

ADMINISTRATIVE TOPICS

Facility: HOPE CREEK Date of Examination: 1/5/2004
Examination Level: RO SRO Operating Test Number: _____

TOPIC: A.1-1 QUESTION: 1

Subject Description: Conduct of Operations

K/A: 2.1.25 Ability to obtain and interpret station reference materials such as graphs/monographs/and tables which contain data. (3.1)

DESCRIPTION: Question - Given plant conditions, determine the required Circulation Water System requirements for extreme cold weather.

QUESTION:

Given the following:

- The plant is operating at 100 percent power in January
- Three (3) Circulating Water Pumps are in operation
- HV-2174, A&B CLG TWR DE-ICING VALVES are open
- Average Basin water temperature Computer Point A2769 is 53F
- Outside ambient air temperature is 26F
- Cooling Tower Blowdown return temperature (daily average) is 57F
- Thermal release rate to the river is 543 MBtu's/hr
- Ice has formed on the Fill support Columns and Beams of the Cooling Tower
- There is ice formation on the Fill Sheets between the supports to a depth of approximately 2 feet
- Ice has formed on the Support Columns

Determine if any actions are required for continued operation of the Circulating Water System.

ADMINISTRATIVE TOPICS

ANSWER: Reference HC.OP-SO.DA-0001

EXAMINER NOTE:

(If asked if Operations Manager Approval for deviations from attachment 1 is given, **CUE: No**)

(If asked if severe ice damage is IMMIDENT, **CUE: No**)

Per 5.3.4.A.1, Four Circulating Water Pumps should be in operation.

The current operating region is in CENTRAL SHUT-OFF VALVES CLOSED (Att.1)

Ice formation exceeds the recommendations of Note 5.3.7.

Per Step 5.3.6.B:

- Close HV-2174 A&B
- Verify HV-2174 valve position via CRIDS
- When approx one hour has elapsed, read Basin Temp on CRIDS
- Determine new operating region in the chart.

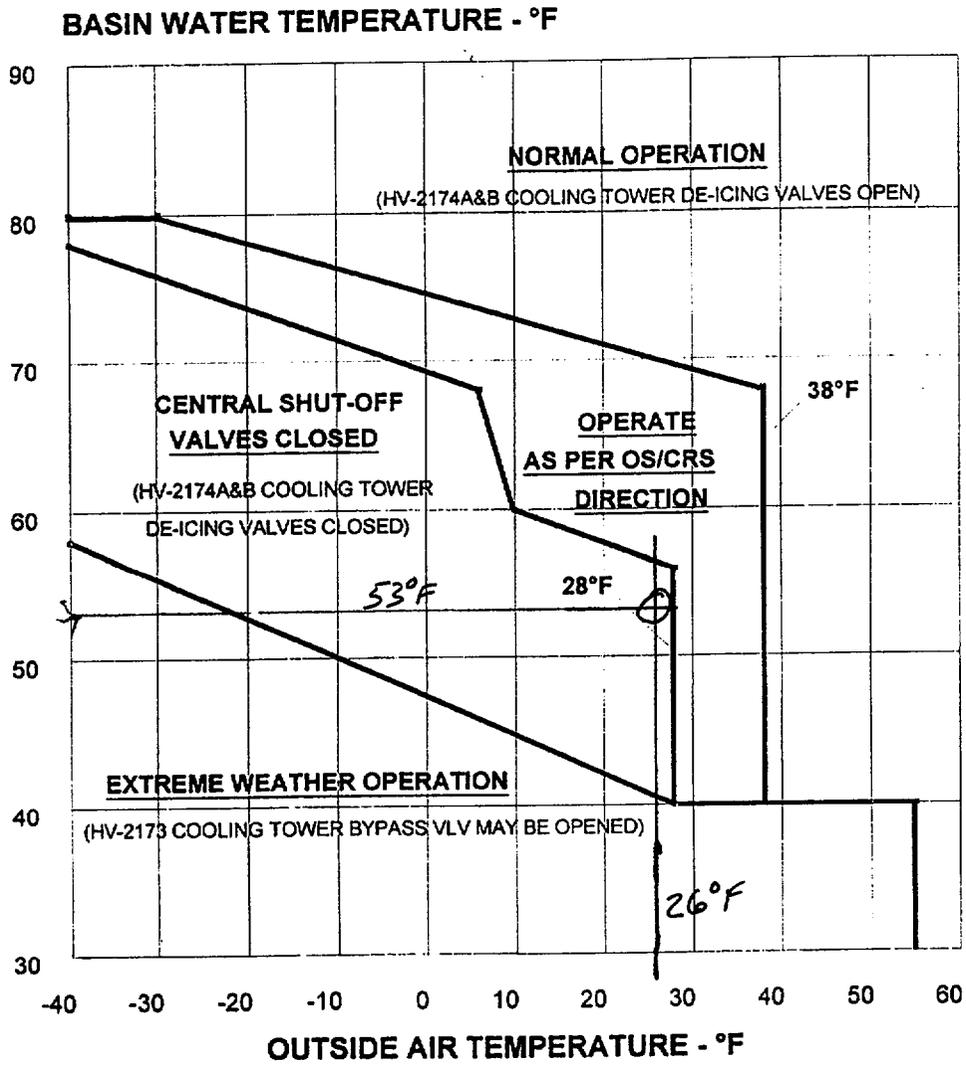
Per 3.2.14 Chemistry should be contacted of any change in cooling tower operation.

*Minimum answer underlined for full credit.

ATTACHMENT 1
Page 1 of 1
CIRCULATING WATER SYSTEM OPERATION

KEY

COOLING TOWER WINTER OPERATIONS
Winter Operation Chart



NOTIFY the Chemistry Department whenever Cooling Tower Operation is changed.

ADMINISTRATIVE TOPICS

Given the following:

- **The plant is operating at 100 percent power in January**
- **Three (3) Circulating Water Pumps are in operation**
- **HV-2174, A&B CLG TWR DE-ICING VALVES are open**
- **Average Basin water temperature Computer Point A2769 is 53F**
- **Outside ambient air temperature is 26F**
- **Cooling Tower Blowdown return temperature (daily average) is 57F**
- **Thermal release rate to the river is 543 MBtu's/hr**
- **Ice has formed on the Fill support Columns and Beams of the Cooling Tower**
- **There is ice formation on the Fill Sheets between the supports to a depth of approximately 2 feet**
- **Ice has formed on the Support Columns**

Determine if any actions are required for continued operation of the Circulating Water System.

ADMINISTRATIVE TOPICS

Facility: HOPE CREEK Date of Examination: 1/5/2004

Examination Level: RO SRO Operating Test Number: _____

TOPIC: A.1-1 QUESTION: 2

Subject Description: Conduct of Operations

K/A: 2.1.25 Ability to obtain and interpret station reference materials such as graphs/mongraphs/and tables which contain data. (4.4)

DESCRIPTION: Question-Calculate time to Secondary Containment is required following a loss of Shutdown Cooling.

QUESTION:

Given the following:

- The Reactor scrammed 75 hours ago from extended operation
- The plant is in Operational Condition 4
- B RHR is in shutdown cooling.
- RCS temperature is 100F
- Secondary Containment has been relaxed.

How long until Secondary Containment integrity is required if all methods of decay heat removal were lost?

ANSWER:

Secondary containment is required when RCS temperature is >200F.

Per Figure 1 of HC.OP-AB.RPV-0009: 1 hour and 45 minutes (±5 minutes)

Reference HC.OP-AB.RPV-0009 SHUTDOWN COOLING and Tech Spec 3.6.5.1

ADDITIONAL INFORMATION:

Procedures:

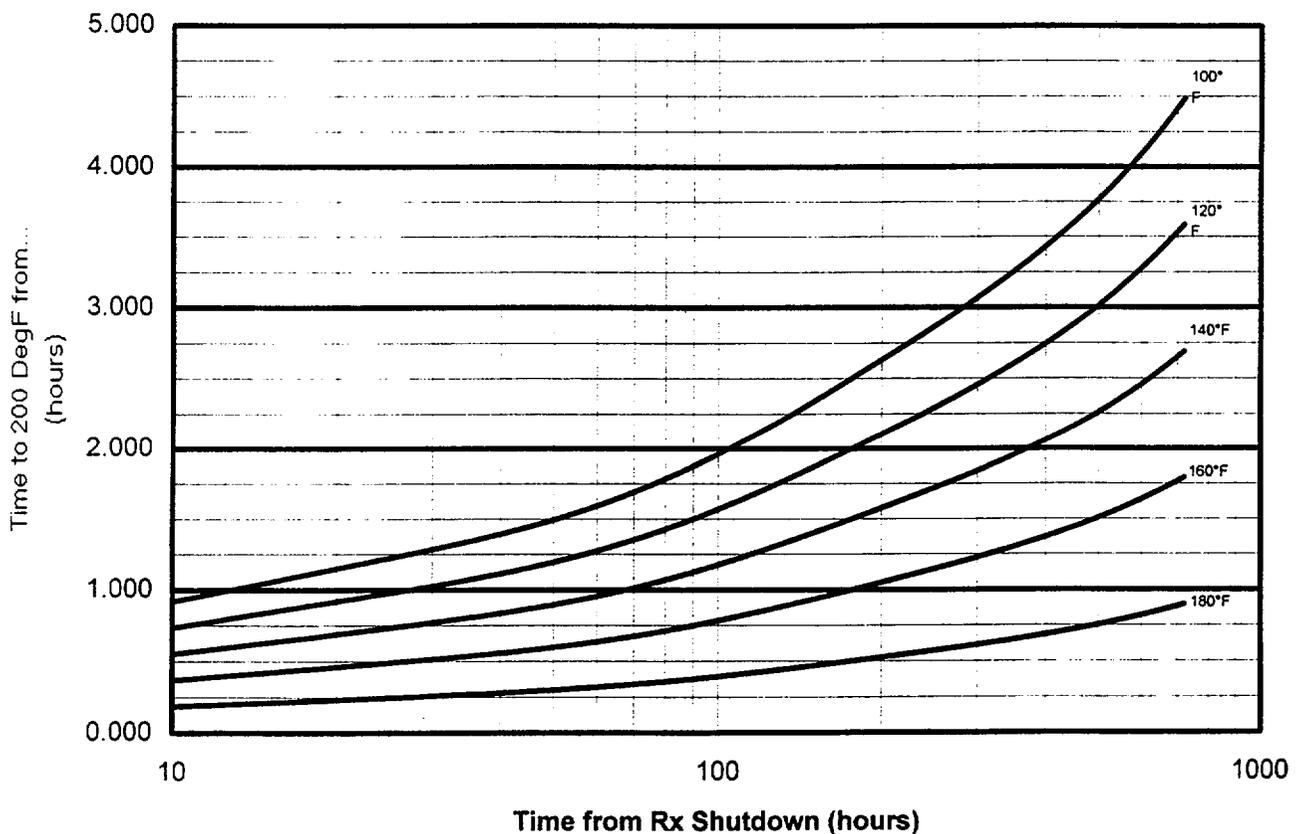
- HC.OP-SO.BC-0002 DECAY HEAT REMOVAL OPERATION.
- HC.OP-SO.BB-0002 REACTOR RECIRCULATION SYSTEM OPERATION.

Valves:

- BC-HV-F015A RHR LOOP A RET TO RECIRC
- BC-HV-F015B RHR LOOP B RET TO RECIRC
- BC-HV-F008 SHUTDOWN COOLING OUTBD ISOLATION
- BC-HV-F009 SHUTDOWN COOLING INBD ISOLATION

FIGURE 1

**Total Loss of Heat Removal from Rx Vessel
1000 EFPD of Operations**



ADMINISTRATIVE TOPICS

Given the following:

- **The Reactor scrammed 75 hours ago from extended operation.**
- **The plant is in Operational Condition 4**
- **B RHR is in shutdown cooling**
- **RCS temperature is 100F**
- **Secondary Containment has been relaxed.**

How long until Secondary Containment integrity is required if all methods of decay heat removal were lost?

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION: HOPE CREEK
 SYSTEM: Conduct of Operations
 TASK: Verify HC.OP-DL.ZZ-0026 log requirements for resuming Core Alterations
 TASK NUMBER: 2.1.18 – Ability to make accurate / clear and concise logs / records / status boards / and reports.
 JPM NUMBER: 2003-NRC-RETAKE-Admin A1-2

ALTERNATE PATH:

APPLICABILITY: EO RO SRO LSRO K/A NUMBER: 294000 G2.1.18
 IMPORTANCE FACTOR: 2.9 3.0
 RO SRO

EVALUATION SETTING/METHOD: CONTROL ROOM/SIMULATOR - PERFORM

REFERENCES: HC.OP-DL.ZZ-0026 (Q) Attachment 2, Rev 91; HC.OP-ST.KE-0001 Rev. 5

TOOLS AND EQUIPMENT: HC.OP-ST.KE-0001 Marked up. HC.RE-FM-ZZ-0005 Form 1

VALIDATED JPM COMPLETION TIME: 25 min.

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A min.

