FINAL AS-ADMINISTERED WALKTHROUGH JPMS

FOR THE PRAIRIE ISLAND INITIAL EXAMINATION

THE WEEKS OF SEPTEMBER 10 AND 17, 2001

Facility: **Prairie Island** Date of Examination: **9/10/01**
Exam Level (circle one) RO SRO(I) SRO(U) Operating Test No.: **1**

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Steam Generator / Isolate A Ruptured Steam Generator	(D),(A),(S), (P)	4 (Primary)
b. Reactor Coolant System / Contingency Actions for Loss of All AC Power with the RCS Level at One Foot Below the Reactor Vessel Flange	(N),(S),(L), (P)	2
c. Control Rod Drive System / Perform Control Rod Exercise Surveillance	(D),(S)	1
d. Emergency Core Cooling System / Transfer SI To Recirculation Mode With Failure Of One Safeguard Train	(D),(A),(S), (E),(P)	3
e. Nuclear Instrumentation System / Take Corrective Action For A Power Range NIS Failure High	(D),(S)	7
f. Instrument Air System / Respond to a Loss of Instrument Air	(N),(A),(S), (P)	8
g. Liquid Radwaste System / Perform Test of R-18 "Waste Liquid Release Monitor"	(D),(S)	9

B.2 Facility Walk- Through

a. Service Water System / Perform Unit 1 Reactor Operator Actions during a Control room evacuation / fire	(D),(A),(P), (O)	4 (Secondary)
b. Containment Cooling System / Establish Containment Integrity After a CFCU Leak In Containment	(D),(R),(2), (O)	5
c. Emergency Diesel Generators / Local Shutdown and Return of D6 to Auto Standby	(N),(2)	6

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow- Power, (R)CA, Unit (2), (E)SF, (P)RA/LER, EOP/A(O)P

Facility: **Prairie Island** Date of Examination: **9/10/01**
Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test No.: **1**

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Residual Heat Removal / Contingency Actions for Loss of All AC Power with the RCS Level at One Foot Below the Reactor Vessel Flange	(N),(S),(L), (P)	4 (Primary)
b. Emergency Core Cooling System / Transfer SI To Recirculation Mode With Failure Of One Safeguard Train	(D),(A),(S), (E),(P)	2
c. Instrument Air System / Respond to a Loss of Instrument Air	(N),(A),(S), (P)	8
d.		
e.		
f.		
g.		

B.2 Facility Walk- Through

a. Containment Cooling System / Establish Containment Integrity After a CFCU Leak In Containment	(D),(R),(2), (O)	5
b. Emergency Diesel Generators / Local Shutdown and Return of D6 to Auto Standby	(N),(2)	6
c.		

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow- Power, (R)CA, Unit (2), (E)SF, (P)RA/LER, EOP/A(O)P

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: ISOLATE A RUPTURED STEAM GENERATOR **(ALTERNATE PATH)**

JPM NUMBER: 2001 NRC EXAM RO B.1.A **REV.** 0

RELATED PRA INFORMATION (SEE PITC 2.3): PRA Identified Task

TASK NUMBERS: 3010030601

K/A NUMBERS: 038EA1.14 / 038EA1.16 / 038EA1.18 / 038EA1.27 / 038EA1.32 / 038EA2.01 / 038EA2. 12

APPLICABLE METHOD OF TESTING:

Simulate Performance: [ ] Actual Performance: [x]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [x] Control Room: [ ]

Other: [ ]

Time for Completion: 20 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 2/22/01

APPROVED BY: [signature] **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

ISOLATE A RUPTURED STEAM GENERATOR (ALTERNATE PATH)		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	18	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the applicant	9	
Verifiable actions directed to be taken by the applicant	2	
System status verification elements requiring no actions	7	
Critical steps	9	All verifiable actions which, if performed incorrectly, could result in a release of the ruptured SG contents to the environment are considered "critical".
Operational decisions required by applicant	3	
Alternate paths required	1	The ruptured MSIV does not close requiring alternate method to isolate the ruptured SG as directed by the RNO actions and Attachment B.
Consequences for not performing task correctly		
If the critical tasks associated with this JPM are performed incorrectly, it could result in a release of the ruptured steam generator contents to the environment. This is compounded by the fact that there was a pre-existing fuel leak.		

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- Unit 1 was at 100% power.
- There is a small pre-existing fuel cladding leak that has been stable for two months.
- A Reactor trip and Safety Injection has occurred due to a SG tube rupture.
- "A" Steam Generator has been identified as the ruptured SG per step 2 of 1E-3.

INITIATING CUES:

- The Shift Supervisor directs you to **continue** with 1E-3, beginning with step 3.

JPM PERFORMANCE INFORMATION

Required Materials:

General References: 1E-3

Task Standards: "A" Steam Generator Isolated per 1E-3 step 3 and Attachment B.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

E-3 Caution before step 3:

- *IF no MD AFW pump is running, THEN steam supply to the TD AFW pump must be maintained from at least one SG.*
- *At least one SG must be maintained available for RCS cooldown.*

Performance Step: **Critical** _____	(E-3 step 3) **Isolate Flow From Ruptured SG(s)**
	a. Verify ruptured SG PORV controller setpoint in Auto at 75% (1050 psig)
Standard:	Applicant verifies "A" S/G PORV controller setpoint at 75%.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 step 3) **Isolate Flow From Ruptured SG(s)**
	b. Check ruptured SG PORV - CLOSED
Standard:	Applicant verifies "A" S/G PORV – CLOSED.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** **X**	(E-3 step 3) **Isolate Flow From Ruptured SG(s)**
	c. Close steam supply from ruptured SG(s) to TD AFW pump.
Standard:	Applicant closes steam supply MV from 11 SG.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 step 3) **Isolate Flow From Ruptured SG(s)**
	d. Verify blowdown isolation valve from ruptured SG(s) - CLOSED
Standard:	Applicant verifies blowdown isolation valve from 11 SG – CLOSED.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 step 3) **Isolate Flow From Ruptured SG(s)**
	e. Close ruptured SG MSIV and bypass valve
Standard:	Applicant attempts to close "A" loop MSIV.
Evaluator Note:	**The "A" loop MSIV will not close requiring the following alternate path actions.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	(E-3 step 3.e RNO) 1) Close intact SG MSIV and bypass valve.
Standard:	Applicant closes "B" loop MSIV.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	(E-3 step 3.e RNO)
Critical X	2) Adjust intact SG PORV controller setpoint in Auto to 71.8% (1005 psig).
Standard:	Applicant adjusts 12 SG PORV setpoint to 71.8%.
Evaluator Note:	**Adjustment of the SG PORV to 71.8% +/- 1% will satisfy the critical step.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	(E-3 step 3.e RNO)
Critical X	3) Place steam dumps to "OFF" position.
Standard:	Applicant places both CS-46460 and CS-46461 to the OFF position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	(E-3 step 3.e RNO)
Critical _____	4) While continuing with procedure, isolate steam flowpaths per ATTACHMENT B to maintain ruptured SG pressure.
Standard:	Applicant locates and references ATTACHMENT B.
Evaluator Cue:	**Inform applicant that the Shift Supervisor directs you to perform Attachment B while the crew continues on in E-3.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	(E-3 ATTACHMENT B) 1. Dispatch personnel to locally close cylinder heating isolation valves (CY-1-1 and CY-1-4)
Standard:	Turbine Building Operator requested to close CY-1-1 and CY-1-4.
Evaluator Note:	**Do not indicate that they are closed yet. Report back on these valves comes later in the JPM.** **Step 2 may also be done in conjunction with this step.**
Evaluator Cue:	**As Turbine Building Operator, acknowledge request to close CY-1-1 and CY-1-4.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	(E-3 ATTACHMENT B) 2. Dispatch personnel to locally close air ejector suction valves (AR-5-1 and AR-5-2)
Standard:	Turbine Building Operator requested to close AR-5-1 and AR-5-2.
Evaluator Note:	**Do not indicate that they are closed yet. Report back on these valves comes later in the JPM.**
Evaluator Cue:	**As Turbine Building Operator, acknowledge request to close AR-5-1 and AR-5-2.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 3. Verify turbine stop valves - CLOSED.
Standard:	Checks stop valve status lights on EHC panel for Green on SV-1 and SV-2 (upper left on each side) and/or checks annunciators 47007:0603 and 47007:0604 solid.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 4. Verify MSR steam isolation valves – CLOSED • CV-31096 • CV-31097 • CV-31094 • CV-31095
Standard:	Applicant verifies green valve indicating lights above the turbine control panel lit for: CV-31096, CV-31097, CV-31094, and CV-31095.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	(E-3 ATTACHMENT B) 5. WHEN air ejector suction valves are closed, THEN close normal and secondary air ejector steam supply valves (MV-32327 and MV-32355)
Standard:	Applicant closes MV-32327/MV-32355 using CS-46401 after CY-1-1, CY-1-4, AR-5-1, and AR-5-2 are reported to be closed.
Evaluator Note:	**The critical portion is that MV-32327/MV-32355 are closed and the sequence is NOT critical.**
Evaluator Cue:	**As Turbine Building Operator, report that, "CY-1-1, CY-1-4, AR-5-1, and AR-5-2 are closed."**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 6. Verify standby air ejector suction valves (MV-32346 and MV-32347) - CLOSED
Standard:	Checks MV-32346 and MV-32347 Green lights lit.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 7. Verify standby air ejector steam supply valves (MV-32328) - CLOSED
Standard:	Checks MV-32328 Green light lit.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 8. Verify 11 and 12 hogging jet suction valves (MV-32308 and MV-32309) - CLOSED
Standard:	Verify MV-32308 and MV-32309 - CLOSED.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	(E-3 ATTACHMENT B) 9. Verify 11 and 12 hogging jet steam supply valves (MV-32316 and MV-32317) - CLOSED
Standard:	Applicant closes MV-32316 and MV-32317.
Evaluator Note:	**Applicant must close both Motor Valves to satisfy critical step.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 10. Verify steam dumps selected to OFF.
Standard:	Applicant verifies CS-46460 or CS-46461 in OFF/RESET.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 11. Verify A/B main steam line free blows (CV-31645 and CV-31646) - CLOSED
Standard:	Verifies closed CV-31645 and CV-31646 on "B" panel.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(E-3 ATTACHMENT B) 12. Evaluate the need to transfer gland steam to heating steam.
Standard:	Directs the Turbine Building Operator to transfer gland steam to heating steam.
Evaluator Note:	**Applicant may confer with SS on need to transfer gland steam.**
Evaluator Cue:	**If asked as SS, respond to applicant that, "No... We are not going to transfer gland steam to heating steam right now."**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **The applicant should report to the SS that, "E-3 Attachment B is complete." At this point, inform the applicant that, "this JPM is complete."**

