Draft Submittal

(Pink Paper)

1. ADMINISTRATIVE TOPICS OUTLINE (ES-301-1) RO/SRO
2. CONTROL ROOM SYSTEMS & FACILITY WALK-THROUGH TEST OUTLINE (ES-301-2) RO/SRO
3. ADMINISTRATIVE JPMS
4. IN-PLANT JPMS
5. CONTROL ROOM JPMS (SIMULATOR JPMS)

Facility: Sequoyah 1 & 2	Date of Examination: 1/2008
Exam Level (circle one): (RO) / SRO(I) / SRO (U)	Operating Test No.: NRC

Control Room Systems@ (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. W/E14 High Containment Pressure (EA-1.1) 3.7 / 3.7 Respond to High Containment Pressure (JPM 057AP1)	D,A,S	5
b. 003 Reactor Coolant Pump System (A2.01) 3.5 / 3.9 Respond to a #1 RCP Seal Failure	N,L,S	4P
c. 001 Control Rod Drive System (A3.05) 3.5 / 3.5 Shutdown Bank Withdrawal	M,A,L,S	1
d. 004 Chemical and Volume Control System (A4.06) 3.6 / 3.1 Fill and Vent Excess Letdown	N,L,S	2
e. 035 Steam Generator System (A4.06) 4.5 / 4.6 SG tube rupture with MSIV fails to Close (JPM 075AP)	D,A,S	4S
f. 015 Nuclear Instrumentation System (A1.01) 3.5 / 3.8 Calibrate Power Range Nuclear Instrumentation (JPM 22-AP2)	D,A,S	7
g. 064 Emergency Diesel Generator (ED/G) System (A4.06) 3.9 / 3.9 Shutdown the Diesel Generator (1A-A and 1B-B) (JPM 046)	D,S	6
h. 006 Emergency Core Cooling System (A4.04) 4.4 / 4.4 Refill the #1 CLA to Within Normal Operating Range (JPM 097)	D,S	3
In-Plant Systems@ (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. 061 Auxiliary / Emergency Feedwater System (A2.04) 3.4 / 3.8 Operate the TD AFW Pump Locally (JPM 74-2AP)	D,A,E,R	4S
j. 033 Spent fuel Pit Cooling System (A2.03) 3.1 / 3.5 Refilling the Spent Fuel Pit (EA-78-1) (JPM 185)	D,E,R	8
k. 062 AC Electrical Distribution (A2.10) 3.0 / 3.3 Transfer 480v SD Board 2A1-A from Normal to Alternate (JPM 061AP2)	D,A	6

@	All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.
* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥1
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

JPM Summary

JPM A RHR spray will be established in accordance with FR-Z.1, High Containment Pressure. This is a Bank Alternate Path JPM.

JPM B An RCP seal failure will be diagnosed and the Abnormal Operating Instruction used to remove the pump from service. This is a new low power/shutdown JPM

JPM C A failure of the step counter will occur during the withdrawal of Shutdown Rods requiring a reactor trip. This is a new alternate path low power/shutdown JPM.

JPM D Excess letdown system will be filled and vented from the control room using the system operating instruction. This is a new low power/shutdown JPM.

JPM E A Main Steam Isolation valve will fail to close during the isolation of steam side of a ruptured steam generator will be isolated. . This is a Bank Alternate Path JPM.

JPM F Power Range nuclear instruments will be adjusted in accordance with the surveillance instruction 0-SI-OPS-092-078.0. This is a Bank Alternate Path JPM.

JPM G Unit 1 Diesel Generators will be shutdown per EA-82-1. This is a Bank JPM.

JPM H The level in a Cold Leg Accumulator will be restored to normal in accordance with the system operating instruction. This is a Bank JPM.

JPM I Plant JPM –The trip and throttle valve will not open electrically while TDAFW pump is being placed in service locally. This is an Alternate path Bank JPM using emergency abnormal procedure performed inside the RCA.

JPM J Plant JPM -The spent fuel pit will be refilled to a normal operating level using EA-78-1. This is a Bank JPM using emergency abnormal procedure inside the RCA.

JPM K Plant JPM - A breaker will fail to operate while a transfer of a 480v Shutdown Board is being attempted. This is a Bank Alternate Path JPM.

Facility: Sequoyah 1 & 2		Date of Examination:	1/2008
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Facility: Sequoyah 1 & 2		Date of Examination: 1/2008	
Exam Level (circle one): RO / SRO(I) / SRO (U)		Operating Test No.: NRC	
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d.			
e.			
f.			
g.			
h.			
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SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

In-Plant JPM B.1.i

JPM # 74-2AP

Operate the TD AFW Pump Locally

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
3	Transfer from WP. Minor enhancements.	N	8/24/94	All	HJ Birch
4	SO-3-2 Rev change. Added step to ensure PCV-3-183 controlling. Minor enhancements.	N	2/1/95	4,6	HJ Birch
5	Major chg: Chgd initial conditions to allow use of EA-3-7 instead of SO and made JPM an AP.	Y	1/10/97 to 5/27/97	All	HJ Birch
pen/ink	EA-3-7 revision update only	N	12/22/00	4	W. R. Ramsey
pen/ink	Step 1 changed section 4.2 to 4.1. Updated K/As to latest rev.	N	12/4/01	5	L. Pauley
6	Incorporated pen/ink changes; revised per recent change to EA-3-7; no impact on JPM flow	N	8/20/02	All	J P Kearney
7	Minor editorial enhancements, validation time revision.	N	10/19/06	All	J. E. Stinson
8	Incorporate EA-3-7 Rev 5 changes and minor wording changes	Y		All	

V - Specify if the JPM change will require another Validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
AUO/RO/SRO
JOB PERFORMANCE MEASURE

Task:
Operate the TDAFW Pump Locally

JA/TA TASK #: 0610060104 **(AUO)** 0000050504 **(AUO)**

K/A Ratings:

2.1.20	4.3/4.2)	061A2.03	(3.1/3.4)	061A2.07	(3.4/3.5)
061A3.01	(4.1/4.2)	061K6.02	(2.6/2.7)		

Task Standard:
Locally start and control the Unit 1 TDAFW Pump.

Evaluation Method : Simulator _____ In-Plant ___X___.

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Insure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR _____ **Local** 17 minutes

Tools/Equipment/Procedures Needed:
EA-3-7

References:

	Reference	Title	Rev No.
A.	EA-3-7	Local Operation of TD AFW Pump After Loss of DC Control	5

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 experienced a total loss of all AC approximately 10 minutes ago.

2. The crew is in the process of implementing ECA-0.0

INITIATING CUES:

1. During the step that verifies TD AFW pump operation the crew observed no AFW flow. FCV-1-51 has no lights and appears to have lost power.

2. The OATC/CRO has directed you, the Unit 1 Aux. Bldg. AUO to locally operate the Unit 1 TD AFW pump using EA-3-7.

3. Inform the Unit 1 OATC/CRO when you have completed EA-3-7 and TD AFW pump is in service.

STEP 1.: Operator obtains a copy of EA-3-7 and begins performance of section 4.1. ***Cue:*** ***As operator addresses Obtaining lighting, radios, gloves, and keys: inform them that they have those items.*** STANDARD: Operator obtains a copy of EA-3-7 and determines that Section 4.1 is the applicable section for use. COMMENTS:	___ SAT ___ UNSAT Start Time____
STEP 2.: **1. IDENTIFY** applicable unit: • Unit 1 • Unit 2 STANDARD: Operator identifies Unit 1 as the applicable unit. COMMENTS:	___ SAT ___ UNSAT
STEP 3.: **2. OBTAIN** the following items: • radio • gloves • means of monitoring elapsed time (wrist watch, timer, or stop watch) STANDARD: Operator has or demonstrates how to obtain the listed items - radio, gloves and timing device. If in the plant, should already have gloves. May already have other items. COMMENTS:	___ SAT ___ UNSAT
STEP 4.: 3. **OBTAIN** the following keys: [glass-faced box in SM office] • Vital Area key • Protected Area key. STANDARD: Operator demonstrates how to obtain the listed from box in SM office. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

STEP 5.: **4. GO TO** Panel L-381 for applicable unit. [AB el. 669, Outside TDAFW Pump Room] STANDARD: Operator locates Panel L-381 COMMENTS:	___ SAT ___ UNSAT
STEP 6.: **5. IF** SCBA is needed, **THEN** **REFER TO** App. B, Use of Permanent Air Bottle in TDAFWP Room. STANDARD: Operator determines SCBA is not needed and NAs the step COMMENTS:	___ SAT ___ UNSAT
STEP 7.: **6. MONITOR** communications available with MCR: If communication with MCR is lost and CANNOT be restored **OR** MCR has lost the ability to monitor TDAFW pump flow due to loss of vital AC power, **THEN** **GO TO** Section 4.2, Local Control of TDAFW Pump Flow with Temporary D/P Gage. ***Cue:*** ***When control room is contacted state "Communication is good."*** STANDARD: Operator establishes communication with MCR and continues with the procedure. COMMENTS:	___ SAT ___ UNSAT
STEP 8.: **7. IF** TD AFW pump is NOT running, **THEN** **GO TO** Step **9**. ***Cue:*** ***If asked, provide info information indicating pump not running: no sound from pump, shaft not turning, T&T valve stem down, etc.*** STANDARD: Operator determines pump NOT running and goes to step 9 (alternate path). COMMENTS:	___ SAT ___ UNSAT
Evaluator Note: *Procedure Step 8 is not performed because the IF/THEN condition in procedure step 7 is met and the operator is directed to step 9 in the procedure*	

STEP 9.: **9. IF** alternate DC control power supply is AVAILABLE (determined by MCR), **THEN** **PERFORM** the following: **a. TRANSFER** affected unit to alternate DC control power supply at TD AFW PUMP RM DC CONTROL PWR TRANSFER SWITCH: [Unit 1 - on wall outside pump room behind CCS seal drain tank. Unit 2 - on wall opposite TD AFW pump room.] **1) PLACE** NORMAL breaker in OFF. **2) PLACE** ALT breaker in ON position. ***Cue:*** ***If asked, state that Vital Battery Board IV is available.*** ***Cue:*** ***When operator makes the transfer, provide information to indicate that the Normal breaker is OFF and the ALT breaker is ON*** STANDARD: Operator places normal breaker down to OFF and ALT breaker up to ON. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 10.: **b. ENSURE** TD AFW pump trip and throttle valve **[FCV-1-51]** LATCHED and mechanical overspeed mechanism RESET. [Refer to placard on TD AFW pump room wall] □ ***Cue:*** ***When operator correctly describes trip mechanism position, state "Trip lever horizontal and trip arm to left"and "the trip hook is engaged with the latch up lever."*** STANDARD: Operator ensures trip and throttle valve is latched. ***Evaluator Note:*** *Trip lever should be horizontal and trip arm to the left.* COMMENTS:	___ SAT ___ UNSAT
STEP 11.: **c. NOTIFY** MCR to check if TD AFW pump control restored to MCR. □ ***Cue:*** ***After MCR contacted, state, "We still do not have light indication on FCV-1-51. We get no response when operating the handswitch."*** STANDARD: Operator contacts control room to determine if they have control of the TDAFW pump. COMMENTS:	___ SAT ___ UNSAT

STEP 12.: **d. IF** TD AFW pump control restored to MCR, **THEN** **RETURN TO** procedure and step in effect. STANDARD: Operator NAs this substep because the IF/THEN conditions are not met, and continues to the next step in the procedure. (alternate path) COMMENTS:	___ SAT ___ UNSAT
Evaluator Note: *The next step in JPM is the same action as performed in JPM step 10.*	
STEP 13.: **10. ENSURE** TDAFW pump trip and throttle valve **[FCV-1-51]** mechanical overspeed mechanism LATCHED: • **REFER TO** placard on TDAFW pump room wall • **LATCH [FCV-1-51]** and **RESET** mechanical overspeed mechanism. ***Cue:*** ***When operator correctly describes trip mechanism position, state, "trip lever horizontal and trip arm to left."*** STANDARD: Operator ensures trip and throttle valve is latched or indicates the latching was verified previously. ***Evaluator Note:*** *Trip lever should be horizontal and trip arm to the left.* COMMENTS:	___ SAT ___ UNSAT
Evaluator Note: *ENSURE operator does not touch valve stem. Have them explain what they would do.*	
STEP 14.: **11. ENSURE** TD AFW pump turbine governor valve **[FCV-1-52]** OPEN: **a. REFER TO** Appendix A and **VERIFY** governor valve OPEN by observing two inches of stem exposed. **b. IF** less than two inches of stem exposed, **THEN** **POSITION** stem full upward (fully exposed) by grasping linkage bar above stem and lifting stem upward as far as it will go. ***Cue:*** ***When governor valve first checked, state "Approximately 1/2 inch of stem is exposed."*** ***Cue:*** ***After operator explains the process for lifting, state "Stem has ≈ 2 inches exposed."*** STANDARD: Operator explains how they will grasp the stem and lift upward as far as it will go. (alternate path) COMMENTS:	___ SAT ___ UNSAT **Critical Step**

STEP 15.: **12. START** TDAFW Pump as follows: **a. DETERMINE** highest pressure of S/G #1 and 4 from MCR **OR** Panel L-381. [outside TD AFW pump room]. Evaluator Note: *With the cabinet closed, the pressure gauges cannot be seen. Pictures of cabinet and gauges can be used to prevent need to open the door.* ***Cue:*** ***After SG pressure gauges are checked, indicate reading on the gauges to be at approximately 1005 psig on each of the 4 steam generators.*** ***Cue:*** ***If control room is contacted, state "All 4 steam generators pressure is 1005 psig".*** STANDARD: Operator checks pressure gauges on Panel L-381 or contacts main control room to determine SG pressures. COMMENTS:	___ SAT ___ UNSAT
STEP 16.: **b. MONITOR** TD AFW pump discharge pressure on **[PI-3-138]** as pump is started. [TD AFW pump room on Panel L-215A] STANDARD: Operator locates pump discharge pressure gauge on Panel L-215A. COMMENTS:	___ SAT ___ UNSAT
STEP 17.: **c. ENGAGE** handwheel on **[FCV-1-51]**, **AND SLOWLY OPEN [FCV-1-51]** trip and throttle valve handwheel to raise TD AFW pump discharge pressure approximately 50-100 psig greater than S/G #1 and 4 highest pressure. ***Cue:*** ***When pressure gauge is checked after initial opening of the valve, indicate reading on the gauge to be at approximately 800 psig.*** ***Cue:*** ***When pressure gauge is checked after making an adjustment on the valve, indicate reading on the gauge to be at approximately 1080 psig.*** STANDARD: Operator simulates rotating the handwheel counterwise to open valve. Then determines discharge pressure and realizes additional opening of the valve is needed to raise discharge pressure.	___ SAT ___ UNSAT **Critical Step**

STEP 18.: **d. ADJUST [FCV-1-51]** as directed by MCR. ***Cue:*** ***When MCR contacted state "Leave valve at current position, we will contact you for any needed adjustments."*** STANDARD: Operator contacts control room for directions on additional adjustments. COMMENTS:	___ SAT ___ UNSAT
STEP 19.: **13. IF** TD AFW pump trips, **THEN** **PERFORM** the following: **a. ENSURE** TD AFW pump trip and throttle valve **[FCV-1-51]** LATCHED and mechanical overspeed mechanism RESET. **b. REPEAT** Step **12.** STANDARD: No action required, Operator may acknowledge the requirement to repeat step 12 if the TD AFW pump trips. COMMENTS:	___ SAT ___ UNSAT
STEP 20.: **14. RETURN TO** procedure and step in effect. STANDARD: Operator reports the procedure is complete. COMMENTS:	___ SAT ___ UNSAT Stop Time____

END of JPM

Directions to Trainee:

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INITIAL CONDITIONS:

1. Unit 1 experienced a total loss of all AC approximately 10 minutes ago.

2. The crew is in the process of implementing ECA-0.0

INITIATING CUES:

1. During the step that verifies TD AFW pump operation the crew observed no AFW flow. FCV-1-51 has no lights and appears to have lost power.

2. The OATC/CRO has directed you, the Unit 1 Aux. Bldg. AUO to locally operate the Unit 1 TD AFW pump using EA-3-7.

3. Inform the Unit 1 OATC/CRO when you have completed EA-3-7 and TD AFW pump is in service.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

In-Plant JPM B.1.j

JPM #185

Refilling the Spent Fuel Pit

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Initial Issue	Y	9/16/04	All	MG Croteau

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
AUO/RO/SRO
JOB PERFORMANCE MEASURE

Task: Refilling the Spent Fuel Pit (EA-78-1)

JA/TA TASK #: 0330330104 0000860501

K/A Ratings: 033 K1.07 (2.4-2.5) 033 K3.03 (3.0-3.3) 033 A1.01 (2.7-3.3)
033 A2.03 (3.1-3.5) 033 A4.03 (2.4-2.9)

Task Standard: The operator refills the spent fuel pit during a station blackout to compensate for level drop due to boiling and evaporation.

Evaluation Method : Simulator _____ In-Plant ____X_____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Critical steps indicated in **BOLD** type.
2. Sequenced steps identified by an "s"
3. Any UNSAT requires comments
4. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: 17 minutes

Tools/Equipment/Procedures Needed
EA-78-1

References:

	Reference	Title	Rev No.
1.	EA-78-1	Refilling the Spent Fuel Pit	2

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

The plant has experienced a total loss of AC power. Boiling and evaporation have reduced the spent fuel pit level to 725' 5.5." Demineralized water storage tank level was filled to the high level earlier in the shift.

No Dry Cask Storage Campaign in progress

INITIATING CUES:

The Unit 1 Operator directs you, the Unit 1 Auxiliary Bldg AUO to refill the spent fuel pit to above 726' from the demineralized water system using EA-78-1.

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
STEP 1.:	Operator obtains appropriate procedure.	___ SAT ___ UNSAT Start Time____
STANDARD:	Operator obtains a copy of EA-78-1.	
STEP 2.:	REFER TO Appendix A for determining SFP level.	N/A
STANDARD	Operator uses Appendix A when level determination needed. Use of this Appendix will be evaluated in step 6 of this JPM.	
STEP 3.:	IF refilling the spent fuel pit from the demineralized water system THEN GO TO Section 4.2.	___ SAT ___ UNSAT
STANDARD	Operator transitions to section 4.2.	
STEP 4.:	Verify demineralized water available.	___ SAT ___ UNSAT
Cue:	***If called, play role of CRO: demineralized water storage tank was filled earlier in shift and has adequate water level.***	
STANDARD	Operator checks initial conditions and verifies demineralized water storage tank level available **OR** calls the MCR to request demineralized water storage tank level.	
NOTE:	**The following steps require a master key.**	___ SAT ___ UNSAT **Critical Step**
STEP 5.:	Unlock and OPEN demineralized water makeup to SFP [0-VLV-78-514]	
Cue:	***After operator simulates unlocking and opening valve by turning handwheel counterclockwise, inform him/her that the valve stem is rising and (if valve is taken to full open) that the handwheel is now snug.***	
STANDARD:	Operator locates, unlocks and OPENS [0-VLV-78-514]	
STEP 6.:	Operator determines water level using EA-78-1 Appendix A.	___ SAT ___ UNSAT **Critical Step**
Cue:	***Simulate RadCon support. After operator demonstrates ability to use Appendix A, tell them that the level indicates at the 726.5' rung (just above the dry cask ladder finger/rung, ~726' 4"). If called as Unit Operator, state that this level is acceptable.***	
STANDARD:	Operator uses EA-78-1 Appendix A to determine level.	

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
STEP 7.:	When desired SFP level established, then CLOSE and LOCK demineralized water makeup to SFP [0-VLV-78-514]	___ SAT ___ UNSAT
Cue:	***After operator simulates closing valve by turning handwheel clockwise, inform him/her that the valve stem goes down and the valve is now snug.***	
STANDARD:	When desired level is reached, operator CLOSES and LOCKS demineralized water makeup to SFP [0-VLV-78-514].	**Critical Step**
STEP 8.:	Verify SFP boron concentration greater than 2000ppm: a. Notify Chem Lab to sample SFP boron concentration b. If SFP boron concentration less than 2000ppm then consult Chem Lab and raise SFP boron concentration as required.	___ SAT ___ UNSAT
Cue:	***If called, play role of Chem Lab technician: must allow 30 minutes mixing time prior to sampling.***	
Cue:	***If called, play roll of CRO: I will contact Chem Lab technician, return to MCR.***	
STANDARD:	Operator contacts Chem Lab **OR** CRO to sample SFP boron concentration.	Stop Time_____

End of JPM

Job Performance Checklist:

STEP/STANDARD **SAT/UNSAT**

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

The plant has experienced a total loss of AC power. Boiling and evaporation have reduced the spent fuel pit level to 725' 5.5." Demineralized water storage tank level was filled to the high level earlier in the shift.

No Dry Cask Storage Campaign in progress

INITIATING CUES:

The Unit 1 Operator directs you, the Unit 1 Auxiliary Bldg AUO to refill the spent fuel pit to above 726' from the demineralized water system using EA-78-1.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

In-Plant JPM - B.1.k
JPM # 61AP2

TRANSFER 480V SD BOARD 2A1-A FROM NORMAL TO ALTERNATE SUPPLY

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Initial issue. Revised JPM #61AP to apply to 480V SDBD 2A1-A. Used for 2000 HLT audit exam. Validation N/A based on JPM 61AP.	Y	12/17/01	All	L. Pauley
1	Revised per recent revisions to 2-SO-201-1; No impact on JPM flow	N	8/20/02	4,5	J P Kearney
Pen/ink	Update references only.	N	11/04/03	2, 4	T. E. Pitchford
2	Incorporated AUO feedback.	N	8/30/04	All	MG Croteau
3	Updated to current revision.	N	10/04/05	All	MG Croteau
4	Incorporated AUO feedback.	N	11/16/05	All	MG Croteau
5	Update to current revision	N	10/05/2006	2,4,5,8	M. D. Lackey
6	Modified cue and steps				

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
AUO/RO/SRO
JOB PERFORMANCE MEASURE

Task:
Transfer 480V SD Board 2A1-A from Normal to Alternate Supply

JA/TA TASK #: 0620120104 **(AUO)**

K/A Ratings:

062A2.05 (2.9/3.3)	062A4.04 (2.6/2.7)
062A3.05 (3.5/3.6)	2.1.20 (4.3/4.2)

Task Standard:
480V Shutdown Board 2A1-A fails to transfer from Normal to Alternate Supply. Operator recloses normal breaker.