APPROVED:

N/A BARGAINING UNIT REPRESENTATIVE
John Dayer TRAINING SUPERVISOR
W. D. Boyle OPERATIONS MANAGER or Designee

CAUTION: No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME: _____ min.
 ACTUAL TIME CRITICAL COMPLETION TIME: N/A min.
 JPM PERFORMED BY: _____ GRADE: SAT UNSAT
 REASON, IF UNSATISFACTORY:
 EVALUATOR'S SIGNATURE: _____ DATE: _____

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Conduct of Operations

TASK: Verify HC.OP-DL.ZZ-0026 log requirements for resuming Core Alterations

TASK NUMBER: 2.1.18 – Ability to make accurate / clear and concise logs / records / status boards / and reports.

INITIAL CONDITIONS:

- Operational Condition 5, with the reactor core fully loaded.
- The One-Rod-Out Interlock is operable.
- Control Rod Drive Mechanism 46-23 has been removed.
- All other rods are at 00.
- Control Rod Drive Mechanism 38-27 is scheduled to be replaced once CRDM 46-23 is restored.
- The following Control Rods are hydraulically disarmed for this work.

30-19	34-19	38-19	42-15	46-15	50-15	54-15
30-23	34-23	38-23	42-19	46-19	50-19	54-19
30-27	34-27	38-27	42-23	46-23	50-23	54-23
30-31	34-31	38-31	42-27	46-27	50-27	54-27
30-35	34-35	38-35	42-31	46-31	50-31	54-31
			42-35	46-35		

- As the CRS, you direct HC.OP-DL.ZZ-0026 logs for Attachment 2 ITEMS 12, 13, and 14 to be taken for the midnight shift.

INITIATING CUE:

Validate the completed HC.OP-DL.ZZ-0026 Attachment 2, ITEMS 12, 13, & 14 for the midnight shift.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Conduct of Operations

TASK: Verify HC.OP-DL.ZZ-0026 log requirements for resuming Core Alterations

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure HC.OP-DL.ZZ-0026 (Q).	<p>EXAMINER NOTE: Provide operator the marked up copy of HC.OP-DL.ZZ-0026 Attachment 2.</p> <p>Operator obtains HC.OP-DL.ZZ-0026.</p>		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 3.2.		
	3.2	If in OP CON 4 or 5 then complete Attachment 2 as follows daily.	<p>Operator reviews Attachment 2.</p> <p>EXAMINER NOTE: Initialing steps is not critical.</p>		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Conduct of Operations

TASK: Verify HC.OP-DL.ZZ-0026 log requirements for resuming Core Alterations

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	ITEM 12	START TIME _____ 4 FUEL ASSEMBLIES SURROUNDING EACH REMOVED CONTROL ROD OR MECHANISM HAVE BEEN REMOVED FROM THE CORE CELL OR ALL OTHER CONTROL RODS IN A 5X5 ARRAY HAVE BEEN INSERTED AND DISARMED.	<p>EXAMINER NOTE: Provide copy of HC.RE-FM-ZZ-0005 Form 1.</p> <p>Operator uses list of hydraulically disarmed Control Rods to determine that Control Rod 46-23 DOES NOT meet this requirement.</p> <p>* The operator identifies ITEM 12 is incorrectly marked YES. * The operator marks ITEM 12 in the MID column NO or UNSAT, adds a number, and an entry in the COMMENTS section for the red circled reading to indicate Rod 38-15 is not disarmed.</p> <p>EXAMINER NOTE: It is critical that the SRO identify the errors and either correct the log himself or request the RO to correct it.</p> <p>* The operator initiates the Tech Spec ACTION of 3.9.10.1.</p>		
			If necessary, CUE: Continue with the remaining items.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Conduct of Operations

TASK: Verify HC.OP-DL.ZZ-0026 log requirements for resuming Core Alterations

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	ITEM 13	Operator obtains last performed copy of HC.OP-ST.SF-0001 from Completed ST file drawer.	Operator obtains last performed copy of HC.OP-ST.SF-0001 from Completed ST file drawer.		
		Obtain date of last completion from HC.OP-ST.SF-0001 Attachment 1 POST TEST INFORMATION.	<p>EXAMINER NOTE: When the operator requests the last performed procedure, provide operator with marked up exam copy to use.</p> <p>Operator obtains the last completion date of the last performance date from Attachment 1 of HC.OP-ST.SF-0001.</p>		
*		OPERATOR COMPARES SATISFACTORY COMPLETION DATE TO TODAYS DATE.	<p>Operator determines the difference of 19 months is correct.</p> <p>*The operator identifies that 19 MO should be red circled. Tech Spec 4.0.2 grace period of 25% can be applied, and it should be noted in the COMMENTS.</p> <p>EXAMINER NOTE: It is critical that the SRO identify the errors and either correct the log himself or request the RO to correct it.</p>		

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____
DATE: _____

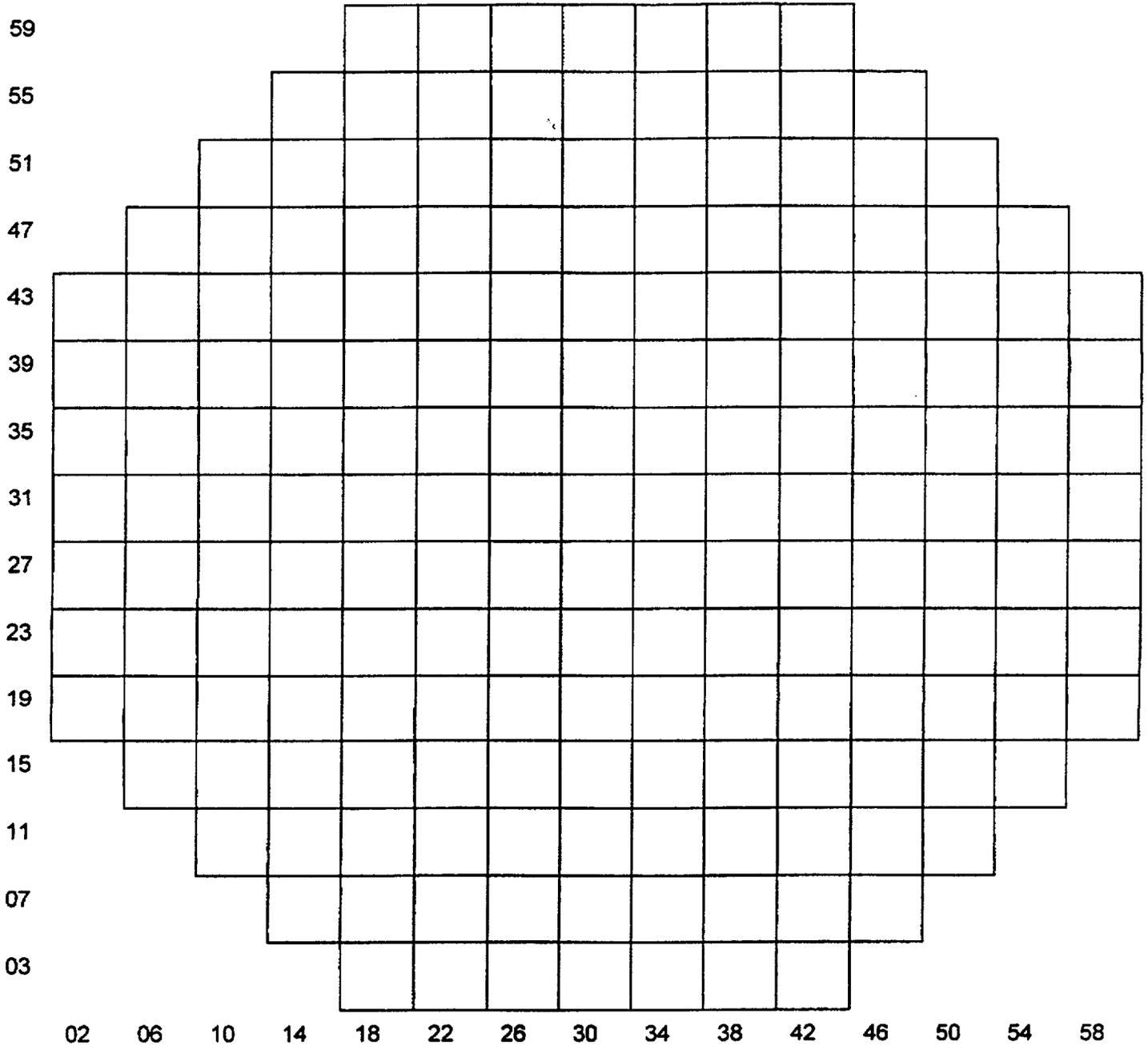
SYSTEM: Conduct of Operations

TASK: Verify HC.OP-DL.ZZ-0026 log requirements for resuming Core Alterations

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
			If necessary, CUE: Continue with the remaining item.		
*	ITEM 14	ALL OTHER CONTROL RODS ARE INSERTED.	Operator determines from the initial conditions that all other rods are inserted. * Operator marks ITEM 14 as YES or SAT .		
		STOP TIME _____	TERMINATING CUE: This JPM is complete.		

FORM 1
(Page 1 of 1)
CONTROL ROD IDENTIFICATION MAP

Cycle: _____ Date: _____ Preparer: _____



Comments: _____

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

- Operational Condition 5, with the reactor core fully loaded.
- The One-Rod-Out Interlock is operable.
- Control Rod Drive Mechanism 46-23 has been removed.
- All other rods are at 00.
- Control Rod Drive Mechanism 38-27 is scheduled to be replaced once CRDM 46-23 is restored.
- The following Control Rods are hydraulically disarmed for this work.

30-19	34-19	38-19	42-15	46-15	50-15	54-15
30-23	34-23	38-23	42-19	46-19	50-19	54-19
30-27	34-27	38-27	42-23	46-23	50-23	54-23
30-31	34-31	38-31	42-27	46-27	50-27	54-27
30-35	34-35	38-35	42-31	46-31	50-31	54-31
			42-35	46-35		

- As the CRS, you direct HC.OP-DL.ZZ-0026 logs for Attachment 2 ITEMS 12, 13, and 14 to be taken for the midnight shift.

INITIATING CUE:

Validate the completed HC.OP-DL.ZZ-0026 Attachment 2, ITEMS 12, 13 and 14 for the midnight shift.

**ATTACHMENT 2
Refuel/Core Alterations**

HCGS

Date _____

ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS
			MIN	NORM	MAX					
1.	REACTOR MODE SWITCH POSITION	5	---	LOCKED IN S/D OR REFUEL	---	(10C651)				(NOTE 1)
2.	DATE THE REACTOR MODE SWITCH REFUEL POSITION ONE-ROD-OUT INTERLOCK WAS VERIFIED OPERABLE IAW HC.OP-ST.KE-0001(Q)	5	---	---	WITHIN LAST 7 DAYS	N/A		N/A	N/A	
3.	ALL SRM'S FULLY INSERTED	4, 5	---	YES	---	(10C651)				
4.	RX WATER LEVEL >22' 2"	5	---	YES	---	(D1-A5 OR LOCAL)				
5.	ALL CONTROL RODS INSERTED AND ALL CONTROL ROD DRIVE MECHANISMS INSTALLED	4, 5				(10C651)				(NOTE 2)
6.	ADEQUATE SHUTDOWN MARGIN	5	---	YES	---	HC.RE-ST.ZZ-0007(Q)				
IF CORE ALTERATIONS ARE IN PROGRESS THEN COMPLETE ITEMS 7 THRU 9, OTHERWISE MARK ITEMS - N/A										
7.	OPERABLE SRM IN SAME AND ADJACENT QUADRANT AS CORE ALTERATIONS	4, 5	---	YES	---	(10C651)				
8.	DIRECT COMMUNICATION BETWEEN CONTROL ROOM AND REFUEL FLOOR EXISTS.	5	---	YES	---	(10C651)				
9.	DATE THE NEEDED REFUEL POSITION INTERLOCKS WERE DEMONSTRATED OPERABLE IAW HC.OP-ST.KE-0001(Q).	5	---	---	7 DAY	N/A				

- NOTES:**
1. ENSURE KEY IS REMOVED WHILE SWITCH IS BEING MAINTAINED "LOCKED".
 2. EXCEPT CONTROL RODS AND CONTROL ROD DRIVE MECHANISMS REMOVED PER T/S 3.9.10.1 OR 3.9.10.2 (SHORTING LINKS MAY HAVE TO BE PULLED FOR OTHER CONTROL ROD WITHDRAWAL)