Stop Time: _____

SIMULATOR SETUP

Instructor Guide:

- **Initialize** the simulator to IC-10.
- **Place** the simulator in "RUN" and **allow** ERCS to come up and stabilize.
- **Enter** pre-existing malfunctions. ***(Relative Order 0)***
- **Enter** malfunction to cause a SGTR on 11 SG. ***(Relative Order 1)***
- **Trip** the reactor and **actuate** SI.
- **Close** MV-32115, CC supply to SFP HXs.
- **Open** the turbine HP drains using **CS-46392**.
- **Place** steam dump in "STM PRESS" mode using **CS-46338**.
- **Open** the following valves:
  - MV-32316 using **CS-46395**
  - MV-32317 using **CS-46396**
- IF desired, THEN **snap** to an available IC.
- **Place** the simulator in FREEZE.
- **Peer-check** the simulator setup.
- **Conduct** turnover.
- **Place** the simulator in RUN.
- **Administer** JPM.

SIMULATOR SETUP

Relative Order	*System or Panel Drawing*	*TYPE*	*CODE*	*Severity or Value*	*Event Trigger*	*TIMING*	*DESCRIPTION*
0	MCB-D1-D11	OVRD DI	DI-46158C CLOSE	OFF			11 MSIV control switch as is
1	SG01	MALF	SG02A	10			11 SGTR

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 1 was at 100% power.
- There is a small pre-existing fuel cladding leak that has been stable for two months.
- A Reactor trip and Safety Injection has occurred due to a SG tube rupture.
- "A" Steam Generator has been identified as the ruptured SG per step 2 of 1E-3.

INITIATING CUES:

- The Shift Supervisor directs you to **continue** with 1E-3, beginning with **step 3**.

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: Contingency Actions for Loss of All AC power with RCS Level 1 foot below the Reactor Vessel Flange

JPM NUMBER: 2001 NRC EXAM B.1.B (SRO) **REV.** 0

RELATED PRA INFORMATION (SEE PITC 2.3): None

TASK NUMBERS: CRO 002.ATI.024

K/A NUMBERS: APE 025 AA1.02 / APE 056 AA1.05

APPLICABLE METHOD OF TESTING:

Simulate Performance: [ ] Actual Performance: [x]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [x] Control Room: [ ]

Other: [ ]

Time for Completion: 15 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 2/22/01

APPROVED BY: [signature] **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

Contingency Actions for Loss of All AC power with RCS Level 1 foot below the Reactor Vessel Flange		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	8	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the candidate	1	Initiate Containment Isolation
Verifiable actions directed to be taken by the candidate	2	• Open RWST to RHR Motor Valve. • Initiate Containment evacuation
System status verification elements requiring no actions	5	
Critical steps	3	
Operational decisions required by candidate	1	Determine appropriate step based on manway status.
Alternate paths required	0	
Consequences for not performing task correctly		
Failure to initiate containment isolation may result in a release to the environment if the condition worsens to the point of core damage. Failure to direct opening of RWST to RHR will result in a loss of inventory and eventual core uncovery/core damage. Failure to initiate containment evacuation could result in excessive exposure to those persons in containment during the loss of inventory.		

Contingency Actions for Loss of All AC power with RCS Level 1 foot below the Reactor Vessel Flange	2001 NRC EXAM B.1.B (SRO)

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- Unit one has been shutdown for a refueling outage for 4 days.
- The RCS is being maintained at one foot below the reactor vessel flange in preparation for SG nozzle dam installation per 1C1.6.
- Time to boiling has been determined to be 15 minutes.
- The Pressurizer manway has been removed.
- The SG manways have not yet been removed.
- A loss of all AC power has occurred resulting in a loss of RHR cooling. (12 RHR Pump was aligned for core cooling)

INITIATING CUES:

- The applicable steps of 1ECA-0.0 have been implemented and the Shift Supervisor directs you to **continue** with **1C1.6, Table 1 step 2.**

JPM PERFORMANCE INFORMATION

Required Materials:

General References: **1C1.6 Table 1**
E-4 Attachment I

Task Standards: **Containment Isolated and evacuated. RHR gravity flow initiated.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: **Critical** _____	**Initiate** containment closure per 1E-4, Core Cooling Following Loss of RHR Flow, Attachment I.
Standard:	Candidate references 1E-4 Attachment I.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(1E-4 Attachment I) Step 1. Notify the individuals responsible for closure to close all penetrations that are logged open on C19.9, Table 1, ALTERNATE ISOLATION AND CONTAINMENT BOUNDARY OPENING LOG.
Standard:	Candidate inquires about logged openings.
Evaluator Cue:	WHEN the candidate inquires about logged openings, THEN **state** *"There are no penetrations logged open on C19.9, Table 1"*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** **X**	(1E-4 Attachment I) Step 2. Manually initiate Containment Isolation Train A and Train B.
Standard:	Candidate manually initiates Train A and B Containment Isolation using CS-46085.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: (1E-4 Attachment I)
Critical _____ Step 3. Verify the Containment Isolation Monitor Lights are lit with exceptions.

Standard: Candidate verifies all CI lights are lit with multiple exceptions.

Evaluator Note: **The exceptions are normal or due to loss of power to various motor valves. Exceptions are:**

- **44104:A3, B3 "Excess Letdown closed"**
- **44104:A6 "Inst. Air to Reactor Bldg closed" (normal exception)**
- **44104:B6-D6 "SG Blowdown Isolations closed"**
- **44104:C7, D7 "FW to SGs closed"**
- **44104:A8 "PRZR steam space sample isolation closed"**
- **44104:A11-D11 "Airlocks open" (normal exception)**
- **44104:A15,B15 "AFW to SGs" (normal exception)**

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: (1E-4 Attachment I)
Critical _____ Step 4. Evaluate and rectify any unanticipated exceptions on the Containment Isolation Panel. An appropriate solution would be to close alternate isolation valves in the penetration. Systems that are pressurized to greater than 40 psig are acceptable and do not require isolation.

Standard: CI exceptions are addressed.

Evaluator Cue: WHEN the candidate identifies the exceptions, THEN **state**: "Another Operator will evaluate and rectify the exceptions"

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: **Critical** _____	IF all RCS primary manways (pressurizer and steam generators) are installed, THEN **perform** the following: • **CLOSE** valves to isolate ALL RCS vent and drain paths • **Verify** natural circulation is beginning to develop per the following indication
Standard:	Candidate determines step is **NOT** applicable.
Evaluator Note:	**All primary manways are NOT installed. The Pressurizer manway is removed. (This was given as an initial condition)**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	IF a primary manway is removed (pressurizer or steam generator), THEN manually **OPEN** RWST supply to RHR pump aligned for core cooling. This will provide a makeup path for core cooling from the RWST through the normal RHR return to loop B. **MV-32084**, RWST TO 11 RHR PUMP OR **MV-32085**, RWST TO 12 RHR PUMP
Standard:	Candidate directs Aux. Bldg. operator to manually open MV-32085.
Evaluator Cue:	WHEN the candidate directs opening of MV-32085, THEN **repeat** the command AND **report** that MV-32085 has been manually opened.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	**Evacuate** containment of all personnel.
Standard:	Candidate initiates containment evacuation.
Evaluator Cue:	IF asked, THEN **tell** the applicant to *"demonstrate containment evacuation".*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **When candidate has initiated containment evacuation by sounding the containment evacuation alarm.**

Stop Time: _____

SIMULATOR SETUP

Instructor Guide:

- **Initialize** simulator to IC-27.
- **Place** the simulator in RUN AND **allow** ERCS to initialize.
- **Enter** pre-existing malfunctions **(Relative order of 0)**.
- **Place** ERCS display "FLANGE" up on the RO desk.
- **Enter** the loss of all offsite power event **(Relative order 1, Trigger 1)**
- IF desired, THEN **snap** to an available IC.
- **Place** the simulator in FREEZE.
- **Peer-check** the simulator setup.
- **Conduct** turnover.
- **Place** the simulator in RUN.
- **Administer** JPM.
- WHEN asked to open MV-32085 manually, THEN perform **relative order 2**.

SIMULATOR SETUP

Relative Order	*System or Panel Drawing*	*TYPE*	*CODE*	*Severity or Value*	*Event Trigger*	*TIMING*	*DESCRIPTION*
0		Remote Function	RC123	Open			PRZR Manual vent open
0		Remote Function	SI115	0			Simulate MV-32085 closed
0		Override DI	DI-46203O	ON			MV-32085 open
0		Override AO	AO-41058	90			Freeze RWST level ind.
0		Override AO	AO-41069	90			Freeze RWST level ind.
0		ERCS pt override	CP-1L0920A	90			Freeze RWST level ind.
0		ERCS pt override	CP-1L0921A	90			Freeze RWST level ind.
1		Malfunction	ED14	Insert	1		Loss of all offsite power
1		Malfunction	ED09E	Insert	1		Loss of bus 15
1		Malfunction	ED09F	Insert	1		Loss of bus 16
2		Remote Function	SI115	90			Simulate MV-32085 open

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit one has been shutdown for a refueling outage for 4 days.
- The RCS is being maintained at one foot below the reactor vessel flange in preparation for SG nozzle dam installation per 1C1.6.
- Time to boiling has been determined to be 15 minutes.
- The Pressurizer manway has been removed.
- The SG manways have not yet been removed.
- A loss of all AC power has occurred resulting in a loss of RHR cooling. (12 RHR Pump was aligned for core cooling)

INITIATING CUES:

- The applicable steps of 1ECA-0.0 have been implemented and the Shift Supervisor directs you to **continue** with **1C1.6**, **Table 1 step 2.**

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: PERFORM CONTROL ROD EXERCISE SURVEILLANCE

JPM NUMBER: 2001 NRC EXAM B.1.C **REV.** 1

RELATED PRA INFORMATION (SEE PITC 2.3): None

TASK NUMBERS: 0010010201

K/A NUMBERS: 2.1.23 001 A2.14 001 A2.17

APPLICABLE METHOD OF TESTING:

Simulate Performance: [ ] Actual Performance: [x]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [x] Control Room: [ ]

Other: [ ]

Time for Completion: 20 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 2/26/01

APPROVED BY: D Smith **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

PERFORM CONTROL ROD EXERCISE SURVEILLANCE		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	13	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the applicant	9	
Verifiable actions directed to be taken by the applicant	1	Open lift coil disconnect switches.
System status verification elements requiring no actions	3	
Critical steps	7	
Operational decisions required by applicant	3	
Alternate paths required	0	
Consequences for not performing task correctly		
Failure to perform this task properly could result in imbalanced flux distribution or reactor trip.		