Evaluation Method : Simulator _____ In-Plant _____**X**___

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Critical steps identified by an asterisk (*)
2. Sequenced steps identified by an "s"
3. Any UNSAT requires comments
4. **SM approval will be required to enter the "Trip Hazard Zone" near the 480V SDBD 2A1-A.**
5. Ensure arc flash distance and PPE requirements met.
6. Role play as second person to complete transfer as directed by the operator.
7. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. _____ **Local** 10 mins

Tools/Equipment/Procedures Needed:
2-SO-201-1, Section 8.1.

References:

	Reference	Title	Rev No.
1.	2-SO-201-1	480V Shutdown Boards	20

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. **WHEN ENTERING A UNIT TRIP HAZARD ZONE ENSURE YOU DO NOT TOUCH ANY SWITCHES WITHIN THAT ZONE.** I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

- Both units are at 100% power. All 6.9 kV shutdown boards are being supplied from their normal feeders.
- Electrical maintenance has to perform an inspection on the normal supply breaker on the 480V shutdown board 2A1-A
- All equipment is available and operable.
- All prerequisites are completed.
- All Arc Flash requiements for protective clothing are met.

INITIATING CUES:

- You are the Control Room AUO. Electrical maintenance is ready to perform the inspection of the normal feeder breaker to 480V shutdown Board 2A1-A.
- You are to transfer 480V shutdown board 2A1-A to its alternate supply utilizing 2-SO-201-1 section 8.1.
- When 480V shutdown board 2A1-A is aligned to its alternate supply, inform Unit 2 SRO and he/she will notify Electrical Maintenance that they may proceed with their inspection.

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
STEP 1.:	Obtain a copy of the appropriate procedure.	___ SAT ___ UNSAT Start Time____
Cue:	***If operator addresses TI-300 for Arc Flash required clothing, state " All ARC Flash Requirements are met."***	
STANDARD:	Operator obtains a copy of 2-SO-201-1, Section 8.1.	
STEP 2.:	ENSURE [2-BCTA-202-CO/5-A] 6.9kV Feed to 480V Shutdown Board Alternate Transformer 2A-A (6.9kV SD Bd 2A-A Compt. 5) CLOSED.	___ SAT ___ UNSAT
Cue:	***Red indicating light for alternate supply breaker is illuminated and/or breaker has a "RED" target.***	
STANDARD:	Operator ensures 6.9kV Feed to 480V Shutdown Board Alternate Transformer 2A-A is closed.	
STEP 3.:	VERIFY (2BCTB-201-DO/5B-A) Breaker 52E, Alternate Supply Breaker (Emergency) from Transformer 2A-A OPEN (480V SDBD 2A2-A, Compt 5B).	___ SAT ___ UNSAT
Cue:	***Green indicating light for alternate supply breaker is illuminated and/or breaker has a "GREEN" target inside panel.***	
STANDARD:	Check 2A-A Alternate Supply Transformer to 480V shutdown board 2A2-A open locally at 480V shutdown board 2A2-A Compt 5B. green target	
STEP 4.:	ENSURE Power Checklist 2-201-1.01 has been completed.	___ SAT ___ UNSAT
Cue:	***After operator identifies the need to check the Configuration Log Book, then CUE that the checklist has no deviations.***	
STANDARD:	Operator ensures power checklist is complete by checking the Configuration Log Book in the MCR.	
STEP 5.:	VERIFY 3-phase voltage supply from 2A-A Alternate Supply Transformer (480V SDBD 2A1-A Compt 5A).	___ SAT ___ UNSAT
Cue:	***All 3-phases voltage ~ 490V.***	
STANDARD:	Check voltage $\geq$ 456 V but $\leq$ 504 volts.	

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
NOTE:	**The following steps take two people, role play as the second party and perform actions as directed by the operator. Failure to perform the next two steps in sequence will result in de-energizing the board. If operator asks for a CV tell them that they are to proceed as if a CV was present.**	___ SAT ___ UNSAT **Critical step**
STEP *6. **S**:	PLACE (2-BCTB-201-DN/5B-A) 52E Alternate Supply Breaker (Emergency) Control Switch in the CLOSE position and hold until step [5] is complete (Compt 5A).	
Cue:	***Alternate feeder ACB has GREEN light still illuminated and a red flag above the handswitch.***	
STANDARD:	HS-52E on alternate supply breaker to 480V shutdown board 2A1-A turned and held in CLOSED position.	
STEP *7. **S**:	PLACE (2-BCTB-201-DN/1B-A) 52N Normal Supply Breaker Control Switch to the TRIP position (Compt 1A).	___ SAT ___ UNSAT **Alternate Path** **Critical step**
Cue:	***Normal feeder ACB has GREEN light illuminated and alternate feeder ACB has GREEN light illuminated. (Breaker did not close)***	
STANDARD:	Places HS-52N, Normal Supply Breaker Control Switch to the TRIP position.	
STEP 8.:	Verify (2-BCTB-201-DN/5B-A) 52E Alternate Supply Breaker (Emergency) Closed and (2-BCTB-201-DN/1B-A) 52N Normal Supply Breaker OPEN.	___ SAT ___ UNSAT
Cue:	***ACB 52E Green light LIT, ACB 52N Green light LIT.*** ***If asked, ACB 52N opening sound was heard, but no closing sound was heard from ACB 52E.***	
Cue:	***If operator checks board voltage (Compt 6). It is Zero.***	
STANDARD:	Operator attempts to verify alternate ACB 52E CLOSED and normal ACB 52N OPEN and recognizes alternate breaker did not close.	
STEP *9.:	IF (2-BCTB-201-DN/5B-A) 52E Alternate Supply Breaker fails to close, THEN PLACE (2-BCTB-201-DN/1B-A) 52N Normal Supply Breaker Control Switch to the CLOSE position (Compt 1A), AND VERIFY (2-BCTB-201-DN/1B-A) 52N Normal Supply Breaker CLOSED.	___ SAT ___ UNSAT **Critical step**
NOTE:	**Operator should ensure 52E handswitch has been released prior to reclosing normal feeder breaker.**	
Cue:	**When ACB 52N control switch is placed in the CLOSED position: "ACB 52N Red light is LIT and closing sound was heard".**	
STANDARD:	Operator closes 52N and verifies it is closed.	

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
STEP 10.:	MONITOR voltmeter for 3 phase voltage (Compt 6)	___ SAT
Cue:	***All 3-phases voltage ~ 490V.***	___ UNSAT
STANDARD:	Operator checks board voltage ≥ 456 V but ≤ 504 volts.	
STEP 11.:	Inform Unit 2 SRO that board failed to transfer, and the normal breaker has been re-closed.	___ SAT ___ UNSAT
STANDARD:	Operator notifies Unit 2 SRO of the failure of the board to transfer.	Stop Time____

END OF JPM

READ TO OPERATOR

Directions to Trainee:

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INITIAL CONDITIONS:

- Both units are at 100% power. All 6.9 kV shutdown boards are being supplied from their normal feeders.
- Electrical maintenance has to perform an inspection on the normal feeder breaker on the 480V shutdown board 2A1-A
- All equipment is available and operable.
- All prerequisites are completed.
- All Arc Flash requiements for protective clothing are met

INITIATING CUES:

- You are the Control Room AUO. Electrical maintenance is ready to perform the inspection of the normal feeder breaker to 480V shutdown Board 2A1-A.
- You are to transfer 480V shutdown board 2A1-A to its alternate supply utilizing 2-SO-201-1 section 8.1.
- When 480V shutdown board 2A1-A is aligned to its alternate supply, inform Unit 2 SRO and he/she will notify Electrical Maintenance that they may proceed with their inspection.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.a

JPM 57-AP1

Respond to High Containment Pressure, Place RHR Spray in Service

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

Revision Number	Description Of Revision	V	Date	Pages Affected	Prepared/ Revised By:
0	New JPM. Modified #57AP to include additional failures resulting in the inability to establish RHR spray. Fully exercises FR-Z.1 step 9 RNO.	Y	4/9/98	All	RC King
pen/ink	Revised in accordance with revision 11 of FR-Z.1	N	08/20/01	ALL	WR Ramsey
1	Incorporated pen/ink changes; revised to latest revision of FR-Z.1	N	8/20/02	4	J P Kearney
2	Updated IC and to current revision of FR-Z.1	Y	8/5/04	All	MG Croteau
	Updated references, clarified setup	N	10/20/05	3, 4	JJ Tricoglou
3	Updated refs. & validated for 07 ILT Audit Exam	Y	02/3/07	All	M Reese
4	Rewording turnover instructions, referenced FR-Z.1 rev 17, revised instructions			4, 10	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:

Respond to High Containment Pressure, Place RHR Spray in Service

Note: This JPM satisfies Simulator Manipulation "IN13".

JA/TA task # : 3110160601 **(RO)**

K/A Ratings:

022000 A3.01 (4.1 - 4.4)	022000 A4.04 (3.1 -3.20
026000 GA13 (3.6 - 3.6)	026000 GA9 (3.6 - 3.6)

Task Standard:

Attempt to establish one train of RHR spray in service per FR-Z.1.

Evaluation Method : Simulator ___X_____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize simulator in **IC#176**. If IC 176 is not available the reset to IC #24 and complete substeps below.
   a. Activate MF # **TH01A at 35%**.
   b. Activate MFs # **CH01 A thru D at 70%** (~10.2 psid)
   c. Complete the actions of ES-1.3, Sump Swapover. Stop RCPs.
   d. Activate Override **ZDIHS6393A OPEN**, to prevent FCV-63-93 from closing.
   e. Activate Override **ZDIHS7241A CLOSE**, to prevent FCV-72-41 from opening.
4. Activate the following, as necessary, to prevent nuisance alarms:
   - AN:OVRN[96] to OFF, prevents Turbine Zero Speed alarm
   - AN:OVRN[214] to OFF, prevents Saturation Monitor alarm
   - AN:OVRN[304] to OFF, prevents MFP Lo NPSH
   - AN:OVRN[2155] to OFF, prevents SG Pressure Lo
5. Insert Remote Function RHR14 ON, places power on FCV-63-1.
6. FREEZE the simulator until the operator is ready to commence task.
7. Console operator will need to acknowledge alarms not associated with JPM.
8. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. 8 mins **Local** _____

Tools/Equipment/Procedures Needed:
FR-Z.1, step 13

References:

	Reference	Title	Rev No.
1.	FR-Z.1	High Containment Pressure	17

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READ TO OPERATOR

Directions to Trainee:

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INITIAL CONDITIONS:

1. Unit 1 has experienced a reactor trip and Safety Injection in conjunction with a large break LOCA.
2. The crew has been monitoring step 13 of FR-Z.1 since FR-Z.1 was implemented.
3. 1 hour has elapsed since the accident.

INITIATING CUES:

1. The US directs you to perform FR-Z.1, Step 13 to initiate one train of RHR spray.
2. Inform the US Step 13 has been completed.

Job Performance Checklist

STEP/STANDARD		SAT/UNSAT
STEP 1.:	Obtain copy of appropriate procedure.	___ SAT
Cue:	***After operator locates FR-Z.1 procedure, provide a copy of FR-Z.1 marked up as appropriate.***	___ UNSAT
STANDARD:	Operator obtains a copy of FR-Z.1 (begin at Step 13).	Start Time____
COMMENTS:		
STEP 2.:	[FR-Z.1, Step 13] MONITOR if RHR Spray should be placed in service. CHECK Containment press greater than 9.5 psid.	___ SAT ___ UNSAT
STANDARD:	Operator checks PDIS-30-43 and 44 and determines that pressure is greater than 9.5.	
COMMENTS:		
STEP 3.:	CHECK at least 1 hour has elapsed since beginning of accident.	___ SAT
Cue:	***IF asked, 1 hour has elapsed since beginning of accident.***	___ UNSAT
STANDARD:	Operator determines from initiating cues (or asks US) that 1 hour has elapsed.	
COMMENTS:		
STEP 4.:	CHECK RHR suction ALIGNED to containment sump.	___ SAT
Cue:	***If asked, ES-1.3 has been completed.***	___ UNSAT
STANDARD:	Operator check FCV-63-72 and 73 open AND FCV-74-3 and 21 closed. OR asks US if ES-1.3 "Transfer to RHR Containment Sump" has been completed.	
COMMENTS:		

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 5.: CHECK at least one CCP AND one SI pump RUNNING. STANDARD: Operator ensures at least one CCP is running as indicated by red light on HS-62-104A or 108A LIT. **AND** Ensures at least one SI pump is running as indicated by red lights on HS-63-10A or 15A "LIT". COMMENTS:	___ SAT ___ UNSAT
STEP 6.: CHECK both RHR pumps RUNNING. STANDARD: Operator checks that both RHR pumps are running as indicated by red lights on HS-74-10A and 20A "LIT". COMMENTS:	___ SAT ___ UNSAT
STEP 7.: [13.c] ESTABLISH Train B RHR spray: CHECK Train B RHR pump RUNNING. STANDARD: Operator checks that 1B-B RHR pump is running as indicated by red light on HS-74-20A "LIT". COMMENTS:	___ SAT ___ UNSAT
STEP 8.: [13.c.2)] ENSURE RHR crosstie FCV-74-35 CLOSED. STANDARD: Operator verifies FCV-74-35 in the CLOSED position as indicated by HS green light ON and red light off. COMMENTS:	___ SAT ___ UNSAT
STEP 9.: [13.c.3)] CLOSE RHR Injection FCV-63-94. STANDARD: Operator places handswitch for RHR injection FCV-63-94 in the CLOSED position and verify the green light ON. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
NOTE: **This is the alternate path.** STEP 10.: [13.c.4)] OPEN RHR Spray FCV-72-41. **NOTE:** **FCV-72-41 will NOT open the operator must go to the RNO and align the A train RHR spray.** STANDARD: Operator places handswitch for RHR injection FCV-72-41 in the OPEN position and recognizes that the green light stays ON and the red light is OFF, goes to RNO column. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
NOTE: **The following steps are from FR-Z.1, step 13.c RNO** STEP 11.: [13.c RNO a)] ENSURE RHR Spray FCV-72-41 CLOSED. STANDARD: Operator verifies FCV-72-41 is still closed as indicated by green light ON and red light OFF. COMMENTS:	___ SAT ___ UNSAT
STEP 12.: [13.c RNO b)] **IF** RHR aligned for cold leg recirculation, **THEN ENSURE** FCV-63-94 OPEN. STANDARD: Operator verifies handswitch for RHR injection FCV-63-94 in the OPEN position and verifies red light ON. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 13.: [13.c RNO c)(1)] ESTABLISH Train A RHR spray: ENSURE RHR crosstie FCV-74-33 CLOSED. STANDARD: Operator verifies RHR crosstie FCV-74-33 in the CLOSED position as indicated by green light ON handswitch. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 14.: [13.c RNO c)(2)] CLOSE RHR Injection FCV-63-93. **NOTE:** **FCV-63-93 will NOT close. The operator must determine that Train A RHR spray can NOT be placed in service and continue with step 13.c RNO to realign Train A RHR to cold leg injection.** STANDARD: Operator places handswitch for RHR injection FCV-63-93 in the CLOSED position and recognizes that the red light stays ON and the green light is OFF, continues in the RNO column. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 15.: CLOSE RHR spray FCV-72-40. STANDARD: [a)] Operator verifies FCV-72-40 is still closed as indicated by green light ON and red light OFF. [13.c: **IF** Train A spray CANNOT be established, **THEN**...] COMMENTS:	___ SAT ___ UNSAT
STEP 16.: **IF** RHR aligned for cold leg recirculation, **THEN ENSURE** FCV-63-93 OPEN. STANDARD: Operator verifies FCV-63-93 is still OPEN as indicated by red light ON and green light OFF. COMMENTS:	___ SAT ___ UNSAT
STEP 17.: Communicates with US and informs him RHR spray status. **NOTE:** **Examinee may inform US of RHR status, stop procedure performance at this step. If so, N/A JPM steps 18.** STANDARD: Operator informs US that neither Train B RHR spray nor Train A RHR spray could be placed in service in accordance with FR-Z.1 due to FCV-72-41 failed to open and FCV-63-93 failed to close and RHR is in the RECIRCULATION alignment. COMMENTS:	___ SAT ___ UNSAT Stop Time____

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 18.: [13.d] **MONITOR** containment pressure greater than 4 psig. STANDARD: Operator determines containment pressure is greater than 4 psig and continues to the next step. This completes Step 13 and the JPM COMMENTS:	___ SAT ___ UNSAT Stop Time____

END OF JPM

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. **Unit 1 has experienced a reactor trip and Safety Injection in conjunction with a large break LOCA.**
2. **The crew has been monitoring step 13 of FR-Z.1 since FR-Z.1 was implemented.**
3. **1 hour has elapsed since the accident.**

INITIATING CUES:

1. **The US directs you to perform FR-Z.1, Step 13 to initiate one train of RHR spray.**
2. **Inform the US Step 13 has been completed.**

Instantaneously

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.b

JPM

Respond to a #1 RCP Seal Failure

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	New, modified from JPM 403	Y		All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Respond to an RCP Seal Failure

JA/TA task:
0000820501 (**RO**)

K/A Ratings:

003 Reactor Coolant Pump System A2.01 3.5 / 3.9

Task Standard:
1) Candidate determines the #1 RCP has a seal malfunction and enters AOP-R.04

2) Candidate removes the #1 RCP from service and closes the seal return valve from the pump.

Evaluation Method : Simulator __X____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. This task is to be performed using the simulator in IC 185, If unavailable reset to IC-5, open the reactor trip breakers, reduce AFW flow and stabilize the plant..
4. Put MODE 3 sign on simulator
5. When ready to start, insert malfunction CV17A f: 0.60
6. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. 14 min **Local** _____

Tools/Equipment/Procedures Needed:

AOP-R.04

References:

	Reference	Title	Rev No.
1.	AOP-R.04	Reactor Coolant Pump Malfunctions	22

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is in MODE 3 at NOP/NOT preparing for restart after refueling. Currently awaiting completion of maintenance activities.

INITIATING CUES:

1. You are the OATC and are to monitor the control board and respond to conditions as required.

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 1.: Obtain the appropriate procedure. STANDARD: Operator identifies window B-3, FS-62-11 REAC COOL PMPS SEAL LEAKOFF HIGH FLOW lit and uses 1-AR-M5-B to respond.	___ SAT ___ UNSAT Start Time____
The following 2 steps are from 1-AR-M5-B Window B-3	
STEP 2.: **[1] Verify** High Leakoff condition on affected RCP(s) with the following instruments **Pump** / **Leakoff Instrumentation** RCP 1 / 1-FR-62-24 RCP 2 / 1-FR-62-24 RCP 3 / 1-FR-62-50 RCP 4 / 1-FR-62-50 STANDARD: Candidate determines that #1 RCP has high Seal flow on 1-FR-62-24 or by looking at the ICS. COMMENTS:	___ SAT ___ UNSAT
STEP 3.: **[2] GO TO** AOP-R.04, Reactor Coolant Pump Malfunctions. STANDARD: Candidate enters AOP-R.04 COMMENTS:	___ SAT ___ UNSAT
The following steps are from AOP-R.04	
STEP 4.: **1. DIAGNOSE** the failure: STANDARD: Candidate determines Section 2.2 is the appropriate section and goes to section 2.2 COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 5.: 1. MONITOR #1 seal leakoff less than 6 gpm per pump: • FR-62-24 [RCP 1 & 2] • FR-62-50 [RCP 3 & 4] STANDARD: Candidate uses 1-FR-62-24 or by looking at the ICS to determine seal flow on #1 RCP is greater than 6 gpm and goes to the RNO. COMMENTS:	___ SAT ___ UNSAT
STEP 6.: a. **MONITOR** RCP lower bearing temperature and seal temperature. **IF** RCP lower bearing temperature **OR** seal temperature are rising uncontrolled, **THEN GO TO** Section 2.1, RCP Tripped or Shutdown Required. **[C.1] [C.2]** STANDARD: Candidate uses 1-TI-62-3 and 1-TI-62-4 to determine lower bearing temperature and seal temperature are rising and goes to Section 2.1, Reactor Coolant Pump(s) Tripped or Shutdown Required COMMENTS:	___ SAT ___ UNSAT
STEP 7.: 1. **CHECK** reactor power greater than 10% STANDARD: Candidate determines reactor power is less than 10% and goes to the RNO. COMMENTS:	___ SAT ___ UNSAT
STEP 8.: [1. RNO] Shutdown to MODE 3 within 1 hour. GO TO Step 3 STANDARD: Candidate determines the Plant is already in MODE 3 and proceeds to Step 3. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 9.: 3. **STOP** and **LOCK OUT** affected RCP(s). STANDARD: Candidate places handswitch 1-HS-68-8A to the stop position and pulls to the Pull to Lock position. Record time pump is stopped _____ COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 10.: **4. MONITOR** RCP seal leakoff less than 8 gpm per pump: • FR-62-24 [RCP 1 & 2] • FR-62-50 [RCP 3 & 4] Evaluator Note: *Scale on recorder is 0-10 gpm* STANDARD: Candidate determines that #1 RCP seal leakoff flow on 1-FR-62-24 is greater than 8 gpm. COMMENTS:	___ SAT ___ UNSAT
STEP 11.: **WHEN** the RCP has coasted down (30 sec.), **THEN CLOSE** affected RCP seal return FCV: **[C.2]** • FCV-62-9 [RCP 1] • FCV-62-22 [RCP 2] • FCV-62-35 [RCP 3] • FCV-62-48 [RCP 4] STANDARD: Candidate place 1-HS-62-9 to the Close position within 5 minutes of stopping the RCP Record time FCV is closed _____ COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 12.: 5. **PULL TO DEFEAT** affected loop ▣T and T-avg: • XS-68-2D (▣T) • XS-68-2M (T-avg) STANDARD: Candidate places 1-XS-68-2D and 1-XS-68 2M to Loop 1 position and pulls each out. COMMENTS:	___ SAT ___ UNSAT
STEP 13.: 6. **CHECK** RCPs 1 and 2 RUNNING. STANDARD: Candidate determines that #1 Reactor coolant pump is not running. COMMENTS:	___ SAT ___ UNSAT
STEP 14.: **6. RNO CLOSE** affected loop's pressurizer spray valve. STANDARD: Candidate verifies Loop 1 PZR Spray Valve 1-PIC68-340D is closed. May place the controller to manual. COMMENTS:	___ SAT ___ UNSAT
STEP 15.: **7. IF** RCP Seal Temperatures or Bearing Temperatures are increasing uncontrolled due to loss of Seal Injection, **THEN EVALUATE** initiating RCS cooldown. ***Cue: When step addressed state "Shift Manager is evaluating the need to cooldown"*** STANDARD: Candidate addresses the need for the cooldown evaluation. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 16.: 8. **EVALUATE** EPIP-1, Emergency Plan Initiating Conditions Matrix. ***Cue: When step addressed state "Shift Manager will evaluate EPIPs"*** STANDARD: Candidate addresses the step COMMENTS:	___ SAT ___ UNSAT
STEP 17.: 9. **EVALUATE** the following Tech Specs for applicability: • 3.2.5, DNB Parameters • 3.4.1.1, Reactor Coolant Loops and Coolant Circulation - Startup and Power Operation • 3.4.1.2, Reactor Coolant System - Hot Standby • 3.4.1.3, Reactor Coolant System - Shutdown • 3.4.6.2, RCS Operational Leakage ***Cue: When step addressed state "SRO will evaluate Tech Specs"*** STANDARD: Candidate notifies SRO to evaluate Tech Spec. COMMENTS:	___ SAT ___ UNSAT
STEP 18.: 10. **GO TO** appropriate plant procedure. **END OF SECTION** ***Cue: To candidate "We will stop here"*** STANDARD: Candidate recognizes that a transition from the AOP is required.	___ SAT ___ UNSAT Stop Time____

End of JPM

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is in MODE 3 at NOP/NOT preparing for restart after refueling. Currently awaiting completion of maintenance activities.