**ATTACHMENT 2
Refuel/Core Alterations**

HCGS

Date _____

ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS
			MIN	NORM	MAX					
IF CONTROL RODS OR CONTROL ROD MECHANISMS HAVE BEEN REMOVED UNDER T/S 3.9.10.1 OR 3.9.10.2, THEN COMPLETE ITEMS 10 AND 11, OTHERWISE MARK ITEMS - N/A										
10	REACTOR MODE SWITCH POSITION	4, 5	---	LOCKED IN S/D OR REFUEL	---	(10C651)				(NOTE 1)
11	FUEL LOADING OPERATIONS SUSPENDED	4,5	---	YES	---	N/A				
IF CONTROL RODS OR CONTROL ROD MECHANISMS HAVE BEEN REMOVED UNDER T/S 3.9.10.1, THEN COMPLETE ITEMS 12 THRU 14, OTHERWISE MARK ITEMS - N/A										
12	4 FUEL ASSEMBLIES SURROUNDING EACH REMOVED CONTROL ROD OR MECHANISM HAVE BEEN REMOVED FROM THE CORE CELL OR ALL OTHER CONTROL RODS IN A 5X5 ARRAY HAVE BEEN INSERTED AND DISARMED.	4,5	---	YES	---	N/A			NO	OOS 1 -Rod 38-15 is not disarmed
13	VERIFY HC.OP-ST.SF-0001(Q) IS CURRENT.	4,5	---	---	18 MO	N/A	N/A	N/A	19 Mo	OOS 2 Surveillance is within 25% grace period of T.S 4.0.2
14	ALL OTHER CONTROL RODS ARE INSERTED	4, 5		YES					YES	
IF CONTROL RODS OR CONTROL ROD MECHANISMS HAVE BEEN REMOVED UNDER T/S 3.9.10.2, THEN COMPLETE ITEMS 15 AND 16, OTHERWISE MARK ITEMS - N/A										
15	THE 4 FUEL ASSEMBLIES SURROUNDING EACH REMOVED CONTROL ROD OR MECHANISM HAVE BEEN REMOVED FROM THE CORE CELL.	5	---	YES	---	N/A				(NOTE 3)
16	ALL OTHER CONTROL RODS ARE INSERTED	4, 5		YES						

- NOTES:**
1. ENSURE KEY IS REMOVED WHILE SWITCH IS BEING MAINTAINED "LOCKED".
 3. THE ONE-ROD-OUT INTERLOCK MAY BE BYPASSED FOR THE AFFECTED CONTROL CELLS AFTER THE FUEL IS REMOVED FROM THE CELLS (T/S 3.9.10.2.A)

**ATTACHMENT 2
Refuel/Core Alterations**

HCGS

Date _____

ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS
			MIN	NORM	MAX					
<p>IF THE REFUELING PLATFORM FUEL GRAPPLE IS IN SERVICE THEN COMPLETE ITEMS 17 THRU 24 (NOTE 4) IF THE REFUELING PLATFORM FUEL GRAPPLE IS NOT IN SERVICE OR IF ITEMS HAVE ALREADY BEEN COMPLETED ONCE ON THIS DAILY LOG THEN MARK ITEMS 17 THRU 24 AS N/A</p>										
17.	VISUALLY INSPECT THE FUEL GRAPPLE HOIST CABLE BY OBSERVING THE CABLE IS PROPERLY WOUND ON THE HOIST DRUM, NOT KINKED OR CREASED AND INDIVIDUAL WIRE THREADS ARE NOT BROKEN	5	---	SAT	---	(LOCAL)				
18.	VISUALLY INSPECT THE FUEL GRAPPLE PNEUMATIC HOSES BY OBSERVING THE HOSES ARE NOT RIPPED, TORN OR KINKED	5	---	SAT	---	(LOCAL)				
19.	VISUALLY INSPECT THE FUEL GRAPPLE LIGHT ELEC. CABLE BY OBSERVING THE CABLE IS NOT BROKEN OR STRIPPED	5	---	SAT	---	(LOCAL)				
20.	VERIFY THE NORMAL GRAPPLE UP LIMIT SWITCH IS OPERABLE BY OBSERVING THAT THE FUEL GRAPPLE HOIST AUTOMATICALLY STOPS APPROX. 8 FEET BELOW WATER LEVEL AND "NORMAL GRAPPLE UP" LIGHT ILLUMINATES	5	---	SAT	---	(LOCAL)				

NOTES: 4. ITEMS 17 THRU 24 ARE ONLY REQUIRED TO BE COMPLETED ONE TIME DAILY WHEN THE REFUELING PLATFORM FUEL GRAPPLE IS IN USE.

**ATTACHMENT 2
Refuel/Core Alterations**

HCGS

Date _____

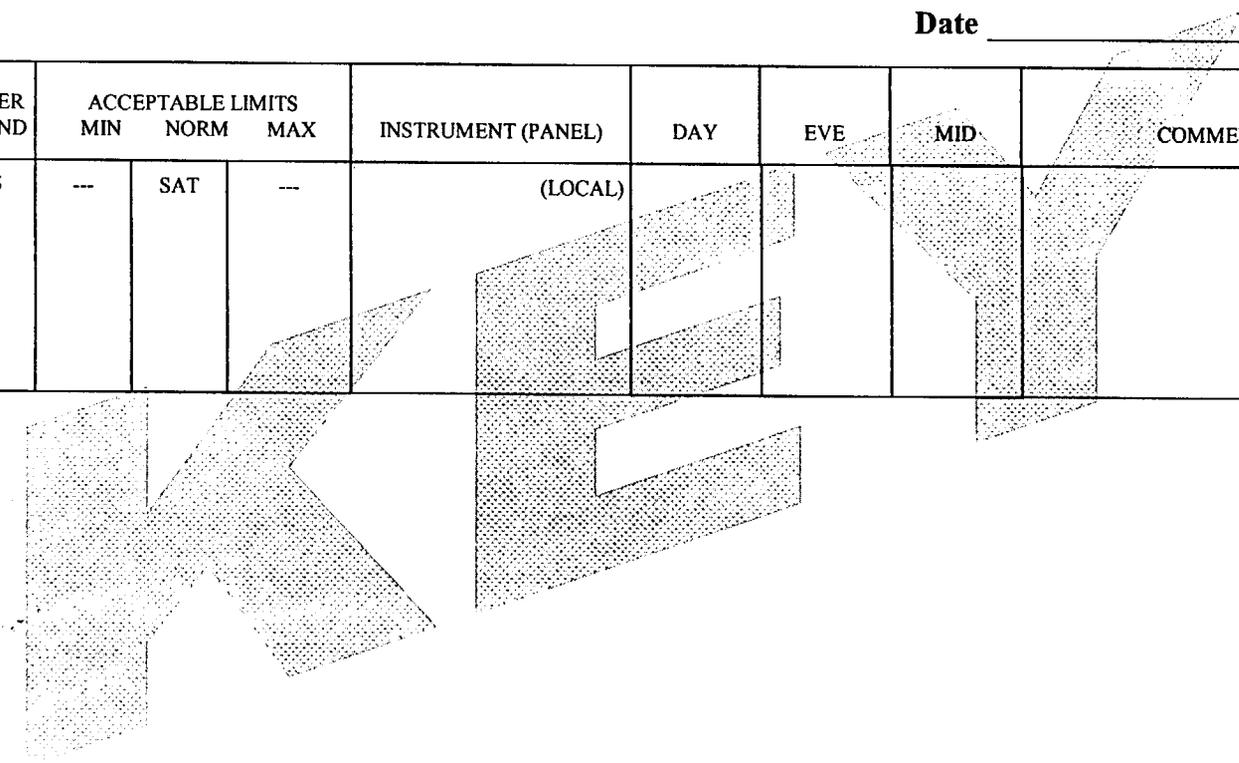
ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS
			MIN	NORM	MAX					
21.	VISUALLY INSPECT THE FUEL GRAPPLE HOOKS BY OBSERVING: A. <u>WHEN</u> THE FUEL GRAPPLE 'ENGAGE' PB IS DEPRESSED, THE FUEL GRAPPLE HOOKS MOVE TO THE ENGAGED POSITION, THE 'ENGAGE' LIGHT IS ON, <u>AND</u> NO AIR BUBBLES ESCAPE FROM THE AIR HOSES OR HOOK OPERATING CYLINDER, <u>AND</u> B. <u>WHEN</u> THE FUEL GRAPPLE 'RELEASE' PB IS DEPRESSED, THE FUEL GRAPPLE HOOKS MOVE TO THE RELEASED POSITION, THE 'ENGAGE' LIGHT IS OFF, <u>AND</u> NO AIR BUBBLES ESCAPE FROM THE AIR HOSES OR HOOK OPERATING CYLINDER.	5	---	SAT	---	(LOCAL)				
22.	VERIFY THE SLACK CABLE LIMIT SWITCH IS OPERABLE BY OBSERVING THAT <u>WHEN</u> THE GRAPPLE IS LOWERED ONTO A FUEL BUNDLE <u>OR</u> DUMMY FUEL BUNDLE, DOWNWARD MOTION AUTOMATICALLY STOPS <u>AND</u> THE "SLACK CABLE" LIGHT ILLUMINATES.	5	---	SAT	---	(LOCAL)				
23.	VERIFY THE HOIST LOADED SWITCH IS OPERABLE BY OBSERVING: A. <u>WHEN</u> A FUEL BUNDLE <u>OR</u> DUMMY FUEL BUNDLE IS LIFTED THE "HOIST LOADED" LIGHT ILLUMINATES, <u>AND</u> B. <u>WHEN</u> THE BUNDLE IS SET DOWN THE "HOIST LOADED" LIGHT EXTINGUISHES.	5	---	SAT	---	(LOCAL)				

**ATTACHMENT 2
Refuel/Core Alterations**

HCGS

Date _____

ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS
			MIN	NORM	MAX					
24.	VERIFY THE FUEL GRAPPLE BRAKE IS OPERABLE BY OBSERVING NO DOWNWARD MOTION OF THE FUEL GRAPPLE <u>WHEN A FUEL BUNDLE OR DUMMY FUEL BUNDLE IS SUSPENDED ON THE FUEL GRAPPLE.</u>	5	---	SAT	---	(LOCAL)				



HOPE CREEK GENERATING STATION

HC.OP-ST.SF-0001(Q) - Rev. 5

REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS

USE CATEGORY: I

REVISION SUMMARY

Biennial Review performed Yes ___ No ___ N/A

1. **Notification 20074864** – the following procedure changes allows partial performance of this procedure while performing Reactor shutdown:
 - Former Step 2.1.4 “Plant is in Condition 3, 4 or 5” has been deleted.
 - Former Step 5.1.4 “**ENSURE** the Reactor Mode Switch is in the REFUEL position” has been deleted. Step 2.5 already states “The Reactor Mode Switch can be placed in RUN, REFUEL, OR START UP & HOT STDY.”
2. The following changes were made in this revision to bring the procedure in line with the rules governing procedure format, content, and writer/reviewer guidelines, as contained in NC.NA-WG.ZZ-0001(Q), Procedure Writers Guide and reflect an identical change approved in an equal or higher tier procedure. These changes can be considered **Editorial** in nature.
 - This procedure has been revised to add Document Security classification statement “PSEG Internal Use Only” to procedure header.
 - All procedure references to WCCS have been deleted. Generic change.
 - Throughout this procedure, the word **Initials** has been removed from the place keeping column. Due to the extensive changes, revision bars were omitted.
 - This entire procedure has been re-formatted to conform to NC.NA-WG.ZZ-0001(Q) [Step 4.10.3 of the Writers Guide states “When formatting instructions in steps, substeps or details, include at least two items at that level (no A without a B, no 1 without a 2, etc.). Rewrite steps, substeps or details to prevent single items.”] This statement is applicable to Sections 2.0 & 5.0.
 - CAUTION 5.0 has been deleted, redundant information.
 - The information previously contented in CAUTION 5.1.4 has been placed into Step 5.4 and the caution has been deleted. This change has been incorporated to conform to NC.NA-WG.ZZ-0001(Q); Writers Guide [“never use a Note or Caution to convey a required action”]

IMPLEMENTATION REQUIREMENTS

Effective date _____

APPROVED: _____ TRAINING ONLY

Manager - Hope Creek Operations

_____ Date

HOPE CREEK GENERATING STATION

HC.OP-ST.SF-0001(Q) - Rev. 5

REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS

USE CATEGORY: I

REVISION SUMMARY

2. Continued (**Editorial changes**)
 - The information previously contented in CAUTION 5.13.5 regarding compliance with Tech Specs has been placed into Step 5.13.4 and the caution has been deleted. This change has been incorporated to conform to NC.NA-WG.ZZ-0001(Q); Writers Guide [“never use a Note or Caution to convey a required action”]
 - The information previously contented in former CAUTION 5.1.12.J has been placed into Step 5.12.11 and the caution has been deleted. This change has been incorporated to conform to NC.NA-WG.ZZ-0001(Q); Writers Guide [“never use a Note or Caution to convey a required action”]
 - The information previously contented in former CAUTION 5.1.12.Q has been placed into Step 5.12.19 and the caution has been deleted. This change has been incorporated to conform to NC.NA-WG.ZZ-0001(Q); Writers Guide [“never use a Note or Caution to convey a required action”]
 - Revised Step 6.1 by changing NC.NA-AP.ZZ-0003(Q), Document Management Program to NC.NA-AP.ZZ-0011(Q), Records Management Program.
 - Attachment has been revised to conform to SAP
3. Step 2.3 [indications] has been re-worded. This step previously stated, “Full Core Display lights indicate a full RPS Trip”. The step has been re-worded to state, “Scram lights on Full Core Display indicate a full RPS scram.” [Department reviewer’s comments]

ATTACHMENT 1
OS/CRS DATA AND SIGNATURE SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 1 of 3)

1.0 PRETEST INFORMATION

1.1 Reason for the Test

1.1.1 Regular Surveillance JS
INITIALS

1.1.2 Retest _____
INITIALS

1.1.3 IF not performing the complete test,
THEN LIST subsections to be performed.

SUBSECTION(S)

