



RA1-1
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 1280010801 Perform Surveillance Tests

TASK STANDARD: Perform a SDM ST and identify to CRS that boration is required.

K/A: 2.2.12

K/A RATING: RO: 3.0 SRO:

K/A:

K/A RATING: RO: SRO:

APPLICABLE POSITION(S): RO

VALIDATION TIME: 15 minutes

REFERENCES: 72ST-9RX14, Rev 9, Core Data Book Unit 2 Cycle 13

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path		X

APPROVAL

DEVELOPER: Phil Capehart

TECH REVIEW: _____

REVISION DATE: 06/08/2005

APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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1. SIMULATOR SETUP:

- A. IC#: This JPM may be run in-plant or in the Simulator. This JPM does not require the simulator.
- B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.		
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Provide a copy of U2C13 Core Data Book.
- Copy of 72ST-9RX14 available.



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **Unit 2 is in mode 4 in a short notice outage. (Cycle 13)**
- **The Core is at 251 EFPD**
- **RCS Boron = 900 ppm per chemistry sample this morning @ 1000**
- **Current RCS Temperature (Tcold) is 300°F**
- **All CEAS are fully inserted, RTSG breakers are open**
- **The Reactor has been shutdown for 100 hours**
- **Shutdown Cooling is in service**
- **The plant is expected to be in Mode 5 with an RCS Tcold of 150°F in six hours.**

Your task is to:

1. **Perform a shutdown margin calculation using 72ST-9RX14 Section 8.1, for the expected mode 5 temperature of 150°F (Tcold) conditions.**
2. **Determine if any actions are required.**
 - **The SM has given his permission to perform the ST.**
 - **The prerequisites have NOT been completed.**



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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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- If performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- If locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	<p>Candidate fills in Section 7.0 data and initials.</p> <p>Note: The Examinee may inappropriately circle MODE 4 based on current conditions instead of the final SDM calculated MODE 5. This is not critical because the same curve is used regardless.</p>		<p>Section 7.0 is initialed as complete once the following data is filled in:</p> <ul style="list-style-type: none"> ○ Circle Unit 2 ○ Enter Today's date ○ Circle MODE 5 ○ Initials Step 7.1 & 7.2 ○ Initials Step 7.3 Section 8.1 and NAs Section 8.2 – 8.5 ○ Initials Step 7.4 <p>Examinee should determine that Section 8.1 is the correct section from the Initiating CUE</p>

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
2.	Examinee NAs steps 8.1.1.		Examinee notes that the steps of 8.1.1 are NA and annotates appropriately.

SAT / UNSAT
Comments (required for UNSAT):



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	STEP	CUE	STANDARD
3. *	Examinee records data into step 8.1.2. The Examinee may inappropriately place the wrong Tcold value of 300 °F based on current conditions instead of the final SDM calculated Tcold of 150 °F. If so, this will affect the correct boron determination.		Examinee records the following data: <ul style="list-style-type: none"> ○ RCS Boron <u>900 ppm</u> ○ Date/Time <u>Today</u> ○ Current EFPD <u>251</u> ○ Tcold <u>150 °F</u>
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
4. *	The Examinee obtains the Required RCS Boron Concentration from the U2C13 Core Data Book and enters the value into step 8.1.3.		Examinee obtains U2C13 Core Data Book and proceeds to page 124 (curve 3.1.11) and interpolates correct boron concentration of 945 ppm ± 5 ppm for 150 F. Value is entered into the first sub step of 8.1.3. The second sub step is NAed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5. *	Examinee accessed step 8.1.4 and determines that the condition is not met. Initials and proceeds to step 8.1.5.		Examinee determines that the condition for this step is NOT met, initials the step and proceeds to next step.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
6. *	Evaluate Step 8.1.5 for inclusion of negative reactivity from Xenon		Examinee determines that (at 100 hours past shutdown) the Core is essentially Xenon free. Cannot use Xenon adjustment. (NAs steps 8.1..5 through 8.1.8) Note: step becomes critical if values for Xenon other than 0 are used.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
7. *	Evaluate Step 8.1.9 for Acceptance Criteria		Examinee determines the Acceptance Criteria is NOT met. Circles NO, initials, and proceeds to step 8.1.11.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
9.	Obtain independent verification of all steps performed in this procedure.	Inform CUE: An independent verification has been performed.	Examinee requests independent verification.

SAT / UNSAT
Comments (required for UNSAT):



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	STEP	CUE	STANDARD
10. *	Addresses Step 8.11 due to NOT meeting acceptance criteria.		Examinee identifies the requirements to: <ul style="list-style-type: none">• Notify the CRS• Borate the RCS• Notify Reactor Engineering Note: Critical part is to identify that Boration is needed to meet the required shutdown margin for the future condition of 150F.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/8/05	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)



AD010-CR-000 RA1-2
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INITIATING CUE:

- **Unit 2 is in mode 4 in a short notice outage. (Cycle 13)**
- **The Core is at 251 EFPD**
- **RCS Boron = 900 ppm per chemistry sample this morning @ 1000**
- **Current RCS Temperature (Tcold) is 300°F**
- **All CEAS are fully inserted, RTSG breakers are open**
- **The Reactor has been shutdown for 100 hours**
- **Shutdown Cooling is in service**
- **The plant is expected to be in Mode 5 with an RCS Tcold of 150°F in six hours.**

Your task is to:

1. **Perform a shutdown margin calculation using 72ST-9RX14 Section 8.1, for the expected mode 5 temperature of 150°F (Tcold) conditions.**
2. **Determine if any actions are required.**
 - **The SM has given his permission to perform the ST.**
 - **The prerequisites have NOT been completed.**

CANDIDATE



AD010-CR-000 RA1-2
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 1220020001 Perform adjustable power signal calibrations

TASK STANDARD: Calibrate NKBDELT

K/A: 32002A106

K/A RATING: RO: 4.0 SRO: 4.0

K/A:

K/A RATING: RO: SRO:

APPLICABLE POSITION(S): RO

VALIDATION TIME: 15 minutes

REFERENCES: : 40OP-9ZZ05, Power Operations, Appendix R, Calibration of NKBDELT (Rev 102)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alternative Path	<input type="checkbox"/>	<input checked="" type="checkbox"/>

APPROVAL

DEVELOPER: John M. Dedon TECH REVIEW: _____

REVISION DATE: 04/06/04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

Date _____

GRADE *(Check One)* SAT UNSAT



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1. SIMULATOR SETUP:

A. Performed as a table-top JPM

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
5.		
6.		
7.		
8.		

C. SPECIAL INSTRUCTIONS:

None. This JPM will be conducted in table top format.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of 40OP-9ZZ05, Appendix R
- CMC and PC COLSS Addressable Constants Change Log sheets for NKE06.
- A Calculator



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

Perform Appendix R (Calibration of NKBDELTC) of 40OP-9ZZ05, Power Operations. You have the following data from the Plant Computer (PC) and Core Monitoring Computer (CMC):

	<u>PC</u>	<u>CMC</u>
NKBDELTC:	99.4	99.35
NKBSTATC:	101.58	101.61
JSCALORC:	99.62	99.61
NKE07:	0.972	0.972

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.



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- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1. *	Compare that JSCALORC and NKBDELTC on the PC and CMC. Check that the difference is within 0.2%.		Determines >0.2% difference for PC and CMC and goes to Step 2.0. Note: necessary data provided in CUE.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Record the values of NKBSTATC, JSCALORC, and Addressable Constant NKE07 from the PC and CMC.		Examinee records the values of NKBSTATC, JSCALORC, and Addressable Constant NKE07 from the PC and CMC given in CUE.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Calculate and record new values of addressable constant NKE06 using the Equation (in procedure). $NKE06 = NKBSTATC - (JSCALORC / NKE07)$	If needed CUE: request an answer to 3 significant digits. When independent verification is requested, Inform CUE: the Independent Verification has been completed and the procedure has been returned to you.	Examinee calculates and records new values of addressable constant NKE06 using the Equation. If the Tabletop data was utilized; PC NKE06= -0.9097 CMC NKE06= -0.8694 Note: the value must be negative.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4.	Enter the new values of NKE06 into the PC and CMC.	Inform CUE: The new values for NKE06 have been entered into the PC and CMC.	
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5. *	Document the changes in the COLSS Addressable Constant Log.		Examinee documents the changes in the COLSS Addressable Constant Log. The critical portion is that the New Value must be entered correctly.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6.	Check that NKBDELTC and JSCALORC read within 0.2% of one another.	If the Tabletop data was utilized and; PC NKE06= -0.9097 CMC NKE06= -0.869 Then CUE: NKBDELTC and JSCALORC read within 0.2% of each other	.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/8/05	NRC	

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.

- 7. Vendor reference document upgrade
- 8. Plant modification (include number)
- 9. Procedure upgrade
- 10. Internal or External Agency Commitment (indicate item number)
- 11. Technical Specification Change (indicate amendment number)
- 12. Other (explain in comments)



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INITIAL CONDITIONS

INITIATING CUE:

Perform Appendix R (Calibration of NKBDELTC) of 40OP-9ZZ05, Power Operations. You have the following data from the Plant Computer (PC) and Core Monitoring Computer (CMC):

	<u>PC</u>	<u>CMC</u>
NKBDELTC:	99.4	99.35
NKBSTATC:	101.58	101.61
JSCALORC:	99.62	99.61
NKE07:	0.972	0.972

CANDIDATE



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 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 1290030101 Generate a Permit
 TASK STANDARD: Identifies isolation boundaries for a Condensate Transfer Pump Permit
 K/A: 2.2.13 K/A RATING: RO: 3.6 SRO: 3.8
 K/A: K/A RATING: RO: SRO:
 APPLICABLE POSITION(S): RO VALIDATION TIME: 25 min
 REFERENCES: 40DP-9OP29, Power Block Permit and Tagging (Rev 29); P&IDs 13-M-CTP-001 and 13-E-CTP-001
 SUGGESTED TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____
 ADMIN AREA X

JPM TYPE

	YES	NO
Time Critical	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alternative Path	<input type="checkbox"/>	<input checked="" type="checkbox"/>

APPROVAL

DEVELOPER: Phil Capehart TECH REVIEW:
 REVISION DATE: 6/08/05 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT _____
 ADMIN AREA _____
 TESTING METHOD: SIMULATE _____ PERFORM _____

EVALUATION

EXAMINEE NAME: _____
 (print)
 EVALUATOR NAME: _____
 (print)
 Date _____
 GRADE (Check One) SAT UNSAT



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1. SIMULATOR SETUP:

A. IC#: Simulator not required

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:

- Mechanical & Electrical P&ID for CTA-P01
 - 13-M-CTP-001
 - 13-E-CTP-001



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any in-plant equipment.
- The examiner will provide any responses and indications required from outside the control room.
- Independent verification of valve positions waived for this JPM.
- You may use any source of information normally available.

INITIATING CUE:

Unit 1 is at rated power when conditions requiring a permit on CTA-P01 (Condensate Transfer Pump 'A') arise. SWMS is not available. CTA-P01 must be isolated to adjust or repack the pump.

Your task is using P&IDs, identify the components for this work that would require a red danger tag per 40DP-9OP29, Power Block Permit and Tagging.

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.
- 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.



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JPM START TIME:

	STEP	CUE	STANDARD
1. *	Determines the suction valve, CTA-V023, must be closed. NOTE: There are 9 tagged items per the standard CTA-P01 tagout in SWMS (Site Work Management System) computer. 6 of these are RED tagged. The 6 asterisked items shown here are the minimum required to successfully complete the JPM.		Determines the suction valve, CTA-V023, must be RED tagged CLOSED.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2. *	Determines the Fuel Pool Supply from CTA-P01, CTA-V018, must be closed.		Determines the Fuel Pool Supply from CTA-P01, CTA-V018, must be RED tagged CLOSED.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
3. *	Determines the Supply Header Isolation Valve, CTA-V017, must be closed		Determines the Supply Header Isolation Valve, CTA-V017, must be RED tagged CLOSED.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
4. *	Determines the mini-flow recirc valve, CTA-V028, must be closed.		Determines the mini-flow recirc valve, CTA-V028, must be RED tagged CLOSED.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5. *	Determines the full flow recirc valve, CTA-V033, must be closed		Determines full flow recirc valve, CTA-V033, must be RED tagged CLOSED.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6. *	Determines breaker PHA-M3308 must be open.		Determines breaker PHA-M3308 must be RED TAGGED OPEN.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
00	6/9/05	6	New ADMIN 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)



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INITIATING CUE:

Unit 1 is at rated power when conditions requiring a permit on CTA-P01 (Condensate Transfer Pump 'A') arise. SWMS is not available. CTA-P01 must be isolated to adjust or repack the pump.

Your task is using P&IDs, identify the components for this work that would require a red danger tag per 40DP-9OP29, Power Block Permit and Tagging.

CANDIDATE



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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: 15 minutes

REFERENCES: NGW01, Initial Radiation Worker Practices.

SUGGESTED TESTING ENVIRONMENT: SIMULATOR _____ PLANT X

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path		X

APPROVAL

DEVELOPER: Phil Capehart

TECH REVIEW:

REVISION DATE: 06/07/05

APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR _____ PLANT X

TESTING METHOD: SIMULATE _____ PERFORM X

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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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 copy of the Emergency Response REP 9-9999E.



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

- You may use any source of information normally available.

A COPY OF THE FOLLOWING IS ATTACHED:

- **COMMON EMERGENCY RESPONSE REP 9-9999E.**

INITIATING CUE:

Given the following initial conditions:

- **The Unit has experienced a Large Loss of Coolant Accident during an earthquake event.**
- **Radiation levels are elevated in the Auxiliary Bldg lower levels.**
- **The Control Room has been informed that the Area 2 Auxiliary Operator is trapped under debris in the 'A' train Shutdown Cooling Room.**
- **The Emergency Coordinator has authorized you to perform life saving activities to assist the Area 2 Auxiliary Operator out of the area.**

Your tasks are to locate the Emergency Response REP and determine:

1. **the proper task for this evolution.**
2. **if a RP Pre-Job Brief is required prior to entering the RCA?**
3. **RP coverage during job performance.**
4. **dress-out requirements.**
5. **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.



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SAFETY CONSIDERATIONS: none



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STEP	ELEMENT	STANDARD
1. *	Examinee reviews REP and survey and determines task he can enter on.	Examinee determines entry on TASK 3 is required.

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
2. *	Examinee determines if RP pre-job Brief is required for entry into the RCA.	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 .

SAT _____ UNSAT _____ (UNSAT requires comments)

STEP	ELEMENT	STANDARD
4. *	Examinee determines dress-out requirements.	PC and respiratory protection equipment requirements per direction from the RPM / RPC / RAC or designee.

SAT _____ UNSAT _____ (UNSAT requires comments)

COMMENTS:



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STEP	ELEMENT	STANDARD
5. *	Determine the REP required EPD settings.	Examinee determines EPD is required with alarm settings of 25,000 mRem dose and 250,000 mRem/hr Dose Rate (as stated on the REP)
SAT _____	UNSAT _____	(UNSAT requires comments)

NORMAL TERMINATION POINT

COMMENTS:



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KEY

1. Determine proper task for this evolution.

Proper task is TASK 3.

2. Is a RP Pre-Job Brief required prior to entering the RCA?

Yes.

3. Determine RP coverage during job performance.

RP coverage is CONTINUOUS.

4. Determine dress-out requirements.

PC and respiratory protection equipment requirements per direction from the RPM / RPC / RAC or designee.

5. Determine required EPD settings.

Examinee determines EPD is required with alarm settings of 25,000 mRem Dose and 250,000 mrem/hr Dose Rate.

COMMENTS:



RA3
PVNGS JOB PERFORMANCE MEASURE
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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	06/08/05	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)



SA1-1
AD012-CR-000
PVNGS JOB PERFORMANCE MEASURE
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INITIATING CUE:

- **The Unit has experienced a Large Loss of Coolant Accident during an earthquake event.**
- **Radiation levels are elevated in the Aux Bldg lower levels.**
- **The Control Room has been informed that the Area 2 Auxiliary Operator is trapped under debris in the 'A' train Shutdown Cooling Room.**
- **The Emergency Coordinator has authorized you to perform life saving activities to assist the Area 2 Auxiliary Operator out of the area.**

Your tasks are to locate the Emergency Response REP and determine:

- 1. the proper task for this evolution.**
- 2. if a RP Pre-Job Brief is required prior to entering the RCA?**
- 3. RP coverage during job performance.**
- 4. dress-out requirements.**
- 5. required EPD settings.**

CANDIDATE



SA1-1
AD012-CR-000
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2005 NRC EXAM

- 1. Determine the proper task for this evolution.**
- 2. Is a RP Pre-Job Brief required prior to entering the RCA?**
- 3. Determine RP coverage during job performance.**
- 4. Determine dress-out requirements.**
- 5. Determine required EPD settings.**

CANDIDATE



**SA1-1
AD012-CR-000
PVNGS JOB PERFORMANCE MEASURE
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JPM BASIS INFORMATION

TASK: 1280010202 Review Surveillance Tests

TASK STANDARD: Identify errors and determine a boration required.