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- Unit 1 is in a normal 100% at-power lineup with no load change planned.
- No boron concentration change is needed nor planned.
- A pre job briefing for performing SP 1047 has been completed.
- An extra operator is stationed at the lift disconnect cabinet with a radio. (Key has been obtained and the disconnect cabinet is open.)
- The Lead will observe other control room parameters during the surveillance.

INITIATING CUES:

- The SS directs you to **perform** "Control Rod Exercise" surveillance for SD Bank A rod E-3 **per SP 1047** starting at step **7.2.2.**

JPM PERFORMANCE INFORMATION

Required Materials: Copy of SP 1047 signed off up to and including step 7.2.1.
Two-way radios

General References: SP 1047 rev. 32

Task Standards: SD Bank A rod E-3 exercised per SP 1047.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: **Critical** _____	At any convenient ERCS terminal, **use** the ERCS Group Display **"SP1047"** to display the following parameters for the duration of the test: 1Y0701D ROD CTRL POWER CAB 1AC 1Y0702D ROD CTRL POWER CAB 2AC 170703D ROD CTRL POWER CAB 1BD 170704D ROD CONTROL SYSTEM (LOGIC)
Standard:	ERCS Group Display "SP1047" setup at one of the ERCS terminals.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** __X__	**Place** CS-46280, Rod Bank Sel Sw in "MANUAL".
Standard:	CS-46280 placed in "MANUAL".
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Record** each Group Position and RPI Position in the Initial Steps Column of Table 1.
Standard:	Shutdown Bank A rod E-3 RPI position and group 1 step counter recorded in Table 1.
Evaluator Cue:	IF asked, **inform** the applicant to *"only record information associated with rod E-3."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** __X__	**Verify CS-46280**, ROD BANK SEL, is selected to the Bank to be exercised.
Standard:	CS-46280 placed in "SBA".
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** __X__	**Open** all of the lift coil disconnect switches for the bank being exercised EXCEPT for the control rod to be exercised in that bank.
Standard:	Directs opening of lift coil disconnect switches for rods I-11, C-9, and K-5.
Evaluator Note:	**The simulator booth operator will open the lift coil disconnect switches at Lift Disconnect Panel behind the C-Panel.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

NOTE:	**Individual control rod movement within banks SA, CA or CC will cause the power cabinet of the accompanying group to generate an urgent alarm. [i.e. Movement of a cabinet 1AC control rod causes cabinet 2AC to generate an urgent alarm].**

Performance Step: **Critical X**	**Insert** the selected control rod 12 ± 1 steps based on the group step counter indication.
Standard:	Rod E-3 inserted 12 ± 1 steps.
Evaluator Note:	**This step will generate alarm 47013:0507 "Computer Alarm / Rod Deviation Sequence"**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Record** the group step counter value for the bank and individual rod position indicator for the control rod in the Interim Steps Column of Table 1.
Standard:	Shutdown Bank A rod E-3 position and group 1 step counter recorded in Table 1.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	For each control rod moved, **verify** ERCS Display "SP1047" agrees with Table 3. **Initial** the Table 3 Alarm Check Column of Table 1.
Standard:	Verifies "SP1047" ERCS display indicates alarms for power cabinet 2AC and Logic alarm per table 3 and initials "Table 3 alarm check" box in Table 1. Power cabinets 1AC and 1BD are NORMAL.
Evaluator Note:	**If applicant did not enter an update rate when setting up this display, the data will not have changed. The applicant will have to redisplay the group.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	**Withdraw** the control rod to it's original position as indicated by it's group step counter.
Standard:	Shutdown Bank A rod E-3 moved out and then stopped with group 1 step counter indicating 228. Shutdown Bank A rod E-3 position and group 1 step counter recorded in Table 1.
Evaluator Note:	**If 228 is exceeded, the operator should inform the SS and may reset the group step counter to 228.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Record** the group step counter and individual rod position indicator values in the Final Steps Column of table 1.
Standard:	Group 1 step counter and control rod E3 recorded as 228 steps in table 1.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Verify** initial and final group step counter positions agree.
Standard:	Group 1 step counter verified as 228 steps for initial and final values.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Verify** control rod motion by RPI, Tave and/or power changes. Initial Rod motion column of Table 1
Standard:	Control rod motion verified as indicated by initialing the *Rod Motion section of table 1.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	IF Rod Control System Urgent Failure **47013-0106** alarm is LIT, THEN **reset** the alarm using pushbutton **46252**.
Standard:	Depresses PB-46252, Rod Control Alarm Reset and verifies alarm 47013-0106 clears.
Evaluator Note:	**This alarm is received because individual RCCA movement of one group within Shutdown Bank A causes the power cabinet of the accompanying group to generate an urgent alarm.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **When the applicant has completed the reset of the Urgent Failure alarm, THEN inform the applicant that *"another operator will complete the procedure."***

Stop Time: _____

SIMULATOR SETUP

Instructor Guide:

- **Initialize** the simulator to IC-10.
- **Place** the simulator in "RUN" AND **allow** ERCS to come up and stabilize.
- **Verify** Bank D step counters are at 218 steps AND ALL others are at 228 steps.
- **Verify** CS-46280, Rod Bank Sel Sw is in "AUTO".

NOTE:

DO NOT leave ERCS group display "SP1047" or "RBU" on displayed on screen.

- **Verify** ERCS "RBU" indicates that all groups are at their respective positions.
- **Ensure** that Group Display "SP1047" works AND THEN **cancel** it.
- **Place** ERCS quickplot "LOADFOLL" on the T-bar ERCS display.
- **Place** a copy of SP1047 on the Lead's desk with all Prerequisites and Initial Conditions signed off.
- **Remove** the lower right panel on C-Panel (to communicate to Lift Disconnect Panel).
- **Place** a radio near the RO desk for the applicant.
- **Obtain** the Control Rod Lift Coil Disconnect Cabinet key AND **station** yourself at the cabinet with a radio.
- WHEN JPMs are complete, THEN **lock** cabinet.

SIMULATOR SETUP

Relative Order	*System or Panel Drawing*	*TYPE*	*CODE*	*Severity or Value*	*Event Trigger*	*TIMING*	*DESCRIPTION*
NONE							

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 1 is in a normal 100% at-power lineup with no load change planned.
- No boron concentration change is needed nor planned.
- A pre job briefing for performing SP 1047 has been completed.
- An extra operator is stationed at the lift disconnect cabinet with a radio. (Key has been obtained and the disconnect cabinet is open.)
- The Lead will observe other control room parameters during the surveillance.

INITIATING CUES:

- The SS directs you to **perform** "Control Rod Exercise" surveillance for SD Bank A rod E-3 **per SP 1047** starting at step **7.2.2.**

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: TRANSFER SI TO RECIRCULATION MODE WITH FAILURE OF ONE SAFEGUARD TRAIN **(ALTERNATE PATH)**

JPM NUMBER: 2001 NRC EXAM B.1.D (SRO-U) **REV.** 1

RELATED PRA INFORMATION (SEE PITC 2.3): PRA Identified Task Lineup for Recirc

TASK NUMBERS: 301 ATI 10

K/A NUMBERS: 006 A4.05

APPLICABLE METHOD OF TESTING:

Simulate Performance: [ ] Actual Performance: [x]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [x] Control Room: [ ]

Other: [ ]

Time for Completion: 20 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 2/26/01

APPROVED BY: D Smith **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

TRANSFER SI TO RECIRCULATION MODE WITH FAILURE OF ONE SAFEGUARD TRAIN (ALTERNATE PATH)		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	25	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the applicant	17	
Verifiable actions directed to be taken by the applicant	0	
System status verification elements requiring no actions	8	
Critical steps	16	
Operational decisions required by applicant	numerous	• Many times, the operator must decide which set of components to operate based on available train.
Alternate paths required	1	Transition to 1ES-1.3 when unable to open MV-32075.
Consequences for not performing task correctly		
This is a PRA important operator action. Failure to properly transfer to recirculation could result in a loss of core cooling and eventual fuel damage.		

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- A large break LOCA has occurred on Unit 1.
- All actions in 1E-0 performed to TRANSITION.
- All actions in 1E-1 completed through and including Step 5.
- Preparation for switchover per 1ES-1.2, step 2 has been completed. (Attachment K complete)

INITIATING CUES:

- The Unit 1 SS directs you to **continue** with **1ES-1.2** starting at step **3**, AND **place 11 SI Pump** in the recirculation mode via **11 RHR Pump**.