1.2 Plant Conditions

1.2.1 Operational Condition 4

1.2.2 Reactor Power Level 0

1.2.3 GMWe 0

1.3 Permission to Perform the Test

1.3.1 Permission granted to perform this test.

John Smith / 06/02/02-0700
OS/CRS DATE-TIME

1.3.2 Order No. 16146504897

**ATTACHMENT 2
CONTROL ROOM DATA SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 1 of 7)**

1.0 Reactor Mode Switch Functional Test

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.5	ROD OUT MOTION BLOCK	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3455- RPS MODE SWITCH A SHUTDOWN SCRAM BYPASS	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3456- RPS MODE SWITCH C SHUTDOWN SCRAM BYPASS	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3457- RPS MODE SWITCH B SHUTDOWN SCRAM BYPASS	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3458- RPS MODE SWITCH D SHUTDOWN SCRAM BYPASS	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.7	MODE SWITCH SHUTDOWN SCRAM BYP	ANNUN ENERGIZED	<i>ANNUN ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3455- RPS MODE SWITCH A SHUTDOWN SCRAM BYPASS	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3456- RPS MODE SWITCH C SHUTDOWN SCRAM BYPASS	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3457- RPS MODE SWITCH B SHUTDOWN SCRAM BYPASS	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3458- RPS MODE SWITCH D SHUTDOWN SCRAM BYPASS	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.8.1	REACTOR SCRAM TRIP LOGIC A1	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.8.2	REACTOR SCRAM TRIP LOGIC A2	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.8.3	REACTOR SCRAM TRIP LOGIC B1	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.8.4	REACTOR SCRAM TRIP LOGIC B2	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*

* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

**ATTACHMENT 2
CONTROL ROOM DATA SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 2 of 7)**

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.8.5	NORMAL/RESET - LOGIC A1	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.8.6	NORMAL/RESET -LOGIC A2	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.8.7	NORMAL/RESET - LOGIC B1	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.8.8	NORMAL/RESET -LOGIC B2	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.9.1	ROD OUT MOTION BLOCK	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.9.3	CONTROL ROD	CAN NOT BE WITHDRAWN	<i>CAN NOT BE WITHDRAWN</i>	<i>SAT</i>	<i>RC</i>	*
5.11.1	REACTOR SCRAM TRIP LOGIC A1	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.1.2	REACTOR SCRAM TRIP LOGIC A2	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.11.3	REACTOR SCRAM TRIP LOGIC B1	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.1.4	REACTOR SCRAM TRIP LOGIC B2	DE-ENERGIZED	<i>DE-ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
5.11.5	NORMAL/RESET LOGIC A1	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.11.6	NORMAL/RESET LOGIC A2	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.11.7	NORMAL/RESET LOGIC B1	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.11.8	NORMAL/RESET LOGIC B2	ILLUMINATED	<i>ILLUMINATED</i>	<i>SAT</i>	<i>RC</i>	*
5.12.3	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*

* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

**ATTACHMENT 2
CONTROL ROOM DATA SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 3 of 7)**

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.12.6	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	C5-C3 MSIV CLOSURE TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3451 - RPS MSL A CLOSURE TRIP BYP	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3452 - RPS MSL C CLOSURE TRIP BYP	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3453 - RPS MSL B CLOSURE TRIP BYP	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3454 - RPS MSL D CLOSURE TRIP BYP	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.12.8	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*

* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

**ATTACHMENT 2
CONTROL ROOM DATA SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 4 of 7)**

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.12.10	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.12.13	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.12.14	C5-C3 MSIV CLOSURE TRIP BYP	ANNUN ENERGIZED	<i>ANNUN ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3451 - RPS MSL A CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3452 - RPS MSL C CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3453 - RPS MSL B CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3454 - RPS MSL D CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*

* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

**ATTACHMENT 2
CONTROL ROOM DATA SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 5 of 7)**

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.12.16	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.12.18	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.12.21	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*

* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

ATTACHMENT 2
CONTROL ROOM DATA SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 6 of 7)

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.12.22	C5-C3 MSIV CLOSURE TRIP BYP	ANNUN ENERGIZED	<i>ANNUN ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3451 - RPS MSL A CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3452 - RPS MSL C CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3453 - RPS MSL B CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3454 - RPS MSL D CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.12.24	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN ENERGIZED	<i>ANNUN ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	IN ALARM	<i>IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
5.12.26	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	<i>SAT</i>	<i>RC</i>	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	<i>SAT</i>	<i>RC</i>	*

* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

ATTACHMENT 2

CONTROL ROOM DATA SHEET

REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS

(Page 7 of 7)

STEP	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
5.12.28	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	<i>ANNUN NOT ENERGIZED</i>	SAT	RC	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	<i>NOT IN ALARM</i>	SAT	RC	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	<i>NOT IN ALARM</i>	SAT	RC	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	<i>NOT IN ALARM</i>	SAT	RC	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	<i>NOT IN ALARM</i>	SAT	RC	*
5.12.29	C5-C3 MSIV CLOSURE TRIP BYP	ANNUN ENERGIZED	<i>ANNUN ENERGIZED</i>	SAT	RC	*
	D3451 - RPS MSL A CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	SAT	RC	*
	D3452 - RPS MSL C CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	SAT	RC	*
	D3453 - RPS MSL B CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	SAT	RC	*
	D3454 - RPS MSL D CLOSURE TRIP BYP	IN ALARM	<i>IN ALARM</i>	SAT	RC	*
5.12.30	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN ENERGIZED	<i>ANNUN ENERGIZED</i>	SAT	RC	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	IN ALARM	<i>IN ALARM</i>	SAT	RC	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	IN ALARM	<i>IN ALARM</i>	SAT	RC	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	IN ALARM	<i>IN ALARM</i>	SAT	RC	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	IN ALARM	<i>IN ALARM</i>	SAT	RC	*

* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Administration

TASK: Review Power Distribution Lineup Surveillance for Tech Spec compliance in abnormal alignment.

TASK NUMBER: 2990400102/2990080105

INITIAL CONDITIONS:

1. T-1 Station Power Transformer was cleared and tagged for maintenance. 1T60 and 1T30 are open.
2. BS1-2 13.8KV BUS SECTION 1-2 BKR is cleared and tagged for maintenance.
3. BS1-3 500KV BUS SECTION 1-3 BKR is cleared and tagged for maintenance.
4. B Emergency Diesel Generator has developed a problem with its air compressor and the EDG is declared inoperable.
5. HC.OP-ST.ZZ-0001, Power Distribution Lineup-Weekly, is in progress.
6. This procedure is being performed to satisfy Technical Specification Surveillance requirement 4.8.1.1.1.a as required by 3.8.1.1.Action b.

INITIATING CUE:

Perform the OS/CRS review of the completed HC.OP-ST.ZZ-0001.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM
 JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Administration

TASK: Review Power Distribution Lineup Surveillance for Tech Spec compliance in abnormal alignment.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
			Examiner Cue: Provide the operator with a copy of the partially completed procedure HC.OP-ST.ZZ-0001(Q).		
		Operator reviews precautions and limitations.	Operator reviews precautions and limitations. Examiner Cue: If excessive time is taken to review precautions and limitations, inform operator that all are satisfied.		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step of procedure to be 5.1.9.		
	5.1.9	START TIME: _____ SUBMIT this procedure to the OS/CRS for review <u>AND</u> completion of Attachment 1.	Operator reviews the surveillance for completion and satisfactory performance. The operator determines that the breaker positions noted in the OFFSITE TO ONSITE DISTRIBUTION section of Attachment 2 do not match the required positions.		

OPERATOR TRAINING PROGRAM
 JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Administration

TASK: Review Power Distribution Lineup Surveillance for Tech Spec compliance in abnormal alignment.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	Attach ment 2		Operator determines (using E-0001) that the lineup is satisfactory based on the guidance in the note below the table, and includes this determination in section 2.1.5 of Attachment 1. EXAMINER CUE: If the operator requests that the RO/PO correct the ST, inform the operator to make the necessary corrections to the Surveillance.		
*	2.1.1	SATISFACTORY (All acceptance criteria is marked SAT) STOP TIME: _____	Operator signs and dates the appropriate lines of Attachment 1. EXAMINER NOTE: There are several possible ways to note this on Attachment 1 because the procedure is not that specific. It is critical that the operator determines the present lineup complies with Technical Specification 3.8.1.1.a for AC Sources- Operating. The remarks made in 2.1.5 need to reflect the operator's rationale for compliance with Surveillance Requirement 4.8.1.1.1.a.		

Terminating Cue: Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete"

ATTACHMENT 2
Page 21 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 **Power Distribution Lineup (Continued)**

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
OFFSITE TO ONSITE DISTRIBUTION					
BS4-5	13KV BUS SECTION 4-5 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS6-7	13KV BUS SECTION 6-7 BKR	CLOSED	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
2T60	STA XFMR T2 CIRCUIT SWITCHER	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
4T60	STA XFMR T4 CIRCUIT SWITCHER	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS3-4	500KV BUS SECTION 3-4 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS6-5	500KV BUS SECTION 6-5 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS7-8	13KV BUS SECTION 7-8 BKR	OPEN	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS2-3	13KV BUS SECTION 2-3 BKR	OPEN	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS1-2	13KV BUS SECTION 1-2 BKR	CLOSED	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
BS9-0	13KV BUS SECTION 9-10 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
1T60	STA XFMR T1 CIRCUIT SWITCHER	CLOSED	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
3T60	STA XFMR T3 CIRCUIT SWITCHER	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS1-3	500KV BUS SECTION 1-3 BKR	CLOSED	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
BS5-1	500KV BUS SECTION 5-1 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS2-6	500KV BUS SECTION 2-6 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>

+ **NOTE:** The above alignment represents the normal lineup of the 500KV/13.8KV Switchyards. Deviations may exist while still maintaining two independent offsite power source separation. **IF** actual alignment deviates from the above, **CONSULT** electrical drawing E-0001-0 to determine if proper separation exists, and IAW the following criteria: 500KV Bus Sections 1 & 2 energized by two offsite sources (Red Lion 5015, New Freedom 5023, or Salem X-Tie 5037). Two feeds (10X and 20X) into a split 13.8KV Yard, with each feed supplying power to an energized separate Station Service Transformer (AX501 and BX501). An independent offsite feed is considered available to the safety related distribution system **IF** all four of the 1E infeed breakers are OPERABLE. **IF** less than 4 breakers are OPERABLE, **CONSIDER** the offsite feed inoperable and comply with ACTION 3.8.1.1 as appropriate.

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. T-1 Station Power Transformer was cleared and tagged for maintenance. 1T60 and 1T30 are open.
2. BS1-2 13.8KV BUS SECTION 1-2 BKR is cleared and tagged for maintenance.
3. BS1-3 500KV BUS SECTION 1-3 BKR is cleared and tagged for maintenance.
4. B Emergency Diesel Generator has developed a problem with its air compressor and the EDG is declared inoperable.
5. HC.OP-ST.ZZ-0001, Power Distribution Lineup-Weekly, is in progress.
6. This procedure is being performed to satisfy Technical Specification Surveillance requirement 4.8.1.1.1.a as required by 3.8.1.1.Action b..

INITIATING CUE:

Perform the OS/CRS review of the completed HC.OP-ST.ZZ-0001.

PSEG NUCLEAR L.L.C.

HOPE CREEK GENERATING STATION

HC.OP-ST.ZZ-0001(Q) - Rev. 17

POWER DISTRIBUTION LINEUP - WEEKLY

USE CATEGORY: I

A. Biennial Review performed Yes ___ No N/A ___

B. Change Package(s) and Affected Document Number(s) incorporated into this revision.

• CP No. _____ CP Rev. No. ___ AD No. _____ AD Rev. No. ___ or None

C. OTSC(s) incorporated into this revision:

• OTSC No(s) _____ **TRAINING ONLY** or None

REVISION SUMMARY

STUDENT COPY

1. Changed title of Operations Superintendent (OS) to Shift Manager (SM) throughout procedure. These changes are based on changes made in revision 9 to NC.NA-AP.ZZ-0002(Q), Organization. Editorial Change. Revision bars omitted.
2. **Order 80036095** - This procedure was revised in revision 14 under Order 80018875 to add a footnote to allow 125VDC bus voltages to be as high as 140 VDC when periodic equalizing of battery chargers was occurring (140 being T/S maximum). See note (1) on page 10 of 38 for an example of the footnote added, however, on page 36 of 38 the required values provided for the 125VDC readings was 125VDC NOMINAL. These required values required the same changes to support equalizing voltages. Editorial Change
3. Revised Step 6.1 by changing NC.NA-AP.ZZ-0003(Q), Document Management Program to NC.NA-AP.ZZ-0011(Q), Records Management Program. Editorial Change
4. Based on Writer Review note on Attachment 2 (page 21 of 30) was revised to remove reference to "Keeney 5015" line and replaced with correct reference to "Red Lion 5015". Editorial Change

IMPLEMENTATION REQUIREMENTS

Effective date _____

None

APPROVED: _____
Manager - Hope Creek Operations

Date

POWER DISTRIBUTION LINEUP - WEEKLY

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
1.0	PURPOSE.....	2
2.0	PREREQUISITES	2
3.0	PRECAUTIONS AND LIMITATIONS:.....	2
4.0	EQUIPMENT REQUIRED	2
5.0	PROCEDURE.....	3
	5.1 Power Distribution Lineup.....	3
6.0	RECORDS	4
7.0	REFERENCES	4
ATTACHMENTS		
Attachment 1	SM/CRS Data and Signature Sheet.....	5
Attachment 2	Inplant Data Sheet	8
Attachment 3	Measuring and Test Equipment Data Sheet	38

POWER DISTRIBUTION LINEUP - WEEKLY

1.0 **PURPOSE**

The purpose of this procedure is to ensure the Class 1E electrical distribution is aligned pursuant to Technical Specification 4.8.3.1, 4.8.3.2, or 4.8.1.1.1.a.