K/A: 2.2.12

K/A RATING: RO: SRO: 3.4

K/A:

K/A RATING: RO: SRO:

APPLICABLE POSITION(S): SRO

VALIDATION TIME: 15 minutes

REFERENCES: 72ST-9RX14, Rev 9, Core Data Book Unit 2 Cycle 13

SUGGESTED TESTING ENVIRONMENT:

SIMULATOR

PLANT

JPM TYPE

	YES	NO
Time Critical	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alternative Path	<input type="checkbox"/>	<input checked="" type="checkbox"/>

APPROVAL

DEVELOPER: Phil Capehart

TECH REVIEW: _____

REVISION DATE: 06/08/2005

APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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PVNGS JOB PERFORMANCE MEASURE
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1. SIMULATOR SETUP:

- A. IC#: Simulator setup required. This JPM may be run in-plant or in the Simulator.
- B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
9.		
10.		
11.		
12.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- 72ST-9RX14, Section 7 & 8 data completed as follows:
 - Complete prerequisites for Unit 2, Mode 5, and Section 8.1
 - Step 8.1.1 N/A all steps
 - Step 8.1.2
 - RCS Boron from latest Chemistry sample 925
 - Date/Time from latest Chemistry sample Use today's date and an earlier time
 - EFPD 251
 - Most Conservative Tcold 300
 - NOTE: The correct value is 150**
 - Step 8.1.3
 - IF RTCBs are open Required RCS Boron Concentration 920
 - NOTE: The correct value is 982**
 - Step 8.1.4 – Circle the GO TO step 8.1.9
 - Step 8.1.9 – Initial and circle YES

OR

Use attached marked up procedure

- None

2. SPECIAL TOOLS/EQUIPMENT:

- None.



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PVNGS JOB PERFORMANCE MEASURE
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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **Unit 2 is in mode 4 in a short notice outage. (Cycle 13)**
- **The Core is at 251 EFPD**
- **RCS Boron = 925 ppm per sample**
- **Current RCS Temperature (Tcold) is 300°F**
- **All CEAS are fully inserted, RTSG breakers are open**
- **The Reactor has been shutdown for 100 hours**
- **Shutdown Cooling is in service**
- **Mode 5 with an RCS Tcold of 150°F is expected to be reached in about six hours.**
- **A shutdown margin ST (72ST-9RX14), for the expected mode 5 temperature of 150°F (Tcold) has been completed.**

Your task is to:

- 1. Perform the Independent Verification per step 8.1.10 of 72ST-9RX14.**
- 2. Identify 3 errors (Non-clerical, not typos)**
- 3. Determine any required action(s) that need to be done as a result of these errors.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step



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- 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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- If performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- If locked valves will be involved. No attempt will be made to actually operate any valves.



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM START TIME:

	STEP	CUE	STANDARD
1.	Verify the completion of the prerequisites section.		Examinee verified that Section 7.0 is initialed as complete.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Verify that the correct section is used. (Section 8.1)		Examinee should determine that Section 8.1 is the correct section from the Initiating CUE.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Verify the data in Step 8.1.2 is correct for this performance.		ERROR #1. Examinee notes that the "Most conservative Tcold" is INCORRECTLY marked as 300 °F. The "Most conservative Tcold" will be 150 °F based on proceeding to cooldown to MODE 5.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4. *	Refer to Section 3.1.11 of Core Data Book U2C13 and verify the table and minimum RCS Boron Value.		<p>ERROR # 2. Examinee verifies correct table was used and an INCORRECT boron concentration of 890 ppm boron was selected based on using the Current Tcold value (300 °F) instead of the projected “most conservative” Tcold for cooldown</p> <p>Correct boron concentration is 945 ppm ± 5 ppm for 150 °F (Tcold).</p>
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5. *	Examinee checks that RCS boron from chemistry is greater than the Required RCS boron concentration from the Core Data Book.		<p>Examinee determines that the <u>incorrect</u> response for Step 8.1.4 of <u>YES</u> was taken and therefore step 8.1.9 was performed next INCORRECTLY.</p>
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6. *	Evaluate Step 8.1.5 for inclusion of negative reactivity from Xenon		<p>Examinee determines that (at 100 hours past shutdown) the Core is essentially Xenon free. Cannot use Xenon adjustment. (Steps 8.1.5 through 8.1.8 are NOT APPLICABLE)</p> <p>Note: Step is critical only if a value is entered for Xenon.</p>
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
7. *	Acceptance Criteria of step 8.1.9 evaluated and determined if satisfied.		ERROR #3. Examinee identifies the acceptance criteria are NOT met
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
8. *	Addresses Step 8.11 due to NOT meeting acceptance criteria.		Examinee identifies the acceptance criteria are not met and action must be taken to: <ul style="list-style-type: none"> • Notify the CRS • Borate the RCS • Notify Reactor Engineering Note: Critical part is to identify that Boration is needed to meet the required shutdown margin for the future condition of 150F.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/8/05	6	Modified existing 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.

- 13. Vendor reference document upgrade
- 14. Plant modification (include number)
- 15. Procedure upgrade
- 16. Internal or External Agency Commitment (indicate item number)
- 17. Technical Specification Change (indicate amendment number)
- 18. Other (explain in comments)



SA1-2
PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM

INITIAL CONDITIONS

INITIATING CUE:

- Unit 2 is in mode 4 in a short notice outage. (Cycle 13)
- The Core is at 251 EFPD
- RCS Boron = 925 ppm per sample
- RCS Temperature (Tcold) is 300°F
- All CEAS are fully inserted, RTSG breakers are open
- The Reactor has been shutdown for 100 hours
- Shutdown Cooling is in service.
- Mode 5 with an RCS Tcold of 150°F is expected to be reached in about six hours.
- A shutdown margin ST (72ST-9RX14), for the expected mode 5 temperature of 150°F (Tcold) has been completed.

Your task is to:

1. Perform the Independent Verification per step 8.1.10 of 72ST-9RX14.
2. Identify 3 errors (Non-clerical, not typos)
3. Determine any required action(s) that need to be done as a result of these errors.

CANDIDATE



SA1-2
PVNGS JOB PERFORMANCE MEASURE
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1. SIMULATOR SETUP:

A. IC#: The simulator is not specifically needed for this JPM.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	TAG	TITLE	VALUE	TIME DELAY	RAMP RATE
	N/A				

C. SPECIAL INSTRUCTIONS:

- Ensure that a **copy** of 01DP-9EM01, OVERTIME LIMITATIONS, Rev. 4, is available.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- **Blank copy** of 01DP-9EM01, OVERTIME LIMITATIONS, Rev. 4.
- Calculator
- Access to the Operations 72 hour calculator on the intranet is not allowed for this JPM.



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

1. The following Unit 1 outage working hour history is given for you as the CRS and one of your Area Operators.

A. Date	CRS	Area Operator
6/28 (Day 1)	12 hrs (DS)	12 hrs (NS)
6/29	12 hrs (DS)	OFF
6/30	12 hrs (DS)	OFF
6/31	OFF	12 hrs (DS)
7/1	12 hrs (DS)	12 hrs (DS)
7/2	12 hrs (DS)	12 hrs (DS)
7/3	12 hrs (DS)	12 hrs (DS)
7/4	12 hrs (DS)	12 hrs (DS)
7/5	12 hrs (DS)	12 hrs (DS)

DS=Dayshift NS=Nightshift

2. You and the Area Operator are scheduled to work dayshift today, 7/6

INITIATING CUE:

- **You are to evaluate the working hour history for yourself and the Area Operator to determine whether both of you can work a full dayshift of 12 hours on 7/6. Explain the basis for each of your conclusions.**
- **Access to the Operations 72 hour calculator table on the intranet is not available for this task.**



SA1-2
PVNGS JOB PERFORMANCE MEASURE
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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.
- 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



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain 01DP-9EM01, Overtime Limitations	If candidate requests access to the Operations 72 hour calculator, CUE: the calculator is not available.	Obtains 01DP-9EM01, Overtime Limitations.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2. *	The number of hours worked shall be controlled in accordance with the limitations set in 01DP-9EM01, Overtime Limitations.		Assess hours worked and conclude the following: The SRO can work the entire 12 hour dayshift.
SAT / UNSAT Comments (required for UNSAT):			

COMMENTS:



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	STEP	CUE	STANDARD
3. *	The number of hours worked shall be controlled in accordance with the limitations set in 01DP-9EM01, Overtime Limitations.		Assess hours worked and conclude the following: The Area Operator can NOT take the shift unless an exception is given because the next hour worked will result in him exceeding 72 hours in a 168 hour period.
SAT / UNSAT Comments (required for UNSAT):			

COMMENTS:



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	STEP	CUE	STANDARD
4. *	The number of hours worked shall be controlled in accordance with the limitations set in 01DP-9EM01, Overtime Limitations.	<p>INFORM CUE: Assume you, the CRS, have just completed a 12 hour shift with a half hour turnover on July 6th and you are now in the break room. You receive a page from the Control Room that your help is needed in performing a routine Surveillance in containment for about 2 hours. Identify any working hour limits associated with this additional task.</p> <p>When requested, CUE (as appropriate): I understand the ST work may/may not be performed.</p>	<p>Assesses whether the CRS can assist with the ST.</p> <p>Candidate concludes that the ST work may NOT be performed due to exceeding working hour limits of any one of the following:</p> <ul style="list-style-type: none"> • 24 in 48 hrs • 72 in 168 hrs • 8 hr break between work periods <p>NOTE: The work could be performed if an Overtime Limitation Exception Report is processed and approved. However for this scenario it should not be approved. This work could be reasonably performed by another operator.</p>
<p>SAT / UNSAT Comments (required for UNSAT):</p>			

JPM STOP TIME:

NORMAL TERMINATION POINT

COMMENTS:



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	06/8/05	New	Original

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

2005 SRO NRC EXAM

INITIAL CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

1. The following Unit 1 outage working hour history is given for you as the CRS and one of your Area Operators.

A. Date	CRS	Area Operator
6/28 (Day 1)	12 hrs (DS)	12 hrs (NS)
6/29	12 hrs (DS)	OFF
6/30	12 hrs (DS)	OFF
6/31	OFF	12 hrs (DS)
7/1	12 hrs (DS)	12 hrs (DS)
7/2	12 hrs (DS)	12 hrs (DS)
7/3	12 hrs (DS)	12 hrs (DS)
7/4	12 hrs (DS)	12 hrs (DS)
7/5	12 hrs (DS)	12 hrs (DS)

DS=Dayshift

NS=Nightshift

2. You and the Area Operator are scheduled to work dayshift today, 7/6

INITIATING CUE:

- You are to evaluate the working hour history for yourself and the Area Operator to determine whether both of you can work a full dayshift of 12 hours on 7/6. Explain the basis for each of your conclusions.
- Access to the Operations 72 hour calculator table on the intranet is not available for this task.

CANDIDATE



SA3

PVNGS JOB PERFORMANCE MEASURE

2005 SRO NRC EXAM

JPM BASIS INFORMATION

TASK: 1290020301 Conduct On Shift Operations IAW Conduct of Shift Operations

TASK STANDARD: Determine qualification status as qualified. Determine proper REP task, contact RP, and enter the RCA. Upon entering take action for EPD alarm.

K/A: 2.3.10 K/A RATING: RO: 2.9 SRO: 3.3

APPLICABLE POSITION(S): SRO VALIDATION TIME: 20 min

REFERENCES: NGW01, Initial Radiation Worker Practices. REP 3-3022F

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: Phillip Capehart TECH REVIEW: _____

REVISION DATE: 09/29/2004 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



SA3
PVNGS JOB PERFORMANCE MEASURE
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1. SIMULATOR SETUP:

A. IC#: None. Performed in plant or table top.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
13.	N/A	
14.	N/A	
15.	N/A	
16.	N/A	

C. SPECIAL INSTRUCTIONS:

- None.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- A copy of the "REFUELING MACHINE CAMERA MAINTENANCE: REMOVE, REPAIR, AND REINSTALL" REP (i.e. REP 3-3022F attached)



SA3

PVNGS JOB PERFORMANCE MEASURE

2005 SRO NRC EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

Given the following initial conditions.

- **Unit 3 is preparing for core offload.**
- **This will be your first entry into the RCA this outage.**
- **You are going to enter containment to assist the RAMs (Refuel and Maintenance) group to identify the location (i.e. equipment setup) for placing the refuel camera on the Refuel platform. No hands on work is to be performed at this time.**
- **An HRA entry may be required.**

Your tasks for this JPM are to:

- **Use a Qualification Computer Station or PC to determine your GET RADWORKER qualification status prior to entry into the RCA.**
- **Given the appropriate REP for this job (3-3022F), discuss the following radiological requirements to perform this task:**
 - **Correct task # appropriate for the job scope.**
 - **Limitations associated with the REP.**
 - **Dosimetry required and the appropriate settings**
 - **Radiation Protection Coverage Requirements.**

Once the REP requirements for this evolution have been addressed, entry into the RCA will be made (or simulated) on the appropriate REP. Examinee may NOT discuss entry requirements with RP until the above items have been identified.



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2005 SRO NRC EXAM

NOTE: NO ENTRY INTO A HIGH RADIATION AREA OR CONTAMINATED AREA WILL ACTUALLY BE MADE.

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- No attempt will be made to actually operate any valves.
- **Notes to examiner:**
No entry into a High Radiation Area or Contaminated Area will be allowed. Examinee may discuss entry requirements with RP.
- It is preferred that this JPM be performed at the RP Island in preparation to performing an in plant/inside the RCA JPM



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JPM START TIME:

	STEP	CUE	STANDARD
1.*	Enters employee information into Qualification Computer Station (or SWMS program on personal PC) to query qualification status	After the candidate completes this step provide him/her with the REP. (REP 3-3022F)	Uses computer and determines qualification status of “RAD WORKER as “Yes” . (Note: a personal PC may be used in lieu of the Qualification Computer Station to access SWMS, SWMS Intranet web site or SWMS Warehouse to verify qualifications)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2. *	Determine the correct task number for the evolution.		Examinee selects appropriate task number (e.g. REP 3-3022F, Task 1, Refueling Operations and Support Work)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Determine the REP Limitations		Examinee determines the REP radiological limitations (e.g. NO VHRA Entry, NO Entry INTO > 5,000 mREM/hr., NO Containment Entry in Plant Modes 1-2) (pg 1 of 20)
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4. *	Determine Dosimetry (with appropriate settings).		Examinee determines EPD is required with settings as stated on the REP (e.g. set at 50 mRem dose and 1000 mREM/hr Dose Rate.) (pg 6 of 20)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5. *	Determines RP coverage requirements.	After Examinee determines INTERMITTENT coverage is required. INFORM CUE: All entry requirements have been met. Enter (or simulate entering) the RCA and proceed to the dress out area.	Examinee determines INTERMITTENT coverage is required. Note to evaluator: Once the REP requirements for the evolution have been addressed, entry into the RCA will be made (or simulated).
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6.	Enter the Auxiliary Building.	Note to evaluator, when examinee has reached the dress out station, initiate the following cue: INFORM CUE: When in the dress out area your EPD is beeping 3 times every second and the display is flashing “dose alarm”. NOTE: This alarm is unacknowledgeable. It can only be cleared at the ARACS system.	Examinee enters the Auxiliary Building, and proceeds to the dress out station.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
7. *	Does not enter containment and contacts RP.	IF REQUESTED CUE: RP has been contacted. INFORM CUE: This completes this JPM.	Does not enter containment. Examinee returns to RP island and informs RP of suspect EPD reading.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



SA3
PVNGS JOB PERFORMANCE MEASURE
2005 SRO NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	3/24/99	6	New Admin Task JPM
1	4/11/01	6	Include step to verify qualifications.

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.

- 19. Vendor reference document upgrade
- 20. Plant modification (include number)
- 21. Procedure upgrade
- 22. Internal or External Agency Commitment (indicate item number)
- 23. Technical Specification Change (indicate amendment number)
- 24. Other (explain in comments)



SA4A
PVNGS JOB PERFORMANCE MEASURE
2005 NRC SRO EXAM

INITIATING CUE:

Given the following initial conditions.

- Unit 3 is preparing for core offload.
- This will be your first entry into the RCA this outage.
- You are going to enter containment to assist the RAMs (Refuel and Maintenance) group to identify the location (i.e. equipment setup) for placing the refuel camera on the Refuel platform. No hands on work is to be performed at this time.
- An HRA entry may be required.

Your tasks for this JPM are to:

1. Use a Qualification Computer Station or PC to determine your GET RADWORKER qualification status prior to entry into the RCA.
2. Given the appropriate REP for this job (3-3022F), discuss the following radiological requirements to perform this task:
 - a) Correct task # appropriate for the job scope.
 - b) Limitations associated with the REP.
 - c) Dosimetry required and the appropriate settings
 - d) Radiation Protection Coverage Requirements.

Once the REP requirements for this evolution have been addressed, entry into the RCA will be made (or simulated) on the appropriate REP. Examinee may NOT discuss entry requirements with RP until the above items have been identified.

NOTE: NO ENTRY INTO A HIGH RADIATION AREA OR CONTAMINATED AREA WILL ACTUALLY BE MADE.

