

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

STATION: HOPE CREEK

SYSTEM: Conduct of Operations - Ability to locate and use procedures and directives related to shift staffing and activities.

TASK: Apply working hour limitations for LSRO and platform operator.

TASK NUMBER: 294000 G 2.1.5

JPM NUMBER: 2003-NRC-LSRO-Admin A1-1

ALTERNATE PATH: ☐

APPLICABILITY:	K/A NUMBER:	294000	G2.1.5
EO <input type="checkbox"/> RO <input type="checkbox"/> SRO <input checked="" type="checkbox"/> LSRO <input checked="" type="checkbox"/>	IMPORTANCE FACTOR:	2.3	3.4
		RO	SRO

EVALUATION SETTING/METHOD: CONTROL ROOM/SIMULATOR – PERFORM / SIMULATE

REFERENCES: NC.NA-AP.ZZ-0005(Q) Rev 12

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 15 min.

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

APPROVED:

N/A

**BARGAINING UNIT
REPRESENTATIVE**



TRAINING SUPERVISOR



**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 -Ability to locate and use procedures and directives related to shift staffing and activities.

TASK: Apply working hour limitations for LSRO and platform operator.

TASK NUMBER: 294000 G 2.1.5

INITIAL CONDITIONS:

The following Hope Creek Generating Station outage working hour history is given for an on-coming Refueling SRO (LSRO) and a Refueling Platform Operator (RPO). The hours worked are on the Refueling Platform performing core alterations.

Date	LSRO	RPO
1/28	12 hours Day Shift	12 hours Night Shift
1/29	12 hours Day Shift	OFF
1/30	12 hours Day Shift	OFF
1/31	OFF	12 hours Day Shift
2/1	12 hours Day Shift	12 hours Day Shift
2/2	12 hours Day Shift	12 hours Day Shift
2/3	12 hours Day Shift	12 hours Day Shift
2/4	12 hours Day Shift	12 hours Day Shift
2/5	12 hours Day Shift	12 hours Day Shift

The LSRO and RPO are scheduled to work Dayshift today, 2/6

INITIATING CUE:

You are directed to evaluate the working hour history for the LSRO and RPO and determine whether one or both individuals can work a full dayshift of 12 hours.

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 -Ability to locate and use procedures and directives related to shift staffing and activities.

TASK: Apply working hour limitations for LSRO and platform operator.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure NC.NA- AP.ZZ-0005 START TIME _____	Operator determines the correct procedure.		
	5.10	<u>Working Hour Guidelines</u>	Operator determines 5.10 is appropriate section.		
	5.10.1	Adequate shift coverage shall be maintained without the routine heavy use of overtime.	Operator reads step.		
	5.10.2	The expectation is that all personnel will work nominal 40 hour work weeks while the units are operating.	Operator reads step.		

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# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.10.3	<p>PRIOR TO performance of overtime in excess of the guidelines listed in step 5.10.4, authorization shall be obtained from the Department Manager and the Director – Operations (In the event that the Director - Operations is unavailable to provide this approval the "Director - Operations" approval should only be delegated upward to a VP level position.</p> <p>Authorization shall be documented on FORM - 1, Working Hour Guideline Deviation / Authorization.</p> <p>Approvals may be obtained by telecon as follows:</p> <ul style="list-style-type: none"> • Sign for the approval authority Document the statement "per telecon" • Record the name of the individual granting approval. • Record the time and date the approval was received. • Completed forms should be retained by the initiating department (Time Administrator) and made available for NRC review for a full operating cycle. 	<p>EXAMINER NOTE: If the operator asks if a Working Hour Guideline Deviation/ Authorization FORM - 1 has already been approved, CUE: None has been approved.</p>		

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# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.10.4	In the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major unit modifications, on a temporary basis the following guidelines shall be followed by - Licensed Senior Reactor Operators, Licensed Reactor Operators, Radiation Protection Technicians, Equipment Operators, Chemistry Technicians, and Key Maintenance Personnel (See Definition 7.3) Reference: Technical Specification 6.2.2	Determines limitations applicable to LSRO and RPO.		
		An individual should not be permitted to work more than 16 hours straight (excluding shift turnover time).	Verifies individual has not worked more than 16 hours straight.		

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# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any seven day period (all excluding shift turnover time).	<p>Assess hours and conclude the following: *The LSRO may work the entire 12 hour Dayshift of 2/6.</p> <p>Assess hours and conclude the following: *The Refuel Platform Operator may not work the shift because the next hour worked will result in the RPO exceeding 72 hours in any 7 day period.</p> <p><u>OR</u></p> <p>*Yes, the work may be performed provided a Working Hour Deviation/ Authorization Form is processed and approved prior to the overtime.</p> <p>After making this determination, CUE: Another Refuel Platform Operator is now available from 2 days off.</p>		
		A break of at least eight hours should be allowed between work periods (including shift turnover time).	Operator reads step.		