JPM PERFORMANCE INFORMATION

Required Materials: None

General References: 1ES-1.2 and 1ES-1.3

Task Standards: Train B safeguard equipment in recirculation mode.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: **Critical** **X**	1ES-1.2 step 3 Reset SI
Standard:	SI reset as indicated by Annunciator 47014-0504 ON and 47014-0604 OFF.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.2 step 4
Critical _____	Both Trains of Safeguard Pump(s) Available for recirculation.
Standard:	Availability of both trains checked.
Evaluator Cue:	IF asked as SS, THEN **report** that both trains of safeguards pumps are available for recirculation.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.2 step 5
Critical X	Stop One Train of Safeguard Pumps: a. Stop one SI pump
Standard:	11 SI pump stopped.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.2 step 5
Critical X	Stop One Train of Safeguard Pumps: b. Stop one RHR pump
Standard:	11 RHR pump stopped.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	1ES-1.2 step 5 Stop One Train of Safeguard Pumps: c. Perform the following: 1) Reset containment spray signal 2) Stop one containment spray pump
Standard:	Containment Spray has not actuated therefore it is not necessary to reset CS signal.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** **X**	1ES-1.2 step 6 Close SI Test Line to RWST Valves: • MV-32202 • MV-32203
Standard:	MV-32202 AND MV-32203 closed using CS-46204 and CS-46205.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	1ES-1.2 step 7 Caution: **Caution** - Venting the bonnets of sump B to RHR MVs per ATTACHMENT K must be completed before opening the following valves.
Standard:	Caution read.
Evaluator Note:	**Attachment K completed was provided in the initial conditions.**
Evaluator Cue:	IF applicant requests the status of Attachment K, THEN **state** "Attachment K is complete"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	1ES-1.2 step 7 Open Sump B to RHR Isolation Valves for Idle RHR Pump: a. Open one set of valves for idle safeguard train: • MV-32075 and MV-32077
Standard:	MV-32075 opening attempted using CS-46208.
Evaluator Note:	MV-32075 will not open. The Examinee should transition to 1ES-1.3 per step 7 RNO column. This is the beginning of the alternate path.
Evaluator Cue:	IF applicant requests guidance from the SS, THEN **state** "Take actions as directed by procedure"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.3 step 1
Critical _____	Check RWST Level – LESS THAN 28%
Standard:	Stay in step 1 until RWST level is less than 28%.
Evaluator Note:	**RWST level should be less than 28% by now.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.3 step 2
Critical X	Stop RHR Pump
Standard:	12 RHR pump stopped using CS-46185.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.3 step 3
Critical _____	Close SI Test Line to RWST Valves: • MV-32202 • MV-32203
Standard:	MV-32202 AND MV-32203 closed using CS-46204 and CS-46205.
Evaluator Note:	The valves were closed in ES-1.2
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	1ES-1.3 step 4 Open Sump B to RHR Isolation Valves for Operable RHR Pump: • MV-32075 and MV-32077 - OR – • MV-32076 and MV-32078
Standard:	MV-32076 and MV-32078 opened using CS-46209 and CS-46211.
Evaluator Note:	**These valves have a long stroke time.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	1ES-1.3 step 5 Close RWST to RHR Isolation Valves for Operable RHR Pump: • MV-32084 - OR – • MV-32085
Standard:	MV-32085 closed using CS-46203.
Evaluator Note:	**These valves have a long stroke time.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	1ES-1.3 step 6 Verify RHR to Reactor Vessel Nozzle Valves (MV-32064 And MV-32065) - OPEN
Standard:	MV-32064 And MV-32065 verified open by checking red lights on CS-46223 and 46224.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	1ES-1.3 step 7 Verify Sump B Level Adequate to Support RHR Pump Operation: • Narrow Range level – 100% - OR – • Wide Range level – GREATER THAN 1.75 FEET
Standard:	Adequate Sump B level verified by checking 1L1725, 1L1726, 1L1727, or 1L1728.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	1ES-1.3 step 8 Place Operable RHR Train in Recirculation Operation: a. Verify sump B to RHR isolation valves for operable RHR train are – FULL OPEN • MV-32075 AND MV-32077 - OR – • MV-32076 AND MV-32078
Standard:	MV-32076 And MV-32078 verified open by checking red lights on CS-44209 and 46211.
Evaluator Note:	**Critical step is satisfied as long as the valves are full open before starting the RHR pump in the next step.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	1ES-1.3 step 8 Place Operable RHR Train in Recirculation Operation: b. Start operable RHR pump
Standard:	12 RHR Pump started using CS-46185.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.3 step 9
Critical _____	Check RCS Pressure – LESS THAN 125 PSIG
Standard:	Pressure checked on 1PI-709, 1PI-710, 1PR-420, or ERCS. Applicant goes to step 12 per RNO.
Evaluator Note:	**Pressure will NOT be less than 125 psig.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.3 step 12
Critical X	Stop SI Pump
Standard:	12 SI Pump stopped using CS-46179.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	1ES-1.3 step 13
Critical X	Close SI Pump Suction Isolation Valve for Operable SI Pump: • MV-32162 - OR – • MV-32163
Standard:	MV-32163 closed using CS-46193.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 1ES-1.3 step 14
Critical _____

Check RHR Pump Discharge Pressure – LESS THAN 210 PSIG:

- 1PI-628

- OR –

- 1PI-629

Standard: Applicant checks RHR pressure less than 210 psig on 1PI-628.

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: 1ES-1.3 step 15
Critical X

Open RHR Supply to Operable SI Pump Isolation Valve:

- MV-32206

- OR –

- MV-32207

Standard: MV-32207 opened using CS-46207.

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: 1ES-1.3 step 16
Critical X

Start SI Pump.

Standard: 12 SI Pump started using CS-46179.

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: **Critical** _____	1ES-1.3 step 17 Verify SI Flow (1FI-925).
Standard:	SI flow verified on 1FI-925.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	1ES-1.3 step 18 Close RHR to Reactor Vessel Nozzle Valve for RHR Pump Supplying SI Pump Suction: • MV-32064 - OR – • MV-32065
Standard:	MV-32065 closed using CS-46224.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: 12 SI pump being supplied from 12 RHR pump via sump B, RHR supply to Reactor Vessel valve MV-32065 closed.

Stop Time: _____

SIMULATOR SETUP

Instructor Guide:

- **Initialize** the simulator to IC-10.
- **Insert** relative order 0 items.
- **Insert** malfunction RC07A at 10% severity, cold leg LOCA **(Relative Order 1).**
- **Perform** the following:
  - **Close** MV-32115
  - **Open** Turbine Drains
  - **Place** Steam Dump in Steam Pressure Mode
  - **Stop** RCP's
  - **Place** all FCU's in slow
  - **Stop** SFP Make-up Fans.
  - **Stop** SFP Exhaust Fans.
- **Freeze** simulator when RCS pressure is less than 500 psig and RWST <28%.
- IF desired, THEN **snap** to an available IC.
- **Give** initial conditions.
- **Place** simulator in run just before the first control board manipulation.

SIMULATOR SETUP

Relative Order	*System or Panel Drawing*	*TYPE*	*CODE*	*Severity or Value*	*Event Trigger*	*TIMING*	*DESCRIPTION*
0	SIMWD02A	Remote Function	WD104	ANN SMP	Insert		WL-87-1 aligned to annulus
0	SIMWD02A	Remote Function	WD105	ANN SMP	Insert		WL-87-2 aligned to annulus
0		Remote Function	CH127	OFF	Insert		Rad Waste Bldg Vent Stopped
0	SIMCC01C	Remote Function	CC109	50	Insert		11 CCHX setpoint to 50°F
0	SIMCC01C	Remote Function	CC110	50	Insert		12 CCHX setpoint to 50°F
0	SIMCC01C	Remote Function	CC111	REMOVED	Insert		11 CC Travel Stops Removed
0	SIMCC01C	Remote Function	CC112	REMOVED	Insert		12 CC Travel Stops Removed
0	SIMSI02	Remote Function	SI107	NORMAL	Insert		11 SI suction from RHR BKR ON (1K1-E2)
0	SIMSI02	Remote Function	SI108	NORMAL	Insert		12 SI suction from RHR BKR ON (1KA2-D1)
0	SIMSI02	Remote Function	SI115	30	Insert		Puts RWST to 30%
0	B1-B15	Override DI	DI-46208C CLOSE	ON	Insert		Sump B to 11 RHR switch failure
1	SIMRC02A	Malfunction	RC07A	10	1		Cold leg LOCA

TURNOVER SHEET

INITIAL CONDITIONS:

- A large break LOCA has occurred on Unit 1.
- All actions in 1E-0 performed to TRANSITION.
- All actions in 1E-1 completed through and including Step 5.
- Preparation for switchover per 1ES-1.2, step 2 has been completed. (Attachment K complete)

INITIATING CUES:

- The Unit 1 SS directs you to **continue** with **1ES-1.2** starting at step **3**, AND **place 11 SI Pump** in the recirculation mode via **11 RHR Pump**.

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: TAKE CORRECTIVE ACTION FOR A POWER RANGE NIS FAILURE HIGH

JPM NUMBER: 2001 NRC EXAM B.1.E **REV.** 7

RELATED PRA INFORMATION (SEE PITC 2.3): None

TASK NUMBERS: 015.ATI.04

K/A NUMBERS: 015 A4.03

APPLICABLE METHOD OF TESTING:

Simulate Performance: [ ] Actual Performance: [x]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [x] Control Room: [ ]

Other: [ ]

Time for Completion: 10 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 2/28/01

APPROVED BY: [signature] **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

TAKE CORRECTIVE ACTION FOR A POWER RANGE NIS FAILURE HIGH		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	17	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the applicant	8	
Verifiable actions directed to be taken by the applicant	1	Direct I&C to trip bistables.
System status verification elements requiring no actions	8	
Critical steps	7	
Operational decisions required by applicant	1	Tave = Tref? Restore Rods to Auto.
Alternate paths required	0	
Consequences for not performing task correctly		
Failure to properly perform this task could result in a reactor trip. This has actually occurred at PI.		

TAKE CORRECTIVE ACTION FOR A POWER RANGE NIS FAILURE HIGH	2001 NRC EXAM B.1.E

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- Unit 1 is at 100% power.
- NIS yellow channel N-44 has failed high.
- C51 has been started, including:
  - Expected Plant Response/Failure Verification has been completed.
  - Rods were taken to Manual.
  - Tech Specs are being addressed.

INITIATING CUES:

- The SS directs you to **complete** C51 steps 3 through 5 of the Required Corrective Action section.
- **Report** completion to the SS.