CANDIDATE



SA4A
PVNGS JOB PERFORMANCE MEASURE
2005 NRC SRO EXAM

- 5. Use a Qualification Computer Station or PC to determine your GET RADWORKER qualification status prior to entry into the RCA.**

- 6. Correct task # appropriate for the job scope.**

- 7. Limitations associated with the REP.**

- 8. Dosimetry required and the appropriate settings.**

- 9. Radiation Protection Coverage Requirements.**

CANDIDATE



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KEY

KEY

1. **Use a Qualification Computer Station or PC to determine your GET RADWORKER qualification status prior to entry into the RCA.**

The correct answer will be worker dependant. Expect that candidate qualification status is good.

2. **Correct task # appropriate for the job scope.**

Task #1 (Refueling Operations and support work)

3. **Limitations associated with the REP.**

No VHRA entry, No entry into >5,000 mRem/hr., No Containment entry in plant modes 1-2

4. **Dosimetry required and the appropriate settings.**

EPD required with settings of 50 mRem dose, and 1000mRem/hr dose rate.

5. **Radiation Protection Coverage Requirements.**

RP coverage is Intermittent.



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JPM 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: RO: SRO: 4.0
 K/A: K/A RATING: RO: SRO:

APPLICABLE POSITION(S): SRO VALIDATION TIME: 15 minutes

REFERENCES: EPIP-01, Satellite Technical Support Center Actions (Rev 18); EPIP-99, EPIP Standard
 Appendices, Appendix A (Rev 3)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical	X	
Alternative Path		X

APPROVAL

DEVELOPER: Warren Potter TECH REVIEW: _____

REVISION DATE: 6/8/05 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



SA4A
PVNGS JOB PERFORMANCE MEASURE
2005 NRC SRO EXAM

1. SIMULATOR SETUP:

- A. The simulator should be in FREEZE after 2005 LOIT NRC Scenario #1.
- B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:
 - As left by the scenario.

EVENT	COMMAND	DESCRIPTION
17.		
18.		
19.		
20.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- Simulator in FREEZE at the conclusion of 2005 LOIT NRC Exam scenario #1.

2. SPECIAL TOOLS/EQUIPMENT:

- Form EP-0541 available, blocks 1, 2, 4 and 6 complete.
- A watch or clock to time event classification and notifications.



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2005 NRC SRO EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

ALL JPM's

- 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 in a Reactor Trip occurred. There were two stuck CEAs upon reactor trip. Following the Reactor Trip a LOCA inside containment occurred.

Based on this event and current conditions, perform all On-shift Emergency Coordinator duties for this event per EPIP-01 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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.



SA4A

PVNGS JOB PERFORMANCE MEASURE

2005 NRC SRO EXAM

JPM START TIME:

	STEP	CUE	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 Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Determine if Initial Actions must be performed.		Determines that Initial Actions must be performed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3.	If a toxic gas release has occurred, then consider the initiation of a CRVIAS.		No action. No toxic gas release.
SAT / UNSAT Comments (required for UNSAT):			



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 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
4.	If EPIP-09 entry is required (security event) and EPIP-09 has not already been implemented, then go to EPIP-09	If Requested CUE: There is no security event in progress.	Determines there is no security event in progress. Continues in procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5.	Contact the Shift Manager in the other two units to discuss the possibility that EALs may be met or exceeded in more than one unit.	If requested CUE: Only Unit 1 is impacted. If requested CUE: You are the designated on-shift EC.	Contacts other unit SMs to determine if other units are impacted. Continues in procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6. *	If an STSC Communicator is available in the EC's control room, then direct them to assume the STSC Communicator role.	Inform CUE: An STSC Communicator qualified person has assumed the role of STSC Communicator.	Requests the services of an STSC Communicator to assume the role.
SAT / UNSAT Comments (required for UNSAT):			



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
7. *	Determines EAL Level currently being met or exceeded. Evaluates the fission product barrier thresholds and event-based EALs.		Uses EPIP-99, Appendix A and determines EAL as Loss or Potential Loss of the RCS (based on RCS Leak > 44 gpm or RCS leak rate > available makeup capacity as indicated by a loss of RCS subcooling [1-6].
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
8.	If time allows, then review the classification with another EC qualified individual.	If requested CUE: there is no other EC qualified person present.	Continues on in procedure.
SAT / UNSAT Comments (required for UNSAT):			



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 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
9. *	If an EAL is currently met or exceeded, then the EC determines the highest classification and logs the declaration time.		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)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10.	Add 15 minutes to the time noted in the previous step to determine when the notification of the offsite agencies must commence.		Records time when offsite agencies must be commenced. Record Time: _____
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
11.	EC evaluates and determines if there has been a transitory condition.		Determines there has been no transitory condition.
SAT / UNSAT Comments (required for UNSAT):			



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
12.	If the event in progress endangers personnel (e.g. safety or security issues) then transmit the “Attention all plant personnel” message.		Candidate may elect to provide this message. This is not critical to the evaluation.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	If the STSC has not already been activated in the EC’s unit, then the on-shift EC transmits the procedural message..	Inform CUE: The STSC has already been activated in Unit 1.	No message transmittal. Continues on in procedure. If a message is transmitted, that is acceptable.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
14.	Proceed to Section 5.0, ALERT		Proceeds to section 5.0, ALERT.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
15.	Complete initial steps 5.1, 5.2, and 5.3 of section 5.0		Completes steps 5.1, 5.2, and 5.3.
SAT / UNSAT Comments (required for UNSAT):			



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
16.	If the STSC Communicator has arrived in the control room, then, Direct the STSC Communicator to perform EPIP-01, Appendix C	Inform CUE: The STSC Communicator has arrived.	Directs STSC Communicator to perform EPIP-01, Appendix C.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
17.	Completes form EP-0541, Palo Verde NAN Emergency Message Form.	INFORM CUE: Provide the examinee with the EP-0541 form with blocks 1, 2, 4, and 6 filled out:	Examinee completes steps 3 and 5 of Form EP-0541 as follows: <ul style="list-style-type: none"> • Step 3 ALERT, UNIT 1 Status Code 1-6 • Step 5 NO Radioactive release is in progress. NO Protective Actions are required (see step 7 below) • Reviews form for accuracy and signs step 6.
SAT / UNSAT Comments (required for UNSAT):			



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 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
18.	Contact Security (CAS) (5.1)	If requested CUE: CAS has been notified.	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.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
19.	Determine appropriate Protective Action Recommendations.		<p>Consults Appendix B, Protective Action Recommendations.</p> <p>Protective Actions are NONE Recommended</p> <p>Note to evaluator: Examinee may have previously completed this action since it is information to be included on form EP-0541.</p>

SAT / UNSAT
Comments (required for UNSAT):



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 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
20.	Direct the STSC Communicator to complete and transmit the Palo Verde NAN Emergency Message form. Note: This step may have been performed at step above.	 If requested CUE: The STSC Communicator has initiated the NAN Message form	Directs the STSC Communicator to transmit NAN form within 15 minutes of event CLASSIFICATION TIME in step 9 above. Time STSC Communicator directed: _____ *Total time since Classification START TIME (Critical <15 Minutes.) _____
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
21.	Notify Site Manager.	If requested CUE: Site Manager has been informed to report to the Unit 1 Control Room.	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.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
22.	Assemble the On-shift Emergency Response Organization (ERO) staff for an initial briefing in the STSC general area.	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.	Assembles ERO staff for briefing.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
23.	Conduct onsite notification using Step 5.1 Flowchart..	<p>If requested CUE: Notifications are complete.</p> <p>Inform CUE: the Site Manger has relieved you as the Emergency Coordinator.</p>	<p>As a minimum, step 5.1.5 “Standard Notification” message for ALERT is transmitted over the Unit Evacuation System</p> <p>Note: examinee may direct the following (Recommended unless the EC is fairly certain plant conditions will not deteriorate.):</p> <ul style="list-style-type: none"> • “Assembly Notification”(step 5.1.20) and, • “Accountability Request”(step 5.1.3)
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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2005 NRC SRO EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS

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.

- 25. Vendor reference document upgrade
- 26. Plant modification (include number)
- 27. Procedure upgrade
- 28. Internal or External Agency Commitment (indicate item number)
- 29. Technical Specification Change (indicate amendment number)
- 30. Other (explain in comments)



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC SRO EXAM
INITIAL CONDITIONS

INITIATING CUE:

The following plant conditions apply:

- You are in Unit 1.
- A plant event resulting in a Reactor Trip occurred. There were two stuck CEAs upon reactor trip. Following the Reactor Trip a LOCA inside containment occurred.

Based on this event and current conditions, perform all On-shift Emergency Coordinator duties for this event per EPIP-01 until properly relieved.

- This is a time critical JPM.

CANDIDATE



SA4B
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

JPM 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: RO: SRO: 4.0
 K/A: K/A RATING: RO: SRO:

APPLICABLE POSITION(S): SRO VALIDATION TIME: 15 minutes

REFERENCES: EPIP-01, Satellite Technical Support Center Actions (Rev 18); EPIP-99, EPIP Standard
 Appendices, Appendix A (Rev 3)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical	X	
Alternative Path		X

APPROVAL

DEVELOPER: Warren Potter TECH REVIEW: _____
 REVISION DATE: 6/8/05 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT
 TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)
 EVALUATOR NAME: _____ (print)
 Date _____
 GRADE (Check One) SAT UNSAT



SA4B
PVNGS JOB PERFORMANCE MEASURE
2005 NRC SRO EXAM

1. SIMULATOR SETUP:

- A. The simulator should be in FREEZE after 2005 LOIT NRC Scenario #2.
- B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:
 - As left by the scenario.

EVENT	COMMAND	DESCRIPTION
21.		
22.		
23.		
24.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- Simulator in FREEZE at the conclusion of 2005 LOIT NRC Exam scenario #2.

2. SPECIAL TOOLS/EQUIPMENT:

- Form EP-0541 available, blocks 1, 2, 4 and 6 complete.
- A watch or clock to time event classification and notifications.



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC SRO EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

ALL JPM's

- 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 in a Reactor Trip occurred. Following the Reactor Trip a Loss of Offsite Power occurred followed by a Loss of All Feedwater.

Based on this event and the conditions just prior to the PBB-S04 restoration, 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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.

JPM START TIME:



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 2005 NRC SRO EXAM

	STEP	CUE	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 Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Determine if Initial Actions must be performed.		Determines that Initial Actions must be performed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3.	If a toxic gas release has occurred, then consider the initiation of a CRVIAS.		No action. No toxic gas release.
SAT / UNSAT Comments (required for UNSAT):			



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2005 NRC SRO EXAM

	STEP	CUE	STANDARD
4.	If EPIP-09 entry is required (security event) and EPIP-09 has not already been implemented, then go to EPIP-09	If Requested CUE: there is no security event in progress.	Determines there is no security event in progress. Continues in procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5.	Contact the Shift Manager in the other two units to discuss the possibility that EALs may be met or exceeded in more than one unit.	If requested CUE: Only Unit 1 is impacted. If requested CUE: You are the designated on-shift EC.	Contacts other unit SMs to determine if other units are impacted. Continues in procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6. *	If an STSC Communicator is available in the EC's control room, then direct them to assume the STSC Communicator role.	Inform CUE: An STSC Communicator qualified person has assumed the role of STSC Communicator.	Requests the services of an STSC Communicator to assume the role.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
7. *	Determines EAL Level currently being met or exceeded. Evaluates the fission product barrier thresholds and event-based EALs.		<p>Uses EPIP-99, Appendix A and determines EAL as LOAF such that minimum acceptable Feedwater flow cannot be maintained [1-8]. This applies because actions are taken outside the control room to restore Feedwater (trip 86 relays on the class 1E busses).</p> <p>Note to evaluator: EAL [2-3] applies if power is not restored to PBB-S04 within 15 minutes. EAL [5-9] has been determined NOT to apply to this case since SGs are still a viable heat sink.</p>
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
8.	If time allows, then review the classification with another EC qualified individual.	If requested CUE: there is no other EC qualified individual present.	Continues on in procedure.
SAT / UNSAT Comments (required for UNSAT):			



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 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
9. *	If an EAL is currently met or exceeded, then the EC determines the highest classification and logs the declaration time.		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)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10.	Add 15 minutes to the time noted in the previous step to determine when the notification of the offsite agencies must commence.		Records time when offsite agencies must be commenced. Record Time: _____
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
11.	EC evaluates and determines if there has been a transitory condition.		Determines there has been no transitory condition.
SAT / UNSAT Comments (required for UNSAT):			



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 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
12.	If the event in progress endangers personnel (e.g. safety or security issues) then transmit the “Attention all plant personnel” message.		Candidate may elect to provide this message. This is not critical to the evaluation.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	If the STSC has not already been activated in the EC’s unit, then the on-shift EC transmits the procedural message.	Inform CUE: The STSC has already been activated in Unit 1.	No message transmittal. Continues on in procedure. If a message is transmitted, that is acceptable.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
14.	Proceed to Section 5.0, ALERT		Proceeds to section 5.0, ALERT.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
15.	Complete initial steps 5.1, 5.2, and 5.3 of section 5.0		Completes steps 5.1, 5.2, and 5.3.
SAT / UNSAT Comments (required for UNSAT):			



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
16. *	If the STSC Communicator has arrived in the control room, then, Direct the STSC Communicator to perform EPIP-01, Appendix C	Inform CUE: The STSC Communicator has arrived.	Directs STSC Communicator to perform EPIP-01, Appendix C.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
17. *	Completes form EP-0541, Palo Verde NAN Emergency Message Form.	INFORM CUE: Provide the examinee with the EP-0541 form with blocks 1, 2, 4, and 6 filled out:	Examinee completes steps 3 and 5 of Form EP-0541 as follows: <ul style="list-style-type: none"> • Step 3 ALERT, UNIT 1 Status Code 1-8 (maybe 2-3) • Step 5 NO Radioactive release is in progress. NO Protective Actions are required (see step 7 below) • Reviews form for accuracy and signs step 6.
SAT / UNSAT Comments (required for UNSAT):			



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
18.	Contact Security (CAS) (5.1)	If requested CUE: CAS has been notified.	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.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
19.	Determine appropriate Protective Action Recommendations.		<p>Consults Appendix B, Protective Action Recommendations.</p> <p>Protective Actions are NONE Recommended</p> <p>Note to evaluator: Examinee may have previously completed this action since it is information to be included on form EP-0541.</p>

SAT / UNSAT
Comments (required for UNSAT):



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
20. *	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 above.	If requested CUE: The STSC Communicator has initiated the NAN Message form	Directs the STSC Communicator to transmit NAN form within 15 minutes of event CLASSIFICATION TIME in step 9 above. Time STSC Communicator directed: _____ *Total time since Classification START TIME (Critical <15 Minutes.) _____
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
21.	Notify Site Manager.	If requested CUE: Site Manager has been informed to report to the Unit 1 Control Room.	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.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
22.	Assemble the On-shift Emergency Response Organization (ERO) staff for an initial briefing in the STSC general area.	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.	Assembles ERO staff for briefing.
SAT / UNSAT Comments (required for UNSAT):			



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

	STEP	CUE	STANDARD
23.	Conduct onsite notification using Step 5.1 Flowchart..	<p>If requested CUE: Notifications are complete.</p> <p>Inform CUE: the Site Manger has relieved you as the Emergency Coordinator.</p>	<p>As a minimum, step 5.1.5 “Standard Notification” message for ALERT is transmitted over the Unit Evacuation System</p> <p>Note: examinee may direct the following (Recommended unless the EC is fairly certain plant conditions will not deteriorate.):</p> <ul style="list-style-type: none"> • “Assembly Notification”(step 5.1.20) and, • “Accountability Request”(step 5.1.3)
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



SA4B
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC SRO EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/10/05	New	JPM created for 2005 LOIT NRC Exam

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.

- 31. Vendor reference document upgrade
- 32. Plant modification (include number)
- 33. Procedure upgrade
- 34. Internal or External Agency Commitment (indicate item number)
- 35. Technical Specification Change (indicate amendment number)
- 36. Other (explain in comments)



JP-1
PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
INITIAL CONDITIONS

INITIATING CUE:

The following plant conditions apply:

- **You are in Unit 1.**
- **A plant event resulting in a Reactor Trip occurred. Following the Reactor Trip a Loss of Offsite Power occurred followed by a Loss of All Feedwater.**

Based on this event and the conditions just prior to the PBB-S04 restoration, perform all On-shift Emergency Coordinator duties for this event until properly relieved.

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

CANDIDATE



JP-1
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 1240028801 - Energize PKD-M44 From the "D" Battery Charger

TASK STANDARD: PKD-M44 is energized from "BD" Battery Charger

K/A: 4.2.058AA1.03

K/A RATING: RO: 3.1 SRO: 3.3

K/A:

K/A RATING: RO: SRO:

APPLICABLE POSITION(S): RO VALIDATION TIME: 20 minutes

REFERENCES: 40EP-9EO10, Standard Appendices, Appendix 97 (Rev 35)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: Phil Capehart TECH REVIEW: _____

REVISION DATE: 6/10/05 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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PVNGS JOB PERFORMANCE MEASURE
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1. SIMULATOR SETUP:

A. IC#: N/A

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
25.		
26.		
27.		
28.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of Appendix 97 of 40EP-9EO10, Standard Appendices.