INITIATING CUES:

1. You are the OATC and are to monitor the control board and respond to conditions as required.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.c
JPM

WITHDRAW SHUTDOWN BANKS

PREPARED/
REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Modified JPM	Y		All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Withdraw Shutdown Banks

JA/TA task:
0010180101(**RO**) Withdraw shutdown Banks

K/A Ratings:

001 Control Rod Drive System
A3 Ability to monitor automatic operation of the CRDS, including: (CFR: 41.7/45.13)
A3.05 Individual vs. group rod position 3.5 / 3.5

Task Standard:

1) Initiation of withdrawal of shutdown banks is initiated starting with Shutdown Bank A.

2) Following failure of the group step counters, the reactor trip breakers are opened in accordance with Technical Requirement 3.1.3.3.

Evaluation Method : Simulator ___X_____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. This task is to be performed using the simulator in **IC 183. If not available then raise boron to 1800ppm and withdraw rods to D @ 216; Trip reactor; Close Reactor trip breakers; Reset FWI and one MFPT, Stop TD AFW pump, and Reset M/D LCVs and stabilize SG levels.**
   Place Rod Control Mode Selector Switch to the **Manual** position.
4. When the candidate withdraws Shutdown bank A approximately 100 steps, insert **I/O Override / RD control rod drive system / Logical Output ZROSCSBAG1(RESET) to ON** to fail the Shutdown Bank A step counters to '0'
5. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. ___min___ **Local** _____

Tools/Equipment/Procedures Needed:

0-GO-2
0-GO-85-1
TR 3.1.3.3
AOP-C.01
TI-28

References:

	Reference	Title	Rev No.
1.	0-GO-2	Unit startup From Hot Standby to Reactor Critical	26
2.	0-SO-85-1	Control Rod Drive System	33
3.	TR 3.1.3.3	Reactivity Control Systems, Position Indicating System – Shutdown	13
4.	AOP-C.01	Rod Control System Malfunctions	17
5.	T1-28	Curve Book	215

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit startup in progress following a trip from 100% power due to a generator electrical relay malfunction.
2. Per TI-28, the shutdown banks fully withdrawn positon is 228 steps

INITIATING CUES:

1. You are to withdraw the shutdown banks in accordance with 0-GO-2, Unit Startup From Hot Standby to Reactor Critical, Section 5.1, Step [26.2]
2. Notify the SRO when the shutdown banks are fully withdrawn.

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 1.: Obtain the appropriate procedure. STANDARD: Operator identifies 0-SO-85-1and goes to Section 6.3 "Manual Operation of Rod Control System Below 15 Percent Power".	___ SAT ___ UNSAT Start Time____
STEP 2.: **[1] ENSURE** Section 5.2, Reset/Close Reactor Trip Breakers has been completed. STANDARD: Candidate determines by looking at procedure that section 5.2 is complete. COMMENTS:	___ SAT ___ UNSAT
STEP 3.: **[2] IF** the shutdown and control rods were withdrawn 5 steps to prevent thermal lockup during an RCS cooldown, **THEN ENSURE** rods are fully inserted prior to withdrawal. ***Cue:*** ***If asked "Rods were not withdrawn 5 steps"*** STANDARD: Candidate N/As the step. COMMENTS:	___ SAT ___ UNSAT
STEP 4.: **[3] MOMENTARILY PLACE [SUS]**, Rod Control Startup Step Counter Reset to the **STARTUP** position to reset Control Rod Drive System. STANDARD: Candidate places Rod control Startup Step Counter Reset, 1-SUS, to startup and then releases switch. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 5.: **[4] ENSURE** all Full Length Rod step counters reset to zero. STANDARD: Candidate verifies all 14 step counters are reading '000' COMMENTS:	___ SAT ___ UNSAT
STEP 6.: **[5] VERIFY** rod control IN-OUT direction lights are **NOT LIT**. STANDARD: Candidate verifies that both the RODS IN and the RODS OUT lights are not lit on 1-M-4. COMMENTS:	___ SAT ___ UNSAT
STEP 7.: **[6] DEPRESS [RCAS]**, Rod Urgent Failure Alarm Reset. STANDARD: Candidate pushes Rod Urgent Failure Alarm Reset, 1-RCAS COMMENTS:	___ SAT ___ UNSAT
STEP 8.: **[7] RESET** Window 6 (A-6), ROD CONTROL SYSTEM URGENT FAILURE alarm on panel **[XA-55-4B]** using **[XS-55-4A]**, Annunciator RESET/ACK/TEST Switch. STANDARD: Candidate resets the ROD CONTROL SYSTEM URGENT FAILURE alarm using 1-XS-55-4A if lit. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 9.: **[8] VERIFY** the following rod control system alarms on panel **[XA-55-4B]** are **NOT LIT**: WINDOW NUMBER / NOT LIT (√) 5 (A5) ☐ 6 (A6) ☐ 11 (B4) ☐ 12 (B5) ☐ 13(B6) ☐ 18 (C4) ☐ 19(C5) ☐ 27 (D6) ☐ 34 (E6) ☐ STANDARD: Candidate verifies listed windows on 1-M-4 overhead annunciatot 1-XA-55-4B are not lit COMMENTS:	___ SAT ___ UNSAT
STEP 10.: **[9] ENSURE** Plant computer points for rod bank position are **ZERO** using the following computer points: COMPUTER PT / ROD BANK / √ U0049 / Control A / ☐ U0050 / Control B / ☐ U0051 / Control C / ☐ U0052 / Control D / ☐ U0053 / Shutdown A / ☐ U0054 / Shutdown B / ☐ U0055 / Shutdown C / ☐ U0056 / Shutdown D / ☐ ***Cue: After candidate demonstrates ability to access computer points ' All listed points have been verified to be '0'.*** STANDARD: Candidate verifies listed computer points are reading '0' on ICS. *There are several methods/screens to access the points* COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 11.: **[10] MONITOR** Control Rod position **USING** Rod Position Indicators ICS screen 30 minute trend during SD & Control Banks withdrawal to aid in detecting rod misalignment. STANDARD: Candidate locates the Rod Position Indicator RPI TREND screen on the ICS. (when on RPI screen, the RPI TREND screen can be accessed via clicking on TREND.) COMMENTS:	___ SAT ___ UNSAT
STEP 12.: **[11] IF** Individual Rod Position Indication does not indicate proper rod position during withdrawal of SD Banks, **THEN** **[a] STOP** rod withdrawal. **[b] ENSURE** subcriticality. **[c] CONTACT** MIG **AND INITIATE** troubleshooting. **[d] IF** troubleshooting does not resolve the problem, **OR** subcriticality can NOT be verified, **THEN** **INITIATE** Reactor **TRIP**. STANDARD: Candidate acknowledges the requirement of the IF/THEN step for individual RPIs. No action required.	___ SAT ___ UNSAT
STEP 13.: **[12] IF** Individual Rod Position Indication does not indicate proper rod position during withdrawal of Control Banks, **THEN** **GO TO** AOP-C.01 section 2.6 Rod Position Indicator (RPI) Malfunction - Modes 1 or 2. STANDARD: Candidate acknowledges the step, realizes it refers to control banks, and No action is required for this task of withdrawing shutdown banks COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 14.: **[13] PLACE [HS-85-5110]**, Rod Control Mode Selector to the **SBA** position. STANDARD: Candidate rotates Mode Control Mode Selector, 1-HS-85-5110, counterclockwise to the SBA position COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 15.: **[14] VERIFY** Rod Speed Indicator **[SI-412]**, indicates 64 Steps/minute. STANDARD: Candidate determines SI-412, Rod Speed, on 1-M-4 vertical panel is reading 64 steps/min COMMENTS:	___ SAT ___ UNSAT
STEP 16.: **[15] ENSURE** Shutdown Bank A demand position counters operational by performing the following: **[C.2]** **[a] BUMP [HS-85-5111]**, Rod Control Switch to withdraw Shutdown Bank A one-half step at a time, for one full step. **[b] CHECK** group demand position counters advance properly. **[c] BUMP [HS-85-5111]** to withdraw Shutdown Bank A one-half step at a time, for the second full step. **[d] VERIFY** group demand position counters advance properly. **[e] IF** group demand position counters do **NOT** advance properly, **THEN** A. **STOP** rod withdrawal. B. **INITIATE** WO to have counter repaired. C. **WHEN** counter is repaired, **THEN** 1. **ENSURE** Shutdown Bank A fully **INSERTED.** 2. **RETURN** to beginning of this step. STANDARD: Candidate uses Rod Control, 1-HS-85-5111, IN-OUT switch to withdraw SBA rods 2 steps in ½ step increments while checking the group step counters are operating properly. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
Note to evaluator: The shutdown bank full out position is stated in the initial conditions, if candidate refers to TI-28 provide a cue that the full out position is 228 steps.	
STEP 17.: **[16] WITHDRAW** Shutdown Bank A to the **FULLY WITHDRAWN** position using **[HS-85-5111]**. ***Cue: If candidate initiates use of TI-28 to determine full out position, state "The full out position is 228 steps."*** STANDARD: Candidate uses Rod Control, 1-HS-85-5111, IN-OUT switch on 1-M-4 to withdraw SBA COMMENTS:	___ SAT ___ UNSAT **Critical Step**
Note to evaluator: Malfunction to fail step counters is to be inserted when the rods reach approximately 100 steps. Candidate may refer to TR-3.1.3.3. If so the required action is to open the Reactor Trip breakers.	
STEP 18.: Open the Reactor Trip Breakers ***Cue: After the reactor trip breakers have been opened state ' We will stop here"*** STANDARD: Candidate determines the Group 1 step counter is not capable of determining the demand position for each of the Shutdown bank a rods within ± 2 steps and opens the reactor trip breakers. COMMENTS:	___ SAT ___ UNSAT **Critical Step** Stop Time____

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit startup in progress following a trip from 100% power due to a generator electrical relay malfunction.
2. Per TI-28, the shutdown banks fully withdrawn positon is 228 steps

INITIATING CUES:

1. You are to withdraw the shutdown banks in accordance with 0-GO-2, Unit Startup From Hot Standby to Reactor Critical, Section 5.1, Step [26.2]
2. Notify the SRO when the shutdown banks are fully withdrawn.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.d
JPM

FILLING AND VENTING EXCESS LETDOWN

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	New	Y		All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Filling and Venting Excess Letdown

JA/TA task:
0040160101(**RO**) Place Excess Letdown in Service

K/A Ratings:

004 Chemical And Volume Control System
A4 Ability to manually operate and/or monitor in the control room (CFR 41.7 / 45.5 to 45.8)
A4.06 Letdown isolation and flow control valves 3.6 / 3.1

Task Standard:

1) Excess letdown is filled and vented in accordance with 1-SO-62-6, Excess Letdown, section 8.1

Evaluation Method : Simulator ___X_____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. This task is to be performed using the simulator in IC 6.
4. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR.___min___ **Local** _____

Tools/Equipment/Procedures Needed:

1-SO-62-6

References:

	Reference	Title	Rev No.
1.	1-SO-62-6	Excess Letdown	16

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Plant is in Mode 3.
2. Excess letdown system has been out of service for maintenance.
3. The work is complete and the system is ready to be filed and vented.
2. You are an extra RO on shift

INITIATING CUES:

1. The SRO has directed you to fill and vent Excess Letdown.

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 1.: Obtain the appropriate procedure. STANDARD: Operator identifies 1-SO-62-6 and goes to section 8.1 "Filling and Venting Excess Letdown". COMMENTS:	___ SAT ___ UNSAT Start Time____
STEP 2.: **NOTE** An AUO at panel 0-L-2 will be needed to observe an increase in the RCDT level. ***Cue: When AUO is directed to 0-L-2, Acknowledge the direction*** STANDARD: An AUO is directed to be stationed at panel 0-L-2 to observe RCDT level. COMMENTS:	___ SAT ___ UNSAT
STEP 3.: **[1] ENSURE [1-FCV-70-143]** CCS water to Excess Letdown Heat Exchanger is **OPEN**. STANDARD: Candidate determines 1-FCV-70-143 is open by the red light lit above 1-HS-70-143A, EXCESS LETDOWN HX INLET ISOL, on 0-M-27B. COMMENTS:	___ SAT ___ UNSAT
STEP 4.: **[2] OPEN [1-FCV-70-85]** Excess Letdown Heat Exchanger CCS Flow Control. STANDARD: Candidate places 1-HS-70-85A, EXCESS LETDOWN HX OUTLET ISOL, to the OPEN position on 0-M-27B and Holds until the valve is full open (red light is lit and the green light light is dark.) COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 5.: **[3] PLACE [1-FCV-62-59]** Excess Letdown 3-way Divert Valve in **DIVERT**. STANDARD: Candidate places 1-HS-62-59, EXCESS LTDN DIVERT, to the DIVERT position on 1-M-5. Right side red light will be lit, left side red light will be dark. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 6.: **[4] OPEN [1-FCV-62-54]** Cold Leg Loop #3 Excess Letdown Isolation Valve. STANDARD: Candidate places 1-HS-62-54A, Excess Letdown Isolation, to the OPEN position on 1-M-5. Red light above handswitch wil be lit. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 7.: **[5] OPEN [1-FCV-62-55]** Excess Letdown Containment Isolation Valve. STANDARD: Candidate places 1-HS-62-55A, Excess Letdown Isolation, to the OPEN position on 1-M-5. Red light above handswitch wil be lit. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 8.: **[6] OPEN [1-FCV-62-56]** Excess Letdown Flow Control Valve. **Note: The procedure contains this note prior to the step** **"NOTE** At the completion of step **[6]** a timed duration will be initiated." ***Cue: After the FCV is opened , state that 5 minutes has elapsed.*** STANDARD: Candidates rotates handswitch 1-HIC-62-56, Excess LTDN Flow Control Valve, to the counter-clockwise to greater than the '0" position on 1-M-5. Evaluator Note: *Temperature and pressure rise will be indicated on 1-TI-62-58 and 1-PI-62-57 respectively* ***Cue: If Excess Letdown Hx Temp alarm comes in, state that the temperature is high but has stabilized.*** COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 9.: **[7] OBSERVE** level increase in RCDT for 5 minutes ***Cue: When AUO contacted, state "The RCDT level has been continuosly increasing for the last 5 minutes"*** STANDARD: AUO is contacted to monitor RCDT level. (RDCT level can also be monitored on the ICS) COMMENTS:	___ SAT ___ UNSAT
STEP 10.: **8] WHEN** 5 minutes has elapsed, **THEN CLOSE [1-FCV-62-56]** Excess Letdown Flow Control Valve. STANDARD: Candidates rotates handswitch 1-HIC-62-56, Excess LTDN Flow Control Valve, on 1-M-5, clockwise to the '0" position. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 11.: **[9] CLOSE** the following valves: VALVE / IDENTIFICATION / INITIALS 1-FCV-62-55 — Excess Letdown Containment Isolation — ____ ____ 1-FCV-62-54 — Cold Leg Loop #3 Excess Letdown Isolation — ____ ____ 1-FCV-70-85 — Excess Letdown Heat Exchanger CCS FCV — ____ ____ ***Cue: If IV is requested, state "An individual will be assigned to performed the IV"*** STANDARD: Candidate closes the the listed valves by placing the respective handswitches (1-HS-62-55 & 1-HS-62-54 on 1-M-5, and 1-HS-70-85 on 0-M-27B) to the CLOSE position. Red light will go dark and green light will be lit. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 12.: **[10] PLACE [1-FCV-62-59]** Excess Letdown 3-way Divert Valve in **NORMAL**. STANDARD: Candidate places 1-HS-62-59, EXCESS LTDN DIVERT, on 1-M-5 to the NORMAL position. Right side red light will be dark, left side red light will be lit. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 13.: Notifcation of completion of 1-SO-62-7 is made to the SRO. STANDARD: SRO is notified that Excess Letdown is filled and vented. COMMENTS:	___ SAT ___ UNSAT Stop Time____

End of JPM

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Plant is in Mode 3.
2. Excess letdown system has been out of service for maintenance.
3. The work is complete and the system is ready to be filled and vented.
2. You are an extra RO on shift.

INITIATING CUES:

1. The SRO has directed you to fill and vent Excess Letdown.
2. You are to notify the SRO when you have completed filling and venting Excess Letdown.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.e

JPM # 75-AP

Steam Generator Tube Rupture
(With MSIV Failure to Close)

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
3	Transfer from WP. Minor enhancements.	N	10/15/94	All	HJ Birch
4	Incorporate Rev B changes. Changed to S/G #1 to force swap of TDAFW steam supply.	Y	9/16/95	All	HJ Birch
pen/ink	Added closed, to verify Atm Relief vlvs in auto. Also enhance standard for MSIV bypasses not a JPM critical task.	N	12/7/95	5, 6	HJ Birch
	E-0 Rev chg only.	N	2/6/97	4	HJ Birch
pen/ink	E-0 revision had no impact	N	8/11/98	All	JP Kearney
pen/ink	E-0 Rev chg only.	N	9/23/99	4	SR Taylor
pen/ink	E-0 Rev 22 chg only. E-3 Rev 12 minor changes	N	09/05/01	ALL	WR Ramsey
5	Incorporated pen/ink changes	N	8/22/02	All	J P Kearney
6	Updated to current revision and IC.	N	8/10/04	All	MG Croteau
7	Updated references and reordered steps to conform to the latest revision to E-3. Deleted Critical Step 9 as this step was deleted from the procedure	N	10/28/2005	ALL	JJ Tricoglou
8	Update to E-3 rev 17, added candidate handout sheet, modified instructions and steps to reflect instruction revision and provide clarity.	N		All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:

Steam Generator Tube Rupture (With MSIV Failure to Close)

JA/TA task # : 0000380501 (**RO**)

K/A Ratings:

038EA1.32 (4.6 - 4.7)

Task Standard:

Steam Generator #1 isolated per E-3.

Evaluation Method : Simulator ___X_____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

==========

COMMENTS

_____

_____

_____

_____

_____

_____

_____

_____

SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize simulator in IC #175.
4. If snapshot unavailable, then Initialize simulator in IC # 16 and Insert the following:
   a. Activate malfunction **IMF TH05A f:8.5** to initiate S/G tube rupture in S/G #1.
   b. Activate malfunction **IMF MS14A f:100**, to fail open S/G Loop 1 MSIV.
   c. Complete the actions of E-0 thru step 12, which will transition the crews to E-3
   d. Complete any required actions in ES-0.5. Including closing the TD AFW LCVs, but do not put handswitches in pull-to-lock.
   e. Complete the first three steps in E-3.
   f. Actuate a MANUAL reactor trip and safety injection, take all actions up through Step 3 of E-3.
5. Freeze the simulator until the operator is ready to begin the JPM.
6. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. 12 mins **Local** _____

Tools/Equipment/Procedures Needed:

E-3

References:

	Reference	Title	Rev No.
A.	E-0	Reactor Trip or Safety Injection	29
B.	ES-0.5	Equipment Verifications	0
C.	E-3	Steam Generator Tube Rupture	17

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Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Unit 1 has experienced a SGTR. A manual safety injection was initiated and E-0 implemented.

E-0 and ES-0.5 have been completed and a transition to E-3 has been made.

Steps 1 through 3 of E-3 have been completed and S/G #1 has been identified as the ruptured S/G.

INITIATING CUES:

You are the CRO and are directed to continue with the actions/responses of E-3, beginning at Step 4.