JPM PERFORMANCE INFORMATION

Required Materials: None

General References: C51.4

Task Standards: Required corrective actions for NIS power range failure completed.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: **Critical** __X__	On the Miscellaneous Control and Indication Panel drawer: **Place** ROD STOP BYPASS switch in "N44" position.
Standard:	Rod stop bypass switch placed in "N44" position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** __X__	On the Miscellaneous Control and Indication Panel drawer: **Place** POWER MISMATCH BYPASS switch in "N44" position.
Standard:	Power Mismatch Bypass switch placed in "N44" position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	On the Miscellaneous Control and Indication Panel drawer: **Place** Upper Section Current Comparator Defeat switch in the "N44" position and **verify** the Upper Section Channel Defeat Light is LIT.
Standard:	Upper Section Current Comparator Defeat switch placed in "N44" position and Upper Section Channel Defeat Light verified LIT.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	On the Miscellaneous Control and Indication Panel drawer: **Place** LOWER SECTION CURRENT COMPARATOR DEFEAT switch in the "N44" position and **verify** the Lower Section Channel Defeat Light is LIT.
Standard:	Lower Section Current Comparator Defeat switch placed in "N44" position and Lower Section Channel Defeat Light verified LIT.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	On the COMPARATOR AND RATE drawer, **place** COMPARATOR CHANNEL DEFEAT switch in the "N44" position and **verify** Comparator Defeat Light is LIT.
Standard:	Comparator Channel Defeat switch placed in "N44" position and Comparator Defeat Light verified LIT.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	At N44 POWER RANGE B drawer, **remove** and **concurrently verify** removal of, the instrument power fuses.
Standard:	Instrument power fuses removed from N44 drawer B.
Evaluator Cue:	WHEN the applicant asks for concurrent verification, THEN simply **state** "Concurrent verification complete".
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	At N44 POWER RANGE A drawer, **remove** and **concurrently verify** removal of, the control power fuses.
Standard:	Control power fuses removed from N44 drawer A.
Evaluator Cue:	WHEN the applicant asks for concurrent verification, THEN simply **state** "Concurrent verification complete".
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Verify** the following annunciators are received:
Critical _____

1) 47013-0101, NIS POWER RANGE POSITIVE FLUX RATE CHANNEL ALERT
2) 47013-0102, NIS POWER RANGE HI SETPOINT CHANNEL ALERT
3) 47013-0201, NIS POWER RANGE NEGATIVE FLUX RATE CHANNEL ALERT
4) 47013-0202, NIS POWER RANGE LO SETPOINT CHANNEL ALERT (if power below P-10)
5) 47014-0403, N44 NUCLEAR OVERPOWER ROD STOP BYPASSED Aqua Light.

Standard: At C panel, checks the listed annunciators on solid with exception of 47013-0202.

Evaluator Note: **Annunciator 47013-0202 will not be received due to power being above P-10.**

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: **Verify** the following status lights LIT:
Critical _____

1) 44178-0406, PWR RNG LO Q-HI F NC44P
2) 44178-0407, PWR RNG HI Q-HI F NC44R
3) 44205-0404, PWR RNG HI F RATE NC44U/K

Standard: At C panel, checks listed Yellow Protection Lights LIT.

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: **Critical** _____	**Restore** Tavg equal to Tref using control rods in one or two step increments AND THEN **place** rod control to "AUTO".
Standard:	Rod Control returned to "AUTO" using CS-46280.
Evaluator Note:	**Tave should be equal to Tref at this time.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Trip** AND **concurrently verify** the following bistables to remove channel from service:
Standard:	Requests I&C support to trip bistables.
Evaluator Cue:	**When requested, inform the applicant that, "the bistables will be tripped later and within 6 hours."**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **The applicant verbalizes bistable tripping.**

Stop Time: _____

SIMULATOR SETUP

Instructor Guide:

- **Initialize** the simulator to IC-10.
- **Place** the simulator in "RUN" AND **allow** ERCS to come up and stabilize.
- **Place** ERCS quick plot "LOADFOLL" on t-bar display.
- **Place** rods in "MANUAL".
- **Enter** malfunction to fail N44 high. ***(Relative Order 0)***
- IF desired, THEN **snap** to an available IC.
- **Place** the simulator in FREEZE.
- **Peer-check** the simulator setup.
- **Conduct** turnover.
- **Place** the simulator in RUN.
- **Administer** JPM.

SIMULATOR SETUP

Relative Order	*System or Panel Drawing*	*TYPE*	*CODE*	*Severity or Value*	*Event Trigger*	*TIMING*	*DESCRIPTION*
0	SIMNI03	MALF	NI06D	100			N44 Fails High

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 1 is at 100% power.
- NIS yellow channel N-44 has failed high.
- C51 has been started, including:
  - Expected Plant Response/Failure Verification has been completed.
  - Rods were taken to Manual.
  - Tech Specs are being addressed.

INITIATING CUES:

- The SS directs you to **complete** C51 steps 3 through 5 of the Required Corrective Action section.
- **Report** completion to the SS.

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: RESPOND TO A LOSS OF INSTRUMENT AIR **(ALTERNATE PATH)**

JPM NUMBER: 2001 NRC EXAM RO B.1.F (SRO-U) **REV.** 0

RELATED PRA INFORMATION (SEE PITC 2.3): None

TASK NUMBERS: 078.ATI.003

K/A NUMBERS: APE 065 AA1.02

APPLICABLE METHOD OF TESTING:

Simulate Performance: [ ] Actual Performance: [x]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [x] Control Room: [ ]

Other: [ ]

Time for Completion: 10 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 8/29/01

APPROVED BY: [signature] **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

Respond to a Loss of Instrument Air		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	7	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the candidate	6	
Critical steps	4	
Operational decisions required by candidate	5	
Alternate paths required	1	
Consequences for not performing task correctly		
Failure to start the standby air compressor OR close MV-32318 will eventually result in a Unit 1 reactor trip on low SG level (FRV's fail closed)		

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- The 1000-hour PM on 123 Instrument Air Compressor has just been completed.
- The 1000-hour PM on 122 Instrument Air Compressor is scheduled to begin tonight.

INITIATING CUES:

- You are the Unit 2 Lead Reactor Operator.
- The SS directs you to **swap** Instrument Air Compressors so that 123 is running and 122 is shutdown.

JPM PERFORMANCE INFORMATION

Required Materials: None

General References: C34, C47023-0502

Task Standards: Swap 123 and 122 IA compressors and isolate or mitigate the air leak so that a reactor trip is prevented.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

NOTE:	**IF the air system pressure is below 100 psig, THEN the oncoming compressor should start automatically when its selector switch is placed in "PREFERRED."**

Performance Step:	C34 step 5.4.1.A.1
Critical X	**Place** the desired compressor Control Room selector switch in the "PREFERRED" position.
Standard:	123 Instrument Air Compressor selector switch CS-49012 is placed in the preferred position.
Evaluator Note:	**123 IA compressor will automatically start at this point.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	C34 step 5.4.1.A.2 Momentarily **place** the desired air compressor control switch to "START."
Standard:	CS-46098 is momentarily placed in the start position.
Evaluator Note:	**This action clears the green flag on the control switch.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	C34 step 5.4.1.A.3 Locally **check** the compressor just started. **Verify** it is operating properly and is in good running condition per step 5.5.4.
Standard:	Candidate dispatches turbine building operator to check compressor per step 5.5.4.
Evaluator Cue:	WHEN candidate dispatches operator, THEN **acknowledge** the request and **report** that *"123 Instrument Air Compressor is operating properly and is in good running condition per step 5.5.4."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	C34 step 5.4.1.B.1 **Stop** the compressor to be shutdown as follows: **Place** the desired air compressor control switch in "PULLOUT."
Standard:	122 Instrument Air Compressor CS-46097 placed in pullout.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	C34 step 5.4.1.B.2 **Place** the shutdown compressor Control Room selector switch in either the "1ST STANDBY" or "2ND STANDBY" position.
Standard:	122 Instrument Air Compressor selector CS-49011 placed in the "1ST STANDBY" position.
Evaluator Note:	**The simulator operator will now enter the IA leak (relative order of 1, trigger 1) and alarm 47023:0502. This will initiate the alternate path. Several other alarms will eventually come in as well.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	C47023:0502 step 1 **Start** or **verify** 121, 122, and 123 compressors are running.
Standard:	122 compressor CS-46097 placed in push-in.
Evaluator Note:	• **122 compressor will auto start when the control switch is placed in push-in.** • **Performing this step OR the next step satisfies the critical criteria.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	C47023:0502 step 2 **Verify MV-32318**, Station Air Header Isolation valve CLOSES.
Standard:	MV-32318 manually closed using CS-46131.
Evaluator Note:	• **The simulator operator will delete the malfunction holding failing MV-32318 open and the valve will close.** • **Performing this step OR the previous step satisfies the critical criteria.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **When MV-32318 is closed, inform the candidate *"This JPM is complete".***

Stop Time: _____

SIMULATOR SETUP

Instructor Guide:

- **Initialize** simulator to IC-10.
- **Place** the simulator in RUN AND **allow** ERCS to initialize.
- **Insert** relative order of 0 malfunctions.
- **Insert** remaining malfunctions.
- **Administer** JPM.
- Immediately after candidate places 122 IA Compressor in first or second standby, **insert** the Instrument air leak malfunction ***(relative order of 1, trigger 1).***
- Immediately after candidate attempts closure of MV-32318, delete the switch failure ***(relative order of 2).***

SIMULATOR SETUP

Relative Order	*System or Panel Drawing*	*TYPE*	*CODE*	*Severity or Value*	*Event Trigger*	*TIMING*	*DESCRIPTION*
0	SIMIA01	Override DI	DI-46131O	ON			Open MV-32318
1	SIMIA01	Malfunction	IA01	50 - 100	1	Ramp from 50-100 over 10 minutes	Air Leak
1	SIMIA01	Annun Malfunction	M47023:0502	Cry Wolf	1		Low Pressure Alarm
2	SIMIA01	Override DI	DI-46131O	OFF			Allow MV-32318 to be closed manually

TURNOVER SHEET

INITIAL CONDITIONS:

- The 1000-hour PM on 123 Instrument Air Compressor has just been completed.
- The 1000-hour PM on 122 Instrument Air Compressor is scheduled to begin tonight.