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# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on shift.	Operator reads step.		
			<p>Part 2: EXAMINER CUE: Two hours into the Dayshift, the refueling platform has broken. It is now 8 AM on 2/6. Maintenance expects the needed replacement part will arrive in 2 days. You call the Night Shift LSRO and tell him to stay home.</p> <p>At 5 PM, Maintenance has found the needed part in the warehouse. They report the platform will be repaired by 6 PM. They request your assistance for approximately 2 hours to perform the Surveillance Test to return the platform to operable status.</p> <p>Assess whether the Dayshift LSRO can assist with the ST.</p>		

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# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.10.4		<p>Conclude that the Dayshift LSRO may NOT perform the ST due to exceeding working hour limits of:</p> <ul style="list-style-type: none"> • 24 hours in 48 hour period • 72 hours in 7 day period <p>OR</p> <p>Yes, the work may be performed provided a Working Hour Deviation/ Authorization Form is processed and approved prior to the overtime.</p> <p>EXAMINER CUE: Take actions necessary for you to continue to perform the ST.</p>		

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TASK: Apply working hour limitations for LSRO and platform operator.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.10.3	<p>PRIOR TO performance of overtime in excess of the guidelines listed in step 5.10.4, authorization shall be obtained from the Department Manager and the Director – Operations (In the event that the Director - Operations is unavailable to provide this approval the “Director - Operations” approval should only be delegated upward to a VP level position.</p> <p>Authorization shall be documented on Form - 1, Working Hour Guideline Deviation / Authorization.</p> <p>Approvals may be obtained by telecon as follows:</p> <ul style="list-style-type: none"> • Sign for the approval authority Document the statement "per telecon" • Record the name of the individual granting approval. • Record the time and date the approval was received. • Completed forms should be retained by the initiating department (Time Administrator) and made available for NRC review for a full operating cycle. 	<p>Operator returns to step 5.10.3 and determines FORM – 1 is required.</p> <p>EXAMINER NOTE: Once operator determines FORM – 1 is required, provide blank copy of FORM – 1 to operator.</p> <p>EXAMINER NOTE: If operator asks when the next scheduled day off is, CUE: 2/7</p> <p>EXAMINER CUE: Your examiner will provide any approvals specified.</p> <p>* Operator completes FORM – 1.</p> <p>EXAMINER NOTE: See attached FORM – 1 Key. Critical data marked with an * Asterisk</p>		

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TASK: Apply working hour limitations for LSRO and platform operator.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
			TERMINATING CUE: This JPM is complete.		

FORM - 1
WORKING HOUR GUIDELINE DEVIATION / AUTHORIZATION

Working Hour Guideline Deviation / Authorization Code Table

Guideline Code	Description
1	More than 16 hours in a work period
2	More than 16 hours in a 24 hour period
3	More than 24 hours in a 48 hour period
4	More than 72 hours in any seven day period
5	Less than 8 hours off between work periods

NAME	Code	Justification	Last Scheduled Day Off	Next Scheduled Day Off
*LSRO Candidate Name	*3, 4	*Needed to perform required retest of the refueling bridge. (or similar)	*1/31	*2/7

** LSRO Candidate Name*

Requesting Supervisor (sign)

Examiner Name

Department Manager (sign)

Examiner Name

Director - Operations (sign)

**2/7*

Date

2/7

Date

2/7

Date

**LSRO Candidate Name*

Requesting Supervisor (print)

Examiner Name

Department Manager (print)

Examiner Name

Director - Operations (print)

NOTE In the event that the Director - Operations is unavailable to provide this approval the "Director - Operations" approval should only be delegated upward to a VP level position.

INITIAL CONDITIONS:

The following Hope Creek Generating Station outage working hour history is given for an on-coming Refueling SRO (LSRO) and a Refueling Platform Operator (RPO). The hours worked are on the Refueling Platform performing core alterations.

Date	LSRO	RPO
1/28	12 hours Day Shift	12 hours Night Shift
1/29	12 hours Day Shift	OFF
1/30	12 hours Day Shift	OFF
1/31	OFF	12 hours Day Shift
2/1	12 hours Day Shift	12 hours Day Shift
2/2	12 hours Day Shift	12 hours Day Shift
2/3	12 hours Day Shift	12 hours Day Shift
2/4	12 hours Day Shift	12 hours Day Shift
2/5	12 hours Day Shift	12 hours Day Shift

The LSRO and RPO are scheduled to work Dayshift today, 2/6

INITIATING CUE: You are directed to evaluate the working hour history for the LSRO and RPO and determine whether one or both individuals can work a full dayshift of 12 hours.