2.0 **PREREQUISITES**

2.1 **Power Distribution Lineup**

- 2.1.1 Permission to perform this test has been obtained from the SM/CRS as indicated by the completion of Attachment 1, Section 1.0. .JS
- 2.1.2 All personnel involved in the performance of this procedure, should complete Attachment 1, Section 3.0, prior to performing any part of this procedure. .JS
- 2.1.3 No other testing OR maintenance is in progress that will adversely affect the performance of this test. .JS

3.0 **PRECAUTIONS AND LIMITATIONS**

3.1 **Precautions**

IF at any time during the performance of this test, a step cannot be completed or is observed to be unsatisfactory;
IMMEDIATELY NOTIFY the NCO and the SM/CRS. [CD-927E] .JS

3.2 **Limitations**

None

4.0 **EQUIPMENT REQUIRED**

Voltmeter

5.0 PROCEDURE

5.1 Power Distribution Lineup

- 5.1.1 **LOG** test start time in the Control Room log(s). .JS
- 5.1.2 **ENSURE** that all prerequisites have been satisfied IAW Section 2.1 of this procedure. .JS
- 5.1.3 **ENSURE** Attachment 1, Section 1.0 of the SM/CRS Data and Signature Sheet has been completed and Regular Surveillance or Retest is indicated. .JS

NOTE 5.1.4

- A. Correct voltage may be checked by local or remote indication, CRIDS, and/or proper equipment operation.
- B. 250 VDC need not be performed when HPCI and/or RCIC are not required to be operable (i.e., condition 4 and 5).
- C. Only 2 channels may be required in Condition 4 or 5 (T/S 3.8.2.2 and 3.8.3.2)

- 5.1.4 **IF** performing this procedure to satisfy T/S Surveillance 4.8.1.1.1.a **ONLY**, **PERFORM** the following sections: [T/S 4.8.1.1.1.a]
 - 4.16KV SWITCHGEAR 10A401 .JS
 - 4.16KV SWITCHGEAR 10A402 .JS
 - 4.16KV SWITCHGEAR 10A403 .JS
 - 4.16KV SWITCHGEAR 10A404 .JS
 - OFFSITE TO ONSITE DISTRIBUTION .JS
- 5.1.5 **RECORD** M&TE identification numbers and calibration due dates for test equipment utilized for this test on Attachment 3 **THEN ASSIGN** a Production Resource Tool (PRT) to activity 0220 of Order 80014483 for the M&TE utilized **AND RECORD** in the long text of the PRT the surveillance and date performed. [80024844] N/A

NOTE 5.1.6

The line-up provided in Attachment 2 verifies that the Class 1E electrical distribution is aligned IAW Technical Specification requirements. Indications other than those provided in Attachment 2 may be utilized to verify the required line-up. This may be necessary due to maintenance, abnormal line-ups, etc.

- 5.1.6 **PERFORM** Power Distribution Lineup by completing Attachment 2. JS
- 5.1.7 IF any indication not specified in Attachment 2 was used to satisfy this surveillance
 THEN DOCUMENT
 AND JUSTIFY its use in Section 2.1.5 of Attachment 1. JS
- 5.1.8 **LOG** test end time in Control Room log(s). JS
- 5.1.9 **SUBMIT** this procedure to the SM/CRS for review
 AND completion of Attachment 1. JS

6.0 RECORDS

- 6.1 **RETAIN** the following IAW NC.NA-AP.ZZ-0011(Q); Records Management Program:
 - Procedure cover page
 - Attachment 1 - SM/CRS Data and Signature Sheet
 - Attachment 2 - Power Distribution Lineup (include applicable pages)
 - Attachment 3 - Measuring and Test Equipment Data Sheet

7.0 REFERENCES

- 7.1 Drawings:
 - E-0001-0, E-0002-1, Shts. 1 & 2, E-0003-1, E-0004-1, E-0005-1, Shts. 1 & 2,
 - E-0006-1, Shts. 1 & 2, E-0009-1, Shts. 1 - 5, E-0011-1, Shts. 1 & 2,
 - E-0012-1, Shts. 1 - 5, E-0014-0, E-0015-0, Shts. 1 - 3, E-0016-0,
 - E-0018-1, Shts. 1 - 3, E-0019-1, Shts. 1 & 2, E-0020-1, Shts. 1 & 2,
 - E-0021-1, Shts. 1 - 6, E-0022-1, Shts. 1 & 2, E-0023-1, Shts. 1 - 4
 - E-1405-1, Shts. 9a, 10a, 11a, 12a

7.2 Commitment Document

CD-927E (NRC INFO 87-25)

ATTACHMENT 1
Page 1 of 3
SM/CRS DATA AND SIGNATURE SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.0 PRETEST INFORMATION

1.1 Reason for the Test

1.1.1 Regular Surveillance _____
INITIALS

1.1.2 4.8.1.1.1.a ONLY _____ *JW*
(SEE 5.1.4) INITIALS

1.1.3 Retest/Other _____
INITIALS

1.1.4 IF not performing the complete test,
THEN LIST subsection(s) to be performed, as well
as marking N/A on the applicable subsection(s) on the
Attachment(s) that will not be performed,
OR that do not require an independent verification IAW
NC.NA-AP.ZZ-0005(Q); Station Operating Practices.

5.1.4

SUBSECTION(S)

1.2 Plant Conditions

1.2.1 Operational Condition _____ **1**

1.2.2 Reactor Power Level _____ **100**

1.2.3 MWe _____ **1125**

1.3 Permission to Perform the Test

1.3.1 Permission granted to perform this test.

John P. Wayne / Today's Date-Time
SM/CRS DATE-TIME

ATTACHMENT 1
Page 2 of 3
SM/CRS DATA AND SIGNATURE SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

2.0 POST TEST INFORMATION

2.1 The data acquired during the performance of this test has been reviewed for completeness and compliance with Technical Specification 4.8.3.1, 4.8.3.2, or 4.8.1.1.1.a and the test is considered:

2.1.1 SATISFACTORY (All acceptance criteria is marked SAT)

_____/_____
SM/CRS DATE-TIME

2.1.2 UNSATISFACTORY AND
IF necessary the T/S ACTION statement has been implemented.

_____/_____
SM/CRS DATE-TIME

2.1.4 Order No. _____

2.1.5 Remarks _____

ATTACHMENT 2
Page 1 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL A	INVRT 1AD482				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED			*
CB21	AUCTIONEER DC OUTPUT	CLOSED			*
CB101	INVRT DC INPUT	CLOSED			*
CB10	INVRT AC OUTPUT	CLOSED			*
SWITCH	MANUAL BYPASS	NORM			* @
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			*
	VOLTAGE ON 1AD482 (A7151)	108 - 132V			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

@ MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED OR ISOLATE TO PREFERRED positions.

ATTACHMENT 2
Page 2 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL B	INVRT 1BD482				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED		N/A	*
CB21	AUCTIONEER DC OUTPUT	CLOSED			*
CB101	INVRT DC INPUT	CLOSED			*
CB10	INVRT AC OUTPUT	CLOSED			*
SWITCH	MANUAL BYPASS	NORM			* @
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			*
	VOLTAGE ON 1BD482 (A7154)	108 - 132V			*

* Acceptance Criterion - the SAT block must be marked SAT.

@ MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED OR ISOLATE TO PREFERRED positions.

**ATTACHMENT 2
Page 3 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL C	INVRT 1CD482				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED			
CB21	AUCTIONEER DC OUTPUT	CLOSED			
CB101	INVRT DC INPUT	CLOSED			
CB10	INVRT AC OUTPUT	CLOSED			
SWITCH	MANUAL BYPASS	NORM			
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			
	VOLTAGE ON 1CD482 (A7157)	108 - 132V			
CHANNEL C	BATTERY BANK 1CD447				
1CD448 XFER SW	1CD447 MANUAL XFER SWITCH	CLOSED			
CHANNEL C	125 VOLT D.C. SWGR 10D436				
43613	1CD444 FEED TO 10D436	CLOSED			
43622	10D436 FEED TO INVRT 1CD482	CLOSED			
	VOLTAGE ON 10D436 (A7125)	129 - 137.5V ⁽¹⁾			

* Acceptance Criterion - the SAT block must be marked SAT.

@ MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED OR ISOLATE TO PREFERRED positions.

(1) IF the equalize charge is in progress, the voltage may be as high as 140 volts.

ATTACHMENT 2
Page 4 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL D	125 VOLT D.C. SWGR 10D446'				
44613	1DD444 FEED TO 10D446	CLOSED			*
44622	10D446 FEED TO INVRT 1DD482	CLOSED			*
	VOLTAGE ON 10D446 (A7129)	129 - 137.5V ⁽¹⁾			*
CHANNEL D	INVRT 1DD482				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED			*
CB21	AUCTIONEER DC OUTPUT	CLOSED			*
CB101	INVRT DC INPUT	CLOSED			*
CB10	INVRT AC OUTPUT	CLOSED			*
SWITCH	MANUAL BYPASS	NORM			* (a)
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			*
	VOLTAGE ON 1DD482 (A7160)	108 - 132V			*
CHANNEL D	BATTERY BANK 1DD447				
1DD448 XFER SW	1DD447 MANUAL XFER SWITCH	CLOSED			*

* Acceptance Criterion - the SAT block must be marked SAT.

@ MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED OR ISOLATE TO PREFERRED positions.

(1) IF the equalize charge is in progress, the voltage may be as high as 140 volts.

**ATTACHMENT 2
Page 5 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup(Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL D	BATTERY BANK 1DD411				
1DD412 XFER SW	1DD411 MANUAL XFER SWITCH	CLOSED			
CHANNEL B	BATTERY BANK 1BD411				
1BD412 XFER SW	1BD411 MANUAL XFER SWITCH	CLOSED			
CHANNEL C	BATTERY BANK 1CD411				
1CD412 XFER SW	1CD411 MANUAL XFER SWITCH	CLOSED			
CHANNEL A	BATTERY BANK 1AD411				
1AD412 XFER SW	1AD411 MANUAL XFER SWITCH	CLOSED			

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 6 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL A	4.16KV SWGR 10A401				
40101	ALTERNATE FEEDER BKR TO 10A401	OPEN	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
40103	10A401 FEED TO 10B450	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i> *
40107	EDG AG400 OUTPUT BKR TO 10A401	OPEN	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
40108	NORMAL FEEDER BKR TO BUS 10A401	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
40110	10A401 FEED TO 10B410	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i> *
	VOLTAGE ON 10A401(A7061)	3744 - 4576V	<i>4200</i>	<i>SAT</i>	<i>JS</i> *
CHANNEL A	480 VOLT BUS 10B410				
41022	10B410 FEED TO MCC 10B212	CLOSED	N/A		
41021	10B410 FEED TO MCC 10B411	CLOSED			
	VOLTAGE ON 10B410	432 - 528V			
CHANNEL A	480 VOLT BUS 10B450				
45022	10B450 FEED TO MCC 10B553	CLOSED			
45021	10B450 FEED TO MCC 10B451	CLOSED			
	VOLTAGE ON 10B450	432 - 528V			

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 7 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL A	480 VOLT MCC 10B411				
411032	10B411 FEED TO BATTERY CHGR 1AD413	CLOSED			
411033	10B411 ALT FEED TO INVRT 1AD481	CLOSED			
411041	10B411 FEED TO BATTERY CHGR 10D423	CLOSED			
411043	10B411 NORMAL FEED TO INVRT 1AD482	CLOSED			
411061	10B411 FEED TO PANEL 10Y401	CLOSED			
CHANNEL A	480 VOLT MCC 10B451				
451014	10B451 ALT FEED TO INVRT 1AD482	CLOSED			
451021	10B451 NORM FEED TO INVRT 1AD481	CLOSED			
451022	10B451 FEED TO BATTERY CHGR 1AD414	CLOSED			
451051	10B451 FEED TO PANEL 10Y411	CLOSED			
CHANNEL A	125 VOLT D.C. SWGR 10D410				
41013	1AD414 FEED TO 10D410	CLOSED			
41022	10D410 FEED TO INVRT 1AD481	CLOSED			
41023	10D410 FEED TO DIST PNL 1AD417	CLOSED			
41024	1AD413 FEED TO 10D410	CLOSED			
41032	10D410 FEED TO INVRT 1AD482	CLOSED			
	VOLTAGE ON 10D410 (A7093)	129 – 137.5V ⁽¹⁾			

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

(1) IF the equalize charge is in progress, the voltage may be as high as 140 volts.