Inform the SRO when you are ready to determine the Target Core Exit Thermocouple temperature.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 1.: Obtain appropriate copy of procedure. STANDARD: Operator obtains a copy of E-3 and continues at step 4 as directed. COMMENTS:	___ SAT ___ UNSAT Start Time____
STEP 2.: [4.a] ADJUST Ruptured S/Gs atmospheric relief controller setpoint to 87% in AUTO. (1040 psig) STANDARD: Operator adjusts PIC-1-6A to 87% and ensures the controller is in auto. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 3.: [4.b] CHECK Ruptured S/G atmospheric relief handswitch in P-AUTO and CLOSED. STANDARD: Operator checks S/G #1 atmospheric relief HS, FCV-1-6, on 1-M-4 in P-AUTO and checks green light LIT above handswitch. COMMENTS:	___ SAT ___ UNSAT
STEP 4: [4.c] CLOSE TD AFW pump steam supply from Ruptured S/G FCV-1-15 (S/G #1) or FCV-1-16 (S/G #4). STANDARD: Operator closes FCV-1-15 and verifies closed by GREEN light LIT ON 1-M-4 **[Critical part of step].** May verify that FCV-1-16, S/G #4, auto opens or may open valve manually, approx 1 minute later, with red light LIT, not critical). COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 4.: [4.d] VERIFY Ruptured S/G blowdown isolation valves Closed. STANDARD: Operator verifies FCV-1-7 and FCV-1-181 CLOSED as indicated by green indication lights above handswitch 1-HS-1-7/181 on 1-M-4. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
STEP 5.:	[4.e] CLOSE Ruptured S/G MSIV and MSIV Bypass Valve.	___ SAT
Note:	**S/G #1 MSIV will NOT close and the operator MUST go to the RNO column at this time.**	___ UNSAT
STANDARD:	Attempts to close MSIV FSV-1-4. Recognizes the MSIV failed to close, by the red light LIT, and goes to RNO to isolate the S/G.	
COMMENTS:		
STEP 6.:	[4.e.1] CLOSE Intact S/G MSIVs and MSIV bypass valves.	___ SAT
Cue:	***When operator dispatches an AUO to close SG #1 MSIV with EA-1-1 acknowledge the direction.***	___ UNSAT
STANDARD:	Operator closes intact S/G MSIVs and verifies their bypasses closed as indicated by blue and green lights LIT on HS-1-11,-22, & -29 MSIVs and Green lights LIT on HS-1-147,-148,-149,-150 bypasses. [Ensuring the bypasses closed is not a JPM critical task since valves are already closed.]	**Critical Step**
COMMENTS:		
STEP 7.:	[4.e.2] Dispatch operator to perform EA-1-1, Closing MSIVs Locally, for any MSIV or MSIV bypass valve which fails to close.	___ SAT
Cue:	***If operator dispatches an AUO to close SG #1 MSIV with EA-1-1 acknowledge the direction.***	___ UNSAT
STANDARD:	Operator dispatches an AUO to close MSIV FSV-1-4 using EA-1-1.	
COMMENTS:		
STEP 8.:	[4.e.3] Isolate steam header • PLACE Condenser steam dumps in OFF • ENSURE steam dump valves CLOSED.	___ SAT ___ UNSAT
STANDARD:	Operator verifies Condenser Steam dumps are closed as indicated by green position indicating lights LIT on 1-XX-55-4A and places the handswitch(s) 1-HS-1-103A and/or 1-HS-1-103B in the OFF position on 1-M-4.	**Critical Step**
COMMENTS:		

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 9.: CLOSE FCV-47-180, HP Steam Seal Supply Isolation STANDARD: Operator Verifies Steam seals closed as indicated by green light LIT on 1-HS-47-180 OR AUO dispatched to close local isolation valve on 1-M-2. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 10.: ENSURE FCV-47-181, HP Steam Seal Supply Bypass CLOSED. STANDARD: Operator Verifies HP steam to MFW pump turbine closed as indicated by green light LIT on 1-HS-47-181 on 1-M-2. COMMENTS:	___ SAT ___ UNSAT
STEP 11.: CLOSE MSR HP Steam supply isolation valves. STANDARD: Operator closes HP steam to MSRs as indicated by green position indicating lights LIT on 1-XX-1-145.s on 1-M-4. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 12.: DISPATCH operator to locally isolate steam header USING EA-1-4, Local Isolation of the Steam header in the Turb Bldg.. ***Cue:*** ***When operator dispatches an AUO to isolate steam header USING EA-1-4, acknowledge the direction and provide feedback that the traps have been isolated per EA-1-4.*** STANDARD: Operator directs AUO to isolate the steam header traps per EA-1-4, Local Isolation of the Steam Header in Turb. Building. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 13.: [4.e.4] USE intact S/Gs atmospheric relief for steam dumps. STANDARD: Operator addresses that the atmospheric reliefs will now have to use for RCS temp control. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 14.: [5] MONITOR Ruptured S/G level: a. CHECK narrow range level greater than 10% [25% ADV] b. WHEN ruptured S/G level is greater than 10% [25% ADV] THEN STOP feed flow to Ruptured S/G. 1) STOP feed flow to ruptured S/G 2) ENSURE Turbine Driven AFW LCV for ruptured S/G in CLOSE PULL TO LOCK. ***Cue:*** ***IF level is <10 % state level is now 15%.*** STANDARD: Operator continues AFW flow to SG #1 until the level is ≥ 10% on LIS-3-42, 39, 38. THEN the AFW flow is isolated to the SG #1 by closing the MD AFW and TD AFW level control valves. MD AFW valves closed by depressing the push button on 1-HS-3-164A, then rotating the switch counterclockwise to the MANUAL or MANUAL BYPASS position and placing switch to RAMP CLOSED TD AFW valve closed by momentarily placing 1-HS-3-174 to the CLOSE position and pulling out to PULL TO LOCK . *Note: When valves are closed the green lights on XX-3-148 for SG #1 will be LIT.* COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 15.: [6] **VERIFY** Rupture S/G ISOLATED from Intact S/G(s): a. **CHECK** either of the following conditions SATISFIED: • Rupture S/G MSIVs and MSIV bypass valves CLOSED **OR** • MSIVs and MSIV bypass valves CLOSED on Intact S/Gs to be used for cooldown. STANDARD: Operator determines the intact S/G MSIVs are by the green lights LIT on handswitches 1-HS-1-11A, 1-HS-1-22A, and 1-HS-1-29A. Determines intact S/G MSIV bypasses are closed by green lights LIT on 1-HS-1-148, 1-HS-1-149, 1-HS-1-150 COMMENTS:	___ SAT ___ UNSAT
STEP 16.: b. **Check** S/G #1 or #4 S/G ruptured. STANDARD: Operator determines S/G #1 is ruptured and continues to the next sub-step (6.c.). COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 17.: c. **Check** TDAFW pump steam supply from ruptured S/G ISOLATED: • FCV-1-15 (S/G #1) or FCV-1-16 (S/G #4) CLOSED. STANDARD: Operator verifies FCV-1-15 closed by GREEN light LIT on handswitch. 1-HS-1-15A on 1-M-4 (Closed earlier in the JPM) COMMENTS:	___ SAT ___ UNSAT
STEP 18.: [7] CHECK Ruptured S/G pressure greater than 550 psig (Unit 1) or 425 psig (Unit 2) STANDARD: Operator determines the ruptured S/G (S/G #1) is greater than 500 psig as indicated on 1-PI-11-2A, 1-PI-11-2B, and 1-PI-11-5 COMMENTS:	___ SAT ___ UNSAT
STEP 19.: Notify SRO that the #1 S/G is isolated. STANDARD: Operator informs SRO that he/she isready to determine the Target Core Exit Thermocouple temperature. COMMENTS:	___ SAT ___ UNSAT Stop Time____

END OF JPM

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Unit 1 has experienced a SGTR. A manual safety injection was initiated and E-0 implemented.

E-0 and ES-0.5 have been completed and a transition to E-3 has been made.

Steps 1 through 3 of E-3 have been completed and S/G #1 has been identified as the ruptured S/G.

INITIATING CUES:

You are the CRO and are directed to continue with the actions/responses of E-3, beginning at Step 4.

Inform the SRO when you are ready to determine the Target Core Exit Thermocouple temperature.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.f

JPM 22-AP2

CALIBRATE POWER RANGE NUCLEAR INSTRUMENTATION

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Created from JPM 22.	Y	8/2/04	All	MG Croteau
1	Updated References	N	10/5/05	All	JJ Tricoglou
2	Updated References. Minor format changes.	N	2/15/07	All	RH Evans
3	Added detail to steps and standards			All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Calibrate the Power Range Nuclear Instrumentation

JA/TA task:
0150050201 (**RO**)

K/A Ratings:
015000 A1.01 (3.5 - 3.8) 015020 G9 (3.4 - 3.3)
015020 G13 (3.3 - 3.6) 015000 A4.02 (3.9 - 3.9)

Task Standard:
1) Each channel of Power Range instrumentation (on its power range "A" drawer) will indicate within acceptance criteria tolerances of the calorimetric.
2) The unit is not tripped by a power range neutron flux rate trip.

Evaluation Method : Simulator ___X_____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

_____

_____

_____

_____

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_____

_____

_____

SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. This task is to be performed using the simulator in IC #16.
   [Rx Power should be ~ 100 %]
4. **MANUALLY ADJUST N-41 and N-43 power to between 100.5 and 101.0%. ENSURE all other NIS reactor power indications are between 99.5 and 100.5%.**
5. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. 21 min **Local** _____

Tools/Equipment/Procedures Needed:

0-SI-OPS-092-078.0, Sections 3.0, 6.1, 6.2, Appendix D

References:

	Reference	Title	Rev No.
1.	0-SI-OPS-092-078.0	Power Range Neutron Flux Channel Calibration By Heat Balance Comparison	18

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The unit is at steady state conditions with all NIS channels and LEFM operable.

INITIATING CUES:

1. You are the CRO and the US has directed you to perform 0-SI-OPS-092-078.0.
2. Section 4.0 of 0-SI-OPS-092-078.0 has been completed.
3. Notify the US when the SI has been completed and any necessary adjustments have been made.

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 1.: Obtain the appropriate procedure. STANDARD: Operator identifies 0-SI-OPS-092-078.0 and goes to section 6.0 "Performance". COMMENTS:	___ SAT ___ UNSAT Start Time____
STEP 2.: **[1]** **VERIFY** availability of LEFM calorimetric power: [a] CHECK LEFM status NORMAL on ICS (NSSS and BOP) Current Calorimetric Data screen. YES ❑ NO ❑ [b] CHECK LEFM Core Thermal Power (ICS point U2118) showing good (green) data. YES ❑ NO ❑ [c] CHECK LEFM MFW header temperature (ICS point T8502MA) greater than or equal to 250°F. YES ❑ NO ❑ STANDARD: Operator pulls up LEFM ICS screen and points, then annotates procedure that LEFM calorimetric power is available. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 3.: **[2]** **IF** LEFM calorimetric power NOT available OR ICS computer NOT available, THEN…. **PERFORM** the following: **[a]** **ENTER** applicable action of TRM 3.3.3.15. **[b]** **ENSURE** work order initiated as required. **[c]** IF LEFM calorimetric power CANNOT be restored in time to complete this surveillance, THEN **PERFORM** the following: 1. **REDUCE** reactor power to 98.7% (3411 MWt) or less **USING** U1118 (if available) or NIS. 2. **WHEN** reactor power is less than 98.7%, **THEN** **CONTINUE** this instruction using alternate power indications as specified below. STANDARD: Operator marks the 4 sub steps (a, b, c.1, & c.2) N/A because the LEFM was determined to be available in the previous step. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT

STEP 4.: **[3]** **DETERMINE** reactor core power level by performing the applicable appendix below.

CONDITION	APPENDIX	✓
RCS ΔT greater than 15% and LEFM core thermal power (U2118) available (step [1] acceptance criteria met)	A	❑
RCS ΔT between 15% and 40% and LEFM core thermal power (U2118) NOT available	B	❑
RCS ΔT greater than 40% LEFM core thermal power (U2118) NOT available but ICS point U1118 is available	C	❑
RCS ΔT greater than 40% and ICS core thermal power indication (U1118 and U2118) NOT available	D	❑

AND RECORD below the (N/A power if using printout from ICS)
% Rated Core Thermal Power = _____%

Cue: ***Inform the operator that the ICS printer is not available.***

STANDARD: Operator determines Appendix A. is applicable to determine the reactor power level.

COMMENTS:

___ SAT

___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
EVALUATOR NOTE: The following steps are from Appendix A.	
STEP 5.: **[1] ENSURE** S/G blowdown flows are updated by performing the following functions on ICS: [a] SELECT "NSS & BOP". [b] SELECT "CALORIMETRIC FUNCTION MENU". [c] SELECT "UPDATE OPERATOR ENTERED BLOWDOWN FLOW" **PERFORM** one of the following options (N/A option not used): 1. **IF** using computer point **[F2261A]** S/G Total Blowdown Flow, **THEN** (a) **VERIFY** point value is updating (changing values). (b) **IF** computer point is NOT updating, **THEN** **NOTIFY** MIG that point is not updating and initiate WO. 2. **IF** manually updating blowdown flows, **THEN** [a] **RECORD** local readings for S/G blowdown flow: RCS LOOP / BLOWDOWN FLOW (GPM): 1 — FI-1-152; 2 — FI-1-156; 3 — FI-1-160; 4 — FI-1-164 [b] **ENSURE** blowdown flows above entered in ICS. [c] **IF** blowdown flows were updated, **THEN** **WAIT** a minimum of 10 minutes to allow program to accurately reflect new value.	___ SAT ___ UNSAT
Cue: ***The blowdown flow point is updating and manual blowdown flows are not required.***	
STANDARD: Operator determines blowdown flow is updating and marks substeps 1b, all of substep 2 N/A.	
COMMENTS:	

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 6.: **[2]** **SELECT** "DISPLAY CURRENT CALORIMETRIC DATA" on ICS Calorimetric menu **AND** PERFORM one of the following: **[a]** RECORD the following: LEFM Core Thermal Power (U2118) _____ Mwt Percent Rated Core Thermal Power (U1127) _____ % OR **[b]** PRINT power level and NIS values **AND** ATTACH report to this instruction. ***Cue: Inform the operator that the printer is not available.*** STANDARD: Operator records U2118 and U1127 values. COMMENTS:	___ SAT ___ UNSAT
EVALUATOR NOTE: The operator should transistion back to section 6.1 at the completion of Appendx A. The following steps are from Section 6.1.	
STEP 7.: **[4]** **RECORD** "AS FOUND" power level from each of the four NIS A Channel drawers. STANDARD: Operator records NIS power range readings from the A channel drawers on 1-M-13 on 1-XI-92-5005B, 5006B, 5007B, and 5008B COMMENTS:	___ SAT ___ UNSAT

POWER RANGE CHANNEL	"AS-FOUND" NIS POWER (%)
N-41 (XI-92-5005B)	
N-42 (XI-92-5006B)	
N-43 (XI-92-5007B)	
N-44 (XI-92-5008B)	

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 8.: **[5]** **COMPARE** NIS indication with core thermal power level. **[a]** **CHECK** appropriate box to indicate whether the following "as-found" ACCEPTANCE CRITERIA were satisfied. ACCEPTANCE CRITERIA: The indicated NIS power level recorded in step [4] is equal to the core thermal power level recorded in step [3] or as listed on the printed copy to within ± 2.0 percent. NIS Channel N-41 ❑ YES ❑ NO ❑ N/A NIS Channel N-42 ❑ YES ❑ NO ❑ N/A NIS Channel N-43 ❑ YES ❑ NO ❑ N/A NIS Channel N-44 ❑ YES ❑ NO ❑ N/A STANDARD: Operator **CHECKS** to determine if NIS channels are within ± 2%. Then, Checks **YES** for all NIS channels. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 9.: **[b]** **IF** any NIS channels were inoperable during the performance of this instruction, THEN: **NOTIFY** applicable unit SRO that this SI must be performed on all inoperable NIS channels when they are returned to service. STANDARD: Since all were operable per the initiating conditions, the operator marks this substep N/A. COMMENTS:	___ SAT ___ UNSAT
STEP 10.: **[6]** **VERIFY** that all NIS channel indications are within ±3 percent of the determined core thermal power level. YES ❑ NO ❑ STANDARD: Operator checks the YES box. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 11.: **[7]** **IF** a NIS channel was more than 3 percent in error in the non-conservative direction (core thermal > NIS) THEN **NOTIFY** Engineering to determine if the calibration error impacts operability of the NIS high flux trip. STANDARD: Operator marks this step N/A. COMMENTS:	___ SAT ___ UNSAT
STEP 12.: **[8]** **CHECK** appropriate box to indicate whether the following "as-found" acceptance criteria were satisfied: **ACCEPTANCE CRITERIA:** The indicated NIS power level recorded in step **[4]** is less than or equal to 100.5 percent. YES / NO / N/A NIS Channel N-41 ❑ ❑ ❑ NIS Channel N-42 ❑ ❑ ❑ NIS Channel N-43 ❑ ❑ ❑ NIS Channel N-44 ❑ ❑ ❑ STANDARD: The operator checks **NO** for N-41 and N-43 and checks **YES** for other 2 channels. COMMENTS:	___ SAT ___ UNSAT
STEP 13.: **[9]** **IF** any channel does not meet acceptance criteria, OR NIS Channel adjustment is desired ,**THEN** **PERFORM** adjustment of section 6.2 **AND/OR** **REDUCE** reactor power not to exceed 100 percent. STANDARD: Operator continues on to section 6.2. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
EVALUATOR NOTE: The following steps are from Section 6.2	
STEP 14.: **[1]** **IF** calculated average power in Section 6.1 *or on printed copy* and differs by more than 3% from average RCS delta T, **THEN** **NOTIFY** Engineering to determine the cause. STANDARD: Operator determines calculated average power and average delta T does not differ by more than 3% by comparing calculated average power against delta T from ICS or use 1-M-5 delta T instruments and N/As this step. COMMENTS:	___ SAT ___ UNSAT
STEP 15.: **[2]** **VERIFY** reactor power has remained constant (± 0.5%) since performance of section 6.1. STANDARD: Operator ensures power has remained stable since he/she took the readings. COMMENTS:	___ SAT ___ UNSAT
STEP 16.: **[3]** **IF** NIS power range channel is inoperable **THEN** **REQUEST** Instrument Maintenance to Bypass inoperable NIS channel in accordance with 0-PI-IXX-092-001.0. STANDARD: Operator N/As this step since all power range instruments are operable. COMMENTS:	___ SAT ___ UNSAT
STEP 17.: **[4]** **ENSURE** all NIS power range channels are operable or bypassed with no bistables tripped. STANDARD: Operator verifies no bistables tripped by monitoring Trip status panel, 1-XX-55-5, bistable llights on 1-M-5. (Initial conditions had all channels operable) COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 18.: **[5] ENSURE** rod control system is in MANUAL in accordance with 0-SO-85-1 STANDARD: Operator turns HS-85-5110, ROD CONTROL MODE SELECTOR, to the MANUAL position. Should refer to 0-SO-85-1. A laminated sheet is available. COMMENTS:	___ SAT ___ UNSAT
Evaluator Note: Procedure contains a note stating ***Steps [6] through [9] must be completed on one NIS channel before proceeding to the next channel. Operator must adjust the N-41 and N-43, may choose to adjust all 4 channels.***	
STEP 19.: **[6] IF** rate trip exists (or occurs) on the NIS channel being calibrated, **THEN** **CLEAR** that channels trip signal (momentarily set RATE MODE switch to RESET position) and annunciator XA-55-6A,. "NC-41U or NC-41K NIS POWER RANGE HIGH NEUTRON FLUX RATE," before proceeding to the next NIS channel. NIS Channel N-41 ❑ Trip Cleared ❑ N/A NIS Channel N-42 ❑ ❑ NIS Channel N-43 ❑ ❑ NIS Channel N-44 ❑ ❑ STANDARD: Operator verifies NO rate trip signals are in on ANY of the PR and the annunciator is clear. *** CRITICAL PORTION: If rate trip occurs the operator resets it prior to continuing to the next channel.** COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 20.: **[7]** **ADJUS**T gain potentiometer on associated channel's power range B drawer to bring that channel's indicated power level to within ± .5% of the calorimetric power recorded in section 6.1 or listed on the printed copy. **AND** **ENSURE** gain potentiometer latch re-engaged. Adjustment Required / N/A NIS Channel N-41 ❑ ❑ NIS Channel N-42 ❑ ❑ NIS Channel N-43 ❑ ❑ NIS Channel N-44 ❑ ❑ STANDARD: **Operator must adjust N41 and N43 to satisfy criteria.** The operator should repeat the above step prior to adjusting the second PR. **(only the bold portion of the standard is critical)** COMMENTS:	N-41 adjustment ___ SAT ___ UNSAT N-43 adjustment ___ SAT ___ UNSAT **Critical Step**
STEP 21.: **[8]** **IF** fine gain potentiometer on power range B drawer will not provide enough adjustment to satisfy the calibration requirements of step **[7]**, **THEN REQUEST** Instrument Maintenance to adjust the coarse gain (resistor R312, Coarse Level Adjust) inside the applicable power range drawer, **AND** **READJUST** fine gain potentiometer to achieve calibration requirements specified in step **[7]**. Adjustment Required / N/A NIS Channel N-41 ❑ ❑ NIS Channel N-42 ❑ ❑ NIS Channel N-43 ❑ ❑ NIS Channel N-44 ❑ ❑ STANDARD: Operator marks step as N/a because the fine gain will provide the needed adjustment. COMMENTS:	

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 22.: **[9]** **IF** additional NIS channel(s) require calibration, **THEN** RETURN to step **[6]** *Evaluator note: Procedure step [6] is JPM step 19* STANDARD: Operator may return to step [6] to adjust either N41 or N43 or other 2 channels if desired. After adjustments to NIs is complete, the operator continues to the next step COMMENTS:	N-41 adjustment ___ SAT ___ UNSAT N-43 adjustment ___ SAT ___ UNSAT
STEP 23.: **[10]** **WHEN** NIS adjustments have been completed, **THEN** **RECORD** the "as left" power level from NIS power range channels. STANDARD: Operator records the readings from each of the 4 PR NIs. COMMENTS:	___ SAT ___ UNSAT
STEP 24.: **[11]** **IF** NIS power range channel is inoperable, **THEN** **REQUEST** Instrument Maintenance to remove Bypass on inoperable NIS channel in accordance with 0-PI-IXX-092-001.0. STANDARD: Operator N/As this step since all NIs are operable. COMMENTS:	___ SAT ___ UNSAT

POWER RANGE CHANNEL	"AS-LEFT" NIS POWER (%)
N-41 (XI-92-5005B)	
N-42 (XI-92-5006B)	
N-43 (XI-92-5007B)	
N-44 (XI-92-5008B)	

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 25.: **[12] CHECK** appropriate box to indicate whether the following "as left" acceptance criteria were satisfied. ACCEPTANCE CRITERIA: The indicated NIS power level recorded in step [10] is within ± 0.5 percent the calorimetric power level recorded in Section 6.1 or as listed on the printed copy. NIS Channel N-41 ☐ YES ☐ NO ☐ N/A NIS Channel N-42 ☐ ☐ ☐ NIS Channel N-43 ☐ ☐ ☐ NIS Channel N-44 ☐ ☐ ☐ STANDARD: Operator checks **YES** box for N41, N42, N43, & N44, all being within ± .5% (of 100%). COMMENTS:	___ SAT ___ UNSAT
STEP 26.: **[13] IF** acceptance criteria were NOT satisfied for any NIS channel, **THEN NOTIFY** Shift Manager that acceptance criteria were NOT met and another performance of this test is necessary, subsequently action 2 of LCO 3.3.1.1 (Unit 1) or LCO 3.3.1 (Unit 2) must be satisfied if the other performance does not meet acceptance criteria. STANDARD: Operator N/As this step. COMMENTS:	___ SAT ___ UNSAT
STEP 27.: **[14] RETURN** rod control system to AUTO in accordance with 0-SO-85-1. ***Cue:*** **When operator acknowledges the 3 minute wait in the note preceding the step, *Inform the operator that 3 minutes have elapsed.*** STANDARD: Operator places control rod bank selector switch to the AUTO after waiting at least 3 minutes for signal to decay. Should refer to 0-SO-85-1. A laminated sheet is available. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD		SAT/UNSAT
STEP 28.:	Notify SRO that the NIS channels have been calibrated.	___ SAT
STANDARD:	Operator notifies the SRO that the SI has been completed and all power range nuclear instruments have been adjusted to meet the acceptance criteria.	___ UNSAT Stop Time____
COMMENTS:		

END of JPM

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

The unit is at steady state conditions with all NIS channels and LEFM operable.

INITIATING CUES:

You are the CRO and the US has directed you to perform 0-SI-OPS-092-078.0.

Section 4.0 of 0-SI-OPS-092-078.0 has been completed.

