNPT1024 980 (or asis)
- IMF ED02 with a time delay of 10 minutes

Assign the following two malfunctions to an unassigned trigger file:

- IMF TC13 — Turbine Trip
- IMF RD11B 30 — Uncontrolled CEA Insertion with a 30 second time delay after TC13

CAE's

- CAE! oos/edgb — removes 'B' diesel generator from service

MATERIALS REQUIRED

- Start 'A' PW pump, then place 'B' PW pump in PTL
- Place yellow tags on the following handswitches:
  - 'B' PW pump
  - 'B' HPSI Pump
  - 'B' Emergency Diesel Generator handswitch
  - PBB-S04B, Diesel Generator Output Breaker
- Standard Simulator documentation

Simulator Drivers Instructions

EVENT	TIME	SYNTAX	DESCRIPTION	MISC.
1	T=0	IMF CDNE01A 100 In setup	Feedwater heater 1A tube leak Crew takes shift and conducts reactivity briefing for downpower	Power decrease requires no outside action.
2	T= 15	IMF RP06H1	Inadvertent CSAS actuation	If called as I&C tell control room that personnel will be sent to help as soon as possible.
3	T=25	IMF TC13 Initiate trigger	Turbine trip/large load rejection	
4	T=25 Linked to event 3	IMF RD11B 30	Uncontrolled CEA Insertion with a 30 second time delay	If called as I&C tell control room that personnel will be sent to help as soon as possible If called as AO to investigate dropped CEA at CEDMCS panels, respond you are on the way.
5	T=27 In setup	IMF TR01:SGNPT1024 980	Failure of SBCS to control Tc Linked to reactor trip	
6	T=35 In setup	IMF ED02	Loss of Offsite Power 10 minutes after reactor trip	If called as ECC inform control room that grid is lost due to line overloads to California. Estimated time of return is unknown but will be several hours at the minimum.
7	T=45	IMF EG06A	Loss of only running diesel generator (Blackout)	When called as AO to investigate PBA-S03/EDG “A”, report generator differential trip on EDG “A” but breaker is open and bus is deenergized with no damage and only undervoltage relays.
	T= when directed	CAE! EOP/Attachment 80a	Performs Standard Appendix 80a	If called as AO to perform SA 80a, run CAE and report completion to control room as required.
	T=when directed	MRF ED85 Close	Starts Gas Turbine Generator 1	When called as WRF operator wait five minuest and report GTG #1 is running and NANS07 is energized
	T=when directed	MRF ED78 Close	Closes NANS07AB to supply power to PBA-S03	When directed as WRF report NANS07ab is closed.