INITIATING CUES:

- You are the Unit 1 Lead Reactor Operator.
- The SS directs you to **swap** Instrument Air Compressors so that 123 is running and 122 is shutdown.

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: PERFORM TEST OF R-18 "WASTE LIQUID RELEASE MONITOR"

JPM NUMBER: 2001 NRC EXAM B.1.G **REV.** 0

RELATED PRA INFORMATION (SEE PITC 2.3): None

TASK NUMBERS: 0000600501

K/A NUMBERS: 068 A4.04

APPLICABLE METHOD OF TESTING:

Simulate Performance: [ ] Actual Performance: [x]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [x] Control Room: [ ]

Other: [ ]

Time for Completion: 10 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 8/28/01

APPROVED BY: [signature] **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- The Plant is preparing for a release of 122 ADT Monitor Tank.

INITIATING CUES:

- You are an extra Reactor Operator assigned to the shift.
- You have been directed by the Shift Supervisor to **perform** the test of R-18 "WASTE LIQUID RELEASE MONITOR" per **C21.1-5.2** section **5.4.**

JPM PERFORMANCE INFORMATION

Required Materials: **Provided copy of C21.1-5.2 filled out up to section 5.4**

General References: **C21.1-5.2**

Task Standards: **Complete test of R-18 satisfactorily.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: **Critical** _____	**Instruct** Aux Bldg Operator to OPEN **CV-31256**, R-18 LIQUID RELEASE TRIP VALVE.
Standard:	Candidate instructs Aux Bldg Operator to open CV-31256.
Evaluator Cue:	WHEN the candidate calls the Aux. Building to open CV-31256, THEN **inform** the candidate *"CV-31256 is open"*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	**Record R-18** background count rate. _____CPM
Standard:	Candidate records 2800 CPM background rate.
Evaluator Note:	**Recording 2800 +/- 200 CPM satisfies the critical step.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	**Rotate** the **OPERATIONAL SELECTOR** switch to the "CHECK SOURCE" position and **record** the count rate. _____CPM
Standard:	Candidate rotates the operational selector switch to the "CHECK SOURCE" position and records 6000 CPM for count rate.
Evaluator Note:	• **The candidate must rotate the switch to the correct position AND record a count rate of 6000 +/- 200 CPM to satisfy the critical step.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

NOTE:	**IF the "CHECK SOURCE" reading minus the background reading does not fall within the desired range, THEN have the HPs bug R-18 in the monthly bug position. Verify the monthly bug point reading minus background is within 3×10^4 to 8×10^4 CPM.**

Performance Step: **Critical X**	**Check** that **R-18** Check Source reading minus background, is within 1.0 X 10^3 to 7.5 X 10^3 cpm. _____CPM _____CPM= _____CPM
Standard:	Candidate records 3200 CPM as the Check source reading minus background.
Evaluator Note:	**Recording a value within 1.0x10^3 to 7.5x10^3 satisfies the critical step.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	**Rotate** the **OPERATIONAL SELECTOR** switch to the "PULSE CAL", position.
Standard:	Candidate rotates the OPERATIONAL SELECTOR switch to the "PULSE CAL", position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Check** CLOSED **CV-31256**, R-18 LIQUID RELEASE TRIP VALVE.
Standard:	Candidate calls the Aux Building to check CV-31256 closed.
Evaluator Cue:	WHEN the Aux Building operator is called, THEN **inform** the candidate that CV-31256 is closed.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	**Rotate** the **OPERATIONAL SELECTOR** switch to the "RESET", THEN to the "OPERATE" position.
Standard:	Candidate rotates the OPERATIONAL SELECTOR switch to the "RESET", THEN to the "OPERATE" position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **When the selector switch is rotated the back to the "OPERATE" position, inform candidate "This JPM is complete".**

Stop Time: _____

SIMULATOR SETUP

Instructor Guide:

- **Initialize** the simulator to IC-10.
- **Administer** JPM.

SIMULATOR SETUP

Relative Order	*System or Panel Drawing*	*TYPE*	*CODE*	*Severity or Value*	*Event Trigger*	*TIMING*	*DESCRIPTION*
None							

TURNOVER SHEET

INITIAL CONDITIONS:

- The Plant is preparing for a release of 122 ADT Monitor Tank.

INITIATING CUES:

- You are an extra Reactor Operator assigned to the shift.
- You have been directed by the Shift Supervisor to **perform** the test of R-18 per **C21.1-5.2** section **5.4.**

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: PERFORM UNIT 1 REACTOR OPERATOR ACTIONS DURING A CONTROL ROOM EVACUATION / FIRE **(ALTERNATE PATH)**

JPM NUMBER: 2001 NRC EXAM RO B.2.A **REV.** 0

RELATED PRA INFORMATION (SEE PITC 2.3): PRA Identified Task

TASK NUMBERS: CRO 000.ATI.006

K/A NUMBERS: APE 068 AA1.15 / 2.1.23 / 2.4.27

APPLICABLE METHOD OF TESTING:

Simulate Performance: [x] Actual Performance: [ ]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [ ] Control Room: [ ]

Other: [x]

Time for Completion: 45 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 5/11/01

APPROVED BY: J Smith **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

PERFORM UNIT 1 REACTOR OPERATOR ACTIONS DURING A CONTROL ROOM EVACUATION / FIRE (ALTERNATE PATH)		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	15	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the applicant	6	
Verifiable actions directed to be taken by the applicant	0	
System status verification elements requiring no actions	9	
Critical steps	6	All verifiable actions taken during this JPM are required to successfully complete this JPM.
Operational decisions required by applicant	1	Determine need to implement Attachment L.
Alternate paths required	1	Perform Attachment L when 122 Fire Pump is found NOT running.
Consequences for not performing task correctly		
Failure to start the diesel driven cooling water pump will result in a loss of cooling to all safeguards components and shutdown heat loads due to the pre-existing OSS cooling water header. Failure to start the diesel driven fire pump could hamper fire-fighting efforts and worsen the event. Inadequate fire protection header pressure contributed to the severity of an actual site fire a number of years ago.		

PERFORM UNIT 1 REACTOR OPERATOR ACTIONS DURING A CONTROL ROOM EVACUATION / FIRE (ALTERNATE PATH)	2001 NRC EXAM RO B.2.A

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- Both Units were at 100% power.
- The "B" loop Cooling Water Header was isolated in the turbine building for maintenance. (72-hour LCO)
- A fire occurred in the Control Room and thick black smoke made visibility very difficult.
- The Unit 1 SS made the decision to evacuate the Control Room and to implement F5 Appendix B, Control Room Evacuation (Fire).
- You are the Unit 1 RO and have completed steps A through D of F5 Appendix B, Attachment C, such that the:

– Reactor Is **Tripped**

– Turbine Is **Tripped**

– MSIV's Are **Closed**

– Pressurizer PORV Block Valves Are **Closed**

INITIATING CUES:

- You are to **complete** the Unit 1 RO actions for Control Room Evacuation in accordance with **F5 Appendix B, Attachment C,** starting at **Step E.**

JPM PERFORMANCE INFORMATION

Required Materials: **Provided copy of F5 Appendix B as found in the control room (red binder) with steps A, B, & C signed off.**