Notify the US when the SI has been completed and any necessary adjustments have been made.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.g

JPM # 46-1

SHUTDOWN THE DIESEL GENERATORS

(1A-A & 1B-B)

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Initial Issue			ALL	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Shutdown the Diesel Generators (1A-A & 1B-B)

JA/TA task # : 0640060101 (**RO**)

K/A Ratings:

064K1.01	(4.1/4.4)	064A1.08	(3.1/3.4)	064A2.04	(2.7/3.0)
064A2.08	(2.5/2.7)	064A2.13	(2.6/2.8)	064A3.03	(3.4/3.3)
064A3.06	(3.3/3.4)	064A4.06	(3.9/3.9)	064A4.01	(4.0/4.3)

Task Standard:
Diesel Generators "1A-A" & "1B-B" have been shutdown in accordance with EA-82-1.

Evaluation Method : Simulator ___X_____ In-Plant _____

==========

Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

==========

COMMENTS

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Critical steps identified by an asterisk (*)
2. Sequenced steps identified by an "s"
3. Any UNSAT requires comments
4. Initialize simulator in IC #5. Trip the reactor, use 1-M-1 handswitch to emergency start the diesels generators.
5. **When directed to perform section 4.2, set BOTH RF EGR11 and EGR12 to TEST and THEN BOTH back to NORMAL** to reset the D/G start signal. Set **EGR07** and **EGR 08** to **RESET** to reset the 86LOR for the DGs
6. Acknowledge/reset alarms on all panels.
7. This scenario will require a console operator.
8. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. 25 mins **Local** _____

Tools/Equipment/Procedures Needed:
EA-82-1,

References:

	Reference	Title	Rev No.
1.	EA-82-1	Placing D/Gs in Standby	2

==========

READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The Unit tripped due to an inadvertent safety injection.
2. The safety injection has been terminated and the plant as been stabilized in MODE 3.
3. The Diesel Generators have been running unloaded for 2 hours and 40 minutes minutes.
4. The status file is complete and there are no outstanding configuration log entries present for the Diesel Generators.

INITIATING CUES:

1. You are the Unit 1 CRO and have been directed to shutdown the Unit 1 Diesel Generators per EA-82-1.
2. All Shutdown Boards are energized by offsite power and the SI signal has been reset.
3. Inform the SM when 1A and 1B D/Gs have been shutdown per EA-82-1.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 1.: Obtain appropriate copy of procedure. STANDARD: Operator obtains a copy of EA-82-1 and procedes to Section 4.1. COMMENTS:	___ SAT ___ UNSAT Start Time____
STEP 2.: **1. SELECT** D/G to be shut down: • D/G 1A-A _____ • D/G 1B-B _____ • D/G 2A-A _____ • D/G 2B-B _____. STANDARD: Operator checks 1A-A and 1B-B diesel generators being selected. COMMENTS:	___ SAT ___ UNSAT
STEP 3.: 2. **IF** EA-202-1 was NOT used to unload the selected D/G, **THEN** **DISPATCH** AUO to perform Section 4.2 to reset selected D/G emergency start signal. ***Cue:*** ***Role Play as AUO and accept EA-82-1, Section 4.2. Report that you will report to him when complete.*** **Set BOTH RF EGR11 and EGR12 to TEST and THEN BOTH back NORMAL** to reset the D/G start signal. Set **EGR07** and **EGR 08** to **RESET** ***Cue:*** ***After performing the above, Role Play as AUO and report EA-82-1, Section 4.2 complete.*** STANDARD: Operator dispatches AUO with EA-82-1, section 4.2. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 4.: 3. **GO TO** appropriate section based on table below: STANDARD: Operator determines that section 4.3 is the appropriate section since the D/G has been running unloaded more than 2 hours. (also checks the 1A-A and 1B-B boxes.) COMMENTS:	___ SAT ___ UNSAT

IF SELECTED D/G	THEN GO TO SECTION	D/G 1A-A √	D/G 1B-B √	D/G 2A-A √	D/G 2B-B √
Unloaded greater than 2 hours.	Section 4.3, Purging D/G Combustibles.	☐	☐	☐	☐
Unloaded less than 2 hours.	Section 4.4, Shutting Down D/G.	☐	☐	☐	☐

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
NOTE: **The following steps are from section 4.3.** STEP 5.: 1. **POSITION** selected D/G MODE SELECTOR switch to PARALLEL: D/G | MODE SELECTOR SWITCH | PARALLEL √ 1A-A | HS-82-18 | ☐ 1B-B | HS-82-48 | ☐ 2A-A | HS-82-78 | ☐ 2B-B | HS-82-108 | ☐ STANDARD: Operator places 0-HS-82-18, DG 1A-A MODE SELECTOR, to PARALLEL. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 6.: 2. **TURN** selected D/G SYNCHRONIZE switch to SYN: D/G | SYNCHRONIZE SWITCH | SYN √ 1A-A | 1-HS-57-47 | ☐ 1B-B | 1-HS-57-74 | ☐ 2A-A | 2-HS-57-47 | ☐ 2B-B | 2-HS-57-74 | ☐ STANDARD: Operator places 0-HS-57-47 DG 1A-A SYNCHRONIZE, to SYN. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 7.: 3. **ENSURE** selected D/G VOLTAGE REGULATOR switch in PULL-P-AUTO: D/G | VOLTAGE REGULATOR SWITCH | PULL-P-AUTO √ 1A-A | HS-82-12 | ☐ 1B-B | HS-82-42 | ☐ 2A-A | HS-82-72 | ☐ 2B-B | HS-82-102 | ☐ STANDARD: Operator verifies 0-HS-82-12, DG 1A-A VOLTAGE REGULATOR to PULL-P-AUTO. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 8.: 4. **ADJUST** running voltage to match incoming voltage **USING** D/G VOLTAGE REGULATOR switch: STANDARD: Operator adjusts 0-HS-82-12, DG 1A-A VOLTAGE REGULATOR, to match voltages on 0-EI-82-4 and 0-EI-82-5. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 9.: 5. **ADJUST** selected D/G SPEED CONTROL switch UNTIL associated synchroscope rotating slowly in FAST direction: STANDARD: Operator adjust 0-HS-82-13 until synchroscope 0-XI-82-1 is rotating slowly in the fast direction. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 10.: 6. **WHEN** synchroscope needle is at 12 o'clock" position, **THEN CLOSE** selected D/G output breaker: STANDARD: Operator places 1-HS-57-46A to the close position when synchroscope 0-XI-82-1 is at the 12 0'clock position resulting in the closing of the DG electrical breaker as indicated by Red Light LIT above the breaker handswitch. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

D/G	INCOMING VOLTAGE	RUNNING VOLTAGE	VOLTAGE MATCHED √
1A-A	EI-82-4	EI-82-5	☐
1B-B	EI-82-34	EI-82-35	☐
2A-A	EI-82-64	EI-82-65	☐
2B-B	EI-82-94	EI-82-95	☐

D/G	SPEED CONTROL SWITCH	SYNCHROSCOPE	SLOWLY IN FAST DIRECTION √
1A-A	HS-82-13	XI-82-1	☐
1B-B	HS-82-43	XI-82-31	☐
2A-A	HS-82-73	XI-82-61	☐
2B-B	HS-82-103	XI-82-91	☐

D/G	SYNCHROSCOPE	D/G OUTPUT BREAKER	CLOSED √
1A-A	XI-82-1	1-HS-57-46A	☐
1B-B	XI-82-31	1-HS-57-73A	☐
2A-A	XI-82-61	2-HS-57-46A	☐
2B-B	XI-82-91	2-HS-57-73A	☐

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 11.: 7. **ADJUST** selected D/G SPEED CONTROL switch to raise D/G MW load to 1.6 MW:	___ SAT ___ UNSAT **Critical Step**

D/G	SPEED CONTROL SWITCH	D/G MEGAWATTS	1.6 MW √
1A-A	HS-82-13	EI-82-10A	☐
1B-B	HS-82-43	EI-82-40A	☐
2A-A	HS-82-73	EI-82-70A	☐
2B-B	HS-82-103	EI-82-100A	☐

STANDARD: Operator intermittently places 0-HS-82-13 to RAISE until the MW loading on 0-EI-82-10A increases to 1.6 mw.

COMMENTS:

STEP 12.: 8. **MAINTAIN** +1 MVAR (OUT) for selected D/G, **WHILE** paralleled with offsite power:	___ SAT ___ UNSAT **Critical Step**

D/G	D/G VOLTAGE REGULATOR SWITCH	D/G MEGAVARS	+1 MVAR √
1A-A	HS-82-12	EI-82-11A	☐
1B-B	HS-82-42	EI-82-41A	☐
2A-A	HS-82-72	EI-82-71A	☐
2B-B	HS-82-102	EI-82-101A	☐

STANDARD: Operator places 0-HS-82-12 to RAISE to establish the MVAR loading on 0-EI-82-11A to +1 MVAR outgoing, then maintains this MVAR loading as the DG is loaded by intermittently placing 0-HS-82-12 to RAISE.

COMMENTS:

STEP 13.: 9. **DISPATCH** an AUO to selected D/G building to monitor stack exhaust WHILE loading selected D/G.	___ SAT ___ UNSAT
Cue: ***Role Play as AUO acknowledge the direction to monitor the D/G 1A-A exhaust stack.***	
STANDARD: Operator dispatches an AUO to the D/G building to monitor D/G 1A-A exhaust.	
COMMENTS:	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 14.: 10. **LOAD** selected D/G to 4.0 MW **USING** its D/G SPEED CONTROL switch WHILE observing the following guidelines: a. **IF** stack exhaust smoke becomes twice as dense as normal during loading, **THEN** **STOP** D/G loading UNTIL condition clears. b. **WHEN** exhaust smoke returns to normal, **THEN** **CONTINUE** D/G loading. c. **DO NOT CONTINUE** this procedure UNTIL the following conditions are met: • D/G load at 4.0 MW **AND** • Stack exhaust NORMAL. ***Cue:*** ***When the AUO is asked, state the exhaust has cleared up and now appears normal.*** STANDARD: Operator loads the D/G 1A-A to 4.0 MW by intermittently placing 0-HS-82-13 to RAISE until the MW loading on 0-EI-82-10A increases to 4.0 mw. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 15.: 11. **ADJUST** selected D/G SPEED CONTROL switch to lower D/G MW load to 0.5 MW: STANDARD: Operator places 0-HS-82-13 to LOWER until the MW loading on 0-EI-82-10A reduces to 0.5 mw. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 16.: 12. **ADJUST** selected D/G VOLTAGE REGULATOR switch to lower D/G MVAR load to zero: STANDARD: Operator places 0-HS-82-12 to LOWER until the MVAR loading on 0-EI-82-11A reduces to 0. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

D/G	SPEED CONTROL SWITCH	0.5 MW √
1A-A	HS-82-13	☐
1B-B	HS-82-43	☐
2A-A	HS-82-73	☐
2B-B	HS-82-103	☐

D/G	D/G VOLTAGE REGULATOR SWITCH	D/G MEGAVARS	0 MVAR √
1A-A	HS-82-12	EI-82-11A	☐
1B-B	HS-82-42	EI-82-41A	☐
2A-A	HS-82-72	EI-82-71A	☐
2B-B	HS-82-102	EI-82-101A	☐

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 17.: 13. **PLACE** selected D/G output breaker control switch to TRIP: D/G | D/G OUTPUT BREAKER | TRIPPED √ 1A-A | 1-HS-57-46A | ☐ 1B-B | 1-HS-57-73A | ☐ 2A-A | 2-HS-57-46A | ☐ 2B-B | 2-HS-57-73A | ☐ STANDARD: Operator places 1-HS -57-46A to the TRIP position. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 18.: 14. **GO TO** Section 4.4 to shut down D/G. STANDARD: Operator goes to section 4.4 to shut down the D/G 1A-A. COMMENTS:	___ SAT ___ UNSAT
Evaluator Note: The following steps are from Section 4.4	
STEP 19.: 1. **VERIFY** selected D/G unloaded with output breaker open: D/G | D/G OUTPUT BREAKER | BREAKER HANDSWITCH | UNLOADED & OUTPUT BREAKER OPEN √ 1A-A | 1912 | 1-HS-54-46A | ☐ 1B-B | 1914 | 1-HS-57-73A | ☐ 2A-A | 1922 | 2-HS-54-46A | ☐ 2B-B | 1924 | 2-HS-57-73A | ☐ STANDARD: Operator verifies D/G 1A-a output breaker open by green light LIT over Handswitch 1-HS-54-46A. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 20.: 2. **PLACE** selected D/G(s) CONTROL START-STOP switch to STOP: D/G | D/G CONTROL START-STOP SWITCH | STOP √ 1A-A | HS-82-14 | ☐ 1B-B | HS-82-44 | ☐ 2A-A | HS-82-74 | ☐ 2B-B | HS-82-104 | ☐ **NOTE: Operator may elect to turn the synchroscope on to verify D/G goes to idle speed when HS is placed to stop.** STANDARD: Operator places handswitch 0-HS-82-14, on panel 0-M-26, to the STOP. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 21.: 3. **WHEN** selected D/G(s) has run at idle speed (400 rpm) for 10 minutes, **THEN** **VERIFY** D/G shuts down and speed drops to zero:	___ SAT ___ UNSAT

D/G	ZERO RPM √
1A-A	☐
1B-B	☐
2A-A	☐
2B-B	☐

NOTE: **Override AN:OVRDN[905] to OFF to clear the 40 RPM running alarm.**

Cue: ***When alarm clears, CUE: 10 minutes have elapsed***

Cue: ***If AUO notified, play role and state: D/G is now at zero speed.***

STANDARD: Operator addresses need to monitor this step. They may contact the AUO to have him/her contact the UO when speed is zero.

COMMENTS:

STEP 22.: 4. **ENSURE** selected D/G MODE SELECTOR switch in **PUSH IN UNIT** position:

___ SAT
___ UNSAT
Critical Step

D/G	MODE SELECTOR SWITCH	PUSH IN UNIT √
1A-A	1-HS-82-18	☐
1B-B	1-HS-82-48	☐
2A-A	2-HS-82-78	☐
2B-B	2-HS-82-108	☐

STANDARD: Operator places handswitch 1-HS-82-18, on panel 0-M-26, to be in PUSH TO UNIT position.

COMMENTS:

STEP 23.: 5. **ENSURE** selected D/G SYNCHRONIZE switch is in OFF:

___ SAT
___ UNSAT
Critical Step

D/G	SYNCHRONIZE SWITCH	OFF √
1A-A	1-HS-57-47	☐
1B-B	1-HS-57-74	☐
2A-A	2-HS-57-47	☐
2B-B	2-HS-57-74	☐

STANDARD: Operator placess handswitch 1-HS-57-47, on panel 0-M-26, in the OFF position.

COMMENTS:

Job Performance Checklist:

STEP/STANDARD | **SAT/UNSAT**

STEP 24.: 6. **WHEN** selected D/G(s) have cooled,
THEN
ENSURE ERCW valves to D/G heat exchangers closed:

D/G	ERCW TO D/G HEAT EXCHANGERS	CLOSED √
1A-A	1-HS-67-66A	☐
	1-HS-67-68A	☐
1B-B	1-HS-67-67A	☐
	1-HS-67-65A	☐
2A-A	2-HS-67-66A	☐
	2-HS-67-68A	☐
2B-B	2-HS-67-67A	☐
	2-HS-67-65A	☐

Cue: ***Play role of AUO: I will monitor D/G temperature and ensure DG 1A-A ERCW valves are closed when D/G reaches ambient temp.***

STANDARD: Operator addresses need to monitor this step. They may contact the AUO to have him/her monitor D/G temperatures and shut the ERCW valve, 1-FCV-67-66, when the D/G is at ambient conditions.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

STEP 25.: 7. **GO TO** Section 4.1, step in effect.

STANDARD: Operator returns to section 4.1 and determines the other DG needs to be shutdown.

COMMENTS:

___ SAT
___ UNSAT

STEP 26.: 1. **POSITION** selected D/G MODE SELECTOR switch to PARALLEL:

D/G	MODE SELECTOR SWITCH	PARALLEL √
1A-A	HS-82-18	☐
1B-B	HS-82-48	☐
2A-A	HS-82-78	☐
2B-B	HS-82-108	☐

STANDARD: Operator places 0-HS-82-48, DG 1B-B MODE SELECTOR, to PARALLEL.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 27.: 2. **TURN** selected D/G SYNCHRONIZE switch to SYN: STANDARD: Operator places 0-HS-57-74 DG 1B-B SYNCHRONIZE, to SYN. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 28.: 3. **ENSURE** selected D/G VOLTAGE REGULATOR switch in PULL-P-AUTO: STANDARD: Operator verifies 0-HS-82-42, DG 1B-B VOLTAGE REGULATOR to PULL-P-AUTO. COMMENTS:	___ SAT ___ UNSAT
STEP 29.: 4. **ADJUST** running voltage to match incoming voltage **USING** D/G VOLTAGE REGULATOR switch: STANDARD: Operator adjusts 0-HS-82-42, DG 1B-B VOLTAGE REGULATOR, to match voltages on 0-EI-82-34 and 0-EI-82-35. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

D/G	SYNCHRONIZE SWITCH	SYN √
1A-A	1-HS-57-47	☐
1B-B	1-HS-57-74	☐
2A-A	2-HS-57-47	☐
2B-B	2-HS-57-74	☐

D/G	VOLTAGE REGULATOR SWITCH	PULL-P-AUTO √
1A-A	HS-82-12	☐
1B-B	HS-82-42	☐
2A-A	HS-82-72	☐
2B-B	HS-82-102	☐

D/G	INCOMING VOLTAGE	RUNNING VOLTAGE	VOLTAGE MATCHED √
1A-A	EI-82-4	EI-82-5	☐
1B-B	EI-82-34	EI-82-35	☐
2A-A	EI-82-64	EI-82-65	☐
2B-B	EI-82-94	EI-82-95	☐

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT

STEP 30.: 5. **ADJUST** selected D/G SPEED CONTROL switch UNTIL associated synchroscope rotating slowly in FAST direction:

D/G	SPEED CONTROL SWITCH	SYNCHROSCOPE	SLOWLY IN FAST DIRECTION √
1A-A	HS-82-13	XI-82-1	☐
1B-B	HS-82-43	XI-82-31	☐
2A-A	HS-82-73	XI-82-61	☐
2B-B	HS-82-103	XI-82-91	☐

STANDARD: Operator adjust 0-HS-82-43 until synchroscope 0-XI-82-31 is rotating slowly in the fast direction.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

STEP 31.: 6. **WHEN** synchroscope needle is at 12 o'clock" position, **THEN CLOSE** selected D/G output breaker:

D/G	SYNCHROSCOPE	D/G OUTPUT BREAKER	CLOSED √
1A-A	XI-82-1	1-HS-57-46A	☐
1B-B	XI-82-31	1-HS-57-73A	☐
2A-A	XI-82-61	2-HS-57-46A	☐
2B-B	XI-82-91	2-HS-57-73A	☐

STANDARD: Operator places 1-HS-57-73A to the close position when synchroscope 0-XI-82-31 is at the 12 0'clock position resulting in the closing of the DG electrical breaker as indicated by Red Light LIT above the breaker handswitch.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

STEP 32.: 7. **ADJUST** selected D/G SPEED CONTROL switch to raise D/G MW load to 1.6 MW:

D/G	SPEED CONTROL SWITCH	D/G MEGAWATTS	1.6 MW √
1A-A	HS-82-13	EI-82-10A	☐
1B-B	HS-82-43	EI-82-40A	☐
2A-A	HS-82-73	EI-82-70A	☐
2B-B	HS-82-103	EI-82-100A	☐

STANDARD: Operator intermittently places 0-HS-82-43 to RAISE until the MW loading on 0-EI-82-40A increases to 1.6 mw.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
STEP 33.:	8. **MAINTAIN** +1 MVAR (OUT) for selected D/G, **WHILE** paralleled with offsite power:	___ SAT ___ UNSAT **Critical Step**

D/G	D/G VOLTAGE REGULATOR SWITCH	D/G MEGAVARS	+1 MVAR √
1A-A	HS-82-12	EI-82-11A	☐
1B-B	HS-82-42	EI-82-41A	☐
2A-A	HS-82-72	EI-82-71A	☐
2B-B	HS-82-102	EI-82-101A	☐

STANDARD: Operator places 0-HS-82-42 to RAISE to establish the MVAR loading on 0-EI-82-41A to +1 MVAR outgoing, then maintains this MVAR loading as the DG is loaded by intermittently placing 0-HS-82-42 to RAISE.

COMMENTS:

STEP 34.:	9. **DISPATCH** an AUO to selected D/G building to monitor stack exhaust WHILE loading selected D/G. ***Cue:*** ***Role Play as AUO acknowledge the direction to monitor the D/G 1B-B exhaust stack.*** STANDARD: Operator dispatches an AUO to the D/G building to monitor D/G 1B-B exhaust. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 35.:	10. **LOAD** selected D/G to 4.0 MW **USING** its D/G SPEED CONTROL switch WHILE observing the following guidelines: a. **IF** stack exhaust smoke becomes twice as dense as normal during loading, **THEN** **STOP** D/G loading UNTIL condition clears. b. **WHEN** exhaust smoke returns to normal, **THEN** **CONTINUE** D/G loading. c. **DO NOT CONTINUE** this procedure UNTIL the following conditions are met: • D/G load at 4.0 MW **AND** • Stack exhaust NORMAL. ***Cue:*** ***When the AUO is asked, state the exhaust has cleared up and now appears normal.*** STANDARD: Operator loads the D/G 1B-B to 4.0 MW by intermittently placing 0-HS-82-43 to RAISE until the MW loading on 0-EI-82-40A increases to 4.0 mw. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 36.: 11. **ADJUST** selected D/G SPEED CONTROL switch to lower D/G MW load to 0.5 MW:	___ SAT ___ UNSAT **Critical Step**

D/G	SPEED CONTROL SWITCH	0.5 MW √
1A-A	HS-82-13	☐
1B-B	HS-82-43	☐
2A-A	HS-82-73	☐
2B-B	HS-82-103	☐

STANDARD: Operator places 0-HS-82-43 to LOWER until the MW loading on 0-EI-82-40A reduces to 0.5 mw.

COMMENTS:

STEP 37.: 12. **ADJUST** selected D/G VOLTAGE REGULATOR switch to lower D/G MVAR load to zero:	___ SAT ___ UNSAT **Critical Step**

D/G	D/G VOLTAGE REGULATOR SWITCH	D/G MEGAVARS	0 MVAR √
1A-A	HS-82-12	EI-82-11A	☐
1B-B	HS-82-42	EI-82-41A	☐
2A-A	HS-82-72	EI-82-71A	☐
2B-B	HS-82-102	EI-82-101A	☐

STANDARD: Operator places 0-HS-82-42 to LOWER until the MVAR loading on 0-EI-82-41A reduces to 0.