ATTACHMENT 2
Page 8 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 **Power Distribution Lineup (Continued)**

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL C	4.16KV SWGR 10A403				
40301	ALTERNATE FEEDER BKR TO 10A403	OPEN	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
40303	10A403 FEED TO 10B470	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
40307	EDG CG400 OUTPUT BKR TO 10A403	OPEN	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
40308	NORMAL FEEDER BKR TO 10A403	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
40310	10A403 FEED TO 10B430	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
	VOLTAGE ON 10A403 (A7066)	3744 - 4576V	<i>4200</i>	<i>SAT</i>	<i>JS</i>
CHANNEL C	480 VOLT BUS 10B430				
43022	10B430 FEED TO MCC 10B232	CLOSED			
43021	10B430 FEED TO MCC 10B431	CLOSED			
	VOLTAGE ON 10B430	432 - 528V			
CHANNEL C	480 VOLT MCC 10B470				
47022	10B470 FEED TO MCC 10B573	CLOSED			
47021	10B470 FEED TO MCC 10B471	CLOSED			
	VOLTAGE ON 10B470	432 - 528V			

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 9 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL C	480 VOLT MCC 10B431				
431022	10B431 NORMAL FEED TO INVRT 1CD482	CLOSED			
431032	10B431 FEED TO BATTERY CHGR 1CD413	CLOSED			
431033	10B431 ALT. FEED TO INVRT 1CD481	CLOSED			
431034	10B431 FEED TO BATTERY CHGR 1CD444	CLOSED			
431061	10B431 FEED TO PANEL 10Y403	CLOSED			
CHANNEL C	480 VOLT MCC 10B471				
471021	10B471 NORM FEED TO INVRT 1CD481	CLOSED			
471022	10B471 FEED TO BATTERY CHGR 1CD414	CLOSED			
471061	10B471 ALT FEEDER TO INVRT 1CD482	CLOSED			
471071	10B471 FEED TO PANEL 10Y413	CLOSED			
CHANNEL C	125 VOLT D.C. SWGR 10D430				
43013	1CD414 FEED TO 10D430	CLOSED			
43022	10D430 FEED TO INVRT 1CD481	CLOSED			
43023	10D430 FEED TO DIST PNL 1CD417	CLOSED			
43024	1CD413 FEED TO 10D430	CLOSED			
	VOLTAGE ON 10D430 (A7105)	129 – 137.5V ⁽¹⁾			

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

(1) If the equalize charge is in progress, the voltage may be as high as 140 volts.

ATTACHMENT 2
Page 10 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL B	4.16KV SWGR 10A402				
40201	NORMAL FEEDER BKR TO 10A402	CLOSED	CLOSED	<i>SAT</i>	<i>JS</i>
40203	10A402 FEED TO 10B460	CLOSED	CLOSED	<i>SAT</i>	<i>JS</i> *
40207	EDG BG400 OUTPUT BKR TO 10A402	OPEN	OPEN	<i>SAT</i>	<i>JS</i>
40208	ALTERNATE FEEDER BKR TO 10A402	OPEN	OPEN	<i>SAT</i>	<i>JS</i>
40210	10A402 FEED TO 10B420	CLOSED	CLOSED	<i>SAT</i>	<i>JS</i> *
	VOLTAGE ON 10A402 (A7076)	3744 - 4576V	4200	<i>SAT</i>	<i>JS</i> *
CHANNEL B	480 VOLT BUS 10B420				
42022	10B420 FEED TO MCC 10B222	CLOSED	N/A		*
42021	10B420 FEED TO MCC 10B421	CLOSED			*
	VOLTAGE ON 10B420	432 - 528V			*
CHANNEL B	480 VOLT BUS 10B460				
46022	10B460 FEED TO MCC 10B563	CLOSED			*
46021	10B460 FEED TO MCC 10B461	CLOSED			*
	VOLTAGE ON 10B460	432 - 528V			*

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 11 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL B	480 VOLT MCC 10B421				
421022	10B421 NORM FEED TO INVRT 1BD482	CLOSED			
421032	10B421 FEED TO BATTERY CHGR 1BD413	CLOSED			
421033	10B421 ALT FEED TO INVRT 1BD481	CLOSED			
421041	10B421 FEED TO BATTERY CHGR 10D433	CLOSED			
421061	10B421 FEED TO PANEL 10Y402	CLOSED			*
CHANNEL B	480 VOLT MCC 10B461				
461014	10B461 ALT FEED TO INVRT 1BD482	CLOSED			
461021	10B461 NORM FEED TO INVRT 1BD481	CLOSED			
461022	10B461 FEED TO BATTERY CHGR 1BD414	CLOSED			
461051	10B461 FEED TO PANEL 10Y412	CLOSED			*
CHANNEL B	125 VOLT D.C. SWGR 10D420				
42013	1BD414 FEED TO 10D420	CLOSED			*
42022	10D420 FEED TO INVRT 1BD481	CLOSED			*
42023	10D420 FEED TO DIST PNL 1BD417	CLOSED			*
42024	1BD413 FEED TO 10D420	CLOSED			*
42032	10D420 FEED TO INVRT 1BD482	CLOSED			*
	VOLTAGE ON 10D420 (A7099)	129 – 137.5V ⁽¹⁾			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

(1) IF the equalize charge is in progress, the voltage may be as high as 140 volts.

**ATTACHMENT 2
Page 12 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL D	4.16KV SWGR 10A404				
40401	NORMAL FEEDER BKR TO 10A404	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
40403	10A404 FEED TO 10B480	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i> *
40407	EDG DG400 OUTPUT BKR TO 10A404	OPEN	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
40408	ALTERNATE FEEDER BKR TO 10A404	OPEN	<i>OPEN</i>	<i>SAT</i>	<i>JS</i>
40410	10A404 FEED TO 10B440	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i> *
	VOLTAGE ON 10A404 (A7071)	3744 - 4576V	<i>4200</i>	<i>SAT</i>	<i>JS</i> *
CHANNEL D	480 VOLT BUS 10B440				
44022	10B440 FEED TO MCC 10B242	CLOSED			
44021	10B440 FEED TO MCC 10B441	CLOSED			
	VOLTAGE ON 10B440	432 - 528V			
CHANNEL D	480 VOLT BUS 10B480				
48022	10B480 FEED TO MCC 10B583	CLOSED			
48021	10B480 FEED TO MCC 10B481	CLOSED			
	VOLTAGE ON 10B480	432 - 528V			

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 13 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL D	480 VOLT MCC 10B441				
441022	10B441 NORM FEED TO INVRT 1DD482	CLOSED			
441032	10B441 FEED TO BATTERY CHGR 1DD413	CLOSED			
441033	10B441 ALT. FEED TO INVRT 1DD481	CLOSED			
441034	10B441 FEED TO BATTERY CHGR 1DD444	CLOSED			
441061	10B411 FEED TO PANEL 10Y404	CLOSED			*
CHANNEL D	480 VOLT MCC 10B481				
481014	10B481 ALT FEEDER TO INVRT 1DD482	CLOSED			
481021	10B481 NORM FEED TO INVRT 1DD481	CLOSED			
481022	10B481 FEED TO BATTERY CHGR 1DD414	CLOSED			
481071	10B481 FEED TO PANEL 10Y414	CLOSED			*
CHANNEL D	125 VOLT D.C. SWGR 10D440				
44013	1DD414 FEED TO 10D440	CLOSED			*
44022	10D440 FEED TO INVRT 1DD481	CLOSED			*
44023	10D440 FEED TO DIST PNL 10D417	CLOSED			*
44024	1DD413 FEED TO 10D440	CLOSED			*
	VOLTAGE ON 10D440 (A7111)	129 – 137.5V ⁽¹⁾			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

(1) If the equalize charge is in progress, the voltage may be as high as 140 volts.

ATTACHMENT 2
Page 14 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup(Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL A	250VDC SWGR 10D450	**			
45013	BATTERY CHGR 10D423 FEED TO 10D450	CLOSED			*
45014	10D450 FEED TO MCC 10D251	CLOSED			*
	VOLTAGE ON 10D450 (A7116)	258 - 280			*
CHANNEL A	250 VDC BATTERY BANK 10D421	**			
10D422 XFER SW	10D421 MANUAL XFER SWITCH	CLOSED			*
CHANNEL B	250VDC SWGR 10D460	**			
46013	BATTERY CHGR 10D433 FEED TO 10D460	CLOSED			*
46014	10D460 FEED TO MCC 10D261	CLOSED			*
	VOLTAGE ON 10D460 (A7120)	258 - 280			*
CHANNEL B	250 VDC BATTERY BANK 10D431	**			
10D432 XFER SW	10D431 MANUAL XFER SWITCH	CLOSED			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.
 ** Not required in Conditions 4 and 5.

**ATTACHMENT 2
Page 15 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL B	INVRT 1BD481				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED			*
CB21	AUCTIONEER DC OUTPUT	CLOSED			*
CB101	INVRT DC INPUT	CLOSED			*
CB10	INVRT AC OUTPUT	CLOSED			*
SWITCH	MANUAL BYPASS	NOTE 1			*
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			*
	VOLTAGE ON 1BD481 (A7142)	108 - 132V			x
CHANNEL B	120 VOLT A.C. DIST PANEL 1BJ481				
CKT# 11	1BJ481 SUPPLY TO FUSE PNL 1YF402	CLOSED			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

NOTE 1 MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED or ISOLATE TO PREFERRED positions.

ATTACHMENT 2
Page 16 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL D	INVRT 1DD481				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED			*
CB21	AUCTIONEER DC OUTPUT	CLOSED			*
CB101	INVRT DC INPUT	CLOSED			*
CB10	INVRT AC OUTPUT	CLOSED			*
SWITCH	MANUAL BYPASS	NOTE 1			*
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			*
	VOLTAGE ON 1DD481 (A7148)	108 - 132V			*
CHANNEL D	120 VOLT A.C. DIST PANEL 1DJ481				
CKT# 11	1DJ481 SUPPLY TO FUSE PNL 1YF404	CLOSED			*

* Acceptance Criterion - the SAT block must be marked SAT.

NOTE 1 MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED or ISOLATE TO PREFERRED positions.

ATTACHMENT 2
Page 17 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup(Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL C	INVRT 1CD481				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED			*
CB21	AUCTIONEER DC OUTPUT	CLOSED			*
CB101	INVRT DC INPUT	CLOSED			*
CB10	INVRT AC OUTPUT	CLOSED			*
SWITCH	MANUAL BYPASS	NOTE 1			*
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			*
	VOLTAGE ON 1CD481 (A7145)	108 - 132V			*
CHANNEL C	120 VOLT A.C. DIST PANEL 1CJ481				
CKT# 11	1CJ481 SUPPLY TO FUSE PNL 1YF403	CLOSED			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

NOTE 1 MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED or ISOLATE TO PREFERRED positions.

**ATTACHMENT 2
Page 18 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL A	INVRT 1AD481				
CB301	REGULATOR AC INPUT	CLOSED			
CB302	REGULATOR AC OUTPUT	CLOSED			
CB201	RECTIFIER AC INPUT	CLOSED			
CB20	ALTERNATE DC INPUT	CLOSED			*
CB21	AUCTIONEER DC OUTPUT	CLOSED			*
CB101	INVRT DC INPUT	CLOSED			*
CB10	INVRT AC OUTPUT	CLOSED			*
SWITCH	MANUAL BYPASS	NOTE 1			*
GRN LAMP	PREFERRED POSITION -STATIC SWITCH	ON			*
	VOLTAGE ON 1AD481 (A7139)	108 - 132V			*
CHANNEL A	120 VOLT A.C. DIST PANEL 1AJ481				
CKT# 11	1AJ481 SUPPLY TO FUSE PNL 1YF401	CLOSED			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

NOTE 1 MANUAL BYPASS SWITCH can be in either NORM, BYPASS TO PREFERRED or ISOLATE TO PREFERRED positions.