General References: **F5 Appendix B**

Task Standards: **F5 Appendix B, Attachment C - Unit 1 Reactor Operator Actions completed.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: **Critical** _____	**Proceed** with radio, flashlight, set of keys, and this Attachment (C) to both turbine front standards and verify turbines are tripped.
Standard:	Applicant goes to both turbine front standards with radio, flashlight, set of keys, and Attachment C and verifies both Units turbines are tripped.
Evaluator Cue:	**As applicant states that he/she would obtain a radio, flashlight, and set of keys, inform applicant that they have obtained said items.** **Provide the applicant with the following to verify the turbines tripped when asked:** - **Autostop oil pressure = 0 psig.** - **trip lever is to the right** - **stop valves indicate closed locally**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Proceed** to the Screenhouse, 675' level, and **check** PI-11021, 11 MD CLWP DSCH PI 75 psig or greater.
Standard:	Applicant goes to Screenhouse 675' level and checks PI-11021 75 psig or greater.
Evaluator Cue:	**PI-11021 indicates 0 psig.**
Evaluator Note:	(Use lighted stairwell, near Records Room, across under turbine pedestal, out through Old Admin Bldg door to Screenhouse east door, then use stairwell on east end of Screenhouse to reach 675' level.)
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	IF PI-11021 is reading less than 75 psig, THEN **proceed** to 12 DDCLP room and **start** 12 DDCLP as follows: 1. **OPEN** knife switch **SW 7030038**, 12 DD CLWP Cont Pnl Pwr Isol Knife Switch. (Inside Panel 70300)
Standard:	Applicant goes to 12 DDCLP room and OPENs knife switch SW 7030038.
Evaluator Cue:	**SW 7030038 is "OPEN".**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	IF PI-11021 is reading less than 75 psig, THEN **proceed** to 12 DDCLP room and **start** 12 DDCLP as follows: 2. Manually **override** one of the starting air solenoid valves, by **turning** the small knob at the base of the solenoid, to admit air to the starting motor. **Return** the knob to the "SHUTOFF" position when the engine gets up to full speed.
Standard:	One of the starting air solenoid valves is manually overridden and returned to the "SHUTOFF" position when the engine is up to full speed.
Evaluator Note:	**The override valve only turns one direction.**
Evaluator Cue:	**When applicant indicates that he/she would turn the override knob to admit air to the starting motor, inform applicant that, "you hear a rush of air and the engine start."** **When applicant indicates that he/she would return the knob to the "SHUTOFF" position, inform applicant that, " the knob is in SHUTOFF."** **If applicant asks for engine speed inform him/her that it is 1200 rpm.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	IF PI-11021 is reading less than 75 psig, THEN **proceed** to 12 DDCLP room and **start** 12 DDCLP as follows:
Critical _____	3. **Verify** OPEN CV-31423, 12 DD Clg Wtr Jckt Clr Outl CV.
Standard:	CV-31423 verified OPEN.
Evaluator Cue:	**Provide the applicant with the following to verify the position of CV-31423 when asked:** - **CV stem is in the up position** - **Solenoid light is OFF** - **CV air pressure indicates 0 psig** - **You feel flow in the pipe**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	IF PI-11021 is reading less than 75 psig, THEN **proceed** to 12 DDCLP room and **start** 12 DDCLP as follows:
Critical _____	4. **Verify** cooling water header is pressurized using PI-11022, 12 DD CLWP Dsch PI.
Standard:	PI-11022 used to verify cooling water header pressurized.
Evaluator Cue:	**PI-11022 indicates 105 psig.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** X	IF PI-11021 is reading less than 75 psig, THEN **proceed** to 12 DDCLP room and **start** 12 DDCLP as follows: 5. **Proceed** to 121 MD Cooling Water Pump Room and **place CS-19058**, 11 Sfgds Scrnhse Roof Exht Fan, in the "ON" position.
Standard:	CS-19058 placed in the "ON" position.
Evaluator Cue:	**Provide the applicant with the following when asked:** - **CS-19058 is in "ON".** - **Red light is "ON"** - **Damper is "OPEN"** - **Fan is running**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	IF it was necessary to start 12 DDCLP, THEN **proceed** to 22 DDCLP Room and **check** 22 DDCLP running. IF NOT, THEN **start** 22 DDCLP as follows:
Standard:	Applicant goes to 22 DDCLP Room and determines that 22 DDCLP is running.
Evaluator Cue:	**Provide the applicant with the following when asked:** - **There is engine noise on 22 DDCLP.** - **22 DDCLP shaft is turning.** - **Pressure on PI-11024 indicates 105 psig.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	**Proceed** to Screenhouse 695' level, southeast corner, and **check** PI-11082, Scrnhse FP Hdr PI, 90 psig or greater.
Standard:	Applicant goes to Screenhouse 695' level and checks PI-11082 90 psig or greater.
Evaluator Cue:	**PI-11082 indicates 70 psig.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	IF PI-11082 is less than 90 psig, THEN **check** 122 Diesel Fire Pump running. IF NOT, THEN **start** 122 Diesel Fire Pump per Attachment L.
Standard:	Applicant determines that 122 Diesel Fire Pump is not running.
Evaluator Cue:	**Provide the applicant with the following when asked:** - **There is no engine noise on 122 Diesel Fire Pump.** - **PI-11474 indicates 0 psig.**
Evaluator Note:	**Attachment L is the alternate path associated with this JPM.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	Attachment L - Starting 122 Diesel Fire Pump Manually:
Critical _____	1. At panel 136-2, **verify CS-19081,** 121 DSL FIRE PMP OIL STG TK PUMP LOCAL AUTO/REMOTE/LOCAL control switch in "AUTO".
Standard:	CS-19081 is checked in "AUTO".
Evaluator Cue:	**CS-19081 is in "AUTO" position and green light is lit.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step:	Attachment L - Starting 122 Diesel Fire Pump Manually:
Critical _____	2. **Ensure** the Battery Charger Control switch is in "ON".
Standard:	Battery Charger Control Switch verified in the "ON" position.
Evaluator Cue:	**Battery Charger Control Switch is "ON".**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	Attachment L - Starting 122 Diesel Fire Pump Manually: 3. **Depress** and **release** the Reset pushbutton **CS-70394-04** located inside of the diesel control cabinet.
Standard:	CS-70394-04 depressed and released.
Evaluator Note:	**There is no outward visible sign when the button is pushed and released.**
Evaluator Cue:	**CS-70394-04 has been depressed and released.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	Attachment L - Starting 122 Diesel Fire Pump Manually: 4. **Turn** local 5-position selector switch **CS-70394-01** to "MAN-A" OR "MAN-B".
Standard:	CS-70394-01 selected to "MAN-A" or "MAN-B".
Evaluator Note:	**There is no outward visible sign when the switch is turned (other than switch position).**
Evaluator Cue:	**CS-70394-01 is in "MAN-A" ("MAN-B").**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	Attachment L - Starting 122 Diesel Fire Pump Manually: 5. **Depress** Start pushbutton **CS-70394-02** to crank engine. **Release** the pushbutton when the diesel starts.
Standard:	CS-70394-02 depressed and released within 30 seconds.
Evaluator Cue:	**CS-70394-02 is depressed and the engine starts.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **When 122 Diesel Fire Pump is started, inform applicant that, "this JPM is complete."**

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- Both Units were at 100% power.
- The "B" loop Cooling Water Header was isolated in the turbine building for maintenance. (72-hour LCO)
- A fire occurred in the Control Room and thick black smoke made visibility very difficult.
- The Unit 1 SS made the decision to evacuate the Control Room and to implement F5 Appendix B, Control Room Evacuation (Fire).
- You are the Unit 1 RO and have completed steps A through D of F5 Appendix B, Attachment C, such that the:

– Reactor Is **Tripped**

– Turbine Is **Tripped**

– MSIV's Are **Closed**

- Pressurizer PORV Block Valves Are **Closed**

INITIATING CUES:

- You are to **complete** the Unit 1 RO actions for Control Room Evacuation in accordance with **F5 Appendix B, Attachment C,** starting at **Step E.**

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: ESTABLISH CONTAINMENT INTEGRITY AFTER A CFCU LEAK IN CONTAINMENT

JPM NUMBER: 2001 NRC EXAM B.2.B (SRO-U) **REV.** 0

RELATED PRA INFORMATION (SEE PITC 2.3): None

TASK NUMBERS: 076.ATI.12

K/A NUMBERS: 022 A2.05

APPLICABLE METHOD OF TESTING:

Simulate Performance: [x] Actual Performance: [ ]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [x]

Simulator: [ ] Control Room: [ ]

Other: [ ]

Time for Completion: 20 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 3/1/01

APPROVED BY: D Smith **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

ESTABLISH CONTAINMENT INTEGRITY AFTER A CFCU LEAK IN CONTAINMENT		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	7	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the applicant	5	
Verifiable actions directed to be taken by the applicant	1	Control Room directed to exit the LCO
System status verification elements requiring no actions	1	
Critical steps	5	
Operational decisions required by applicant	1	Determine conditions for exiting LCO are met
Alternate paths required	0	
Consequences for not performing task correctly		
Performing this procedure re-establishes containment integrity following a containment fan coil leak. Failure to perform this task correctly could result in leakage outside of containment during a DBA.		

Establish Containment Integrity After A CFCU Leak In Containment	2001 NRC Exam RO B.1.B

Operator: _____ **(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- Unit 2 is at 100% power.
- A cooling water leak has developed in containment.
- A containment inspection confirmed the leak on 23 CFCU.
- CRDM fan cooling water is being supplied by Train B.
- T.S. 3.6.A.2.a 1-hour LCO action for loss of containment integrity was entered five (5) minutes ago.
- T.S. 3.6.B.2.a 7-day LCO action for one train of CFCU OOS, was entered five (5) minutes ago.
- 23 CFCU motor valves have been shut and independently verified per C35 AOP4 step 2.4.3.F and G.
- Radio communications with the control room have been established.

INITIATING CUES:

- You are an extra operator assigned to the shift
- The SS directs you to **complete** C35 AOP4, "Cooling Water Leakage in Containment" for 23 CFCU beginning at step 2.4.3 substep H.
- **Report** completion to the SS.

JPM PERFORMANCE INFORMATION

Required Materials: **Provided copy of C35 AOP4 signed off up to step 2.4.3.H and all other CFCUs N/A'd throughout remainder of AOP.**

General References: **C35 AOP4**

Task Standards: **Containment Integrity reestablished for a CFCU leak per C35 AOP4.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: **Critical X**	(Step 2.4.3.H) **Open** MCC breaker power supplies for the supply and return motor valves closed previously (**refer** to table 1 for MCC breaker listing). • Breaker for MV-32388 at MCC 2L1-C4 (715' level)
Standard:	Breaker Opened.
Evaluator Note:	- **The first three steps can be performed in any order to satisfy the critical steps.** - **It is critical to open these breakers so that on an SI, they do not open and cause a release through the depressurized line.**
Evaluator Cue:	When asked, **inform** the applicant that, *"the breaker is in the OFF position and it has been independently verified per 5AWI 3.10.1."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	(Step 2.4.3.H) **Open** MCC breaker power supplies for the supply and return motor valves closed previously (**refer** to table 1 for MCC breaker listing). • Breaker for MV-32153 at MCC 2LA1-B2 (735' level)
Standard:	Breaker Opened.
Evaluator Note:	**It is critical to open these breakers so that on an SI, they do not open and cause a release through the depressurized line.**
Evaluator Cue:	When asked, **inform** the applicant that, *"the breaker is in the OFF position and it has been independently verified per 5AWI 3.10.1."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	(Step 2.4.3.H) **Open** MCC breaker power supplies for the supply and return motor valves closed previously (**refer** to table 1 for MCC breaker listing). • Breaker for MV-32154 at MCC 2LA1-B3 (735' level)
Standard:	Breaker Opened.
Evaluator Note:	**It is critical to open these breakers so that on an SI, they do not open and cause a release through the depressurized line.**
Evaluator Cue:	When asked, **inform** the applicant that, *"the breaker is in the OFF position and it has been independently verified per 5AWI 3.10.1."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** __X__	(Step 2.4.3.J) **Verify** or **place** the affected CFCU cross tie valves(s) in the positions shown below: 23 FCU **2CL-22-1** **Throttle** OPEN to achieve greater than 46 psig on PI-4151104.
Standard:	2CL-22-1 throttled open until greater than 46 psig is indicated on PI-4151104.
Evaluator Note:	**This is a coordinated effort between the operator at the valve and an operator at the indicator in communication via radio.**
Evaluator Cue:	After 2CL-22-1 (located near containment across from MCC 2L1) has been throttled open, **inform** the applicant (via simulated radio) that, *"pressure is 33 psig on PI-4151104."* When the valve is opened further, **inform** the applicant that, *"pressure is 48 psig."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 2.4.3.K) **Check** the affected CFCU outlet pressure reading is > 46 psig, by Control Board indicator, with the FCU supply from Cooling Water: 23 FCU - **PI-4151104**
Standard:	23 CFCU outlet pressure verified > 46 psig.
Evaluator Cue:	**Inform** the applicant *"PI-4151104 indicates 48 psig."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 2.4.3.L) IF the affected CFCU pressure reading in Step 2.4.3.K is > 46 psig, THEN **exit** T.S.3.6.A.2 LCO.
Standard:	Informs the control room that T.S. 3.6.A.2 should be exited and appropriate log entries made.
Evaluator Cue:	**Respond** as control room that, *"T.S. 3.6.A.2 has been logged as exited and the control room will complete steps M & N."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** **X**	(Step 2.4.3.O) **OPEN** the breaker for any CFCU without cooling water to prevent cooling water relief valve actuation in the event of an accident (**refer** to Table 2 for MCC Breaker listing).
Standard:	23 CFCU breaker cell B3 at MCC 2X1 (next to 2L on 715' level) opened.
Evaluator Cue:	• **Inform** the applicant that, *"MCC 2X1 breaker B3 is open."* • IF asked to prepare an isolation, THEN **inform** the applicant that, *"An isolation will be prepared later."*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **When 23 CFCU breaker is opened, inform the applicant that, "this JPM is complete."**