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **Following a Reactor Trip, a fault on the battery bank resulted in PKD-M44 being de-energized.**
- **The affected battery cell has been jumpered out by Electricians and PKD-M44 has been cleared for restoration.**
- **The Control Room Supervisor now directs you to place Battery Charger "D" on PKD-M44 using Appendix 97 of 40EP-9EO10, Standard Appendices.**

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Perform the following on Battery Charger D, PKD-H14: (DC Equipment Room D) a. Ensure the AC POWER input breaker is in "OFF".	AC POWER input breaker is in "OFF".	Examinee locates AC POWER input breaker and verifies it is "OFF".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	b. Ensure the DC POWER output breaker is in "OFF".	DC POWER input breaker is in "OFF".	Examinee locates DC POWER input breaker and verifies it is "OFF".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3.	c. Ensure that the mode selector switch is in "FLOAT".	MODE SELECTOR Switch in "FLOAT".	Examinee locates the MODE SELECTOR switch and verifies it is "FLOAT".
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4.	Ensure that breaker PHB-M3209, "BATTERY CHARGER "D" E-PKD-H14" is "ON" and the contactor is closed.	Breaker PHB-M3209 is "ON" and the contactor is "CLOSED".	Examinee locates PHB-M3209 and verifies it is "ON" and that the contactor is "CLOSED".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5.	IF PKD-M44 is de-energized , THEN ensure that breaker PKD-M4406, "INVERTER "D" E-PND-N14", is open.	Breaker PKD-M4406, "INVERTER "D" E-PND-N14", is open.	Examinee locates PKD-M4406 and verifies it is "OPEN".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6.	Ensure that breaker PKD-M4405; "125V DC BACK-UP BAT CHGR "BD" E-PKB-H16" is open.	Breaker PKD-M4405, "125V DC BACK-UP BAT CHGR 'BD'", is open.	Examinee locates PKD-M4405 and verifies it is "OPEN".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
7.	Ensure that breaker PKD-M4404, "125V DC NORM BAT CHGR "D" E-PKD-H14", is closed.	Breaker PKD-M4404, "125V DC NORM BAT CHGR 'D'", is closed.	Examinee locates PKD-M4404 and verifies it is "CLOSED".
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
8. *	Close the "DC POWER" output breaker.	The "DC POWER" output breaker is "CLOSED".	Examinee locates the "DC POWER" output breaker closes it.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
8. *	WHEN at least 1 minute has elapsed since closing the "DC POWER" output breaker, THEN close the "AC POWER" input breaker.	1 minute has passed. The "AC POWER" input breaker is "CLOSED".	Examinee locates the "AC POWER" input breaker and closes it.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9. *	Check that battery charger voltage indicates 130 - 140 VDC.	The battery charger voltage is reading 100 VDC.	Examinee locates the "D" Battery Charger Voltage meter and notes the reading is below the specified level.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10. *	Inform the responsible operator that this attachment is complete but with a problem noted.	The CRS informs you that he will contact Electrical Maintenance to troubleshoot Battery Charger "D" and directs you to remove Battery Charger "D" and align Battery Charger "BD" to PKD-M44 in accordance with Attachment 97-B. If the examinee request guidance to back out of this appendix, direct him to follow Attachment 97-B as it will take care of the alignment.	Examinee contacts the Control Room for guidance.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
11.	Perform the following on Battery Charger BD, PKD-H16: (DC Equipment Room B) a. Ensure the AC POWER input breaker is in "OFF".	AC POWER input breaker is in "OFF".	Examinee locates AC POWER input breaker and verifies it is "OFF".

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
12.	b. Ensure that BOTH of following breakers are in "OFF". ○ CHARGER OUTPUT TO PKD-M4405 ○ CHARGER OUTPUT TO PKD-M4205	CHARGER OUTPUT TO PKD-M4405 and M4205 is in "OFF".	Examinee locates Charger Output breakers and verifies they are "OFF".

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
13.	c. Ensure that the mode selector switch is in "FLOAT".	MODE SELECTOR Switch in "FLOAT".	Examinee locates the MODE SELECTOR switch and verifies it is "FLOAT".

SAT / UNSAT
Comments (required for UNSAT):

14.	Ensure that breaker PHB-M3425, "BATTERY CHARGER "BD" E-PKD-H16" is "ON" and the contactor is closed.	Another AO has verified that Breaker PHB-M3425 is "ON" and the contactor is "CLOSED".	Examinee verifies that PHB-M3425 is "ON" and that the contactor is "CLOSED".
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SAT / UNSAT
Comments (required for UNSAT):



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	STEP	CUE	STANDARD
15.	IF PKD-M44 is de-energized , THEN ensure that breaker PKD-M4406, “INVERTER “D” E-PND-N14”, is open.	Breaker PKD-M4406, “INVERTER “D” E-PND-N14”, is open.	Examinee locates PKD-M4406 and verifies it is “OPEN”.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
16.	Ensure that breaker PKD-M4404; “125V DC NORM BAT CHGR “D” E-PKB-H14” is open.	Breaker PKD-M4404, “125V DC NORM BAT CHGR ‘D’”, is open.	Examinee locates PKD-M4404 and verifies it is “OPEN”.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
17.	Ensure that breaker PKD-M4405, “125V DC BACK-UP BAT CHGR “D” E-PKD-H16”, is closed.	Breaker PKD-M4405, “125V DC BACK-UP BAT CHGR ‘D’”, is closed.	Examinee locates PKD-M4405 and verifies it is “CLOSED”.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
18. *	Close the “CHARGER OUTPUT TO PKD-M4405”.	The “CHARGER OUTPUT TO PKD-M4405” is “CLOSED”.	Examinee locates the “CHARGER OUTPUT TO PKD-M4405” and closes it.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
19. *	Close the “AC POWER” input breaker.	The “AC POWER” input breaker is “CLOSED”.	Examinee locates the “AC POWER” input breaker and closes it.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
20. *	Check that battery charger voltage indicates 130 – 140 VDC.	“BD” Battery charger voltage indicates 130 VDC.	Examinee locates the “BD” Battery Charger Voltage output indicator.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10.	Inform the responsible operator that this attachment is complete.		Examinee contacts the Control Room.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6	6/10/05	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.

- 37. Vendor reference document upgrade
- 38. Plant modification (include number)
- 39. Procedure upgrade
- 40. Internal or External Agency Commitment (indicate item number)
- 41. Technical Specification Change (indicate amendment number)
- 42. Other (explain in comments)



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INITIATING CUE:

- **Following a Reactor Trip, a fault on the battery bank resulted in PKD-M44 being de-energized.**
- **The affected battery cell has been jumpered out by Electricians and PKD-M44 has been cleared for restoration.**
- **The Control Room Supervisor now directs you to place Battery Charger "D" on PKD-M44 using Appendix 97 of 40EP-9EO10, Standard Appendices.**

CANDIDATE



AO017-PL-002 JP2
PVNGS JOB PERFORMANCE MEASURE
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JPM BASIS INFORMATION

TASK: 1250440201, Respond to a Control Room fire.

TASK STANDARD: Line up a Borated Water Source during Control Room Fire

K/A: 4.2-068-AA1.11 K/A RATING: RO: 3.9 SRO: 4.1

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

APPLICABLE POSITION(S): AO VALIDATION TIME: 15 minutes

REFERENCES: 40AO-9ZZ19, Control Room Fire (Rev 14)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path		X

APPROVAL

DEVELOPER: Alan Malley TECH REVIEW: _____

REVISION DATE: 08/31/04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM

1. SIMULATOR SETUP:

A. IC#: N/A

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
29.		
30.		
31.		
32.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of 40AO-9ZZ19, Appendix G



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **The control room has been evacuated due to a fire.**
- **You have been directed by the CRS to perform the Upper Auxiliary Building Actions that are necessary to line up a borated water source to the charging pumps, from the RWT, per 40AO-9ZZ19, Control Room Fire, Appendix G, steps 1-6.**
- **Assume you have a portable lantern per step 1.**

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain procedure 40AO-9ZZ19, Control Room Fire, Appendix G.	If requested, CUE: Assume you have the portable lantern.	Examinee obtains procedure 40AO-9ZZ19, Control Room Fire, Appendix G. Note: Procedure provided by examiner.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2. *	Open the following disconnects on ZAN-C01: <ul style="list-style-type: none"> • DS 26-07 • DS 24-17 • DS 22-13 • DS 22-14 	DS 26-07, DS 24-17, DS-22-13 and DS-22-14 knife switches are in the fully down position, not in electrical contact.	Examinee simulates opening disconnects DS 26-07, DS 24-17, DS-22-13 and DS-22-14. NOTE: Located 120' Aux Bldg hallway east
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
3. *	Open the following disconnects on ZAN-C02: <ul style="list-style-type: none"> • DS 18-04 • DS 16-06 • DS 16-10 • DS 16-14 	DS 18-04, DS 16-06, DS-16-10 and DS-16-14 knife switches are in the fully down position, not in electrical contact.	Examinee simulates opening disconnects DS 18-04, DS 16-06, DS-16-10 and DS-16-14 NOTE: Located 120' Aux Bldg hallway east
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
4. *	Perform the following at NHN-M7209, RWT Gravity Feed Line to Charging Pump Suction CHE-HV-536: <ol style="list-style-type: none"> a) Place CS-3 in Local b) Open CHE-HV-536 using the local control switch 	CS-3 is in local CHE-HV-536 RED light is on, GREEN light is off (at NHN-M7209).	Examinee simulates placing CS-3 in "local" Examinee simulates opening CHE-HV-536 NOTE: Located 120' Aux Bldg hallway east
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5. *	Perform the following at NHN-M7208, VCT outlet CHN-UV-501: <ol style="list-style-type: none"> a) Place CS-3 in the local position b) Close CHN-UV-501, VCT outlet using the local control switch. 	CS-3 is in local CHN-UV-501 GREEN light on, RED light is off (at NHN-M7208).	Examinee simulates placing CS-3 in local Examinee simulates closing CHN-UV-501.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
6.	Inform the CRS that the charging pump suction has been shifted to the RWT.	CRS has been notified that the charging pump suction is aligned to the RWT.	Examinee simulates notifying the CRS that the charging pump suction is aligned to the RWT.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
1	08/31/04	6	Cue to perform steps 1 – 6 to include contacting the control room.

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.

- 43. Vendor reference document upgrade
- 44. Plant modification (include number)
- 45. Procedure upgrade
- 46. Internal or External Agency Commitment (indicate item number)
- 47. Technical Specification Change (indicate amendment number)
- 48. Other (explain in comments)



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PVNGS JOB PERFORMANCE MEASURE
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INITIAL CONDITIONS

INITIATING CUE:

- **The control room has been evacuated due to a fire.**
- **You have been directed by the CRS to perform the Upper Auxiliary Building Actions that are necessary to line up a borated water source to the charging pumps, from the RWT, per 40AO-9ZZ19, Control Room Fire, Appendix G, steps 1-6.**
- **Assume you have a portable lantern per step 1.**

CANDIDATE



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM

1. SIMULATOR SETUP:

A. IC#: N/A

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
33.	N/A	
34.		
35.		
36.		

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- N/A



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

The unit was operating at 100% power when a loss of instrument air occurred. The CRS entered 40AO-9ZZ06, the Loss of Instrument Air procedure, and directed the performance of Appendix H to align the local air/nitrogen bottle to the Fuel Transfer Canal Gate Seal and to verify the pressure to the Cask Loading Pit Gate and the Decon Washdown Pit Gate.

The instrument air system has been returned to service.

The CRS directs you to realign instrument air to the Transfer Canal Gate Seal, and to place the Cask Loading Pit Gate and the Decon Washdown Pit Gate nitrogen bottles in standby per 40AO-9ZZ06, Appendix I, starting at step 3.

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.



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- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Ensure IAN-V320, "Instrument Air Isolation to Gate Seals", is open. 140 ft Fuel Bldg. North of the Cask Pit in Zone 3.	IAN-V320, has turned fully open.	Examinee simulates opening IAN-V320.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Ensure IAN-PCV-137, "Fuel Bldg Instrument Air Header Press Control Valve, is set for 39.5 – 43.5 PSIG. 140 ft Fuel Bldg. North of the Cask Pit in Zone 3.	IAN-PCV-137, IS SET FOR 41.5 PSIG.	Examinee simulates verifying IAN-PCV-137 is set for 39.5 – 43.5 PSIG.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Open IAN-VE90 "Air Isolation from IA Header" (140' Fuel Bldg North Wall on local panel).	IAN-VE90 has turned fully open.	Examinee simulates opening IAN-VE90.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4. *	Open IAN-VG21 "Cask Loading Pit and Decon Area Gate Isolation Valve" (140' Fuel Bldg North Wall).	IAN-VG21 has turned fully open.	Examinee simulates opening IAN-VG21.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5.	PERFORM THE FOLLOWING FOR TRANSFER CANAL GATE SEAL NITROGEN / AIR BOTTLE #1: (PCV-219A): Ensure that the Nitrogen / Air bottle #1 Pressure Regulator Control (PCV-219A) knob is adjusted to the fully counter clockwise position, minimum output no spring pressure.	The Nitrogen / Air bottle #1 Pressure Regulator Control Knob is adjusted to the fully counter clockwise position, minimum output and no spring pressure.	Examinee simulates adjusting the Nitrogen / Air bottle #1 Pressure Regulator Control Knob to the fully counter clockwise position.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6. *	Close the Nitrogen / Air bottle #1 isolation valve.	The Nitrogen / Air bottle #1 isolation valve has turned fully closed.	Examinee simulates closing the Nitrogen / Air bottle #1 isolation valve.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
7. *	Unit 2 & 3 only - Close the Nitrogen / Air bottle #1 Pressure Regulator Outlet Valve.	The Nitrogen / Air bottle #1 Pressure Regulator Outlet Valve has turned fully closed.	Examinee simulates closing the Nitrogen / Air bottle #1 Pressure Regulator Outlet Valve.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
8. *	Close IAN-VE92, Local Air / Nitrogen Bottle #1 Header Isolation Valve.	IAN-VE92, Local Air / Nitrogen Bottle #1 Header Isolation Valve has turned fully clockwise.	Examinee simulates closing IAN-VE92, Local Air / Nitrogen Bottle #1 Header Isolation Valve.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9.	PERFORM THE FOLLOWING FOR TRANSFER CANAL GATE SEAL NITROGEN / AIR BOTTLE #2 (PCV-219B): Ensure that the Nitrogen / Air bottle #2 Pressure Regulator Control (PCV-219B) knob is adjusted to the fully counter clockwise position, minimum output no spring pressure.	The Nitrogen / Air bottle #2 Pressure Regulator Control Knob is adjusted to the fully counter clockwise position, minimum output and no spring pressure.	Examinee simulates adjusting the Nitrogen / Air bottle #2 Pressure Regulator Control Knob to the fully counter clockwise position.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
10. *	Close the Nitrogen / Air bottle #2 isolation valve.	The Nitrogen / Air bottle #2 isolation valve has turned fully closed.	Examinee simulates closing the Nitrogen / Air bottle #2 isolation valve.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
11. *	Unit 2 & 3 only - Close the Nitrogen / Air bottle #2 Pressure Regulator Outlet Valve.	The Nitrogen / Air bottle #2 Pressure Regulator Outlet Valve has turned fully closed.	Examinee simulates closing the Nitrogen / Air bottle #2 Pressure Regulator Outlet Valve.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
12. *	Close IAN-VE94, Local Air / Nitrogen Bottle #2 Header Isolation Valve.	IAN-VE94, Local Air / Nitrogen Bottle #2 Header Isolation Valve has turned fully closed.	Examinee simulates closing IAN-VE94, Local Air / Nitrogen Bottle #2 Header Isolation Valve.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
13. *	Ensure all of the following pressure indicator isolation valves are closed. <ul style="list-style-type: none"> • IAN-VF98, “IAN-PI-282A (“A” Train IA Supply to Decon Washdown Pit Gate), Isolation Valve”. • IAN-VF89, “IAN-PI-278 (“A” Train IA Backup Supply to Cask Loading & Decon Washdown Gate), Isolation Valve”. • IAN-VF94, “IAN-PI-281A (“A” Train IA Supply to Cask Loading Pit Gate), Isolation Valve”. • IAB-VG11, “IAN-PI-281B (“B” Train IA Supply to Cask Loading Pit Gate) Isolation Valve”. • IAB-VG06, “IAN-PI-284 (“B” Train IA Backup Supply to Cask Loading & Decon Washdown Gate) Isolation Valve”. • IAB-VG15, “IAN-PI-282B (“B” Train IA Supply to Decon Washdown Pit Gate) Isolation Valve”. 	The following isolation valves have turned fully clockwise: <ul style="list-style-type: none"> • IAN-VF98 has been turned fully closed. • IAN-VF89 has been turned fully closed. • IAN-VF94 has been turned fully closed. • IAB-VG11 has been turned fully closed. • IAB-VG006 has been turned fully closed. • IAB-VG15 has been turned fully closed. 	Examinee simulates closing all the following isolation valves: <ul style="list-style-type: none"> • IAN-VF98, “IAN-PI-282A Isolation Valve”. • IAN-VF89, “IAN-PI-278 Isolation Valve”. • IAN-VF94, “IAN-PI-281A Isolation Valve”. • IAB-VG11, “IAN-PI-281B Isolation Valve”. • IAB-VG06, “IAN-PI-284 Isolation Valve”. • IAB-VG15, “IAN-PI-282B Isolation Valve
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



JP 3
PVNGS JOB PERFORMANCE MEASURE
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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/8/2005	New	Created JPM for 2005 LOIT NRC Exam.