ATTACHMENT 2
Page 19 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL A	480 VOLT MCC 10B212				
212042	10B212 FEED TO PANEL 10Y201	CLOSED			
CHANNEL B	480 VOLT MCC 10B222				
222042	10B222 FEED TO PANEL 10Y202	CLOSED			
CHANNEL C	480 VOLT MCC 10B232				
232072	10B232 FEED TO PANEL 10Y203	CLOSED			
CHANNEL D	480 VOLT MCC 10B242				
242063	10B242 FEED TO PANEL 10Y204	CLOSED			

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 20 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
CHANNEL A	480 VOLT MCC 10B553				
553013	10B553 FEED TO PANEL 10Y501	CLOSED			*
CHANNEL B	480 VOLT MCC 10B563				
563013	10B563 FEED TO PANEL 10Y502	CLOSED			*
CHANNEL C	480 VOLT MCC 10B573				
573013	10B573 FEED TO PANEL 10Y503	CLOSED			*
CHANNEL D	480 VOLT MCC 10B583				
583013	10B583 FEED TO PANEL 10Y504	CLOSED			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 21 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
OFFSITE TO ONSITE DISTRIBUTION					
BS4-5	13KV BUS SECTION 4-5 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS6-7	13KV BUS SECTION 6-7 BKR	CLOSED	OPEN	UNSAT	<i>JS</i>
2T60	STA XFMR T2 CIRCUIT SWITCHER	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
4T60	STA XFMR T4 CIRCUIT SWITCHER	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS3-4	500KV BUS SECTION 3-4 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS6-5	500KV BUS SECTION 6-5 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS7-8	13KV BUS SECTION 7-8 BKR	OPEN	CLOSED	UNSAT	<i>JS</i>
BS2-3	13KV BUS SECTION 2-3 BKR	OPEN	CLOSED	UNSAT	<i>JS</i>
BS1-2	13KV BUS SECTION 1-2 BKR	CLOSED	OPEN	UNSAT	<i>JS</i>
BS9-0	13KV BUS SECTION 9-10 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
1T60	STA XFMR T1 CIRCUIT SWITCHER	CLOSED	OPEN	UNSAT	<i>JS</i>
3T60	STA XFMR T3 CIRCUIT SWITCHER	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS1-3	500KV BUS SECTION 1-3 BKR	CLOSED	OPEN	UNSAT	<i>JS</i>
BS5-1	500KV BUS SECTION 5-1 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>
BS2-6	500KV BUS SECTION 2-6 BKR	CLOSED	<i>CLOSED</i>	<i>SAT</i>	<i>JS</i>

+ **NOTE:** The above alignment represents the normal lineup of the 500KV/13.8KV Switchyards. Deviations may exist while still maintaining two independent offsite power source separation. **IF** actual alignment deviates from the above, **CONSULT** electrical drawing E-0001-0 to determine if proper separation exists, and IAW the following criteria: 500KV Bus Sections 1 & 2 energized by two offsite sources (Red Lion 5015, New Freedom 5023, or Salem X-Tie 5037). Two feeds (10X and 20X) into a split 13.8KV Yard, with each feed supplying power to an energized separate Station Service Transformer (AX501 and BX501). An independent offsite feed is considered available to the safety related distribution system **IF** all four of the 1E infeed breakers are OPERABLE. **IF** less than 4 breakers are OPERABLE, **CONSIDER** the offsite feed inoperable and comply with ACTION 3.8.1.1 as appropriate.

ATTACHMENT 2
Page 22 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
1YF401	OPEN <u>OR</u> CLOSED indicating light for valve KLHV-5155 (10C650) lit	ILLUMINATED				*
	<u>OR</u>	<u>OR</u>		<u>OR</u>		
	OPEN <u>OR</u> CLOSED indicating light for valve EEHV-4655 (10C650) lit	ILLUMINATED				*
1YF402	OPEN or CLOSED indicating light for valve GSHV-5031 (10C650) lit	ILLUMINATED				*
	<u>OR</u>	<u>OR</u>		<u>OR</u>		
	OPEN <u>OR</u> CLOSED indicating light for valve EEHV-4656 (10C650) lit	ILLUMINATED				*
1YF403	OPEN <u>OR</u> CLOSED indicating light for valve KLHV-5156A (10C650) lit	ILLUMINATED			*	
	<u>OR</u>	<u>OR</u>	<u>OR</u>			
	OPEN <u>OR</u> CLOSED indicating light for valve EGHV-2520C (10C650) lit	ILLUMINATED		NA	*	
1YF404	OPEN <u>OR</u> CLOSED indicating light for valve KLHV-5161 (10C650) lit	ILLUMINATED			*	
	<u>OR</u>	<u>OR</u>	<u>OR</u>			
	OPEN <u>OR</u> CLOSED indicating light for valve EGHV-2520D (10C650) lit	ILLUMINATED			*	
10Y401	VERIFY AK403 oil heater is on (local power light is on)	ILLUMINATED			*	
	<u>OR</u>	<u>OR</u>	<u>OR</u>			
	Solenoid valve to EGHV-2302A <u>OR</u> EGHV-2302E is energized	ENERGIZED			* #	

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

Solenoid verified energized by high temperature above ambient and the SACS cooling water valve is closed.

**ATTACHMENT 2
Page 23 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup(Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF		
10Y402	VERIFY BK403 oil heater is on (local power light is on)	ILLUMINATED	NA				*
	OR	OR					* #
10Y403	Solenoid valve to EGHV-2302B OR EGHV-2302F is energized	ENERGIZED					* #
	VERIFY at least one power supply indicates power is available. (Control Area HVAC Pnl AC485)	ILLUMINATED					* @
10Y404	Solenoid valve to EGHV-2302C is energized	ENERGIZED					* #
	VERIFY at least one power supply indicates power is available. (Control Area HVAC Pnl BC485)	ILLUMINATED					* @
10Y411	Solenoid valve to EGHV-2302D is energized	ENERGIZED					* #
	VERIFY at least one power supply indicates power is available. (Diesel Area HVAC Pnl 1AC486)	ILLUMINATED					* @
10Y412	VERIFY at least one power supply indicates power is available. (Diesel Area HVAC Pnl 1BC486)	ILLUMINATED					* @

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

@ Cabinet power supplies, (Westinghouse Veritrack) are located inside of the listed panel. Each supply has a power available light located on the front face.

Solenoid verified energized by high temperature above ambient and the SACS cooling water valve is closed.

**ATTACHMENT 2
Page 24 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup(Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
10Y413	VERIFY AK400 oil heater is on (local power light is on)	ILLUMINATED				*
	<u>OR</u>	<u>OR</u>				*
10Y414	Voltage to USS 10B430 panel htr is present (SEE Note 1)	POWER AVAILABLE				*
	VERIFY BK400 oil heater is on (local power light is on)	ILLUMINATED				*
10Y501	Voltage to USS 10B440 panel htr is present (SEE Note 2)	POWER AVAILABLE				*
	VERIFY at least one power supply indicates power is available. (SSW Pump Pnl 1AC516)	ILLUMINATED				@
10Y502	VERIFY at least one power supply indicates power is available. (SSW Pump Pnl 1BC516)	ILLUMINATED				* @
10Y503	VERIFY at least one power supply indicates power is available. (SSW Pump Pnl 1CC516)	ILLUMINATED				* @
10Y504	VERIFY at least one power supply indicates power is available. (SSW Pump Pnl 1DC516)	ILLUMINATED				* @

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

@ Cabinet power supplies, (Westinghouse Veritrack) are located inside of the listed panel. Each supply has a power available light located on the front face.

NOTE 1 - shift electrician to measure a **nominal** voltage of 208 VAC between top left terminal , device “RB” and top left terminal , device “RU” (bay 1, 10B430)

NOTE 2 - shift electrician to measure a **nominal** voltage of 208 VAC between top left terminal , device “RB” and top left terminal , device “RU” (bay 1, 10B440)

ATTACHMENT 2
Page 25 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 Power Distribution Lineup(Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
MCC 10B212	With OPEN OR CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C650): 1BEHV-F001A 1BCHV-F004A 1BCHV-F007A	NOT ILLUMINATED	↘	N/A	*
MCC 10B411	With OPEN OR CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C650): 1BCHV-F049 1BCHV-F022	NOT ILLUMINATED			*
MCC 10B451	With OPEN OR CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C650): 1BCHV-F006A RHR SHUTDOWN CLG 1BCHV-F009 RHR SHUTDOWN CLG SUCT INBD 1BCHV-F021A RHR CONTAINMENT SPRAY	NOT ILLUMINATED			*
MCC 10B553	With OPEN OR CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C651): 1EAHV-2198A 1EAHV-2197A	NOT ILLUMINATED			*

* Acceptance Criterion - the SAT block must be marked SAT.

ATTACHMENT 2
Page 26 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

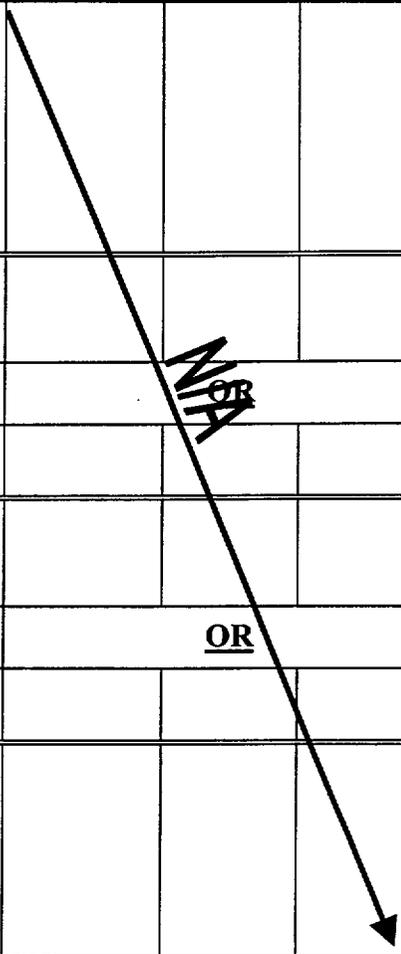
1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF	
MCC 10B222	With OPEN <u>OR</u> CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C650): 1BEHV-F001B 1BCHV-F004B 1BCHV-F007B	NOT ILLUMINATED				
MCC 10B421	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED		NIA		
	<u>OR</u>	<u>OR</u>			<u>OR</u>	
MCC 10B461	Potential has been verified at 10Y402	VOLTAGE CONFIRMED				
	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED				
	<u>OR</u>	<u>OR</u>	<u>OR</u>			
MCC 10B563	Potential has been verified at 10Y412	VOLTAGE CONFIRMED				
	With OPEN <u>OR</u> CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C651): 1EAHV-2198B 1EAHV-2197B	NOT ILLUMINATED				

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

**ATTACHMENT 2
Page 27 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
MCC 10B232	With OPEN <u>OR</u> CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C650): 1BEHV-F001C 1BCHV-F004C 1BCHV-F007C	NOT ILLUMINATED			
MCC 10B431	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED			
	<u>OR</u>	<u>OR</u>			
	Potential has been verified at 10Y403	VOLTAGE CONFIRMED			
MCC 10B471	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED			
	<u>OR</u>	<u>OR</u>		<u>OR</u>	
	Potential has been verified at 10Y413	VOLTAGE CONFIRMED			
MCC 10B573	With OPEN <u>OR</u> CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C651): 1EAHV-2198C 1EAHV-2197C	NOT ILLUMINATED			

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

ATTACHMENT 2
Page 28 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 **Power Distribution Lineup (Continued)**

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
MCC 10B242	With OPEN <u>OR</u> CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C650): 1BEHV-F001D 1BCHV-F004D 1BCHV-F007D	NOT ILLUMINATED	N/A		
MCC 10B441	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED			
	OR	OR		OR	
	Potential has been verified at 10Y404	VOLTAGE CONFIRMED			
MCC 10B481	With OPEN <u>OR</u> CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C650): 1BCHV-F015A	NOT ILLUMINATED			
	OR	OR		OR	
	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated	NOT ILLUMINATED			
	OR	OR		OR	
	Potential has been verified at 10Y414	VOLTAGE CONFIRMED			
MCC 10B583	With OPEN <u>OR</u> CLOSED lamp illuminated VERIFY OVLD/PWR FAIL lamp is <u>NOT</u> illuminated on one of the following (Pnl 10C651): 1EAHV-2198D 1EAHV-2197D	NOT ILLUMINATED			

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

ATTACHMENT 2
Page 29 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY

1.1 **Power Distribution Lineup (Continued)**

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
10D251	VERIFY Overhead Annunciator Box D3 - E2 "250VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated.	NOT ILLUMINATED	N/A	OR	
	OR	250VDC NOMINAL			
	Voltmeter on 10D251				
10D261	VERIFY Overhead Annunciator Box D3 - E2 "250VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated.	NOT ILLUMINATED	N/A	OR	
	OR	250VDC NOMINAL			
	Voltmeter on 10D261				
1CD448	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED	N/A	OR	
	OR	125VDC NOMINAL ⁽¹⁾			
	Voltmeter on 10D436				
1DD448	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED	N/A	OR	
	OR	125VDC NOMINAL ⁽¹⁾			
	Voltmeter on 10D446				

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

(1) IF the equalize charge is in progress, the voltage may be as high as 140 volts.

**ATTACHMENT 2
Page 30 of 30
INPLANT DATA SHEET
POWER DISTRIBUTION LINEUP - WEEKLY**

1.1 Power Distribution Lineup (Continued)

EQUIPMENT	NOMENCLATURE	REQUIRED	ACTUAL	SAT/ UNSAT	PERF
1AD417	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED			
	OR	OR			
	RED <u>OR</u> GREEN lamp is illuminated on the breaker test switch on at least one breaker on 10A401	ILLUMINATED			*
1BD417	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED			
	OR	OR			
	RED <u>OR</u> GREEN lamp is illuminated on the breaker test switch on at least one breaker on 10A402	ILLUMINATED			*
1CD417	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED			
	OR	OR			
	RED <u>OR</u> GREEN lamp is illuminated on the breaker test switch on at least one breaker on 10A403	ILLUMINATED			*
1DD417	VERIFY Overhead Annunciator Box D3 - F2 "125VDC SYSTEM TROUBLE" is <u>NOT</u> illuminated. (AC Power to charger available)	NOT ILLUMINATED			
	OR	OR			
	RED <u>OR</u> GREEN lamp is illuminated on the breaker test switch on at least one breaker on 10A404	ILLUMINATED			*

N/A

* Acceptance Criterion - the SAT block must be marked SAT. Any single satisfactory observation of power being available to a single panel satisfies the acceptance criteria.