COMMENTS:

STEP 38.: 13. **PLACE** selected D/G output breaker control switch to TRIP:	___ SAT ___ UNSAT **Critical Step**

D/G	D/G OUTPUT BREAKER	TRIPPED √
1A-A	1-HS-57-46A	☐
1B-B	1-HS-57-73A	☐
2A-A	2-HS-57-46A	☐
2B-B	2-HS-57-73A	☐

STANDARD: Operator places 1-HS -57-73A to the TRIP position.

COMMENTS:

STEP 39.: 14. **GO TO** Section 4.4 to shut down D/G.	___ SAT
STANDARD: Operator goes to section 4.4 to shut down the D/G 1B-B.	___ UNSAT
COMMENTS:	
Evaluator Note: The following steps are from Section 4.4	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 40.: 1. **VERIFY** selected D/G unloaded with output breaker open: D/G: 1A-A — D/G OUTPUT BREAKER: 1912 — BREAKER HANDSWITCH: 1-HS-54-46A — UNLOADED & OUTPUT BREAKER OPEN √: ☐ D/G: 1B-B — D/G OUTPUT BREAKER: 1914 — BREAKER HANDSWITCH: 1-HS-57-73A — UNLOADED & OUTPUT BREAKER OPEN √: ☐ D/G: 2A-A — D/G OUTPUT BREAKER: 1922 — BREAKER HANDSWITCH: 2-HS-54-46A — UNLOADED & OUTPUT BREAKER OPEN √: ☐ D/G: 2B-B — D/G OUTPUT BREAKER: 1924 — BREAKER HANDSWITCH: 2-HS-57-73A — UNLOADED & OUTPUT BREAKER OPEN √: ☐ STANDARD: Operator verifies D/G 1B-B output breaker open by green light LIT over Handswitch 1-HS-54-73A. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 41.: 2. **PLACE** selected D/G(s) CONTROL START-STOP switch to STOP: D/G: 1A-A — D/G CONTROL START-STOP SWITCH: HS-82-14 — STOP √: ☐ D/G: 1B-B — D/G CONTROL START-STOP SWITCH: HS-82-44 — STOP √: ☐ D/G: 2A-A — D/G CONTROL START-STOP SWITCH: HS-82-74 — STOP √: ☐ D/G: 2B-B — D/G CONTROL START-STOP SWITCH: HS-82-104 — STOP √: ☐ **NOTE: Operator may elect to turn the synchroscope on to verify D/G goes to idle speed when HS is placed to stop.** STANDARD: Operator places handswitch 0-HS-82-44, on panel 0-M-26, to the STOP position and the green indicating light above the D/G mimic is illuminated. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT

STEP 42.: 3. **WHEN** selected D/G(s) has run at idle speed (400 rpm) for 10 minutes, **THEN**
VERIFY D/G shuts down and speed drops to zero:

D/G	ZERO RPM √
1A-A	☐
1B-B	☐
2A-A	☐
2B-B	☐

NOTE: **Override AN:OVRDN[940] to OFF to clear the 40 RPM running alarm.**

Cue: ***When alarm clears, CUE: 10 minutes have elapsed***

Cue: ***If AUO notified, play role and state: D/G is now at zero speed.***

STANDARD: Operator addresses need to monitor this step. They may contact the AUO to have him/her contact the UO when speed is zero.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

STEP 43.: 4. **ENSURE** selected D/G MODE SELECTOR switch in **PUSH IN UNIT** position:

D/G	MODE SELECTOR SWITCH	PUSH IN UNIT √
1A-A	1-HS-82-18	☐
1B-B	1-HS-82-48	☐
2A-A	2-HS-82-78	☐
2B-B	2-HS-82-108	☐

STANDARD: Operator places handswitch 1-HS-82-48, on panel 0-M-26, to be in PUSH TO UNIT position.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

STEP 44.: 5. **ENSURE** selected D/G SYNCHRONIZE switch is in OFF:

D/G	SYNCHRONIZE SWITCH	OFF √
1A-A	1-HS-57-47	☐
1B-B	1-HS-57-74	☐
2A-A	2-HS-57-47	☐
2B-B	2-HS-57-74	☐

STANDARD: Operator placess handswitch 1-HS-57-74, on panel 0-M-26, in the OFF position.

COMMENTS:

___ SAT
___ UNSAT
Critical Step

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 45.: 6. **WHEN** selected D/G(s) have cooled, **THEN** **ENSURE** ERCW valves to D/G heat exchangers closed:	___ SAT ___ UNSAT

D/G	ERCW TO D/G HEAT EXCHANGERS	CLOSED √
1A-A	1-HS-67-66A	☐
	1-HS-67-68A	☐
1B-B	1-HS-67-67A	☐
	1-HS-67-65A	☐
2A-A	2-HS-67-66A	☐
	2-HS-67-68A	☐
2B-B	2-HS-67-67A	☐
	2-HS-67-65A	☐

Cue: ***Play role of AUO: I will monitor D/G temperature and ensure DG 1B-B ERCW valves are closed when D/G reaches ambient temp.***

STANDARD: Operator addresses need to monitor this step. They may contact the AUO to have him/her monitor D/G temperatures and shut the ERCW valve, 1-FCV-67-67, when the D/G is at ambient conditions.

COMMENTS:

STEP 46.: 7. **GO TO** Section 4.1, step in effect. STANDARD: Operator returns to section 4.1 and transitions out of EA-82.1. COMMENTS:	___ SAT ___ UNSAT
STEP 47.: Inform the SM that the 1A-A and 1B-B D/Gs has been shutdown and the AUOs are monitoring the D/Gs until they cool. STANDARD: Operator informs the SM that the D/Gs have been shutdown and the AUOs are monitoring the D/Gs until they cool. COMMENTS:	___ SAT ___ UNSAT Stop Time____

End of JPM

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The Unit tripped due to an inadvertent safety injection.
2. The safety injection has been terminated and the plant as been stabilized in MODE 3.
3. The Diesel Generators have been running unloaded for 2hours and 40 minutes minutes.
4. The status file is complete and there are no outstanding configuration log entries present for the Diesel Generators.

INITIATING CUES:

1. You are the Unit 1 CRO and have been directed to shutdown the Unit 1 Diesel Generators per EA-82-1.
2. All Shutdown Boards are energized by offsite power and the SI signal has been reset.
3. Inform the SM when 1A and 1B D/Gs have been shutdown per EA-82-1.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

B.1.h
JPM # 146

ERCW Supply Header 1A Failure to Auxiliary Building

PREPARED/ REVISED BY: _____ Date/_____

VALIDATED BY: * _____ Date/_____

APPROVED BY: _____ Date/_____
(Operations Training Manager)

CONCURRED: ** _____ Date/_____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	New JPM	Y	10/15/98	All	JP Kearney
pen/ink	Incorporate performance comments step 7 (added note) and step 14 (clarified standard)	N	10/25/99	6,8	SR Taylor
pen/ink	AOP-M.01 rev update only	N	8/30/00	3	SR Taylor
pen/ink	Updated simulator setup due to IC changes, updated references, Updated due to removal of FCV-67-130	Y	2/5/01	2, 4	GS Poteet
pen/ink	AOP-M.01 rev update, clarification on pg 5, 7	N	12/10/01	4	L. Pauley
1	Updated to current revision and IC.	N	8/24/04	All	MG Croteau
2	Updated to AOP-M.01 Revision 19, setupmodified instructions,	Y		5-12	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task: Respond to a Loss of Essential Raw Cooling Water **JA/TA task # :** 0000620501 **(RO)**

K/A Ratings:

062AK3.03	(4.0/4.2)	062AA1.02	(3.2/3.6)	062AA2.02	(2.9/3.6)
062AA2.01	(2.9/3.5)	062AA1.07	(2.9/3.0)		

Task Standard:
Identify and Isolate ERCW leak on ERCW Supply Header 1A

Evaluation Method : Simulator ___X___ In-Plant _____

==========

Performer: _____
NAME Start time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish time _____

Evaluator: _____/_____
SIGNATURE DATE

==========

COMMENTS

_____

_____

_____

_____

_____

_____

_____

SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize in IC-184, place simulator in run when ready to start.
4. If unavailable then IC-16, Place simulator in run, Ensure all available containment coolers are in service, **Ensure 1A CCP is running, 1B is secured.** Then insert **Malfunction RW10A to 30%. Run long enough to get the flooded alarm.** FREEZE until ready to conduct JPM.
5. When directed by performer, insert the following:
   Override annunciator AN_OV_603 to ON –come in when control power transferred per Appendix F
   Change remote function RWRV81 to CLOSE (close 1-FCV-67-81)
   Change remote function RWRV127 to CLOSE (close 1-FCV-67-127)
   Change remote function RWRV147 to CLOSE (close 1-FCV-67-147)
   Change remote function IAR15A to OFF (A ACA compressor to safe stop)
6. Ensure operator performs the following required actions for **SELF-CHECKING**;
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR 20 min. **Local** _____

Tools/Equipment/Procedures Needed:
AOP-M.01

REFERENCES:

	Reference	Title	Rev No.
A.	AOP-M.01	Loss of ERCW	19

==========

READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be simulated for this task When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:
Unit 1 is at 100% RTP steady state operations when an ERCW header rupture occurs.

INITIATING CUES:
You are the Unit 1 CRO and the US/SRO has instructed you to take the appropriate actions directed by the AOP to isolate the leak. Notify the US/SRO when all appropriate actions are complete.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 1.: Operator determines the appropriate procedure to be used. STANDARD: Operator has determined that the appropriate procedure for use is AOP-M.01. COMMENTS:	___ SAT ___ UNSAT Start_____
STEP 2.: Diagnose the failure: STANDARD: Operator determines that he/she should go to AOP M.01, section 2.2 based on high flow ERCW Supply Header 1A. COMMENTS:	___ SAT ___ UNSAT
STEP 3.: 1. **DISPATCH** personnel to locate rupture. ***CUE:*** ***When AUO contacted, acknowledge the direction given*** STANDARD: Operator directs AUO to locate the source of the leak/rupture. COMMENTS:	___ SAT ___ UNSAT
STEP 4.: 2. **DISPATCH** operators with radios to perform Appendix F, Rx MOV Bd ERCW Valves. [Aux Bldg, 749' elev, Rx MOV Boards]. ***CUE:*** ***When AUO contacted, acknowledge the direction given.*** **NOTE:** **Override annunciators AN_OV_603 to ON to transfer control power to Auxiliary and close ACBs for Appendix R valves listed on Appendix F.** STANDARD: Operator dispatches an AUO to perform Appendix F. COMMENTS:	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 5.: 3. **ENSURE** 1B-B CCP is running. STANDARD: Operator starts CCP 1B-B using 1-HS-62-104A on panel 1-M-5 COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 6.: 4. **STOP** and **LOCK OUT** the following: • 1A-A CCP • 1A-A SI Pump STANDARD: Operator places 1A-A CCP handswitch, 1-HS-62-108A, to STOP and pulled to PULL TO LOCK on panel 1-M-5 and places 1A-A SI Pump handswitch 1-HS-63-10A to STOP and pulled to PULL TO LOCK on panel 1-M-6 COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 7.: 5. **DISPATCH** operator to place Aux Air Compressor A-A in SAFE-STOP. [AB el. 734', Refuel Floor] **NOTE:** **Change remote function IAR15A to OFF to place the A Aux Control Air Compressor in Safe-Stop.** ***CUE:*** ***AUO reports that the A Aux Control Air Compressor has been place in Safe-Stop.*** STANDARD: Operator dispatches an AUO to place the A Aux Control Air Compressor in Safe-Stop. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 8.: 6. **START** additional containment coolers as required to maintain containment temperature **USING** Appendix Q, Additional Containment Cooling. ***CUE:*** ***When operator addresses the need to evaluate the containment temperatures, state "Another unit operator will monitor containment temperatures and start additional Lower Compartment Cooling Fans and CRDM Fans as required."*** STANDARD: Operator addresses the requirement to monitor containment temperatures and initiates action to start additional Lower Compartment Cooling Fans and CRDM fans as required. COMMENTS:	___ SAT ___ UNSAT
STEP 9.: 7. **NOTIFY** local operator to CLOSE 1-FCV-67-81, Aux Bldg Hdr 1A Isol Valve [Rx MOV Bd 1A2-A Compt 3C] ***CUE:*** ***When AUO is directed to close the valve, acknowledge the direction*** **NOTE:** **Change remote function RWRV81 to CLOSE to close valve. Operator should determine that closing this valve will cause break flow to decrease to zero as indicated on 1-FI-67-81 [NOT Critical].** ***CUE:*** ***As AUO report that 1-FCV-67-81 is closed.*** STANDARD: Operator directs AUO at the Rx MOV Board to close valve 1-FCV-67-81 COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 10.: 8. **CHECK** rupture ISOLATED. *[RNO column]* ***IF*** *rupture is upstream of 1-FCV-67-81,* ***THEN GO TO*** *Section 2.7.* STANDARD: Operator determines the leak is isolated header flow and pressure indications and continues with the instruction, Does NOT transition to section 2.7 COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 11.: 9. **NOTIFY** local operator to CLOSE the following valves: • 1-FCV-67-147, Hdr 1A to Hdr 2B Isol Valve [Rx MOV Bd 1A2-A Compt. 9A] • 1-FCV-67-127, Hdr 1A Supply to Space Coolers, A/C, & Air Compressors [Rx MOV Bd 1A2-A Compt. 7A] **NOTE:** **Change remote function RWRV127 to CLOSE to close 1-FCV-67-127 and RWRV147 to CLOSE to close 1-FCV-67-147** ***CUE:*** ***As AUO report that 1-FCV-67-127 and 1-FCV- 67-147 have been closed closed.*** STANDARD: Operator directs AUO at the Rx MOV Board to close valves 1-FCV-67-147 and -FCV-67-127 COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 12.: 10. **ENSURE** the following valves are CLOSED: • 1-FCV-67-125, Containment Spray HX 1A ERCW Supply [0-M-27A] • 1-FCV-67-99, Lower Compt Cooler 1C Supply Isol [0-M-27A] • 1-FCV-67-107, Lower Compt Cooler 1A Supply Isol [0-M-27A] STANDARD: Operator 1-HS-67-99A and 1-HS-67-107A to the close position. **[Critical]** Verifies 1-FCV-67-125 closed by green light lit above Handswitch 1-HS-67-125A.[Not critical – valve already closed] COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 13.: 11. **DISPATCH** an operator to CLOSE the following valves: • 1-67-524A, Supply Hdr 1A to Inst Room Cooler 1A [el. 669' Penetration Room, above 1B-B Disch Ductwork] • 1-67-521A, Hypochlorite Treatment Circulation Line Isolation [elev 669' TDAFWP Rm N Wall near AFW 1-FCV-3-136A] • 1-67-675, ERCW Isol to A Shutdown Board Room A/C Water Chiller [elev 714' near AFW LCV 1-LCV-3-148] ***CUE:*** ***As AUO report that 1-67-524A, 1-67-521A, and 1-67-675 have been closed.*** STANDARD: Operator dispatches an AUO to close valves 1-67-524A, 1-67-521A, and 1-67-675. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 14.: 12. **OPERATE** ERCW Pumps as necessary to perform the following: • CONTROL pressure between 78 psig and 124 psig. • MAINTAIN support of system loads. STANDARD: Operator verifies system pressure between 78 and 124 psig COMMENTS:	___ SAT ___ UNSAT
STEP 15.: 13. **REFER TO** the following: • Appendix A, Affected Equipment List (Header 1A) • Appendix P, Potential Tech Spec Impacts. ***CUE:*** ***The US and the STA will review the affected equipment list.*** STANDARD: Operator addresses the requirement to review the affected equipment list. COMMENTS:	___ SAT ___ UNSAT
STEP 16.: 14. **IF** ERCW chemical injection in progress, **THEN PERFORM** the following: a. NOTIFY Chem Lab to ensure ERCW chemical injection is terminated. b. NOTIFY Environmental to evaluate consequences of spilling chemically-treated water. ***CUE:*** ***When Chem Lab is contacted, state "No ERCW Chemical Injection is in progress."*** ***CUE:*** ***When Enviromental is contacted, state " We will evaluate the consequences of the spill."*** STANDARD: Operator notifies the Chem Lab to ensure ERCW chemical injection is terminated and notifies Environmental to evaluate the consequences of the spill. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 17.: 15. **ENSURE** all breakers reopened **USING** Appendix F, Rx MOV Board ERCW Valves. ***CUE:*** ***The AUO reports that all ACBs have been reopened per Appendix F.*** **NOTE:** **Override annunciators AN_OV_603 to OFF (or delete overrides) to transfer control power to Normal and open ACBs for Appendix R valves listed on Appendix F.** STANDARD: Operator directs an AUO to reopen the ACBs per Appendix F. COMMENTS:	___ SAT ___ UNSAT
STEP 18.: 16. **EVALUATE** plant equipment which may have been damaged by water spray or flooding due to header rupture. STANDARD: Operator identifies the need to evaluate equipment damage. COMMENTS:	___ SAT ___ UNSAT
STEP 19.: 17. **GO TO** appropriate plant procedure. STANDARD: Operator informs SRO that the procedure is complete. COMMENTS:	___ SAT ___ UNSAT Stop_____

End of JPM

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be simulated for this task When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Unit 1 is at 100% RTP steady state operations when an ERCW header rupture occurs.

INITIATING CUES:

You are the Unit 1 CRO and the US/SRO has instructed you to take the appropriate actions directed by the AOP to isolate the leak. Notify the US/SRO when all appropriate actions are complete.

Facility: Sequoyah 1 & 2		Date of Examination:	1/2008
Examination Level (circle one):	(RO) / SRO	Operating Test Number:	NRC

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N,R	2.1.1 Knowledge of conduct of operations requirements. (CFR: 41.10 / 45.13) 3.7 / 3.8 Determine license status Active / Inactive
Conduct of Operations	D,S	2.1.33 Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. (CFR: 43.2 / 43.3 / 45.3) 3.4 / 4.0 Perform Shift Log SI-2 SG Level Instrumentation (JPM 176)
Equipment Control		
Radiation Control	D,R	2.3.10 Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure. (CFR: 43.4 / 45.10) 2.9 / 3.3 Survey Map (JPM 166)
Emergency Plan	N,S	2.4.39 Knowledge of the RO's responsiblities in emergency plan implementation (CFR: 45.11) 3.3 / 3.1 Respond to a Medical Emergency

NOTE: All items (5 total are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

*Type Codes & Criteria:

(C)ontrol room
Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ for SROs & RO retakes) ✓
(N)ew or (M)odified from bank (≥ 1) ✓
(P)revious 2 exams (≤ 1; randomly selected) 0 ✓
(S)imulator

RO Admin JPM Summary

A1a The applicant will evaluate the status of licensed operators work history to determine if license is active or inactive.

A1b The applicant will be required to recognize a required Technical Specification entry while completing and a portion of the daily shift surveillance instruction.

A2

A3 The applicant will use a survey map to determine anti-contamination clothing requirements, stay time, and radiation levels in area.

A4 The applicant will respond to a medical emergency report in accordance with EPIP-10, Emergency Medical Response instruction.

Facility: Sequoyah 1 & 2		Date of Examination:	1/2008
Examination Level (circle one):	RO (SRO)	Operating Test Number:	NRC

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N,R	2.1.1 Knowledge of conduct of operations requirements. (CFR: 41.10 / 45.13) 3.7 / 3.8 Determine license status Active / Inactive
Conduct of Operations	D,S	2.1.33 Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. (CFR: 43.2 / 43.3 / 45.3) 3.4 / 4.0 Perform Shift Log SI-2 SG Level Instrumentation (JPM 176)
Equipment Control	N,R	2.2.18 Knowledge of the process for managing maintenance activities during shutdown operations. (CFR: 43.5 / 45.13) 3.6 Containment Closure Time
Radiation Control	D,R	2.3.10 Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure. (CFR: 43.4 / 45.10) 2.9 / 3.3 Survey Map (JPM 166)
Emergency Plan	D,S	2.4.41 Knowledge of the emergency action level thresholds and classifications.(CFR: 43.5 / 45.11) 4.1 Classify the REP Degraded Core with Possible Loss of Coolable Geometry and Likely Cntmt Failure (JPM 109)

NOTE: All items (5 total are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

*Type Codes & Criteria:

(C)ontrol room
Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) ✓
(N)ew or (M)odified from bank (≥ 1) ✓
(P)revious 2 exams (≤ 1; randomly selected) 0 ✓
(S)imulator

SRO Admin JPM Summary

A1a The applicant will evaluate the status of licensed operators work history to determine if license is active or inactive.

A1b The applicant will be required to recognize a required Technical Specification entry while completing and a portion of the daily shift surveillance instruction.

A2 The applicant will evaluate a request to open a containment penetration during a refuel outage and determine the requirements.

A3 The applicant will use a survey map to determine anti-contamination clothing requirements, stay time, and radiation levels in area.

A4 The applicant will evaluate conditions for entry into the E-Plan, determine the proper classification, protection action recommendation, and make required notifications.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

A.1.a
JPM

Determine License Status Active / Inactive

Original Signatures on File

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	New	Y		All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:

Determine License Status Active / Inactive

JA/TA task:

3410970302 (**RO**)

K/A Ratings:

2.1.1 Knowledge of conduct of operations requirements. (CFR: 41.10 / 45.13) 3.7 / 3.8

Determine license status Active / Inactive

Task Standard:

1) Candidate determines the correct status of each of the three Reactor Operator licenses. Operator A and C are active, Operator B is Inactive

Evaluation Method : Simulator ___X_____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Any UNSAT requires comments
2. This task can be performed in a classroom setting.

Validation Time: CR.___min___ Local _____

Tools/Equipment/Procedures Needed:

OPDP-1, Conduct of Operations

References:

	Reference	Title	Rev No.
1.	OPDP-1	Conduct of Operations	8

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Three Reactor Operators have the following history:

- All three have off-shift assignments at the plant, are current in License Operator Requal Training and have had a medical examination in the past 2 years.
- None of the 3 have worked any shift since 12/31/07
- Active/Inactive status and time on shift since October 1, 2007 is as follows for each of the Reactor Operators:
  - Operator A - License was active on Ocober 1,2007
    10/02/07 - worked 0700-1900 shift as Unit 2 OATC
    10/03/07 - worked 0700-1900 shift as Unit 1 OATC
    10/04/07 - worked 0700-1900 shift as Unit 1 CRO
    10/05/07 - worked 0700-1900 shift as Unit 2 OATC
    10/14/07 - worked 1900-0700 shift as Unit 2 OATC
    11/17/07 - worked 1900-0700 shift as Unit 1 CRO
  - Operator B - License was active on Ocober 1,2007
    10/28/07 - worked 0700-1900 shift as Unit 1 OATC
    11/03/07 - worked 0700-1900 shift as Unit 1 OATC
    11/05/07 - worked 0700-1900 shift as Unit 1 OATC
    11/14/07 - worked 1900-0700 shift as Unit 1 OATC
  - Operator C - License was inactive on Ocober 1,2007
    11/12/07 thru 11/16/07 worked 40 hours in parallel on Unit 1 and completed all requirements for license reactivation.
    12/10/07 - worked 0700-1900 shift as Unit 1 OATC
    12/12/07 - worked 0700-1900 shift as Unit 2 CRO
    12/14/07 - worked 1900-0700 shift as Unit 2 OATC
    12/31/07 - worked 1900-0700 shift as Unit 1 OATC

INITIATING CUES:

You are to determine if each of the Reactor Operators is eligible to work the Unit 1 OATC position on the 0700 - 1900 shift on January 31, 2008.