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.

- 49. Vendor reference document upgrade
- 50. Plant modification (include number)
- 51. Procedure upgrade
- 52. Internal or External Agency Commitment (indicate item number)
- 53. Technical Specification Change (indicate amendment number)
- 54. Other (explain in comments)



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INITIAL CONDITIONS

INITIATING CUE:

The unit was operating at 100% power when a loss of instrument air occurred. The CRS entered 40AO-9ZZ06, the Loss of Instrument Air procedure, and directed the performance of Appendix H to align the local air/nitrogen bottle to the Fuel Transfer Canal Gate Seal and to verify the pressure to the Cask Loading Pit Gate and the Decon Washdown Pit Gate.

The instrument air system has been returned to service.

The CRS directs you to realign instrument air to the Transfer Canal Gate Seal, and to place the Cask Loading Pit Gate and the Decon Washdown Pit Gate nitrogen bottles in standby per 40AO-9ZZ06, Appendix I, starting at step 3.

CANDIDATE



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JPM BASIS INFORMATION

TASK: 0120020701 Fill a safety injection tank

TASK STANDARD: Fill the 1A Safety Injection Tank.

K/A: 3.2-006-A4.01

K/A RATING: RO: 4.1 SRO: 3.9

K/A:

K/A RATING: RO: SRO:

APPLICABLE POSITION(S): RO

VALIDATION TIME: 25 minutes

REFERENCES: 40OP-9SI03, Safety Injection Tank Operations (Rev 27); 40AL-9RK2B, Window 2B05A, Rev 48

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: John M. Dedon TECH REVIEW: _____

REVISION DATE: 11/19/03 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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1. SIMULATOR SETUP:

A. IC#: 20

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
37.	See BELOW	

C. REQUIRED CONDITIONS:

- Drain 1A SIT to 40% NR as follows:
 - SIE-V463 OPEN (MRF SI03 OPEN)
 - SIA-V459 10 (MRF SI04 10)
 - Open SIA-UV-682
 - Open SIB-UV-631 and drain 1A SIT to 40% NR
 - Close SIB-UV-631
 - Close SIA-UV-682
 - SIA-V459 0 (MRF SI04 CLOSED)
- Modify the following Remote Functions:
 - MRF SI02 100 (SI-V219 open)
- Acknowledge any alarms
- Provide Initiating CUE.
- Go to RUN on Simulator

STEP	COMMAND	DESCRIPTION
7. (4.5.11)	When directed to open SIE-V463, report it is open.	In setup
10. (4.5.13)	When directed to open SIE-V219, report it is open.	In setup
14. (4.5.15)	When directed to open SIB UV 667, MRF MV09:SIBUV667 100	Per the procedure SI03.
15. (4.5.16)	When directed to throttle SIB UV 667 9 turns from full open, MRF MV09:SIBUV667 1	Report valve SIB-UV-667 is 9 turns closed from full open (even though it is nearly closed). This brings in the low flow alarm in step 15.
18.	When directed to open SIB UV 667, MRF MV09:SIBUV667 100	Per the alarm response.
23.	When directed to throttle SIB UV 667 to 9 turns from full open, MRF MV09:SIBUV667 3	Report valve is 9 turns from full open and has been verified.
24.	When directed to throttle SIB UV 667, to obtain a disch press of 1400 psig. MRF MV09:SIBUV667 40	A valve position of 40% is approximately equal to a disch press of 1400 psig.



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26.	When directed to throttle open SIB-V400, MRF SI05 10	Report SIB-V-400 is open.
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2. SPECIAL TOOLS/EQUIPMENT:

- None



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **The CRS directs you to line up and fill the "1A" Safety Injection Tank to 49% on the narrow range instrument in accordance with 40OP-9SI03, section 4.5.**
- **"B" HPSI pump is available.**
- **No HPSI injection valves are known to leak.**
- **All prerequisites are met.**
- **Steps 4.5.1 through 4.5.4 have been completed.**

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtains 40OP-9SI03.		Obtains 40OP-9SI03.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Ensure SIE-HV-661 closed.		Examinee verifies valve is closed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3.	Ensure SIA-UV-682 closed.		Examinee verifies valve is closed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
4.	Verify that Appendix D, Train B HPSI Header Venting <u>OR</u> 41ST-9SI07 has been completed.	Appendix D, Train B HPSI Header Venting, has been completed.	Examinee verifies that Appendix D, Train B HPSI Header Venting <u>OR</u> 41ST-9SI07 has been completed.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
5.	Verify if HPSI Pump B is being restored from an outage/maintenance condition.	HPSI Pump B is NOT being restored from an outage or maintenance condition.	Examinee verifies if HPSI Pump B is being restored from an outage/maintenance condition.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6.	<u>If</u> any of the following exist: Maintenance has not been performed on theSI system. It cannot be determined if the seal cavity has been vented. The CRS/ Shift Manager directs that HPSI Pump B to be vented. <u>Then</u> perform venting.	Maintenance has not been performed on theSI system. The seal cavity has been vented. The CRS/ Shift Manager does <u>not</u> direct HPSI Pump B to be vented.	Examinee verifies venting does not have to be performed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
7. *	Direct AO to unlock and open SIE-V463.	If asked: "SIE-V463 is open".	Examinee directs operator to unlock and open SIE-V463. NOTE: Valve operation part of Simulator Setup.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
8.	Insert manual SESS Containment Isolation alarm during the time SIE-V463 is open.		Examinee inserts a manual SESS Containment Isolation alarm when SIE-V463 is opened.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9.	Assign an AO to close SIE-V463 per 40DP-90P19.	If Asked: An operator has been assigned to close SIE-V463 if needed.	Examinee assigns operator to close SIE-V463 if needed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10. *	Direct an AO to unlock and open SIB-V219.	If Asked: SIB-V219 is open.	Examinee directs operator to unlock and open SIB-V219. NOTE: Valve operation part of Simulator Setup.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
11.	Note the time HPSI Pump "B" is inoperable.		Examinee notes the time SIB-V219 was opened and HPSI "B" became inoperable.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
12.	Inform the CRS/SM of HPSI "B" status.	CRS has been informed.	Examinee informs the CRS/SM of HPSI "B" inoperable.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	Insert a manual SESS alarm for the HPSI "B" pump.		Examinee inserts a manual SESS alarm for "B" SI.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
14. *	Direct AO to unlock and fully open SIB-UV-667.		Examinee directs operator to unlock and fully open SIB-UV-667. NOTE: Driver action required.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
15.	Direct AO to close SIB-UV-667 Nine (9) turns from full open.	Instructor note: Valve is actually almost fully closed.	Examinee directs operator to close SIB-UV-667 9 turns from full open. NOTE: Simulator driver action required to throttle valve.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
16. *	Start HPSI pump "B" on Recirc to RWT.		Examinee starts HPSI pump "B".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
17.	Check for the following expected indications: <ul style="list-style-type: none"> • Motor amps less than 138 amps. • Alarm window 2B05A "HPSI LOOP ½ FLOW LO" is not in alarm. 	If asked: The CRS directs you to respond to the alarm by referring to the appropriate alarm response.	Examinee verifies HPSI "B" Amps < 138 and refers to HPSI LOOP ½ FLOW LO, SIFS304 annunciator. Note: Transitions to Alarm Response 40AL-9RK2B, Window 2B05A
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
18. *	Ensure that HPSI PUMP B RECIRC VLV, SIB-UV-667 is open.	Instructor Note: HPSI PUMP A RECIRC VLV, SIA-UV-666, is N/A (HPSI A not running).	Examinee directs an AO to open HPSI PUMP B RECIRC VLV, SIB-UV-667. Note: Examinee may either direct an AO to open the valve or open it from the control room.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
19.	Ensure that TRAIN B PUMPS COMBINED RECIRC TO RWT VLV, SIB-UV-659 is open.	Instructor Note: TRAIN A PUMPS COMBINED RECIRC TO RWT VLV, SIA-UV-660, is N/A (HPSI A not running).	Ensure that TRAIN B PUMPS COMBINED RECIRC TO RWT VLV, SIB-UV-659 is open.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
20.	If the minimum flow requirements cannot be maintained, then trip the affected HPSI Pump.		Examinee determines that the minimum flow requirements <u>are</u> being maintained because the "HPSI LOOP 1/2 FLOW LO" alarm cleared when the HPSI PUMP B RECIRC VLV, SIB-UV-667, was opened.

SAT / UNSAT
Comments (required for UNSAT):



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	STEP	CUE	STANDARD
21.	Direct the Nuclear Operator to check the valve lineup for HPSI Pump B and its recirc flow path.	A Nuclear Operator has checked the valve lineup for the HPSI Pump B and its recirc flow path and finds nothing wrong.	Examinee directs a Nuclear Operator to check the valve lineup for HPSI Pump B and its recirc flow path.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
22.	Perform an independent verification on all applicable valves, breakers and components that were operated by this alarm response per 02DP-0ZZ01, Verification of Plant Activities.	A Nuclear Operator has performed an independent verification on all applicable valves. The operator has determined that before the alarm response steps were taken that HPSI PUMP B RECIRC VLV, SIB-UV-667, was found just barely cracked open. It is now 100% open. The CRS directs you to continue with filling 1A Safety Injection Tank.	Note: Must now transition back to 40OP-9SI03
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
23.	Direct AO to throttle SIB-UV-667 to bring discharge pressure to 1400 psig as seen on SI-PI-309.		Examinee directs operator to throttle SIB-UV-667 as necessary to achieve 1400 psig discharge pressure. Note: Simulator driver action required to throttle valve.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
24. *	Open SIA-UV-682.		Examinee opens SIA-UV-682
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
25.	Direct AO to unlock and throttle open SIB-V400 slowly to control SIT fill rate.		Examinee directs operator to unlock and throttle open SIB-V400. NOTE: Simulator driver action required to throttle SIB-V400.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
26.	Check SIT Fill and Drain manual Isolation valve for SIT 1A is Open.	If requested: The SIT manual isolation valve SIE-V230 is open. It has not been closed.	Examinee verifies SIE-V230 open.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
27. *	Commence filling the SIT by: <ul style="list-style-type: none"> • Record beginning SIT level for Chemistry • Open SIT fill and drain SIB-UV-631. 		Examinee notes beginning SIT level and opens SIB-UV-631. NOTE: Opening of SIB-UV-631 is critical portion of step.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
28.	Check that all available SIT indications track properly.		Examinee verifies Level and pressure increasing on SIT 1A.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
29. *	WHEN the desired SIT level is reached (49% NR), THEN close SIB-UV-631.	When SIB-UV-631 is closed CUE: Another RO has been assigned to complete the remainder of this section of the procedure.	Examinee closes SI-UV-631 when SIT level is \cong 49% NR (level > 44% and < 55% NR) Examinee may have to vent the SIT while filling. This will be done in accordance with section 4.4 of 40OP-9SI03.

SAT / UNSAT
Comments (required for UNSAT):

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS

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.

- 55. Vendor reference document upgrade
- 56. Plant modification (include number)
- 57. Procedure upgrade
- 58. Internal or External Agency Commitment (indicate item number)
- 59. Technical Specification Change (indicate amendment number)
- 60. Other (explain in comments)



NA002-CR-000 JS2
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INITIAL CONDITIONS

INITIATING CUE:

- The CRS directs you to line up and fill the "1A" Safety Injection Tank to 49% on the narrow range instrument in accordance with 40OP-9SI03, section 4.5.
- "B" HPSI pump is available.
- No HPSI injection valves are known to leak.
- All prerequisites are met.
- Steps 4.5.1 through 4.5.4 have been completed.

CANDIDATE



NA002-CR-000 JS2
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

1. SIMULATOR SETUP:

A. IC#: Any IC with the Main Generator on line > 20% power.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
38.	Go to RUN on the Simulator	
39.	Ensure NAN-S01 and S02 are transferred to S03 and S04 respectively per 40OP-9NA03, Sections 7.0 and 11.0, and then acknowledge alarms.	
40.	IMF BK01:NANS04B	Auto trip logic failure. Prevents NAN-S04B from opening automatically.

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- None



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2005 NRC EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- 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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain procedure 40OP-9NA03 and refers to section 4.8 or section 4.9.		40OP-9NA03 obtained. Note: JPM starts at procedure step 4.8. If examinee goes to section 4.9 first, start at JPM step 8.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2. *	<u>Turn</u> the Synchronizing Switch for NAN-S01 Supply Breaker, NAN-SS-S01A, to “ON” and check for proper synchronization.		Examinee places synchronizing switch NAN-SS-S01A to “ON” and verifies proper synchronization indicated by MAN-EI-002I, MAN-EI-002R and synchronizing scope at the 12 o’clock position.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Close the NAN-S01 Supply breaker NAN-S01A by turning handswitch NAN-HS-S01A to “CLOSE”.		Examinee closes NAN-S01A using NAN-HS-S01A and checks red closed light illuminated.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4.	<u>Check</u> that the NAN-S03-NAN-S01 Supply breaker, NAN-S03B, automatically opens when handswitch NAN-HS-S01A is released.		Examinee verifies NAN-S03B opens when NAN-HS-S01A is released by checking the green open light is illuminated on NAN-HS-S03B.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5.	<u>Check</u> that NAN-S01 voltage is between 12.42KV - 14.49KV.		Examinee verifies voltage between 12.42 and 14.49 KV on voltmeter NAN-EI-S01.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6.	<u>Turn</u> the Synchronizing Switch for NAN-S01 Supply Breaker, NAN-SS-S01A to "OFF".		Examinee places synchronizing switch, NAN-SS-S01A to "OFF".
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
7.	Perform the appropriate section of Appendix D - S/U Xfmr Winding Loading Guidance, if a related Startup Xfmr winding is supplying more than one unit.		Examinee determines that the related Startup Transformer is not supply more than one unit and does not perform Appendix D.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
8. *	<u>Turn</u> the Synchronizing Switch for NAN-S02 Supply Breaker, NAN-SS-S02A to "ON" and check for proper synchronization.		Examinee places synchronizing switch NAN-SS-S02A to "ON" and verifies proper synchronization indicated by MAN-EI-002I, MAN-EI-002R and synchronizing scope at the 12 o'clock position. Note: These steps are for procedure section 4.9
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9. *	<u>Close</u> the NAN-S02 Supply Breaker NAN-S02A by turning handswitch NAN-HS-S02A to CLOSE.		Examinee closes NAN-S02A using NAN-HS-S02A and checks red closed light illuminated.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
10. *	Check that the NAN-S04-NAN-SO2 Supply Breaker NAN-S04B, automatically opens when handswitch NAN-HS-S02A is released.	If requested CUE: Understand that NAN-SO4B did not open.	Examinee verifies NAN-S04B did NOT automatically open when NAN-HS-S02A is released by checking that the red closed light is still illuminated on NAN-HS-S04B. Note: Refers to alarm response procedure 41AL-1RK1A, window 1A18B.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
11. *	In accordance with response for 1A18B, 13.8KV PWR SOURCES PARALLELED, trip the running breaker (NAN-S04B).		Examinee manually opens NAN-S04B using NAN-HS-S04B and checks green open light is illuminated.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
12.	Check that NAN-S02 voltage is between 12.42 KV - 14.49 KV.		Examinee verifies voltage between 12.42 and 14.49 KV on voltmeter NAN-EI-S02.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	Turn the Synchronizing Switch for NAN-S02 Supply Breaker, NAN-SS-S02A to "OFF".		Examinee places synchronizing switch, NAN-SS-S02A to "OFF".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
14.	Perform the appropriate section of Appendix D - S/U Xfmr Winding Loading Guidance, if a related Startup Xfmr winding is supplying more than one unit.		Examinee determines that the related Startup Transformer is not supply more than one unit and does not perform Appendix D.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



NA002-CR-000 JS2
PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS

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.

- 61. Vendor reference document upgrade
- 62. Plant modification (include number)
- 63. Procedure upgrade
- 64. Internal or External Agency Commitment (indicate item number)
- 65. Technical Specification Change (indicate amendment number)
- 66. Other (explain in comments)



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INITIAL CONDITIONS

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.

CANDIDATE



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JPM BASIS INFORMATION

TASK: 0150030801 Perform a BDAS Alarm check (Appendix 8) within one hour.

TASK STANDARD: Perform a BDAS Alarm check (Appendix 8) within one hour.

K/A: 3.7.015.A3.03 K/A RATING: RO: 3.9 SRO: 3.9

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

APPLICABLE POSITION(S): RO VALIDATION TIME: 20 minutes

REFERENCES: 40EP-9EO10, Appendix 8, (Rev 35)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical	X	
Alternative Path		X

APPROVAL

DEVELOPER: Jim Shannon TECH REVIEW: _____

REVISION DATE: 06/06/05 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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1. SIMULATOR SETUP:

A. IC#: Any Power IC (suggest IC 20)

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
41.		
42.		
43.		
44.		