**ATTACHMENT 3
Page 1 of 1
Measuring and Test Equipment Data Sheet**

TEST EQUIPMENT	INST. TAG/MTE NO.	CAL DUE DATE	NOTES
VOLTMETER			

ADMINISTRATIVE TOPICS

Facility: <u>HOPE CREEK</u>	Date of Examination: <u>1/5/2004</u>
Examination Level: <input type="checkbox"/> RO <input checked="" type="checkbox"/> SRO	Operating Test Number: <u>1</u>
TOPIC: <u>A.3-1</u>	QUESTION: <u>1</u>
Subject Description: Radiation Control	
K/A: 2.3.11 Ability to control radiation releases (3.2)	
DESCRIPTION: Question – Choosing Primary Containment Vent Path	
QUESTION:	
Given the following conditions:	
<ul style="list-style-type: none">• A LOCA has occurred• HC.OP-EO.ZZ-0102, Primary Containment Control, is being implemented• Drywell pressure is 64 psig and rising slowly• Containment Hydrogen concentration is 1%• Indicated Suppression Pool water level is 180 inches• HC.OP-EO.ZZ-0319, Restoring Instrument Air in an Emergency, has been completed• HPCI has just been secured and HPCI suction pressure is 82 psig• CREF is in the ISOLATE / RECIRC Mode• EDO permission to vent containment has been received	
What is the preferred containment vent path for the current conditions?	
ANSWER: Reference HC.OP-EO.ZZ-0318, Attachment 4 (Path 3, Section 5.2.1)	
Vent the Drywell through the Drywell supply and ILRT piping.	

ADMINISTRATIVE TOPICS

Given the following conditions:

- A LOCA has occurred
- HC.OP-EO.ZZ-0102, Primary Containment Control, is being implemented
- Drywell pressure is 64 psig and rising slowly
- Containment Hydrogen concentration is 1%
- Indicated Suppression Pool water level is 180 inches
- HC.OP-EO.ZZ-0319, Restoring Instrument Air in an Emergency, has been completed
- HPCI has just been secured and HPCI suction pressure is 82 psig
- CREF is in the ISOLATE / RECIRC Mode
- EDO permission to vent containment has been received

What is the preferred containment vent path for the current conditions?

ADMINISTRATIVE TOPICS

Facility: HOPE CREEK Date of Examination: 1/5/2004
Examination Level: RO SRO Operating Test Number: 1

TOPIC: A.3-2 QUESTION: 2

Subject Description: Radiation Control

K/A: 2.3.4 Knowledge of radiation exposure limits and contamination control / including permissible levels in excess of those authorized. (3.1)

DESCRIPTION: Question - Dose limit extension during non-emergencies.

QUESTION:

Given the following:

- You are the CRS.
- The plant is in Cold Shutdown with the RCS temp at 85 F and the Drywell accessible.
- A Shutdown Cooling bypass event is in progress, with RPV temperatures rising at 20 F/hr.
- The Recirc Pump discharge valve must be closed by hand to stop the event.
- The estimated dose rate in the valve area is 2.5 Rem/hr.
- A team of 2 operators and 1 Rad Pro technician are standing by.
- Operator A is 27 years old, has 900 mrem TEDE year-to-date, and 6.8 Rem Lifetime Dose.
- Operator B is 32 years old, has 1100 mrem TEDE year-to-date, and 8.4 Rem Lifetime Dose.
- The Rad Pro technician is 35 years old, has 500 mrem TEDE year-to-date, and 12.3 Rem Lifetime Dose.
- Due to the size and location of the valve, operators estimate 40 minutes to close the valve.
- Assume all dose is received while operating the valve.

Based on this information, what is the minimum approval level required to dispatch the team?

ADMINISTRATIVE TOPICS

ANSWER: Reference NC.NA-AP.ZZ-0024 Attachment 1.

Radiation Protection Supervisor. Extension to 3000 mrem required. All estimated doses will remain below 3000 mrem/year TEDE. 2(N-17) Lifetime Dose Actions levels will not be exceeded.

Estimated dose for task:

$$2500 \text{ mrem/hr} \times 2/3 \text{ hr} = 1667 \text{ mrem}$$

Estimated Dose after task

$$\text{Operator A} - 900 + 1667 = 2567 \text{ mrem}$$

$$\text{Operator B} - 1100 + 1667 = 2767 \text{ mrem}$$

$$\text{RPT} = 500 + 1667 = 2167 \text{ mrem}$$

2(N-17) Lifetime Dose Admin limits

$$\text{Operator A} - 2(27-17) = 2(10) = 20 \text{ Rem limit} \rightarrow 6800 \text{ mrem} + 1667 = 8467 \text{ mrem LTD}$$

$$\text{Operator B} - 2(32-17) = 2(15) = 30 \text{ Rem limit} \rightarrow 8400 \text{ mrem} + 1667 = 10067 \text{ mrem LTD}$$

$$\text{RPT} - 2(35-17) = 2(18) = 36 \text{ Rem} \rightarrow 12300 \text{ mrem} + 1667 = 13967 \text{ mrem LTD}$$

There is no Emergency Event in progress that would change the limits to 4500 mrem.

*Minimum answer for full credit underlined.

ADMINISTRATIVE TOPICS

Given the following:

- You are the CRS.
- The plant is in Cold Shutdown with the RCS temp at 85 F and the Drywell accessible.
- A Shutdown Cooling bypass event is in progress, with RPV temperatures rising at 20 F/hr.
- The Recirc Pump discharge valve must be closed by hand to stop the event.
- The estimated dose rate in the valve area is 2.5 Rem/hr.
- A team of 2 operators and 1 Rad Pro technician are standing by.
- Operator A is 27 years old, has 900 mrem TEDE year-to-date, and 6.8 Rem Lifetime Dose.
- Operator B is 32 years old, has 1100 mrem TEDE year-to-date, and 8.4 Rem Lifetime Dose.
- The Rad Pro technician is 35 years old, has 500 mrem TEDE year-to-date, and 12.3 Rem Lifetime Dose.
- Due to the size and location of the valve, operators estimate 40 minutes to close the valve.
- Assume all dose is received while operating the valve.

Based on this information, what is the minimum approval level required to dispatch the team?

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Emergency Plan Implementation

TASK: Classify an Emergency Event and prepare the Initial Contact Message Form/Independently Classify Events

TASK NUMBER: 2000500302/2000020505

INITIAL CONDITIONS:

1. Hope Creek is operating at 100 percent power
2. Security reports the following:
 - An armed intruder has entered the Protected Area via the fence in front of the Turbine Building.
 - The OS, performing a building walk-down, was wounded by the intruder's gunfire and is being treated by Loss Prevention.
 - The intruder has just detonated a hand grenade in 'D' EDG Engine Room Elev 102 and is threatening to detonate another in the 'B' EDG Room.
 - Security Contingency Plans 5, 6, and 10 are being implemented.
 - Current plant radiological release rate is $2.5E+02$ μ Ci/sec Noble Gas.

INITIATING CUE:

Based on this information, classify this event and make the initial notifications. This is a Time Critical Task, and has two Time Critical elements.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Emergency Plan Implementation

TASK: Classify an Emergency Event and prepare the Initial Contact Message Form/Independently Classify Events

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure HECG.	Operator obtains the correct procedure.		
		START TIME: _____	Start time should be logged after the operator has reviewed the initial conditions and repeated the task back. Examiner Note: It is not critical to initial the procedure steps. The operator then initials the appropriate procedure step.		
	ECG Section i.IV.C	Classification: To use this ECG volume, follow this sequence: 1. Assess the event and/or plant conditions and DETERMINE which ECG section(s) is most appropriate.	Operator assesses the initial conditions, and determines that Section 9.0, Hazards – Internal/External is the appropriate ECG section.		
	ECG Section i.IV.C	2. REFER to Section EAL/RAL Flowchart diagram(s), and identify the Initiating Conditions that are related to the event/condition that has occurred or is ongoing.	Operator reviews the EALs in section 9.1.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Emergency Plan Implementation

TASK: Classify an Emergency Event and prepare the Initial Contact Message Form/Independently Classify Events

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	ECG Section i.IV.C	<p>3. REVIEW the associated EALs or RALs as compared to the event and SELECT the highest appropriate Emergency or Reportable Action Level. If identification of an EAL is questionable, refer to paragraph IV.A above.</p> <p>If there is any doubt with regard to assessment of a particular EAL or RAL, the ECG Technical Basis Document should be reviewed. Words in an EAL or RAL that are bold face are either threshold values associated with that action level or are words that are defined for that specific EAL/RAL.</p>	<p>Operator reviews the EALs in sections 9.1 and determines that EAL #9.1.3 is the highest emergency action level met or exceeded (Site Area Emergency).</p> <p>SCP-6 is implemented (An armed, violent intruder in the Plant Vital Area)</p> <p>SCP-10 is implemented (A destructive device is in the Plant Vital Area)</p> <p>Examiner Note: Classification in Section 9.1.1 would result an Unusual Event Classification. 9.1.2 would result an Alert. 9.1.4 is not applicable since the intruder has not taken physical control of the Control Room or Remote Shutdown Panel</p>		
	ECG Section i.IV.C	<p>4. IDENTIFY and IMPLEMENT the referenced Attachment under Action Required.</p>	<p>Operator identifies and implements ECG Attachment 3.</p>		

OPERATOR TRAINING PROGRAM
 JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Emergency Plan Implementation

TASK: Classify an Emergency Event and prepare the Initial Contact Message Form/Independently Classify Events

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		2. COMPLETE THE INITIAL CONTACT MESSAGE FORM (ICMF) (last page of this attachment)	<p>Operator Completes the ICMF.</p> <p>Examiners Note: See the attached ICMF for an example of what the form should look like when filled out properly. Note that the exact words do not have to be in the "DESCRIPTION OF EVENT", but the description must convey the sense of the Initiating Condition for EAL 9.1.3.</p> <p>Examiner Cue: When asked for 33 ft. level wind direction and speed, inform the operator that the wind is from 270 degrees at 5 mph.</p> <p>Examiner Note: The operator may use SPDS to determine wind direction and speed. If so, that data should be placed on the ICMF.</p> <p>The operator then initials the appropriate procedure step.</p>		

OPERATOR TRAINING PROGRAM
 JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Emergency Plan Implementation

TASK: Classify an Emergency Event and prepare the Initial Contact Message Form/Independently Classify Events

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		3. PROVIDE the ICMF to the Communicator (CM1) and DIRECT the CM1 to implement ECG Attachment 6 . LOG TIME: _____	Operator provides the ICMF to CM1 and directs implementation of Att.6. Examiners Cue: Role-play as CM1 and repeat back the direction as given. Examiners Note: The difference between the declaration and this LOG TIME is the second critical time (13 min.) The operator then initials the appropriate procedure step.		
		4. DIRECT the Secondary Communicator (CM2) to implement ECG Attachment 8 for a SITE AREA EMERGENCY. STOP TIME: _____	Operator directs CM2 to implement Att.8 for a Site Area Emergency. Examiners Note: Role-play as CM2 and repeat back the direction as given. The operator then initials the appropriate procedure step.		

Terminating Cue: Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete".

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

TRAINING ONLY

INITIAL CONTACT MESSAGE FORM

I. THIS IS (Not Required), COMMUNICATOR IN THE CONTROL ROOM
(NAME) (Check not required) TSC

AT THE **HOPE CREEK** NUCLEAR GENERATING STATION.

II. THIS IS NOTIFICATION OF A **SITE AREA EMERGENCY** WHICH WAS
DECLARED AT Time -24 Hour ON Today's Date
(Time - 24 HOUR CLOCK) (DATE)

EAL # 9.1.3 DESCRIPTION OF EVENT:

Security Event in a Plant Vital Area

III. NO RADIOLOGICAL RELEASE IS IN PROGRESS. } see NOTE
 THERE IS A RADIOLOGICAL RELEASE IN PROGRESS. } for release
definition

IV. 33 FT. LEVEL WIND DIRECTION (From): 270 WIND SPEED: 5
(From MET computer) (DEGREES) (MPH)

V. **NO PROTECTIVE ACTIONS ARE RECOMMENDED AT THIS TIME**

Initials

EC Initials
(Approval to Transmit ICMF)

NOTE:
Radiological Release is defined as: Plant Effluent > Federal Limit of 1.20E+04 μ Ci/sec Noble Gas or 1.70E+01 μ Ci/sec I-131.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. Hope Creek is operating at 100 percent power
2. Security reports the following:
 - An armed intruder has entered the Protected Area via the fence in front of the Turbine Building.
 - The OS, performing a building walk-down, was wounded by the intruder's gunfire and is being treated by Loss Prevention.
 - The intruder has just detonated a hand grenade in 'D' EDG Engine Room Elev 102 and is threatening to detonate another in the 'B' EDG Room.
 - Security Contingency Plans 5, 6, and 10 are being implemented.
 - Current plant radiological release rate is $2.5E+02$ $\mu\text{Ci/sec}$ Noble Gas.

INITIATING CUE:

Based on this information, classify this event and make the initial notifications. This is a Time Critical Task, and has two Time Critical elements.