FORM – 1
WORKING HOUR GUIDELINE DEVIATION / AUTHORIZATION

Working Hour Guideline Deviation / Authorization Code Table

Guideline Code	Description
1	More than 16 hours in a work period
2	More than 16 hours in a 24 hour period
3	More than 24 hours in a 48 hour period
4	More than 72 hours in any seven day period
5	Less than 8 hours off between work periods

NAME	Code	Justification	Last Scheduled Day Off	Next Scheduled Day Off

 Requesting Supervisor (sign)

 Date

 Requesting Supervisor (print)

 Department Manager (sign)

 Date

 Department Manager (print)

 Director - Operations (sign)

 Date

 Director - Operations (print)

NOTE In the event that the Director - Operations is unavailable to provide this approval the "Director - Operations" approval should only be delegated upward to a VP level position.

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-LSRO-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 86; HC.OP-ST.KE-0001

TOOLS AND EQUIPMENT: HC.OP-ST.KE-0001 Marked up.

VALIDATED JPM COMPLETION TIME: 20 min.

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

APPROVED:

N/A

BARGAINING UNIT
REPRESENTATIVE

TRAINING SUPERVISOR

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 30-35 has been removed.
- All other rods are at 00.
- Control Rod Drive Mechanism 22-39 is scheduled to be replaced next.
- The CRS directs HC.OP-DL.ZZ-0026 logs for ITEMS 12, 13, and 14 to be taken for the midnight shift.
- The following Control Rods are hydraulically disarmed for this work.

14-31	18-31	22-31	26-27	30-27	34-27	38-27
14-35	18-35	22-35	26-31	30-31	34-31	38-31
14-39	18-39	22-39	26-35	30-35	34-35	38-35
14-43	18-43	22-43	26-39	30-39	34-39	38-39
14-47	18-47	22-47	26-43	30-43	34-43	38-43
			26-47	30-47		

INITIATING CUE:

Complete 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).	Operator obtains the correct procedure.		
		Operator reviews precautions and limitations.	<p>Operator reviews precautions and limitations.</p> <p>EXAMINER CUE: If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.</p> <p>Operator reviews all applicable prerequisites.</p> <p>EXAMINER CUE: All applicable prerequisites have been met.</p>		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 3.2.		

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)
	3.2	If in OP CON 4 or 5 then complete Attachment 2 as follows daily.	Operator obtains Attachment 2. EXAMINER NOTE: Initialing steps is not critical. EXAMINER NOTE: After operator obtains DL-26 Attachment 2, provide operator with copy to use.		
*	ITEM 12	START TIME _____ 4 FUEL ASSEMBLIES SURROUNDING EACH REMOVED CONTROL ROD OR MECHANISM HAVE BEEN REMOVED FROM THE CORE CELL <u>OR</u> ALL OTHER CONTROL RODS IN A 5X5 ARRAY HAVE BEEN INSERTED AND DISARMED.	EXAMINER NOTE: Provide operator with copy of core map. Operator uses list of hydraulically disarmed Control Rods to determine that Control Rod 30-35 DOES NOT meet this requirement. * The operator marks ITEM 12 in the MID column NO or UNSAT . The operator red circles the out-of-spec condition. (Not critical)		
*		Operator informs the CRS of the UNSAT item.	EXAMINER CUE: Acknowledge the operator report. 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.	Operator obtains the last completion date of the last ACTUAL performance date from Attachment 1 of HC.OP-ST.SF-0001. EXAMINER NOTE: After operator obtains latest completion date, provide operator with marked up exam copy to use.		
*		OPERATOR COMPARES SATISFACTORY COMPLETION DATE TO TODAYS DATE.	Operator determines difference is 19 months. The difference between Satisfactory completion date and today's date are entered into Attachment 2 "MID" column. * The operator marks ITEM 13 in the MID column as 19 MO or UNSAT . The operator red circles the out-of-spec condition. (Not critical)		

**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 informs the CRS of the UNSAT item.	Operator informs the CRS of the UNSAT item. EXAMINER CUE: Acknowledge the operator report. 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 .		
		Operator submits DL-26 log items 12, 13, and 14 to the CRS for review. STOP TIME _____	TERMINATING CUE: This JPM is complete.		

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 30-35 has been removed.
- All other rods are at 00.
- Control Rod Drive Mechanism 22-39 is scheduled to be replaced next.
- The CRS directs HC.OP-DL.ZZ-0026 logs for ITEMS 12, 13, and 14 to be taken for the midnight shift.
- The following Control Rods are hydraulically disarmed for this work.