C. SPECIAL INSTRUCTIONS:

- Starting from any power IC, Trip the reactor and allow reactor power to decay to less than $2 \times 10^{-6}\%$. Ensure the plant is recovering from trip conditions. It takes at least 30 minutes to achieve the target power level.
- FREEZE the simulator.
- Go to RUN at start of JPM.

D. REQUIRED CONDITIONS:

- Reactor power less than $2 \times 10^{-6}\%$.

2. SPECIAL TOOLS/EQUIPMENT:

- Copy of Appendix 8, 40EP-9EO10, Boron Dilution Alarm Check.



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **The Reactor tripped about 30 minutes ago. The plant is stable.**
- **The CRS has diagnosed Reactor Trip and is performing 40EP-9EO02, Reactor Trip.**
- **The CRS directs you to perform the Boron Dilution Alarm Check per Appendix 8 of 40EP-9EO10, Standard Appendices.**

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1. *	Place the Control/Startup Channel 1 switch to the "S-U CHAN 1" position.		Control/Startup Channel 1 switch to the "S-U CHAN 1" position (At panel B04).
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2. *	Place the Control/Startup Channel 2 switch to the "S-U CHAN 2" position.		Control/Startup Channel 2 switch to the "S-U CHAN 2" position (At panel B04).
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Press the "METER SELECT" pushbutton for Startup Channel 1 and check BOTH of the following: <ul style="list-style-type: none"> • The green "CONTROL" light is extinguished. • The red "START UP" light is lit. 		Goes to NIS cabinet in back panel area of Control Room, to Startup Channel 1: <ul style="list-style-type: none"> • The green "CONTROL" light is extinguished. • The red "START UP" light is lit.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4. *	Press the “HV PERMIT/HV ON” pushbutton for Startup Channel 1 and check that the amber light is lit.		Startup Channel 1 amber light is lit.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5. *	<u>Record</u> Startup Channel 1 count rate.		<u>Records</u> Startup Channel 1 count rate in cps. (Value depends on time after shutdown, typically ~30 - 50cps)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6.	IF Startup Channel 1 is the only available channel, THEN <u>perform</u> a qualitative assessment of Channel 1 behavior.	Inform CUE: Both Startup channels are available.	No action necessary. Continues on in procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
7. *	<u>Check</u> that the “START UP HV LOW” alarm for Startup Channel 1 is NOT lit. Contingency: Press the “STARTUP HV LOW” pushbutton for Startup Channel 1.		The “START UP HV LOW” alarm for Startup Channel 1 WILL BE lit (This is normal). The operator must perform the contingency action and press the pushbutton to extinguish the light to achieve NOT LIT status.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
8.	<u>Check</u> that the “TROUBLE” alarm for Startup Channel 1 is NOT lit.		The “TROUBLE” alarm for Startup Channel 1 is NOT lit.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9.	<u>Check</u> that the “HIGH CPS” alarm for Startup Channel 1 is NOT lit.		The “HIGH CPS” alarm for Startup Channel 1 is NOT lit.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10. *	<u>Press</u> the “METER SELECT” pushbutton for Startup Channel 2 and <u>check</u> BOTH of the following <ul style="list-style-type: none"> • The green “CONTROL” light is extinguished. • The red “STARU UP” light is lit 		Startup Channel 2 : <ul style="list-style-type: none"> • The green “CONTROL” light is extinguished. • The red “STARU UP” light is lit
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
11. *	<u>Press</u> the “HV PERMIT/HV ON” pushbutton for Startup Channel 2 and <u>check</u> that the amber light is lit.		Startup Channel 2 amber light is lit.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
12. *	<u>Record</u> Startup Channel 2 count rate.		<u>Record</u> Startup Channel 2 count rate. (Count rate varies based on time after shutdown, typically 30 – 50cps)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	IF Startup Channel 2 is the only available channel, THEN perform a qualitative assessment Channel 2 behavior.	If Requested CUE: Both Startup channels are available.	No action necessary. Continues on in procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
14. *	<u>Check</u> that the “START UP HV LOW” alarm for Startup Channel 2 is NOT lit. Contingency: Press the “STARTUP HV LOW” pushbutton for Startup Channel 1.		The “START UP HV LOW” alarm for Startup Channel 2 WILL BE lit (This is normal). The operator must perform the contingency action and press the pushbutton to extinguish the light to achieve NOT LIT status.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
15.	<u>Check</u> that the “TROUBLE” alarm for Startup Channel 2 is NOT lit.		The “TROUBLE” alarm for Startup Channel 2 is NOT lit.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
16.	<u>Check</u> that the “HIGH CPS” alarm for Startup Channel 2 is NOT lit.		The “HIGH CPS” alarm for Startup Channel 2 is NOT lit.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
17. *	<u>Perform</u> steps (17 through 21) for the Boron Dilution Alarm Channel SEN-IN-005. <u>Press</u> the “RESET” pushbutton.		Note: The operator goes to the BDAS Panel in the Control Room back panel area. Push “RESET” pushbutton for channel SEN-IN-005.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
18.	<u>Ensure</u> the “FLUX/SET POINT” pushbutton is selected to the “FLUX” position.		The “FLUX/SET POINT” pushbutton is selected to the “FLUX” position (backlights on FLUX).
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
19.	<u>Check</u> that the digital display is NOT flashing. YES/NO (YES meets the acceptance criteria).		The digital display is NOT flashing. Selects YES.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
20.	<u>Check</u> that the decimal indicator is flashing at approximately on flash per second. YES/NO (YES meets the acceptance criteria).		The decimal indicator is flashing at approximately on flash per second. Selects YES.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
21. *	<u>Record</u> flux reading.		Records flux reading in Vdc. Note: Typical to find readings in the 3.4 Vdc area)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
22.	IF Boron Dilution Alarm Channel SEN-NI-005 is the only available channel, THEN <u>Perform</u> a qualitative assessment of Boron Dilution Alarm Channel SEN-NI-005 behavior.	Inform CUE: Both Boron Dilution Alarm Channels are available.	No action necessary. Continues in procedure.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
23. *	<u>Perform</u> steps (23 through 28) for the Boron Dilution Alarm Channel SEN-NI-006: <u>Press</u> the “RESET” pushbutton.		Note: The operator goes to the BDAS Panel in the Control Room back panel area. For Boron Dilution Alarm Channel SEN-NI-006: “RESET” pushbutton pressed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
24.	<u>Ensure</u> the “FLUX/SET POINT” pushbutton is selected to the “FLUX” position.		The “FLUX/SET POINT” pushbutton is selected to the “FLUX” position (backlights in FLUX).
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
25.	<u>Check</u> that the digital display is NOT flashing. YES/NO (YES meets the acceptance criteria).		The digital display is NOT flashing. Selects YES.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
26.	<u>Check</u> that the decimal indicator is flashing at approximately one flash per second. YES/NO (YES meets the acceptance criteria).		The decimal indicator is flashing at approximately one flash per second. Selects YES.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
27. *	<u>Record</u> flux reading.		<u>Records</u> flux reading in Vdc. Note: Typical to find readings in the 3.4 Vdc area)
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
28.	IF Boron Dilution Alarm Channel SEN-NI-006 is the only available channel, THEN <u>perform</u> a qualitative assessment of Boron Dilution Alarm Channel SEN-NI-006 behavior.	If Requested CUE: Both Boron Dilution Alarm Channels are available.	No action necessary. Continues in procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
29. *	<u>Calculate</u> the voltage for Startup Channel 1.		Performs calculation for the voltage for Startup Channel 1 per the procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
30. *	<u>Calculate</u> the voltage for Startup Channel 2.		Performs calculation for the voltage for Startup Channel 2 per the procedure.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
31. *	<u>Calculate</u> the voltage difference between the Startup Channels.		Calculates the voltage difference between the Startup Channels per the procedure. (0.8 Vdc or less meets the acceptance criteria). If done correctly, this criteria should be met.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
32. *	<u>Calculate</u> the voltage difference between the Boron Dilution Alarm Channels.		Calculates the voltage difference between the Boron Dilution Alarm Channels per the procedure. (0.8 Vdc or less meets the acceptance criteria). If done correctly this criteria should be met.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
33. *	<u>Check</u> that ALL of the acceptance criteria have been met.		ALL of the acceptance criteria have been met. Selects/circles YES.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
34.	<u>Select</u> the desired audio range and volume for the Startup Channels.		Selects an audio range and volume for the Startup Channels
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
35.	<u>Check</u> that proper overlap exists between the LOG Power Channel and the Startup Channel.		Checks for proper overlap between the LOG Power Channel and the Startup Channel.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
42.	IF ALL of the acceptance criteria are met, THEN <u>inform</u> the CRS that the Boron Dilution Alarms are operable.	If requested CUE: understand the Boron Dilution Alarms are operable.	Informs the CRS that the Boron Dilution Alarms are operable.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
43.	<u>Ensure</u> the required signatures are obtained.	Inform CUE: The CRS will obtain the required signatures.	JPM termination..
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/6/05	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.

- 67. Vendor reference document upgrade
- 68. Plant modification (include number)
- 69. Procedure upgrade
- 70. Internal or External Agency Commitment (indicate item number)
- 71. Technical Specification Change (indicate amendment number)
- 72. Other (explain in comments)



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PVNGS JOB PERFORMANCE MEASURE
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INITIAL CONDITIONS

INITIATING CUE:

- **The Reactor tripped about 30 minutes ago. The plant is stable.**
- **The CRS has diagnosed Reactor Trip and is performing 40EP-9EO02, Reactor Trip.**
- **The CRS directs you to perform the Boron Dilution Alarm Check per Appendix 8 of 40EP-9EO10, Standard Appendices.**

CANDIDATE



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 0090030401 Operate RCS Gas Vent System (RCGVS)
 TASK STANDARD: Vent Reactor Vessel to Containment for void elimination.
 K/A: 3.2 002 K4.05 K/A RATING: RO: 3.8 SRO: 4.2
 K/A: K/A RATING: RO: SRO:
 APPLICABLE POSITION(S): RO VALIDATION TIME: 5 min
 REFERENCES: 40EP-9EO10, Standard Appendix 15, RCS Void Control, Rev 8
 SUGGESTED TESTING ENVIRONMENT: SIMULATOR X PLANT _____

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: J. Dedon TECH REVIEW:
 REVISION DATE: 10/9/03 APPROVAL:

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT
 TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)
 EVALUATOR NAME: _____ (print)
 Date _____
 GRADE (Check One) SAT UNSAT



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PVNGS JOB PERFORMANCE MEASURE
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1. SIMULATOR SETUP:

- A. IC# Create special IC conditions with voiding in the reactor vessel head.
- B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	IOR ZDRCBHS105 CLOSED Do not use expert command.	Use RCS drawing RC3 to activate. Fails RCS Vent valve 105 Closed.
2.		
3.		
4.		

C. SPECIAL INSTRUCTIONS:

- Have someone from the simulator group reset the simulator to the created IC.
- Go to RUN on Simulator
- Acknowledge alarms, then FREEZE simulator.
- Provide INITIATING CUE, and then go to RUN on simulator.

D. REQUIRED CONDITIONS:

- At least one set of RVLMS detectors uncovered in the Reactor Vessel Head.

2. SPECIAL TOOLS/EQUIPMENT:

- NONE



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

The Reactor was tripped a short time ago. An event is in progress. A void exists in the Reactor Vessel Head. The CRS directs you to remove the void from the Reactor Vessel Head by using Standard Appendix 15, RCS Void Control, Contingency Actions, at step 3.1 (Step 3 Instructions were not successful).

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.

SAFETY CONSIDERATIONS:

- NONE



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PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain 40EP-9EO10, Standard Appendix 15.		40EP-9EO10, Standard Appendix 15 obtained.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Perform the following to vent the RCS to the RDT: <ul style="list-style-type: none"> • OPEN RCB-HV-105. • OPEN RCA-HV-101. CLOSE valves when RDT level rises.	If requested, CUE: Valve RCB-HV-105 will not open. If examinee asks for guidance, Inform QUE: Continue with actions in step 3.2 to vent to Containment.	Examinee attempts to open RCB-HV-105, but determines the valve will not open, and the RDT vent path is not available (an alternate path must be taken).
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Open RCA-HV-106, Pressurizer/Reactor Vessel Head Vent to the Containment Valve.	If Requested Cue: RCA-HS-106 green light off and red light on.	Examinee opens RCA-HS-106.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
4. *	Vent Reactor Vessel Head to Containment by opening RCB-HV-102, Reactor Vessel Head Vent Valve.	If Requested Cue: RCB-HS-102 green light off and red light on.	Examinee opens RCB-HS-102. Note: After about three minutes the RVLMS shows the vessel head full (all probes covered).

SAT / UNSAT

Comments (required for UNSAT):

	STEP	CUE	STANDARD
5. *	When RCS pressure drops close both the vent valves. <ul style="list-style-type: none"> • RCA-HV-106. • RCB-HV-102. 	<p>Examinee may attempt additional venting operations for void control. Inform QUE: Another operator will continue to monitor for voids and take action.</p> <p>If Requested Cue: RCA-HS-106 green light on and red light off.</p> <p>If Requested Cue: RCB-HS-102 green light on and red light off.</p>	Examinee observes RCS pressure and void indications, closes RCA-HS-106 and RCB-HV102 when RCS pressure drops.

SAT / UNSAT

Comments (required for UNSAT):

JPM STOP TIME:

NORMAL TERMINATION POINT



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PVNGS JOB PERFORMANCE MEASURE
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RECORD OF REVISIONS

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- 77. Technical Specification Change (indicate amendment number)
- 78. Other (explain in comments)



JS-5
PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
INITIAL CONDITIONS

INITIATING CUE:

- **The Reactor was tripped a short time ago. An event is in progress. A void exists in the Reactor Vessel Head.**
- **The CRS directs you to remove the void from the Reactor Vessel Head by using Standard Appendix 15, RCS Void Control, Contingency Actions, at step 3.1 (Step 3 Instructions were not successful).**

CANDIDATE



JS-5
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 0150030801, Perform a Boration of the RCS

TASK STANDARD: Boration of 75 gallons performed.

K/A: 3.1.004A4.01

K/A RATING: RO: 3.8 SRO: 3.9

APPLICABLE POSITION(S): RO

VALIDATION TIME: 20 minutes

REFERENCES: 40OP-9CH01, CVCS Normal Operations,(Rev 41) 41AL-1RK3A, Panel B03A Alarm Response (Rev 11)

SUGGESTED TESTING ENVIRONMENT:

SIMULATOR

PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: Phil Capehart

TECH REVIEW: _____

REVISION DATE: 6/6/2005

APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR

PLANT

TESTING METHOD:

SIMULATE

PERFORM

EVALUATION

EXAMINEE NAME: _____

(print)

EVALUATOR NAME: _____

(print)

Date _____

GRADE (Check One)

SAT

UNSAT



JS-5
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

1. SIMULATOR SETUP:

A. IC#: 20 or any at power IC with CVCS makeup in auto.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
45.	IMF CP05:CHNP02B Use IMF CP05:CHNP02A if pump A is the standby.	Fail the standby feature of the Boric acid pumps. Pump B is the designated standby in this IC.
46.	None	

STEP	COMMAND	DESCRIPTION
10.	(When boration is started by alarm window 3A4B) IMF B401:CHNP02 DMF CP05:CHNP02B	Trip the running BAMP pump on overload and remove the "Fail to auto start" feature of the B pump. NOTE: The pump start is off an alternator circuit so stop whichever pump starts.