Job Performance Checklist

STEP/STANDARD		SAT/UNSAT
STEP 1.:	Determine if the Active / Inactive status of Operator A license	Start Time____
STANDARD:	Candidate determines the license is Active because the operator worked the required 5 twelve hour shifts in a license postion during the previous quarter.	___ SAT ___ UNSAT **Critical Step**
COMMENTS:		
STEP 2.:	Determine if the Active / Inactive status of Operator B license	___ SAT
STANDARD:	Candidate determines the license is Inactive because the operator did not work the required 5 twelve hour shifts in a license postion during the previous quarter	___ UNSAT **Critical Step**
COMMENTS:		
STEP 3.:	Determine if the Active / Inactive status of Operator C license	___ SAT
STANDARD:	Candidate determines the license is Active because the license was reactivated in the previous quarter there is not a requirement to complete the normally required 5 twelve hour shifts in a license postion during the quarter. *(i.e. could complete the reactivation during the last week of a quarter, thus the opportunity would not be available to work the 5 shifts)*	___ UNSAT **Critical Step** Stop Time____
COMMENTS:		

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Three Reactor Operators have the following history:

- All three have off-shift assignments at the plant, are current in License Operator Requal Training and have had a medical examination in the past 2 years.
- None of the 3 have worked any shift since 12/31/07
- Active/Inactive status and time on shift since October 1, 2007 is as follows for each of the Reactor Operators:
  - Operator A - License was active on Ocober 1,2007
    10/02/07 - worked 0700-1900 shift as Unit 2 OATC
    10/03/07 - worked 0700-1900 shift as Unit 1 OATC
    10/04/07 - worked 0700-1900 shift as Unit 1 CRO
    10/05/07 - worked 0700-1900 shift as Unit 2 OATC
    10/14/07 - worked 1900-0700 shift as Unit 2 OATC
    11/17/07 - worked 1900-0700 shift as Unit 1 CRO
  - Operator B - License was active on Ocober 1,2007
    10/28/07 - worked 0700-1900 shift as Unit 1 OATC
    11/03/07 - worked 0700-1900 shift as Unit 1 OATC
    11/05/07 - worked 0700-1900 shift as Unit 1 OATC
    11/14/07 - worked 1900-0700 shift as Unit 1 OATC
  - Operator C - License was inactive on Ocober 1,2007
    11/12/07 thru 11/16/07 worked 40 hours in parallel on Unit 1 and completed all requirements for license reactivation.
    12/10/07 - worked 0700-1900 shift as Unit 1 OATC
    12/12/07 - worked 0700-1900 shift as Unit 2 CRO
    12/14/07 - worked 1900-0700 shift as Unit 2 OATC
    12/31/07 - worked 1900-0700 shift as Unit 1 OATC

INITIATING CUES:

You are to determine if each of the Reactor Operators is eligible to work the Unit 1 OATC position on the 0700 - 1900 shift on January 31, 2008.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

A.1.b

JPM # 176

Perform Shift Log (SI-2) – S/G Level Instrumentation

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Initial Issue	Y	11/19/03	All	SR Taylor
1	Revised to current revision of SI				

V - Specify if the JPM change will require another Validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task	**JA/TA task #**
Know the conditions and limitations in the facility license	0001100301 (RO)
Know the conditions and limitations in the facility license	0001100302 (SRO)
Implement TS Requirements	0001430302 (SRO)
Implement the requirements of SPP-8.1 for test directors	0001760301 (RO)
Implement the requirements of SPP-8.1 for test directors	0001760302 (SRO)
Implement Technical Specification requirements	1190150301 (RO)
Perform specific system and integrated plant procedures during all modes of plant operations	3410140301 (RO)

K/A Ratings:

2.1.10 (2.7/3.9)	2.1.12 (2.9/4.0)	2.1.23 (3.9/4.0)
2.2.12 (3.0/3.4)	2.2.22 (3.4/4.1)	

Task Standard:

Properly evaluate S/G Water level Instrumentation channels per 1-SI-OPS-000-002.0, document deviations, and evaluate associated Tech Specs.

Evaluation Method : Simulator ___X____ In-Plant _____

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Performer: _____
NAME Start time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

_____

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_____

SPECIAL INSTRUCTIONS TO EVALUATOR:

1. A **Critical step** is identified in bold type in the SAT/UNSAT column.
2. Sequenced steps identified by an "s"
3. Any UNSAT requires comments
4. Reset the Simulator to 100% Bol IC.
5. Use Overide **ZAOLI3110 to 37.5,** available via the menu path ***I/O OVRD/Rx Reactor Control/Analog Outputs*** to create an obvious 7-8% S/G Level Deviation Between 1-LI-3-110 and 1-LI-3-106 and 1-LI 3-107 on S/G #4. Ensure that 1-LI-3-106 and 1-LI-3-107 agree reasonably close and overide 1-LI-3-110 to indicate ~7-8% **lower** than normal as required to ensure a 7-8% deviation from both of the other indicators. Insert , **ZAOLI351 to 37.5, and ZAOLI355 to 41 to cause other SG level indications to show some variance. Validate meter reading to ensure only SG #4 wil fail channel check, minor adjustments in overrides may be needed.**
6. Task should begin at the Simulator.
7. Insure operator performs the following required actions for **SELF-CHECKING**;
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR _____ Local _____

Tools/Equipment/Procedures Needed:

1-SI-OPS-000-002.0 with Appendix A only. Complete SI, as required, and Appendix A through page 2 of Appendix A.

Copy of SPP-8.1 available for reference and a **blank copy of a Chronological Test Log (CTL)** to provide to the JPM performer.

Copy of Unit 1 Tech Specs Availible for reference.

REFERENCES:

	Reference	Title	Rev No.
A.	1-SI-OPS-000-002.0	Shift Log	88
B.	TECH SPEC	Tech Spec Unit 1	191
C.	SPP-8.1	Conduct of Testing	4

Task Number	Task Title	Cont TRN
0001100301	Know the conditions and limitations in the facility license	N
0001100302	Know the conditions and limitations in the facility license	
0001430302	Implement TS Requirements	
0001760301	Implement the requirements of SPP-8.1 for test directors	
0001760302	Implement the requirements of SPP-8.1 for test directors	
1190150301	Implement Technical Specification requirements	Y
3410140301	Perform specific system and integrated plant procedures during all modes of plant operations	

==========

READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be **Performed** for this task When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Unit 1 is at 100% Power with no equipment out of service.

INITIATING CUES:

You are the Unit 1 OAC and have been designated as the Test Director for the day shift (0630-1830) performance of 1-SI-OPS-000-002.0 (Shift Log) by the Unit 1 Unit Supervisor. The SI is already in progress and Appendix A is complete through page 2. You are to continue with the completion of Appendix A beginning with page 3 for S/G water level instruments and perform the SI for S/G water level instrument channels only. The OATC will then complete the rest of Appendix A.

The Unit Supervisor has requested that if any deviations are encountered, you are to log them in an SPP-8.1 Chronological Test Log (CTL), and evaluate any associated Technical Specification, Technical Requirements Manual (TRM), or Offsite Dose Calculation Manual (ODCM) requirements then advise him of any LCOs or other requirements that need to be addressed.

When you have finished performing Appendix A for the S/G Water Level Channels, and addressed any deviations as requested, notify the Unit Supervisor that you have completed your task.

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
STEP :	Obtain copy of 1-SI-OPS-000-002.0 in progress.	___ SAT ___ UNSAT
STANDARD:	Operator Obtains copy of 1-SI-OPS-000-002.0 Appendix A already in progress from the Evaluator.	Start Time____
STEP :	Record S/G Level Instrument Reading in Appendix A.	___ SAT ___ UNSAT **Critical Step**
Cue:	***If operator informs the Unit Supervisor of the 1-LI-3-110 deviation at this point, role play as Unit Supervisor and request him to complete the Chronological Test Log as appropriate.***	
Cue:	***If Operator addresses preparing a WO and/or PER, state that he is rquested to complete the requirements evaluation and SPP-8.1 Chronological Test Log (CTL) first, then you will assign him or someone else to prepare a WO and PER.***	
STANDARD:	Operator records S/G Level instrument readings in Appendix A and identifies that deviation between S/G #4 Instrument 1-LI-3-110 and the other S/G #4 channels does not meet the 6% deviation requirement in Note 17 **(Critical).** Operator should inform SRO of the discrepancy, also, Operator may not Initial at bottom of column since Note 17 was not satisfied (Not Critical).	
STEP :	Evaluates Technical Specification LOCs.	___ SAT ___ UNSAT **Critical Step**
Cue:	***If operator address making LCO tracking Log entry or NOMs Log Entry cue that the Unit Supervisor will make these entries.***	
STANDARD:	Operator Evaluates Tech Spec Requirements and determines the Following LCOs and actions are applicable: **LCO 3.3.1.1 Action 9a, and LCO 3.3.2.1 Actions 17a and 36a (Critical)**. Operator may also indicate that based on these Actions associated B/S will have to be tripped within 6 hours (Not Critical). In addition to these LCOs, the operator should identify that 1-LI-3-110 is a PAM instrument and that **LCO 3.3.3.7 Action 1a (Critical)** is applicable also requiring the channel to be returned to OPERABLE status within 30 days (Not Critical).	

Job Performance Checklist:

	STEP/STANDARD	SAT/UNSAT
STEP :	Operator completes an SPP-8.1 CTL.	___ SAT ___ UNSAT **Critical Step**
NOTE:	**Provide Operator blank copy of SPP-8.1 CTL when requested.**	
STANDARD:	Operator properly completes SPP-8.1 CTL. Including as a minimum the Procedure No., Rev, Date/Time, Appropriate Narrative of discrepancy, and their Initials.	
STEP :	Notify Unit Supervisor that 1-SI-OPS-000-002.0 Appendix A for S/G Water Level Channels is complete.	___ SAT ___ UNSAT
STANDARD:	Operator Notifies Unit Supervisor that 1-SI-OPS-000-002.0 Appendix A for S/G Water Level Channels is complete and informs him of the discrepancy and applicable Tech Specs if not reported earlier.	Stop Time____

End Of JPM

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be **Performed** for this task When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Unit 1 is at 100% Power with no equipment out of service.

INITIATING CUES:

You are the Unit 1 OAC and have been designated as the Test Director for the day shift (0630-1830) performance of 1-SI-OPS-000-002.0 (Shift Log) by the Unit 1 Unit Supervisor. The SI is already in progress and Appendix A is complete through page 2. You are to continue with the completion of Appendix A beginning with page 3 for S/G water level instruments and perform the SI for S/G water level instrument channels only. The OATC will then complete the rest of Appendix A.

The Unit Supervisor has requested that if any deviations are encountered, you are to log them in an SPP-8.1 Chronological Test Log (CTL), and evaluate any associated Technical Specification, Technical Requirements Manual (TRM), or Offsite Dose Calculation Manual (ODCM) requirements then advise him of any LCOs or other requirements that need to be addressed.

When you have finished performing Appendix A for the S/G Water Level Channels, and addressed any deviations as requested, notify the Unit Supervisor that you have completed your task.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

JPM A.2

Containment Closure Requirements

Original Signatures on File

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	New JPM	Y		All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Containment Closure Requirements

JA/TA task:
#342007302 (SRO)
#342008302 (SRO)

K/A Ratings:
2.2.18 Knowledge of the process for managing maintenance activities during shutdown operations.
(CFR: 43.5 / 45.13) 3.6

Task Standard:
Candidate determines that the penetration can be opened and requires person responsible for closure be identified by name and instructs the required personnel remain on site to close the penetration by the estimated closure time.

Evaluation Method : Simulator ___X_____ In-Plant ___X____ Classroom __X_____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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_____

SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments.
3. Ensure setting for performance has access to exam reference procedures that includes 0-GO-15.
4. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. 18 min **Local** _____

Tools/Equipment/Procedures Needed:

0-GO-15

References:

	Reference	Title	Rev No.
1.	0-GO-15	Containment Closure Control	023

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 2 is in Mode 6,
2. Core reload complete,
3. Nozzle dams removed,
4. Preparing to set the reactor head on the vessel .
5. Refuel cavity water level is currently at El. 703'
6. RCS is 101°F
7. Containment air temperature is 86°F
8. Decay heat is 4 MW(th)
9. Train B RHR is in service, Train A on standby
10. Maintenance foreman request to open containment penetration X-88, Maintenance Access Penetration in accordance with an approved work plan WO 07701357000. The breach is to be closed from inside containment and is estimated to take 35 minutes to close.

INITIATING CUES:

1. You are an SRO
2. Determine the requirements that must be met to allow opening the penetration and complete the documentation.

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 1.: Obtain the appropriate procedure. STANDARD: Operator identifies 0-GO-15 and uses Appendix F "Containment Closure Evaluation Process".	___ SAT ___ UNSAT Start Time____
STEP 2.: [1] **RECORD** the following information: Decay Heat (Data provided by Nuclear Fuels) _____ RHR Inlet Temperature(1): _____ RCS water level(2): _____ STANDARD: Performer records the 3 data points from the turnover sheet Decay Heat (Data provided by Nuclear Fuels) 4MW e RHR Inlet Temperature(1): 101°F RCS water level(2): EL 703' COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 3.: [2] **DETERMINE** the Allowable Closure Time from the following table:	___ SAT ___ UNSAT **Critical Steps**

RCS Water Level	Inside Containment Closure Time Requirement (Minutes)	Outside Containment Closure Time Requirement (Minutes)
Closed RCS with at least 2 steam generators with secondary side full		
Above RI	120	120
Below RI	N/A	N/A
Open RCS with Core Decay Heat >15 MW(th)		
Above RI	Contact Engineering for closure time	Contact Engineering for closure time
Below RI	Contact Engineering for closure time	Contact Engineering for closure time
Open RCS with Core Decay Heat <15 MW(th)		
Above RI	28	60
Below RI	21	45
Open RCS with Core Decay Heat <6 MW(th)		
Above RI	100	180
Below RI	60	165
Reactor Vessel Head and Upper Internals Removed/Reactor Cavity flooded to el. 712		
Above RI	120	180
Below RI	N/A	N/A

STANDARD: Performer uses Inside Containment Column, Open RCS with Core Heat < 6 MW(th), Above Reduced Inventory to determine allowable Closure time to be 100 minutes

COMMENTS:

STEP 4.: [3] **RECORD** the "Allowable Closure Time" from step **[2]**: ACT = _____ STANDARD: Performer records the Allowable Closure time equal to 100 minutes COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 5.: [4] **ENSURE** the ACT transferred to Appendix A for each item PERFORMED BY:_____DATE:_____ ***Cue: After performer locates Appendix A, if asked, provide information below:*** ***No other Containment closure exceptions exist*** ***X-88, Maintenance Access Penetration*** ***WO has closure Procedure step text included*** STANDARD: Performer refers to Appendix A to record information. COMMENTS:	___ SAT ___ UNSAT
The next step enters Section B: Evaluation of Containment Closure Exceptions *1.0 Evaluation of Containment Closure Exceptions*	
STEP 6.: [5] **IDENTIFY** the containment closure exceptions. ***Cue: If asked state "There are no other containment closure exemptions in effect"*** STANDARD: Performer identifies this as a containment closure exception. COMMENTS:	___ SAT ___ UNSAT
STEP 7.: [6] **OBTAIN** from the person responsible for penetration closure the estimated amount of time to physically close the opening, **AND DOCUMENT** on Appendix A. Estimated Closure Time (ECT): _____ (minutes) ***Cue: If asked state "It will take 35 minutes to close the penetration"*** STANDARD: Performer determines from the turnover sheet that it is estimated to take 35 minutes to close the penetration or asks to determine the length of time estimated to close the penetration. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 8.: [7] **ENSURE** the work document has instructions to close the penetration on a loss of RHR, **AND** **WRITE** the document number on Appendix A. ***Cue: If asked state " The Work Document has instructions to close the penetration on a loss of RHR"*** STANDARD: Performer verifies the work document has instructions to close the penetration on a loss of RHR. COMMENTS:	___ SAT ___ UNSAT
STEP 9.: [8] **EVALUATE** the margin to closure (Allowable closure time - Estimated closure time) to determine personnel requirements. Margin = _____ - _____ = _____ ACT ECT STANDARD: Performer determines the margin to closure to be 65 minutes. COMMENTS:	___ SAT ___ UNSAT
STEP 10.: [9] **IF** the margin is less than 15 minutes, **THEN** [9.1] **ENSURE** closure capability by having the person responsible for closure - **STATION** personnel at the penetration. **OR** [9.2] **ENSURE** an approved written action plan has been provided in which a timeline is documented demonstrating a successful task completion based on the estimated closure time, and the Operations Manager or designee has approved the use of the action plan. _____ _____ Operations Manager/ Designee Date STANDARD: Performer NAs the step because the IF/THEN condition does not exist, i.e. Margin is greater than 15 minutes. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 11.: [10] **ENSURE** closure capability by having the person responsible for closure-require personnel remain on site to close the penetration by the estimated closure time. ***Cue: When directed "Acknowledge the request"*** STANDARD: Performer determines the responsaible person must have the individuals required for closure remain on site. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 12.: [11] **NOTIFY** the person responsible for closure of the type of coverage determined by steps1.1.1[9] and 1.1.1[10], **AND OBTAIN** names of individuals on each shift to contact should closure be required ***Cue: When asked for the names, state "Jim Smith on days / Bob Jones on nights" Both can be reached at phone 4108/ beeeper 20419*** STANDARD: Performer obtains the names of the individuals on each shift to contact to closure. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 13.: [12] **IF** the penetration cannot be closed within the ACT, and the margin is negative, **THEN** [12.1] the breach SHALL be closed or not allowed to be opened. **OR** [12.2] a written evaluation has been performed which documents the assumptions involved, and the Operations Manager or designee allows the penetration to be opened. _____ _____ Operations Manager/ Designee Date STANDARD: Performer NAs the step becaue the IF/THEN condition does not exist, i.e. Margin is Not negative. COMMENTS:	___ SAT ___ UNSAT

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 14.: [13] **COMPLETE** Appendix A to document the open penetration. STANDARD: Candidate records the information provided in the JPM on Appendix A COMMENTS:	___ SAT ___ UNSAT Stop Time____

End of JPM

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 2 is in Mode 6,
2. Core reload complete,
3. Nozzle dams removed,
4. Preparing to set the reactor head on the vessel .
5. Refuel cavity water level is currently at El. 703'
6. RCS is 101°F
7. Containment air temperature is 86°F
8. Decay heat is 4 MW(th)
9. Train B RHR is in service, Train A on standby
10. Maintenance foreman request to open containment penetration X-88, Maintenance Access Penetration in accordance with an approved work plan WO 07701357000. The breach is to be closed from inside containment and is estimated to take 35 minutes to close.

INITIATING CUES:

1. You are an SRO
2. Determine the requirements that must be met to allow opening the penetration and complete the documentation.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

A.3
JPM 166-1

Survey Map

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

Revision Number	Description Of Revision	V	Date	Pages Affected	Prepared/ Revised By:
0	Initial Issue	Y	03/07/07	All	M Reese
1	To allow performance on Unit 1				

V - Specify if the JPM change will require another Validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Using a Survey Map

JA/TA task # : 3430290302 **(RO)**

K/A Ratings: 2.3.2 **(2.5/2.9)** 2.3.10 **(2.9/3.3)**

Task Standard:
Using a radiation survey map and an RWP, the examinee will determine:
- required anti-contamination clothing requirements;
- available stay time for an operator to perform routine surveillance in the vicinity of the #3 RCP; and
- general area reading in the vicinity of the RCDT.

Evaluation Method : Simulator ___ _____ In-Plant _____

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Performer: _____
NAME Start Time_____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Provide Operator with a calculator and equation sheet if required.
4. The simulator is not needed to complete this JPM.

Validation Time: CR. _____ **Local** 7 min.

Tools/Equipment/Procedures Needed:
Survey #01008-8, RWP # 07024020

References:

	Reference	Title	Rev No.
1.	SPP-5.1	Radiological Controls	

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READ TO OPERATOR

DIRECTIONS TO TRAINEE:

I will explain the initial conditions and state the task to be performed. All steps of this JPM shall be simulated. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return, the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is in Mode 5.
2. You are assigned to perform routine surveillance inside the polar crane wall.
3. You have received 50 mrem this year; no dose this quarter

INITIATING CUES:

You are to review the radiological conditions for the area. Using the radiation survey map and RWP provided, determine:
1. required anti-contamination clothing requirements;
2. maximum available stay time for you to perform routine surveillance in the vicinity of the #3 RCP; and
3. the general area reading in the vicinity of the RCDT.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 1.: Determine the required anti-contamination clothing requirements STANDARD: Operator determines that work step 2 (OPS INSPECTION) of the RWP applies and determines the following clothing is required: • one pair of cloth booties • cloth inserts • modesty clothing • one pair shoe covers • hood • one pair of rubber gloves • one pair of coveralls • No personal outer clothing • secure wraps for gloves and booties COMMENTS:	___ SAT ___ UNSAT Start Time____ **Critical Step**
STEP 2.: Determine the available stay time for an operator to perform routine surveillance in lower containment. STANDARD: Operator determines that general area radiation inside the polar crane wall is 10 mrem/hr and the dose alarm is set at 100 mrem. Thus the available stay time is 10 hours. Stay time = [100 mrem]/[10 mrem/hr] = 10 hrs. COMMENTS:	___ SAT ___ UNSAT **Critical Step**
STEP 3.: Determine the general area reading in the vicinity of the RCDT. STANDARD: Operator determines: general area reading = 10 mrem/hr COMMENTS:	___ SAT ___ UNSAT **Critical Step** Stop Time____

END of JPM

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is in Mode 5.
2. You are assigned to perform routine surveillance inside the polar crane wall.
3. You have received 50 mrem this year; no dose this quarter

INITIATING CUES:

You are to review the radiological conditions for the area. Using the radiation survey map and RWP provided, determine:

1. required anti-contamination clothing requirements;
2. maximum available stay time for you to perform routine surveillance in lower containment in the vicinity of the #3 RCP; and
3. the general area reading at the RCDT.