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 2 is at 100% power.
- A cooling water leak has developed in containment.
- A containment inspection confirmed the leak on 23 CFCU.
- CRDM fan cooling water is being supplied by Train B.
- T.S. 3.6.A.2.a 1-hour LCO action for loss of containment integrity was enteredfive (5) minutes ago.
- T.S. 3.6.B.2.a 7-day LCO action for one train of CFCUOOS, was entered five (5) minutes ago.
- 23 CFCU motor valves have been shut and independently verified per C35 AOP4 step 2.4.3.F and G.
- Radio communications with the control room have been established.

INITIATING CUES:

- You are an extra operator assigned to the shift
- The SS directs you to **complete** C35 AOP4, "Cooling Water Leakage in Containment" for 23 CFCU beginning at step 2.4.3 substep H.
- **Report** completion to the SS.

JOB PERFORMANCE MEASURE WORKSHEET

TASK TITLE: LOCAL SHUTDOWN AND RETURN OF D6 TO AUTO STANDBY

JPM NUMBER: 2001 NRC EXAM RO **REV.** 0
B.2.C

RELATED PRA INFORMATION (SEE PITC 2.3): None

TASK NUMBERS: 065.ATI.006

K/A NUMBERS: 064 A4.01

APPLICABLE METHOD OF TESTING:

Simulate Performance: [x] Actual Performance: [ ]

Evaluation Location: Turbine Building: [ ] Auxiliary Building: [ ]

Simulator: [ ] Control Room: [ ]

Other: [x]

Time for Completion: 30 Minutes Time Critical: NO

TASK APPLICABILITY: (Check all that apply) SRO: [x] RO: [x] NLO: [ ]

PREPARED BY: Joe Loesch **DATE:** 2/26/01

APPROVED BY: D Smith **DATE:** 9-5-01

PERFORMANCE RESULTS: **SAT:** [ ] **UNSAT:** [ ]

JPM Review Tool

The following table should be used when reviewing each JPM chosen for the 2001 RO and SRO exam to ensure it meets the requirements of NUREG 1021.

LOCAL SHUTDOWN AND RETURN OF D6 TO AUTO STANDBY		
JPM Element:	***Number:***	***Remarks:***
Total number of elements:	21	Includes total of actions taken or directed, operational decisions, and system status verification.
Verifiable actions taken by the applicant	4	
Verifiable actions directed to be taken by the applicant	0	
System status verification elements requiring no actions	17	
Critical steps	3	
Operational decisions required by applicant	1	
Alternate paths required	0	
Consequences for not performing task correctly		
Failure to perform this task correctly could result in damage to the diesel or failure of it to perform its design function during a loss of power event.		

LOCAL SHUTDOWN AND RETURN OF D6 TO AUTO STANDBY	2001 NRC EXAM RO B.2.C

Operator: _____**(SRO / RO / NLO)**

Evaluator: _____

Date: _____

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

INITIAL CONDITIONS:

- Unit 2 is at 100% power.
- Diesel Generator D6 has been started locally per 2C20.7 for testing.
- The testing is complete and D6 has been unloaded and removed from Bus 26.

INITIATING CUES:

- You are an extra operator assigned to the shift.
- The Shift Supervisor directs you to **perform** a local shutdown and return of D6 to Auto Standby per **2C20.7** section **5.7.2.**

JPM PERFORMANCE INFORMATION

Required Materials: **Provided copy of 2C20.7 section 5.7.2 with first two steps 5.7.2.A.1 & 2 signed off as N/A.**

General References: **2C20.7**

Task Standards: **D6 stopped locally.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with an "X" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

This section provides instructions for local shutdown and return of D6 to auto standby. The assumption is made that D6 was started locally per Section 5.7.1. of 2C20.7.

NOTE:	**When the next step is performed, the exciter will shutdown immediately and the diesel will stop following a 3 minute time delay.**

Performance Step: **Critical X**	(Step 5.7.2.B) **Shutdown** D6 using **CS-60069**, D6 DIESEL GENERATOR.
Standard:	**CS-60069** placed in stop.
Evaluator Cue:	**"CS-60069** is in the stop position and has spring returned to mid position"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 5.7.2.C) **Verify** exciter shutdown by observing the following: • **60047**, D6 DSL GEN VOLTMETER, indicates zero volts.
Standard:	Indicator 60047 verified at zero volts.
Evaluator Cue:	**"60047** indicates zero volts"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 5.7.2.C) **Verify** exciter shutdown by observing the following: • **60202**, D6 DSL GEN EXCITATION VOLTAGE, indicates zero volts.
Standard:	Indicator 60202 verified at zero volts.
Evaluator Cue:	**"60202** indicates zero volts"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 5.7.2.C) **Verify** exciter shutdown by observing the following: • **60204**, D6 DSL GEN EXCITATION AMPERES, indicates zero amps.
Standard:	Indicator 60204 verified at zero amps.
Evaluator Cue:	**"60204** indicates zero amps"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 5.7.2.D) **Verify** D6 comes to a stop.
Standard:	D6 verified stopped.
Evaluator Cue:	IF asked, THEN **inform** the applicant that *"3 minutes have elapsed and D6 speed indicates 0 RPM on Indicator 60049"*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 5.7.2.E) **Verify** the red indicating light on the following switches is ON: • **CS-60040**, D6 ENG 1 AC PRELUBE PUMP • **CS-60042**, D6 ENG 2 AC PRELUBE PUMP • **CS-60044**, D6 ENG 1 HT CLNT PREHTR CIRC PMP • **CS-60045**, D6 ENG 2 HT CLNT PREHTR CIRC PMP
Standard:	Each Control Switch red light verified ON.
Evaluator Cue:	"Red light is ON"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: (Step 5.7.2.F)
Critical _____

Verify the green indicating light on the following switches is ON:

- **CS-60008**, D6 ENG 1 HT/LT RADIATOR FAN 1
- **CS-60009**, D6 ENG 1 HT/LT RADIATOR FAN 2
- **CS-60010**, D6 ENG 2 HT/LT RADIATOR FAN 1
- **CS-60011**, D6 ENG 2 HT/LT RADIATOR FAN 2
- **CS-60205**, D6 ENG 1 FO BACKUP PUMP
- **CS-60207**, D6 ENG 2 FO BACKUP PUMP

Standard: Each Control Switch green light verified ON.

Evaluator Cue: "Green light is ON"

Performance: **SATISFACTORY** _____ **UNSATISFACTORY** _____

Comments: _____

Performance Step: **Critical** _____	(Step 5.7.2.G) WHEN the diesel room temperature is less than 100°F, THEN **verify** the green indicating light on **CS-60007**, 22 D6 DSL RM COOLING FAN, is ON.
Standard:	CS-60007 green light verified ON.
Evaluator Note:	The applicant should simulate useing RTU (SAINCO) Analog Signal No. 23 (TT-6558), ENGINE ROOM TEMPERATURE, to determine D6 Engine Room temperature. DO NOT allow the applicant to operate the key board.
Evaluator Cue:	Give the following information when the alarm terminal is located: • *"D6 room temperature is 90 deg F"* Give the following information if asked: • *"CS-60007 green light is ON"*
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** __X__	(Step 5.7.2.H) **Place CS-60068**, D6 DSL GEN CONTROL MODE SEL SW, in "REMOTE."
Standard:	CS-60068 placed in "REMOTE"
Evaluator Cue:	• "CS-60068 is in REMOTE" • "CS-60068 has been INDEPENDANTLY VERIFIED"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 5.7.2.I) On Panel G-2, **verify** annunciator **47524-1106**, D6 EMERGENCY GENERATOR LOCAL CONTROL, is OFF.
Standard:	Control room called to verify annunciator.
Evaluator Cue:	"Annunciator **47524-1106** is OFF"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical X**	(Step 5.7.2.J) **Place CS-60071**, D6 DSL GEN START SPEED SEL SW, in "FAST."
Standard:	CS-60071 placed in "FAST".
Evaluator Cue:	"CS-60071 is in FAST"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical** _____	(Step 5.7.2.K) **Blow** condensate from the starting air receivers.
Standard:	Condensate blown from starting air receivers.
Evaluator Note:	Applicant should demonstrate the location of the blowdown valve on at least one air receiver before terminating JPM.
Evaluator Cue:	• "Blowdown valve has been opened and closed." • "No condensate was observed during the blowdown"
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **When the applicant demonstrates the ability to blowdown the condensate from at least one air receiver inform the applicant that "another operator will finish the remainder of the procedure and this JPM is complete".**

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 2 is at 100% power.
- Diesel Generator D6 has been started locally per 2C20.7 for testing.
- The testing is complete and D6 has been unloaded and removed from Bus 26.

INITIATING CUES:

- You are an extra operator assigned to the shift.
- The Shift Supervisor directs you to **perform** a local shutdown and return of D6 to Auto Standby per **2C20.7** section **5.7.2.**