C. SPECIAL INSTRUCTIONS:

- Use simulator system diagrams to determine BAMP Pump status.
- Ensure controller CHN-FIC-210Y is **not** set for 25 gpm. This requires the candidate to make an adjustment to the controller for 25 gpm during the JPM.
- Ensure CEDMCS is in Auto Sequential.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- None



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **The CRS directs you to borate the RCS by using 41OP-1CH01.**
- **The quantity to be added has been determined to be 75 gallons from the RWT at a rate of 25 gpm.**
- **Use CHN-FIC-210Y in automatic to the Charging Pump suction.**
- **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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain procedure 40OP-9CH01.		40OP-9CH01 obtained and refers to section 6. NOTE: Examinee may also refer to Appendix M of 40OP-9CH01.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	IF the reactor is critical, THEN determine the gallons of boric acid to be added using any of the following: <ul style="list-style-type: none"> • STA reactivity worksheet • Reactor Engineering game plan • Power Change Worksheet • Boron Operator Assistance Program (OAP) • Core Data Book 		Examinee determines the boration needed is 75 gallons from the Initiating Cue.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
3.	When diverting CVCS Letdown then perform one of the following: <ol style="list-style-type: none"> 1. If any of the following conditions exist: <ul style="list-style-type: none"> • RCS activity levels indicate the possibility of failed fuel to the extent that Letdown needs to be degassed. • The Shift Manager/CRS directs Gas Stripper Operation. • Chemistry directs Gas Stripper Operation. Then divert CVCS Letdown to either of the following <ul style="list-style-type: none"> • Gas Stripper • EDT 2. Bypass Gas Stripper. 		Examinee determines that 75 gpm will not cause an auto diversion.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
4.	If makeup is in manual as directed in step 4.3.3.4, and it is desired to perform this makeup in Automatic, Then perform both of the following: <ul style="list-style-type: none"> • Place CHN-HS-210 in Automatic. • Place CHN-HS-527 in Open/Auto • Place CHN-FIC-210Y in Automatic using Appendix M - Operation of the Digital Makeup Controllers and Totalizers, Section 1.0. 		Examinee determines that makeup is not in manual.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
5. *	Set Boric Acid Makeup flow controller CHN-FIC-210Y (Foxboro) to 25 gpm.		Examinee adjusts the Boric Acid Makeup flow controller CHN-FIC-210Y set point to 25 gpm.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6. *	Select the "Target" makeup volume (gallons) on the boric acid makeup flow totalizer/counter CHN-FQIS-210Y (Micro-Motion).		Examinee sets selection arrow at ten digit and sets at 7, examinee sets selection arrow at single digit and selects 5. Examinee may use Appendix M as a reference.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
7.	IF the reactor is critical, THEN ensure CEDMCS is in the desired mode of operation per CRS direction.	If the examinee asks the CRS what mode of operation for CEDMCS: The CRS desires CEDMCS in auto sequential.	The examinee ensures CEDMCS is in auto sequential.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
8.	If borating directly to the VCT, then open CHN-UV-512, Makeup Inlet to VCT.		From the CUE the examinee determines that boration is going to the charging pump suction.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9. *	Start the boration by: <ul style="list-style-type: none"> • Placing CHN-HS-210 in the BORATE position. • Depress the Totalizer RESET button. • Depress the Totalizer START button. 		Examinee starts the boration. NOTE: If the controller is not at the reset position, the examinee may have to push the button to get the controller to the reset position.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10. *	Check for BOTH of the following: <ul style="list-style-type: none"> • One boric acid pump started • CHN-FIC-210X indicates no RMW flow, (CHN-FV-210X closed) 		Examinee verifies that the running boric acid pump has tripped and announces the receipt of BAM TRBL "Boric Acid Makeup Pump Overload" alarm. NOTE: Driver action is required to trip the running boric acid pump. The STBY Pump fails to auto start (In setup). The standby pump normally will auto start after a 15 sec time delay.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
11. *	Candidate responds to BAM TRBL alarm with alarm response 40AL-9RK3A, window 3A06A, Group G. Start CHN-P02A or CHN-P02B, the other boric acid makeup pump, from B03 if it fails to start automatically.	After starting the other boric acid makeup pump, INFORM: Another operator will investigate the loss of the running boric acid pump.	Examinee responds IAW 40AL-9RK3A, window 3A06A, Group G, and manually starts the other boric acid makeup pump.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
12.	Transition back to procedure 40OP-9CH01. Check for BOTH of the following: <ul style="list-style-type: none"> • One boric acid pump is now running • CHN-FIC-210X indicates no RMW flow, (CHN-FV-210X closed) 		Examinee verifies that there is now a running boric acid pump and CHN-FIC-210X indicates no RMW flow (CHN-FV-210X is closed).
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	If borating directly to the suction of the charging pumps, then ensure CHN-UV-527, Makeup to CHRG PMPS (VCT Bypass) is open.		Examinee ensures CHN-UV-527 indicates open.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
14.	On CHN-FIC-210Y (Foxboro) check that "Process Flow" increases (middle bar graph) towards the Auto setpoint, overshoots the Auto setpoint and then stabilizes at the Auto setpoint.		Examinee verifies process flow increasing toward auto setpoint.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
15.	Check proper flow indicated on CHN-FIC-210Y.		Examinee verifies proper flow indicated on CHN-FIC-210Y.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
16.	IF the reactor is critical, THEN monitor the effects of boration on CEA motion, RCS temperature and Reactor Power.		Examinee monitors the effects of the boration.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
17. *	When the desired volume has been added to the RCS, then perform the following: <ul style="list-style-type: none"> • Ensure the borate flow has stopped. • Ensure CHN-HS-210 is in Auto. • Ensure the “Auto Setpoint” is at the desired setpoint for auto makeup. 	When requested CUE: The CRS desires the auto setpoint to be placed at 17 gpm.	Examinee ensures borate flow has stopped, places CHN-HS-210 in AUTO, and sets the setpoint at the desired setpoint.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
18.	Isolate Makeup by ensuring CHN-UV-527 auto closes.		Examinee ensures CHN-UV-527 closes.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
19.	Ensure boric acid pump stops.		Examinee ensures BAMP Pump stops.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
20.	If additional boron will be added to the RCS, then repeat step 6.3.1 through step 6.3.15 as directed by the CRS.	The CRS has determined that additional borations will NOT occur. Another operator will perform a flush of the lines.	Examinee asks CRS if additional borations will be performed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
21.	Evaluate the need to notify chemistry to sample the RCS to check that the calculated change occurred.		Examinee determines the reactor is critical and NAs this step.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
22.	Boronometer alarms may be set.	The CRS does not wish to reset the boronometer alarms.	Examinee addresses adjusting boronometer alarms.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
23. *	Line up the makeup system for automatic or manual operation per SM/CRS direction.	If requested: The CRS wants the makeup system lined up for automatic operation.	The examinee returns the system to automatic.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
24.	If the change in boron is greater than 50 ppm, then initiate pressurizer spray flow for boron equalization.		Examinee recognizes that born change is less than 50 ppm and boron equalization is not needed.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/6/05	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.

- 79. Vendor reference document upgrade
- 80. Plant modification (include number)
- 81. Procedure upgrade
- 82. Internal or External Agency Commitment (indicate item number)
- 83. Technical Specification Change (indicate amendment number)
- 84. Other (explain in comments)



SF006-CR-000 JS6
PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
INITIAL CONDITIONS

INITIATING CUE:

- The CRS directs you to borate the RCS by using 41OP-1CH01.
- The quantity to be added has been determined to be 75 gallons from the RWT at a rate of 25 gpm.
- Use CHN-FIC-210Y in automatic to the Charging Pump suction.
- All Prerequisites are complete.

CANDIDATE



SF006-CR-000 JS6
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 1140010401, lineup the steam bypass control system for normal operation
 TASK STANDARD: The "not in operate" lights are extinguished; SBCS abnormal alarm and SBCS condenser interlock alarms are reset.
 K/A: 3.4-041-A4.08 K/A RATING: RO: 3.0 SRO: 3.1
 K/A: K/A RATING: RO: SRO:
 APPLICABLE POSITION(S): RO VALIDATION TIME: 10 minutes
 REFERENCES: 40OP-9SF05, Operation of Steam Bypass Control System (Rev 18)
 SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path		X

APPROVAL

DEVELOPER: John M. Dedon TECH REVIEW: _____
 REVISION DATE: 11/18/03 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT
 TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)
 EVALUATOR NAME: _____ (print)
 Date _____
 GRADE (Check One) SAT UNSAT



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PVNGS JOB PERFORMANCE MEASURE
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1. SIMULATOR SETUP:

A. IC#: 20 preferred (Any IC >75% power)

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
47.		
48.		
49.		
50.		

C. SPECIAL INSTRUCTIONS:

- Place Simulator in RUN.
- On the SBCS test panel:
 - Press the Emergency Off pushbutton.
 - Place the "System Mode Selection" switch to the "TEST" position.
 - Place the SBCS Master Controller in MANUAL

NOTE: The following RED LEDs will be lit: "Emergency OFF", both "Condenser Interlock" lights, both "Not in Operate" lights, and AMI.

- Silence/Acknowledge Alarms.
- FREEZE the Simulator.
- Bring Examinee in and provide CUE.
- Place Simulator in RUN.
- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- None



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

The Steam Bypass Control System has been disconnected at the SBCS Test Panel. The CRS directs you to perform 40OP-9SF05, Operation of Steam Bypass Control System, Appendix C to:

- **Reconnect and**
- **Reset the Steam Bypass Control System.**

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain procedure 40OP-9SF05.		40OP-9SF05 obtained. Examinee goes to Appendix "C"

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
2.	Checks at least 1 "Not In Operate" light are lit on the SBCS test panel.		Verifies both RED lights are lit.

SAT / UNSAT
Comments (required for UNSAT):

	STEP	CUE	STANDARD
3. *	Depress and release the "EMERGENCY OFF" pushbutton on the SBCS test panel.		"EMERGENCY OFF" pushbutton depressed (no change in status of SBCS Test Panel).

SAT / UNSAT
Comments (required for UNSAT):



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	STEP	CUE	STANDARD
4.	Ensure BOTH of the following: <ul style="list-style-type: none"> • Check the EMERG OFF backlight is illuminated. • Check that the power supply lights (-15,+15) in SFN-C03Y, nests 4, 5 and 7 are not illuminated. 	Inform CUE: The power supply lights in SFN-CO3Y, nest 4, 5, 7 are not lit.	The examinee ensures the EMERG OFF backlight is illuminated. NOTE: The power supply lights are not modeled in the simulator so it is necessary to give the cue.

SAT / UNSAT

Comments (required for UNSAT):

	STEP	CUE	STANDARD
5. *	Places the 'System Mode Selection' switch in "DISCONNECT".		System Mode Select switch in "DISCONNECT".

SAT / UNSAT

Comments (required for UNSAT):

	STEP	CUE	STANDARD
6. *	Depresses and release the 'Light and Timer' test button on the SBCS test panel		LIGHT AND TIMER TEST pushbutton depressed and released.

SAT / UNSAT

Comments (required for UNSAT):



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	STEP	CUE	STANDARD
7.	Check that the "Not In Operate" 1 and 2 lights extinguish and then come back on in approximately 30 seconds.		The <i>NOT IN OPERATE</i> lights 1 and 2 will extinguish then come back "ON" in 30 seconds.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
8. *	Place the `System Mode Selection' switch in the `Operate' position on the SBCS Test Panel		System Mode Selection Switch in "OPERATE". NOTE: The AMI light extinguishes.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9.	Ensures that the "Not In Operate" 1 and 2 lights extinguish in approximately 30 seconds.		The <i>NOT IN OPERATE</i> lights will extinguish in 30 seconds.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10.	Ensures that the SBCS Master Controller is in the `Manual' mode.		SBCS Master Controller in "MANUAL" mode with backlight illuminated.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
11.	Ensures that the output of the SBCS Master Controller is zero.		Ensures zero output on SBCS controller
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
12. *	Takes SGN-HS-1010 to Reset the SBCS Emergency Off		Switch SGN-HS-1010 to "RESET" (spring return to neutral). NOTE: Annunciators "SBCS ABNORMAL" and "SBCS COND INTLK" clear.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	Ensure the `SBCS Abnormal' alarm is (Window 6A16A) is clear.		Verify "SBCS ABNORMAL" alarm clear.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
14.	Ensure the `SBCS COND INTLK` alarm (Window 6A16B) is clear.	Inform CUE: No adjustment of the SBCS master controller is desired.	Verify "SBCS COND INTLK" alarm clear.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/3/05	NRC	

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.

- 85. Vendor reference document upgrade
- 86. Plant modification (include number)
- 87. Procedure upgrade
- 88. Internal or External Agency Commitment (indicate item number)
- 89. Technical Specification Change (indicate amendment number)
- 90. Other (explain in comments)



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
INITIAL CONDITIONS

INITIATING CUE:

The Steam Bypass Control System has been disconnected at the SBCS Test Panel. The CRS directs you to perform 40OP-9SF05, Operation of Steam Bypass Control System, Appendix C to:

- **reconnect and**
- **reset the Steam Bypass Control System.**

CANDIDATE



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PVNGS JOB PERFORMANCE MEASURE

2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 0150030801, Respond to Containment Sump Trouble Excessive Runtime Alarm 40AL-9RK7B

TASK STANDARD: Restore Containment Sump level to normal by using Standby pump.

K/A: 3.5.103A4.01

K/A RATING: RO: 3.2 SRO: 3.3

APPLICABLE POSITION(S): RO

VALIDATION TIME: 5 minutes

REFERENCES: 40AL-9RK7B, Panel B07B Alarm Response, CNTMT SUMPS EXCESS LEAKAGE, (Rev 1)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path		X

APPROVAL

DEVELOPER: Phil Capehart TECH REVIEW: _____

REVISION DATE: 6/6/2005 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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PVNGS JOB PERFORMANCE MEASURE

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1. SIMULATOR SETUP:

A. IC#: NA.

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
51.	IMF CP05:RDNP02	Containment Radwaste East Sump Pump Fails to AUTO START
52.	IMF TH07 66	Insert small LOCA at 66% until sump pumps receive a high level AUTO START signal and has ran long enough to receive the excess run time alarm, then cutback on leak size to 15%.

C. SPECIAL INSTRUCTIONS:

- **Close** RDB-HS-24 to allow the sumps to fill up to the AUTO START signal and allow the West Sump Pump to run long enough to pick up the excess run time alarm.
- Once these conditions have been established snap to a vacant IC if possible to maintain the required starting conditions.

D. REQUIRED CONDITIONS:

- West Sump pump running with Excess Run Time alarm in. East Sump pump NOT running with valve RDB-HS-24 closed.

2. SPECIAL TOOLS/EQUIPMENT:

- None



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2005 NRC EXAM
TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **The plant is responding to a small LOCA.**
- **The CRS directs you to respond to the board 7 alarm window 7B03A and take appropriate action.**

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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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PVNGS JOB PERFORMANCE MEASURE

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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain procedure 40AL-9RK7B.		Candidate identifies Pt. ID RDYS2 in alarm window and obtains 40AL-9RK7B and refers to "CNTMT SUMPS TRBL" and proceeds to GROUP C for "Excess Runtime".
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Check levels on B07. Reactor cavity sump level indicator RDN-LI-10; and containment radwaste sump level indicator RDN-LI-410 (left/right).		Examinee determines that a high level exists in both radwaste sumps and that only the West Sump pump is running.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Check RDA-HS-23 and RDB-HS-24 in open position, to insure flow through containment from containment radwaste sumps.	Procedure says to check the valves open. If candidate requests CUE: Ensure the valves are open.	Examinee checks RDA-HS-23 and RDB-HS-24 are in the open position. The Examinee determines that RDA-HS-24 is closed and opens the valve.
SAT / UNSAT Comments (required for UNSAT):			



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PVNGS JOB PERFORMANCE MEASURE
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	STEP	CUE	STANDARD
4. *	Start related standby sump pump with RDN-HS-11 or RDN-HS-12 for reactor cavity sump and for containment radwaste sump west and east RDN-HS-21 or RDN-22, then stop first pump. Verify level decrease, on LI-10 or LI-410 (left/right), and pump auto stops.		Examinee starts on hand switch RDN-HS-22 for the containment radwaste sump east pump and verifies level is decreasing.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
5.	If pump does not decrease level start both pumps.		Examinee ensures both pumps are running.
		At the end of this step, Inform CUE: another operator will continue to observe sump levels and pump operation.	Note: It is likely that the candidate will start the additional pump since the level change cannot be seen at first due to the high sump level and leak rate.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	6/6/05	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.

- 91. Vendor reference document upgrade
- 92. Plant modification (include number)
- 93. Procedure upgrade
- 94. Internal or External Agency Commitment (indicate item number)
- 95. Technical Specification Change (indicate amendment number)
- 96. Other (explain in comments)



CP001-CR-000 JS8
PVNGS JOB PERFORMANCE MEASURE
2005 NRC EXAM
INITIAL CONDITIONS

INITIATING CUE:

- **The plant is responding to a small LOCA.**
- **The CRS directs you to respond to the board 7 alarm window 7B03A and take appropriate action.**

CANDIDATE



CP001-CR-000 JS8
PVNGS JOB PERFORMANCE MEASURE
 2005 NRC EXAM

JPM BASIS INFORMATION

TASK: 0500010401 Initiate a containment vent.

TASK STANDARD: Containment purge system in operation in the VENT mode.

K/A: 029 A2.03 K/A RATING: RO: 2.7 SRO: 3.1

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

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

REFERENCES: 40OP-9CP01, Containment Purge System (Rev 15)

SUGGESTED TESTING ENVIRONMENT: SIMULATOR PLANT

JPM TYPE

	YES	NO
Time Critical	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alternative Path	<input type="checkbox"/>	<input checked="" type="checkbox"/>

APPROVAL

DEVELOPER: John M. Dedon TECH REVIEW: _____

REVISION DATE: 04/07/04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR PLANT

TESTING METHOD: SIMULATE PERFORM

EVALUATION

EXAMINEE NAME: _____ (print)

EVALUATOR NAME: _____ (print)

Date _____

GRADE (Check One) SAT UNSAT



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1. SIMULATOR SETUP:

A. IC#: 20

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
53.	MRF CH04 OPEN	Opens IA-BV45, air supply to CPB-UV-5B
54.	MRF IP38 1.3 (or verify containment pressure is at 1.3 psig)	Sets containment pressure to 1.3 psig.
55.		
56.		

C. SPECIAL INSTRUCTIONS:

- Go to run on simulator.

D. REQUIRED CONDITIONS:

- Containment pressure is at 1.3 psig.

2. SPECIAL TOOLS/EQUIPMENT:

- None



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TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **The CRS has directed you to initiate a normal containment vent in accordance with 40OP-9CP01, Containment Purge System.**
- **An area operator is standing by in the RCA to assist you.**
- **RU-34 is available.**
- **Venting of Containment is for pressure reduction**
- **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.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- Locked valves will be involved. No attempt will be made to actually operate any valves.