Inform the examiner when these determinations are complete.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

JPM A.4

Respond to a Medical Emergency

PREPARED/ REVISED BY: _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	New	Y		All	

V - Specify if the JPM change will require another validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
RO/SRO
JOB PERFORMANCE MEASURE

Task:
Respond to a Medical Emergency

JA/TA task:
**(RO)**

K/A Ratings:

2.4.39 Knowledge of ROs responsibilities in emergency plan implementation

Task Standard:

1) When a medical emergency call is received, the candidate respnds in accordance with EPIP-10, Medical Emergency Response, Section 3.2., Control Room Response and Section 3.3 Activation of the Medical Emergency Response Team.

Evaluation Method : Simulator ___X_____ In-Plant _____

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. This task is to be performed using the simulator in any IC or in classroom.
4. Ensure performance setting has access to Exam reference procedures
5. Ensure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.

Validation Time: CR. ___min___ **Local** _____

Tools/Equipment/Procedures Needed:

EPIP-10

References:

	Reference	Title	Rev No.
1.	EPIP-10	Medical Emergency Response	24

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READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. An alert has been declared on Unit 1 due to a Loss of Offsite Power and failure of 1B-B Diesel generator to start.
2. The Emergency Centers (TSC and OSC) are staffed and operational.

INITIATING CUES:

1. You are an RO on Shift
2. The Emergency phone (3911) rings and you answer it.

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 1.: Anwser the emergency phone. ***Cue: When phone is identified state " I am reporting a Medical Emergency, This is Bob Jones, an employee has collapsed outside the entrance to Diesel Building*** STANDARD: Operator identifies the phone and answers it. COMMENTS:	___ SAT ___ UNSAT Start Time____
Evaluator Note: The following is from EPIP-10, Medical Emergency Response. EPIP-10 is a reference use instruction and may not be opened.	
STEP 2.: **3.2 Control Room Response** The Control Room will obtain: • Name of caller, • Location (building, elevation, column), • Type of medical emergency, • Number of personnel involved, • Immediate area hazards (radiological, safety), and • Telephone number of caller. ***Cue: If/When asked provide the following:*** ***Name - Bob Jones*** ***Location - Outside the entrance to Diesel Building*** ***Type - Employee collapsed*** ***# of personnel - 1*** ***Immediate hazards- none*** ***Telephone - 6324??*** STANDARD: Candidate obtains the information listed from the caller. **Critical Portion is the candidate caputering the location of the medical emergerency so that the response team can be dispatched to the proper location.** COMMENTS:	___ SAT ___ UNSAT **Critical Task**

Job Performance Checklist

STEP/STANDARD	SAT/UNSAT
STEP 3.: Upon receipt of the emergency call (code call), the Control Room will: A. Notify the Shift Manager and the Incident Commander of the emergency. ***Cue:*** ***When Shift Manager notified, acknowledge the report.*** ***When Incident Commander notified, acknowledge the report.*** STANDARD: The candidate notifies the Shift Manager and the Incident Commander. COMMENTS:	___ SAT ___ UNSAT
STEP 4.: B. Verify Fire Operations is notified by: 1. Ringdown line to Fire Operations or 2. Operations radio (channel F-3) or 3. Call extension 7447 or 7448 or, 4. Page Fire Operations by pushing the "FPU Page" button on the emergency phone (or pager #90333 if autodial is non-functional). ***Cue:*** ***When Fire Operations is notified, acknowledge the report*** STANDARD: The candidate notifies Fire Operations by one of the above listed methods. COMMENTS:	___ SAT ___ UNSAT **Critical Task**
STEP 5.: C. Perform a plant-wide PA announcement that a medical emergency has been reported to alert the MERT to respond to the location. STANDARD: Candidate makes a PA announcement of the medical emergency that includes the location of the emergency. COMMENTS:	___ SAT ___ UNSAT Stop Time____

END OF JPM

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. An alert has been declared on Unit 1 due to a Loss of Offsite Power and failure of 1B-B Diesel generator to start.
2. The Emergency Centers (TSC and OSC) are staffed and operational.

INITIATING CUES:

1. You are an RO on Shift
2. The Emergency phone (3911) rings and you answer it.

SEQUOYAH NUCLEAR PLANT
JOB PERFORMANCE MEASURE

A.4

JPM # 109

Classify the Event per the REP
(Degraded Core With Possible Loss of
Coolable Geometry and Likely Cntmt Failure)

**PREPARED/
REVISED BY:** _____ Date/ _____

VALIDATED BY: * _____ Date/ _____

APPROVED BY: _____ Date/ _____
(Operations Training Manager)

CONCURRED: ** _____ Date/ _____
(Operations Representative)

* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.
** Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING

REVISION/USAGE LOG

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
6	EPIP-5 Rev chg. Also chgd critical time to notify ODS to 10 min per discussion w/ Nick Catron & Jerry Reynolds. Incorp previous minor pen/inks.	N	5/12/98	4-8	HJ Birch
pen/ink	Revision to EPIP-5 had no impact	N	10/15/98	4	JP Kearney
pen/ink	EPIP-1 Rev update only	N	9/23/99	4	SR Taylor
pen/ink	Clarified standard in step 2 to include Section 3.1, corrected page no. references steps 6, 7, & 9. Updated EPIP-5 rev.	N	9/27/99	4,5,6,7	SR Taylor
pen/ink	EPIP-1 Rev update only	N	3/21/00	4	SR Taylor
7	EPIP-5 revision changes sequencing of steps	Y	9/5/00	All	J P Kearney
pen/ink	EPIP-1 & 5 Rev update only	N	12/21/00	4	W. R. Ramsey
pen/ink	EPIP-1 & 5 Rev update, minor changes	N	09/17/01	ALL	W. R. Ramsey
pen/ink	Minor clarifications for to be consistent with other REP JPMs.	N	12/28/01	All	L. Pauley
8	Incorporated pen/ink changes; revised per recent changes to EPIPs; changes do not impact overall flow of JPM	N	8/16/02	All	J P Kearney
9	Incorporated latest EPIP revisions.	Y	9/15/03	All	MG Croteau
10	Incorporate EPIP- 5 Rev 37				

V - Specify if the JPM change will require another Validation (Y or N).
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT
SRO
JOB PERFORMANCE MEASURE

Task:

Classify the Event per the REP (Degraded Core With Possible Loss of Coolable Geometry and Likely Cntmt Failure)

JA/TA task # : 3440030302 **(SRO)**
3440190302 **(SRO)**

K/A Ratings:

2.4.29 (2.6/4.0)	2.4.38 (2.2/4.0)	2.4.44 (2.1/4.0)
2.4.30 (2.2/3.6)	2.4.40 (2.3/4.0)	
2.4.37 (2.0/3.5)	2.4.41 (2.3/4.1)	

Task Standard:

The event is classified as a GENERAL EMERGENCY based on Loss of any 2 of 3 fission product barriers with a potential loss of 3rd barrier.

Evaluation Method : Simulator ___X_____ In-Plant _____
* This JPM will be simulated

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Performer: _____
NAME Start Time _____

Performance Rating : SAT _____ UNSAT _____ Performance Time _____ Finish Time _____

Evaluator: _____/_____
SIGNATURE DATE

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COMMENTS

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SPECIAL INSTRUCTIONS TO EVALUATOR:

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize the simulator in IC-110 (or any steady state IC) and leave in FREEZE.
4. Insure operator performs the following required actions for **SELF-CHECKING;**
   a. Identifies the correct unit, train, component, etc.
   b. Reviews the intended action and expected response.
   c. Compares the actual response to the expected response.
5. **Caution: DO NOT LET THE EXAMINEE FAX THE NOTIFICATION FORM**

Validation Time: CR. 19 mins **Local** _____

Tools/Equipment/Procedures Needed:
EPIP-1 and EPIP-5

References:

	Reference	Title	Rev No.
1.	EPIP-1	Emergency Plan Initiating Conditions Matrix	39
2.	EPIP-5	General Emergency	37
3.	1-FR-0	Unit 1 Status Trees	1

READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All steps of this JPM shall be simulated. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

The simulator is NOT representative of the scenario you are about to address.

INITIAL CONDITIONS:

1. The 1A-A D/G is tagged for maintenance on the generator, it is expected to be returned to service in the next 8 to 12 hours.
2. Unit 1 experienced a large break LOCA approximately 5 minutes ago.

INITIATING CUES:

At the time of the transition to E-1 from E-0 the STA reported that the following conditions exist:

1. RCPs are OFF
2. Core Exit temperature is 775°F and is increasing
3. RVLIS LOWER range level is 30%
4. The 1A-A 6.9KV SD Bd tripped out on "board differential" relay operation.
5. The OATC recognized that the 1B-B Containment Spray Pump failed to start. The pump will not start from the MCR or the switchgear.
6. Containment pressure is 7 psid and increasing.

You are the SED and are to classify this event **AND** perform all required actions according to the REP.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 1.: Refers to EPIP-1 to determine level of event. STANDARD: Operator refers to EPIP-1, Section 1, Fission Product Barrier Matrix. Operator determines that they have met the conditions of: 1.1.1 Loss, "Core cooling Red Path" 1.2.2 Loss, "Subcooling less than 40 degrees" 1.2.4 Loss, "RVLIS level < 40%" 1.3.1 Potential Loss, "Actions of FR-C.1 are ineffective, (i.e.: Core TCs trending up" 1.3.2 Potential Loss, "Cntmt press >2.81 psig < one full train of containment spray" Based on "Emergency Class Criteria", the Operator determines the need to declare a **General Emergency**, based on Loss of two barriers and potential loss of the third barrier.	**Task Start Time** _____ ___ SAT ___ UNSAT **Critical Step**
STEP 2.: Implements EPIP-5 GENERAL EMERGENCY. **Enter time Declaration made:**_____ **Time from Task Acceptance to Declaration:**_____ STANDARD: Operator implements a GENERAL EMERGENCY per EPIP-5, Section 3.1. Operator should classify the event **within 15 minutes** of the time the task was accepted. Declaration Time should be consistent with the time the examinee transitions from EPIP-1 to EPIP-5.	___ SAT ___ UNSAT
STEP 3.: NOTE: IF there are personnel injuries, THEN IMPLEMENT EPIP-10, "Emergency Medical Response" in parallel with this procedure. NOTE: IF there are immediate hazards to plant personnel, THEN consider immediately implementing EPIP-8 "Personnel Accountability and Evacuation" in parallel with this procedure Cue: ***If Operator seeks information on injuries, state " NO injuries have been reported"*** Cue: ***If Operator seeks information on immediate hazards, state " NO immediate hazards have been reported"*** STANDARD: Operator refers to the 2 notes.	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 4.: **3.1 GENERAL EMERGENCY DECLARATION BY THE MAIN CONTROL ROOM** Upon classifying events as a "GENERAL EMERGENCY", the SM/SED shall: **[1] IF** TSC is OPERATIONAL, (SED transferred to TSC), **THEN GO TO** Section 3.2. **[2] RECORD time of Declaration** STANDARD: Operator determines the TSC is not operational and records the time of declaration	___ SAT ___ UNSAT
STEP 5.: **[3] ACTIVATE** Emergency Paging System (EPS) as follows. **[a] IF** EPS has already been activated, T**HEN GO TO Step 4.** **[b] IF** ongoing onsite Security events may present risk to the emergency responders, **THEN CONSULT** with Security to determine if site access is dangerous to the life and health of emergency responders. **[c] IF** ongoing events makes site access dangerous to the life and health of emergency responders, **THEN SELEC**T STAGING AREA button on the EPS terminal **INSTEAD** of the EMERGENCY button. **[d] ACTIVATE** EPS using touch screen terminal. **IF** EPS fails to activate, **THEN** continue with step 4. **Cue**: ***If Security contacted, state "No security event is in progress"*** **Cue**: ***If requested, the clerk/MSS will activate/monitor the EPS.*** STANDARD: Operator determines the EPS has not been activated and activates the EPS utilizing the 'Touch Screen' or by directing the EPS be activated.	___ SAT ___ UNSAT **Critical Step**
STEP 6.: **[4] EVALUATE** Protective Action Recommendations using Appendix B. ***Cue: When release data addressed, state "Release data not available for Appendix B."*** STANDARD: Operator determines from page 14, logic chart in EPIP-5, that appropriate protective action recommendation is **RECOMMENDATION 2**. This should be identified on the notification form in the next JPM step.	___ SAT ___ UNSAT **Critical Step**

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 7.: **[5] COMPLETE** Appendix C (TVA Initial Notification for General Emergency). a. This is a Drill b. Their name, Shift Manager (SED) at SQN Plant. c. General Emergency declared on UNIT 1 d. EAL No. **(LOSS 1.1.1) and (LOSS 1.2.2 or 1.2.4), and (Potential LOSS 1.3.1 or 1.3.2).** e. Brief description of incident: **[Core cooling Red Path AND (Subcooling <40°F" or "RVLIS level <40%) AND (C1 ineffective, Core T/Cs trending up or Contmt press >2.81 psid with no spray operating)].** f. Radiological Conditions **[Either Release information not known or Minor releases within federally approval limits]** g. Event Declared: **[Time and Date]** h. Wind direction at 46 meters **[Southwest at 235 degrees]** AND wind speed at 46 meters **[5 mph]** i. Protective Action Recommendation: **[2 - Evacuate listed sectors (2 mile radius and 5 miles downwind) [A-1, B-1, C-1, D-1, B-2, B-5] and shelter all other non-listed sectors].** Ask the ODS to repeat the information he has received to ensure accuracy. ***Cue:*** ***1. When examinee on proper ICS screen, "Wind speed at 46 meters is 5 mph".*** ***2. When examinee on proper ICS screen, "Wind direction at 46 meters is Southwest at* 235 degrees".** ***3. Role play as the ODS and acknowledge report.*** STANDARD: Operator completes appendix C with the information listed above in bold. The information in '*Brief description of incident*' can vary as long as a description is included.	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 8.: **[6] NOTIFY** ODS. ODS: Ringdown Line or 5-751-1700 or 5-751-2495 or 8-785-1700 **[a] IF** EPS failed to activate from SQN, **THEN DIRECT** ODS to activate SQN EPS. **IF** ODS is also unable to activate EPS, **THEN** continue with step [5] [b]. **[b] READ** completed Appendix C to ODS. STANDARD: Operator notifies ODS by telephone and provides the information on Appendix C. Notifies the ODS within 5 minutes after declaration is made and provides information from Appendix C. **NOTE: Enter time call is made to the ODS:**_____ **Time from Declaration (step 2) to ODS Notification:**_____	___ SAT ___ UNSAT **Critical Step**
STEP 9.: **[c] FAX** completed Appendix C to ODS. 5-751-8620 (Fax) ***Cue: After the operator demonstrates the fax will be sent, state "The support AUO will send the FAX for you.:*** ***Evaluator Caution: DO NOT LET THE EXAMINEE FAX THE FORM*** STANDARD: Operator addresses FAXing the Notification Form to the ODS.	___ SAT ___ UNSAT
STEP 10.: **[d] MONITOR** for confirmation call from ODS that State/Local notifications complete: **RECORD** time State notified. _____ Notification Time STANDARD: Operator records State notification time when ODS confirms state has been notified	___ SAT ___ UNSAT
STEP 11.: [7] **IF** ODS **CANNOT** be contacted within **10 minutes** of declaration.... *Note to evaluator: Complete step text is lengthy and not repeated in this JPM step.* STANDARD: Operator N/As this step and continues.	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 12.: **[8] ENSURE** MSS/WWM in the OSC (x6427) is monitoring Emergency Response Organization (ERO) responses using printed report available in the OSC. **[a] IF** any ERO positions are not responding, **THEN DIRECT** MSS to **CALL** personnel to staff TSC/OSC positions. (Use REP Duty Roster and Call List.) ***Cue:*** ***If the EPS touch screen is checked, report that the various positions are starting to respond.*** ***Cue:*** ***When the MSS/WMM is contacted, report "The ERO response monitoring is in progress and personnel are reporting.*** STANDARD: Operator should contact the MSS/WWM or check the screen to ensure responses are being obtained.	___ SAT ___ UNSAT
STEP 13.: **[9] NOTIFY** plant staff using Appendix A. (Delegate as needed.) ***Cue:*** ***If the appendix is delegated, then acknowledge the direction to perform - Appendix A.*** STANDARD: Operator should use Appendix A to notify plant staff or delegate the appendix to be performed.	___ SAT ___ UNSAT **Critical Step unless JPM step 20 performmed**
Evaluator Note: Following steps 14-20 are from EPIP-5 Appendix A. If the Operator delegates the appendix performance, then the step will not be performed.	
STEP 14.: **[1] IF** there is a security threat, **THEN** **[a] NOTIFY** Security Shift Supervisor to implement SSI-1, "Security Instructions For Members Of The Security Force" and EPIP-11 "Security and Access Control". 6144 or 6568 **[b] DETERMINE** if Security recommends implementing the "Two Person Line of Sight" Rule. **[c] IF** Nuclear Security recommends establishing the "Two Person Line of Sight" Rule, **THEN INFORM** the SM/SED. ("Two Person Line of Sight" requires use of EPIP-8.) ***Cue:*** ***When security contacted state, "There have been no reports of a security threat."*** STANDARD: Operator determines this step should be N/A.'d	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 15.: **[2] NOTIFY** Radiation Protection Lead: **[a] STATE:** "A **GENERAL EMERGENCY** HAS BEEN DECLARED, BASED UPON (*Describe the conditions*), AFFECTING UNIT(s) ____." 7865 (RP Lab) or 6417, (RP Lab) Use Call List to Page RP Lead **[b] DIRECT** Radiation Protection to implement EPIP-14, "Radiation Protection Response". **[c] DIRECT** Radiation Protection to implement CECC EPIP-9, "Emergency Environmental Radiological Monitoring Procedures" which includes activation of the radiological monitoring van. NOTE: **This notification may be delegated.** ***Cue:*** ***As the Radcon Shift Supervisor, acknowledge the report.*** ***Cue:*** ***If delegated, report that the notification has been completed.*** STANDARD: Operator makes the notification and directs the Radcon Shift Supervisor to implement EPIP-14 **AND** CECC EPIP-9.	___ SAT ___ UNSAT
STEP 16.: **[3] NOTIFY** personnel in the Chemistry Lab: **[a] STATE:** "A **GENERAL EMERGENCY** HAS BEEN DECLARED, BASED UPON (*Describe the conditions*), AFFECTING UNIT(s) ____." **[b] DIRECT** Chemistry to implement EPIP-14, "Radiation Protection Response." NOTE: **This notification may be delegated to an extra SRO/RO.** ***Cue:*** ***As the Chemistry Shift Supervisor, acknowledge the report.*** ***Cue:*** ***If delegated, report that the notification has been completed.*** STANDARD: Operator makes the notification and directs the Chemistry Shift Supervisor to implement EPIP-14.	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 17.: **[4] ANNOUNCE** to plant personnel on old plant PA and x4800: **[a]** "ATTENTION PLANT PERSONNEL. ATTENTION PLANT PERSONNEL. A **GENERAL EMERGENCY** HAS BEEN DECLARED BASED ON (*Describe the condition*), AFFECTING UNIT(s) _____. *(if not already staffed, add)* STAFF THE TSC AND OSC." **[b] REPEAT** Announcement. **NOTE:** **This announcement may be delegated.** STANDARD: Operator makes the announcement on both the old paging system and on x4800 bridge system or delegates the making of the announcement. *Evaluator Note:* *x4800 bridge not active on simulator*	___ SAT ___ UNSAT
STEP 18.: **[5] NOTIFY** Plant Management in accordance with SPP-3.5 **AND PROVIDE** General Emergency Information. *Evaluator Note:* *Activation of the EPS will make the Plant Management aware of the REP actuation, however administrative procedures require notification.* **NOTE:** **This notification may be delegated.** ***Cue:*** ***When operator references SPP-3.5, state "Another operator will make the SPP-3.5 notifications*** ***Cue:*** ***If delegated, report that the notifications have been completed.*** STANDARD: Operator references SPP-3.5 to make the required notifications or delegates the making of the notifications.	___ SAT ___ UNSAT
STEP 19.: **[6] NOTIFY** the "On Call" NRC Resident **AND PROVIDE** General Emergency Information. **NOTE:** **This notification may be delegated.** ***Cue:*** ***When operator calls NRC resident, state "Another operator will make the SPP-3.5 notifications*** ***Cue:*** ***If delegated, report that the notification has been completed.*** STANDARD: Operator makes the NRC resident notification or delegates the making of the notifications.	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
STEP 20.: **[7] NOTIFY** NRC of plan activation via ENS phone. **The following Note precedes the step:** NRC ENS notification should be made as soon as practicable, but within 1 hour of **"GENERAL EMERGENCY"** declaration. Whenever NRC requests, a qualified person must provide a continuous update to NRC Operations Center. Use EPIP-6, Appendix B as a briefing guide. **NOTE:** **This notification may be delegated.** ***Cue:*** ***When NRC operations center contacted, acknowledge the report. If ENS number requested state "ENS number is 97745"*** ***Cue:*** ***If delegated, report that the notifications have been completed.*** STANDARD: Operator references SPP-3.5 to make the required notifications or delegates the making of the notifications.	___ SAT ___ UNSAT **Critical Step** *if not delegated* **Time of notification** _____
STEP 21.: **[10] GO TO** Section 3.3 ***Cue:*** ***When the operator initiates section 3.3 , tell him "The TSC is staffed and will assume the implementation of EPIP-5".*** STANDARD: Operator should go to Section 3.3 to continue the performance of EPIP-5.	___ SAT ___ UNSAT

End of JPM

READ TO OPERATOR

Directions to Trainee:

I will explain the initial conditions, and state the task to be performed. All steps of this JPM shall be simulated. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

The simulator is NOT representative of the scenario you are about to address.

INITIAL CONDITIONS:

3. The 1A-A D/G is tagged for maintenance on the generator, it is expected to be returned to service in the next 8 to 12 hours.
4. Unit 1 experienced a large break LOCA approximately 5 minutes ago.

INITIATING CUES:

At the time of the transition to E-1 from E-0 the STA reported that the following conditions exist:

7. RCPs are OFF
8. Core Exit temperature is 775°F and is increasing
9. RVLIS LOWER range level is 30%
10. The 1A-A 6.9KV SD Bd tripped out on "board differential" relay operation.
11. The OATC recognized that the 1B-B Containment Spray Pump failed to start. The pump will not start from the MCR or the switchgear.
12. Containment pressure is 7 psid and increasing.

You are the SED and are to classify this event **AND** perform all required actions according to the REP.