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JPM START TIME:

	STEP	CUE	STANDARD
1.	Obtain procedure 40OP-9CP01, Containment Purge System		Examinee obtains procedure.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
2.	Verify closed IA-VB47, IA supply to CP-UV4A.	Area Operator has verified IA-VB47 closed.	Examinee directs AO to verify IA-VB47 is closed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
3. *	Unlock and open IA-VB45, air supply to CPB-UV-5B and CP-PV-43.	Area Operator has unlocked and opened IA-VB45.	Examinee directs AO to unlock and open IA-VB45.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
4.	Open/check open CP-V024 ISOL to RU-34.	Area Operator has opened CP-V024.	Examinee directs AO to open/check open CP-V024.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
5. *	Close/check closed CP-V023 ISOL to RU-34.	Area Operator has closed CP-V023.	Examinee directs AO to close/check closed CP-V023 ISOL to RU-34.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
6.	Direct the RMS/Effluents technician to ensure the Shiftly ST are required by SR3.3.8.1 is current on RU37 and/or RU-38	Effluent Tech reports Shiftly Surveillance for RU-37 and RU-38 are current.	ST has been verified current
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
7. *	Start venting containment by placing the Containment Purge Mode Selector Switch CPN-HS-1 on B07 to VENT. Ensure damper CPN-M06 opens.		Examinee places CPN-HS-1 in VENT position. Verifies CPN-M06 opens NOTE: Handswitch will have dual indication
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
8. *	Open the Containment Power Access Purge Upstream isolation valve CP-UV-4B by placing CPA-HS-4 to OPEN.		Examinee opens CP-UV-4B. NOTE: Handswitch will have dual indication due to CP-UV-4A remaining closed.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
9. *	Open the Containment Power Access Purge Downstream isolation valve CP-UV-5B by placing CPB-HS-5 to OPEN.		Examinee opens CP-UV-5B. NOTE: Handswitch will have dual indication due to CP-UV5A remaining closed. Containment is now venting thru the orifice around CPN-PV-43.
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
10.	Log time the 8 inch valves were opened on the release permit and initial containment pressure	The Release Permit will be filled out by another operator.	Time/pressure logged on permit.
SAT / UNSAT Comments (required for UNSAT):			



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	STEP	CUE	STANDARD
11.	Notify RMS/Effluent Section and Radiation Protection of start time of release and the pressure	RMS has been notified.	RMS/Effluent Section notified
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
12.	Notify RP/Security of the start time of the release	Security has been notified.	RP/Security notified
SAT / UNSAT Comments (required for UNSAT):			

	STEP	CUE	STANDARD
13.	When pressure decreases to less than 0.5 psig then ensure CPN-PV-43 is open.	Containment venting will not continue beyond this shift Another Operator will continue with pressure reduction	Note: pressure reduction takes hours. When lineup is completed and Containment vent is in progress provide CUEs.
SAT / UNSAT Comments (required for UNSAT):			

JPM STOP TIME:

NORMAL TERMINATION POINT



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RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS

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.

- 97. Vendor reference document upgrade
- 98. Plant modification (include number)
- 99. Procedure upgrade
- 100. Internal or External Agency Commitment (indicate item number)
- 101. Technical Specification Change (indicate amendment number)
- 102. Other (explain in comments)



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INITIAL CONDITIONS

INITIATING CUE:

- **The CRS has directed you to initiate a normal containment vent in accordance with 40OP-9CP01, Containment Purge System.**
- **An area operator is standing by in the RCA to assist you.**
- **RU-34 is available.**
- **Venting of Containment is for pressure reduction**
- **All prerequisites are complete.**

CANDIDATE



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PVNGS JOB PERFORMANCE MEASURE
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Facility: PVNGS Scenario No.: 1 Op-Test No: 2005

Examiners: _____ Operators: _____

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

Turnover: Unit 1 has been at ~50% power for the past 3 days. The Unit had previously operated at near 100% power for 8 months. Power was reduced to perform repairs on "A" MFP. The repairs have been completed and the Unit is now waiting on a chemistry hold to increase power back to 100%. AF "A" is tagged out for maintenance. LCO 3.7.5. Condition 'b' has been entered. Expected to be returned in 12 hours. HPSI 'A' tagged out for bearing replacement. LCO 3.5.3 condition 'b' was entered 4 hours ago. Expected to be returned in approximately 15 hours. Train B is protected equipment. Normal Shiftly Surveillances are complete. EOOS action level is Orange.

Event No.	Malf. No.	Event Type*	Event Description
1	ED15A	C-SRO	After turnover is complete, Battery Charger "A" trips requiring an evaluation of operability of DC circuits, <u>Tech Spec 3.8.4</u> . Battery cell voltages must be verified within 1 hr. and a battery charger returned to service within 24 hours. The crew should place the AC charger in service on M41.
2	TCNP01A	C-CO	After the crew places Battery Charger "AC" in service, TCW pump A bearing seizes. This causes the "A" TCW Pump to trip on overcurrent. The Standby pump does not auto start. The crew should implement 41AL-1RK7A & 40AO-9ZZ03 , Loss of Cooling Water, Section 5.0 and manually start the Standby TCW Pump.
3	TR04:RCNTT1 11X	I-RO/SRO	After the crew addresses the loss of cooling water, the Reactor Regulating System Hot Leg temperature transmitter 111X input fails low affecting the PZR Level Control Setpoint. The crew should implement 40AO-9ZZ16 , RRS Malfunctions, Section 3.0, and select the unaffected instrument for input.
4	AV02:CHEPV 201P	C-RO/SRO	While the crew is implementing 40AO-9ZZ16, the in-service letdown back-pressure control valve fails closed. The crew should implement 40AO-9ZZ05 , Loss of Letdown, Section 3.0.
5	TH01A .03 5:00 CV06A	C-RO/SRO	After the crew places the alternate letdown back-pressure control valve in service, an RCS leak in excess of Tech Spec limits occurs. The crew should implement 40AO-9ZZ02, Excessive RCS Leakrate, and evaluate <u>T.S. 3.4.14</u> . The normally running charging pump trips requiring the RO to start the standby Charging Pump.
6	RD03I RD03J RD02A RD02C TC18	C-RO/CO/SRO M- All	After the crew addresses the RCS leak, two CEA's drop partially into the core. A reactor trip is automatically initiated. Two stuck CEA's require the RO to initiate boration. The main turbine will fail to trip requiring the CO to manually trip it. The crew should implement 40EP-9EO01 , Standard Post Trip Actions. (Critical Task to establish reactivity control)



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Facility: <u>PVNGS</u>		Scenario No.: <u>1 (continued)</u>		Op-Test No: <u>2005</u>
7	noMSIS MMF TH01A 1	I-CO/RO M-All	After boration is initiated and the crew has transitioned to 40EP-9EO03 , Loss of Coolant Accident. The leak degrades into a Large Break LOCA. MSIS fails to automatically actuate, requiring manual actuation. 'B' HPSI fails to auto start on the SIAS condition and requires a manual start.	
End point			Crew takes action to establish a cooldown. (Critical Task is to ensure adequate Safety Injection Actuation flow to meet Safety Function requirements within 30 minutes of entry into the LOCA procedure and after the Safety Injection Actuation setpoints are exceeded.) (Critical Task is to stop the RCP's on loss of subcooling.)	



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Supplemental Turnover

Plant conditions:

Unit 1 has been at ~50% power for the past 3 days. The Unit had previously operated at 100% power for 8 months. Power was reduced to perform repairs on "A" MFP. The repairs have been completed and the Unit is now waiting on a chemistry hold to increase power back to 100%.

40OP-9ZZ05, Power Operations, Section 5.0 (Steady State Power Operation) is in progress.

Equipment out of service:

AFA-P01 is tagged out for maintenance. LCO 3.7.5. Condition 'b' has been entered.

Expected to be returned in 12 hours.

SIA-P02 (HPSI "A") is tagged out for bearing replacement. LCO 3.5.3 condition 'b' was entered 4 hours ago. Expected to be returned in approximately 15 hours.

Train B is protected equipment.

EOOS action level is Orange.

Planned shift activities:

Normal, shiftly surveillance's are complete.

No other activities are planned.

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.



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Facility: PVNGS Scenario No.: 2 Op-Test No.: 2005

Examiners: _____ Operators: _____

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

Turnover: Unit 1 has been at 100% power for the last 8 months. AF "A" is tagged out for maintenance. LCO 3.7.5. Condition 'b' has been entered. Expected to be returned in 12 hours. HPSI 'A' tagged out for bearing replacement. LCO 3.5.3 condition 'b' was entered 4 hours ago. Expected to return in approximately 15 hours. Normal Shiftly Surveillances are complete. Train B is protected equipment. EOOS action level is Orange.

Event No.	Malf. No.	Event Type*	Event Description
1	IO R Z D S B A C 01 H L O G O F F	I-SRO	After the crew assumes the shift, the crew receives a High Log Power Trip on Channel 'A' along with the High Log Power Permissive alarm. The crew should recognize that the log power channel has not failed, but the permissive is no longer bypassed. The CRS should address <u>Tech Specs. LCO 3.3.1</u> condition 'c' applies due to the bypass removal being inoperable and bypass or trip the channel within 1 hr.
2	BK05:NANS02G	R-RO N-CO/SRO	After the crew takes the LCO action, a loss of NAN-S02G will occur causing a loss of one tower of cooling tower fans. (Plant Event) The CRS should enter 40AO-9ZZ12 , Degraded Electrical and 40AO-9ZZ07 , Degraded Vacuum. The crew initiates a downpower to stabilize vacuum.
3	TR01:RCNPT100 X 2500	I-RO	After recovering from the loss of vacuum, a high failure of pressurizer pressure instrument RCN-PT-100X occurs. This will require the crew to address the alarm response procedure and select Channel Y on RCN-HS-100, PZR Pressure Control Selector, to ensure closer of the PZR spray valve.
4	IMF CC01A IOR ZDNHS for 1B CP05:NCNP01B	C-CO/SRO	After completing the actions for the PZR instrument failure, NCW Pump 'A' will trip due to a ground fault. The Standby NCW pump will not start automatically or manually. This will require the operators to crosstie EW to NC IAW 40AO-9ZZ03 , Loss of Cooling Water, Section 4.0. The CRS should address <u>Tech Spec 3.7.7</u> . (Cascading T.S.)
		C-RO/SRO	The RO should respond to the loss of letdown and refer to 40AO-9ZZ05 . The CRS should take action to keep PZR level below the <u>Tech. Spec. limit of</u>



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			<u>56%</u>
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Facility: PVNGS		Scenario No.: 2 (continued)		Op-Test No: 2005	
5	IMF FW15B 10 ATWS	M-All C-RO/CO	<p>After the CRS has addressed Tech Specs, FWPT 'B' alarms are received and the operator locally confirms high vibrations on the pump. The CO takes action to trip the 'B' MFW pump. Reactor Power Cutback automatically initiates but two of the CEA's fail to insert. The reactor fails to trip automatically or by manual pushbuttons. The crew will open L-03 & L-10 breakers to initiate the Rx Trip. All rods go in on the Reactor Trip. The crew should implement SPTAs.</p> <p>(Critical Task to trip the Reactor)</p>		
			The CRS should transition to the Rx Trip EOP.		
6	IMF ED02 IMF CP06:SPBP01 MRF EG21 Stop	C-CO M-All	<p>During implementation of Rx Trip, a loss of offsite power occurs. The CRS should transition to the LOOP/LOFC EOP. Once the crew enters the LOOP/LOFC procedure a loss of PBB-S04 will occur because the "B" Spray Pond trips requiring the operator to secure the "B" DG. The CO will need to swap the S/G feed source from AF "B" to AFN-P01.</p>		
7	IMF CP06:AFNP01		<p>After the CO transitions to the "N" AF Pump, AFN-P01 will trip on an 86 Lockout. This will result in a loss of all feedwater.</p>		
8		C- SRO/RO/CO M-All	<p>The CRS should transition to the FRP procedure and restore power to PBB-S04 using the 'A' DG. The crew can then feed the SG's with AF 'B'.</p> <p>(PRA Significant)</p> <p>(Critical Task to ensure the required 4KV bus is energized to meet Safety Function requirements prior to the completion of the Maintenance of Vital Auxiliaries success path)</p> <p>(Critical Task to establish feedwater to the unaffected SG)</p>		
End point			Crew stabilizes plant with AF "B" feeding at least one SG.		



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Turnover

Plant conditions:

Unit 1 has been at 100% power for the past 8 months. MOC, 250 EFPD.

Equipment out of service:

AF "A" is tagged out for maintenance. LCO 3.7.5. Condition 'b' has been entered. Expected to be returned in 12 hours.

HPSI 'A' tagged out for bearing replacement. LCO 3.5.3 condition 'b' was entered 4 hours ago. Expected to be returned in approximately 15 hours.

Train B is protected equipment.

EOOS action level is Orange.

Planned shift activities:

Normal, shiftly surveillance's are complete.

No other activities are planned.

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.



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Facility: PVNGS Scenario No.: 3 Op-Test No: 2005

Examiners: _____ Operators: _____

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

Turnover: Unit 1 has been at 100% power for the last 8 months. AF "A" is tagged out for maintenance. LCO 3.7.5. Condition 'b' has been entered. Expected to be returned in 12 hours. HPSI 'A' tagged out for bearing replacement. LCO 3.5.3 condition 'b' was entered 4 hours ago. Expected to return in approximately 15 hours. Normal Shiftly Surveillances are complete. Train B is protected equipment. EOOS action level is Orange.

Event No.	Malf. No.	Event Type*	Event Description
1	RC CPT 101 C	I-SRO	After the crew assumes the shift, the crew receives a high failure of "C" Channel Narrow Range Pressurizer Pressure Instrument. The crew should recognize the failure and respond with 41AL-1RK5A and <u>T.S. 3.3.1.A</u> . The crew takes action to bypass the affected parameters.
2	TH06A	C-SRO	After the crew takes the LCO action, a 16 gpd tube leak will start on #1 S/G. The crew should respond with 40AO-9ZZ02 , Excessive RCS Leakrate, and notify chemistry. This Leakrate requires continued monitoring.
3	ED12B	C-RO/CO/SRO	After the crew completes the applicable portions of 40AO-9ZZ02, PNB-D26 will be lost. The CRS should implement 40AO-9ZZ13 , Loss of Class Instrument or Control Power, and select the appropriate control instrument for PZR level control, stop one charging pump, and goes to 40AO-9ZZ05 , Loss of Letdown. CO starts 40ST-9EC03 within one hour and set CEAC INOP flag in all operable CPCs. CRS refers to <u>T.S. 3.8.9 and 3.4.9</u> .
4	NI02C 0 NI02D 0	I-RO/CO/SRO	After carrying out the actions for the loss of PNB-D26, Control Channel #2 will fail low. The crew should address the alarm response for the AMI received and respond IAW 40AO-9ZZ16 , RRS Malfunction. The RO should take CEDMCS out of Auto Sequential and the CO should select the unaffected channel on RRS panel and place CEDMCS back to Auto Sequential. The CO will then take Control Channel #2 FWCS input to maintenance and remove the ATUN lockout.
5	TH06A	N-RO/CO/CRS	After completing the actions for the loss of Control Channel #2, the S/G tube leak will degrade to 200 gpd. This will require the CRS to commence a plant Shutdown IAW 40OP-9ZZ05. <u>T.S. 3.4.14</u> .
6	TR01:RCNTT111Y 650	I-CO M-All	During the shutdown the leak rate will degrade requiring a Unit Trip. The crew should enter the SPTAs, 40EP-9EO01 . Upon entering the SPTAs, the Tave input to the FWCS will fail high causing the ruptured SG to be overfed. The CO will need to take action to minimize feed to the SG.
7	RP07B	C-RO/SRO	Train "B" BOP ESFAS Sequencer failure will occur on the trip. The RO should respond by manually starting "B" Train Safety Injection and Support Equipment.



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			(Critical Task is to start "B" HPSI pump.)
		M-All	After completing the SPTAs, the CRS should transition to the SGTR EOP, 40EP-9EO04 and proceeds to cooldown and isolate the ruptured S/G. (Critical Task is to ensure the crew prevents a release of steam to atmosphere from the ruptured S/G during the RCS cooldown.) (Critical Task is to ensure the crew isolates the most affected S/G within 30 minutes of entry into the SGTR procedure.)
End point			Crew isolates the affected SG. (Critical Task is to ensure the crew takes action to prevent the Main Steam Safety Valves on the most affected S/G from opening after the most affected S/G has been isolated.)



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Turnover

Plant conditions:

Unit 1 has been at 100% power for the past 8 months. MOC, 250 EFPD.

Equipment out of service:

AF "A" is tagged out for maintenance. LCO 3.7.5. Condition 'b' has been entered. Expected to be returned in 12 hours.

HPSI 'A' tagged out for bearing replacement. LCO 3.5.3 condition 'b' was entered 4 hours ago. Expected to be returned in approximately 15 hours.

Train B is protected equipment.

EOOS action level is Orange.

Planned shift activities:

Normal, shiftly surveillance's are complete.

No other activities are planned.

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.