14-31	18-31	22-31	26-27	30-27	34-27	38-27
14-35	18-35	22-35	26-31	30-31	34-31	38-31
14-39	18-39	22-39	26-35	30-35	34-35	38-35
14-43	18-43	22-43	26-39	30-39	34-39	38-39
14-47	18-47	22-47	26-43	30-43	34-43	38-43
			26-47	30-47		

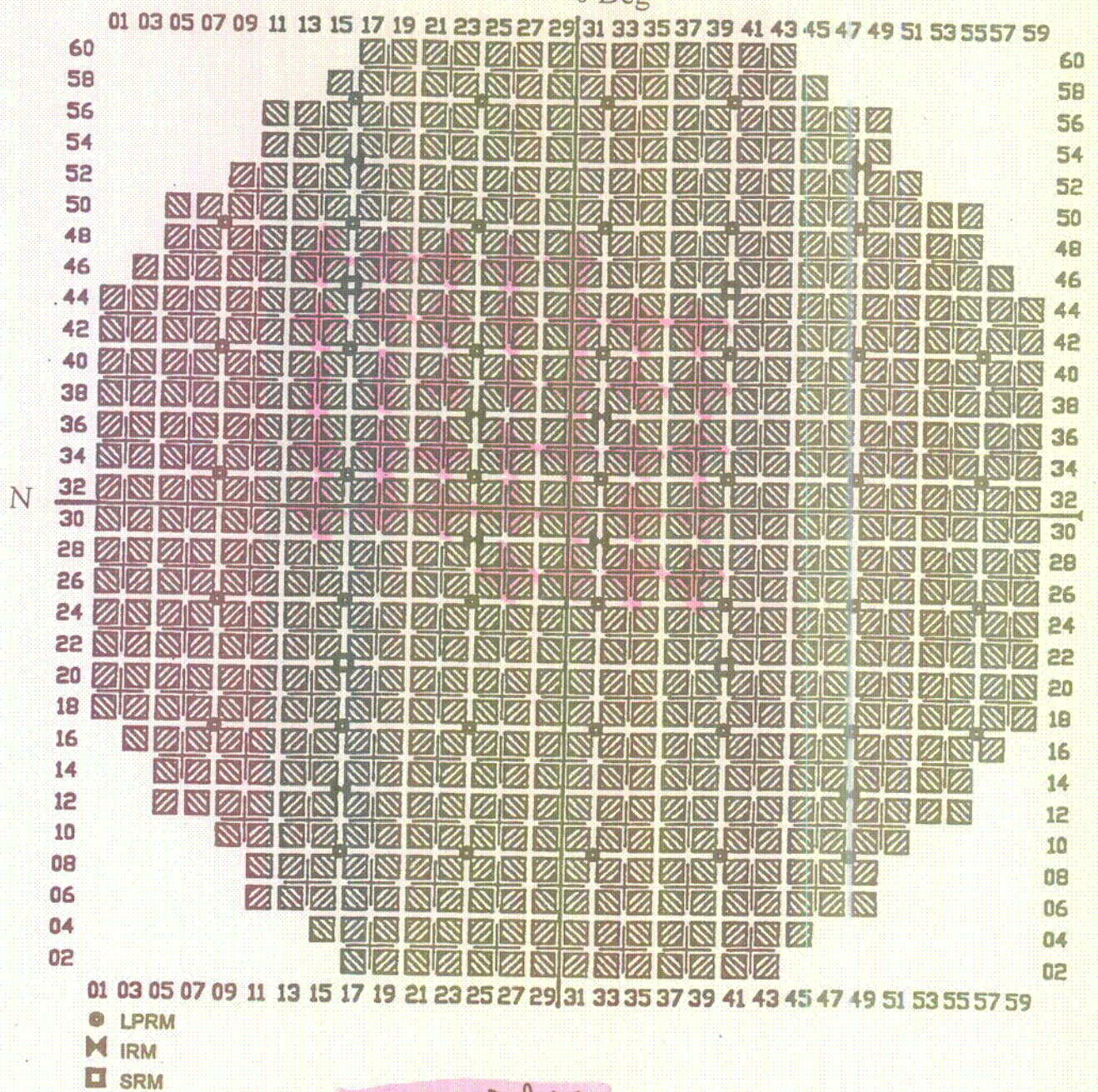
INITIATING CUE:

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

OPERATOR
COPY

CORE MAP

0 Deg



KEY

ATTACHMENT 2
Refuel/Core Alterations

Page 2 of 5

HCGS

Date _____

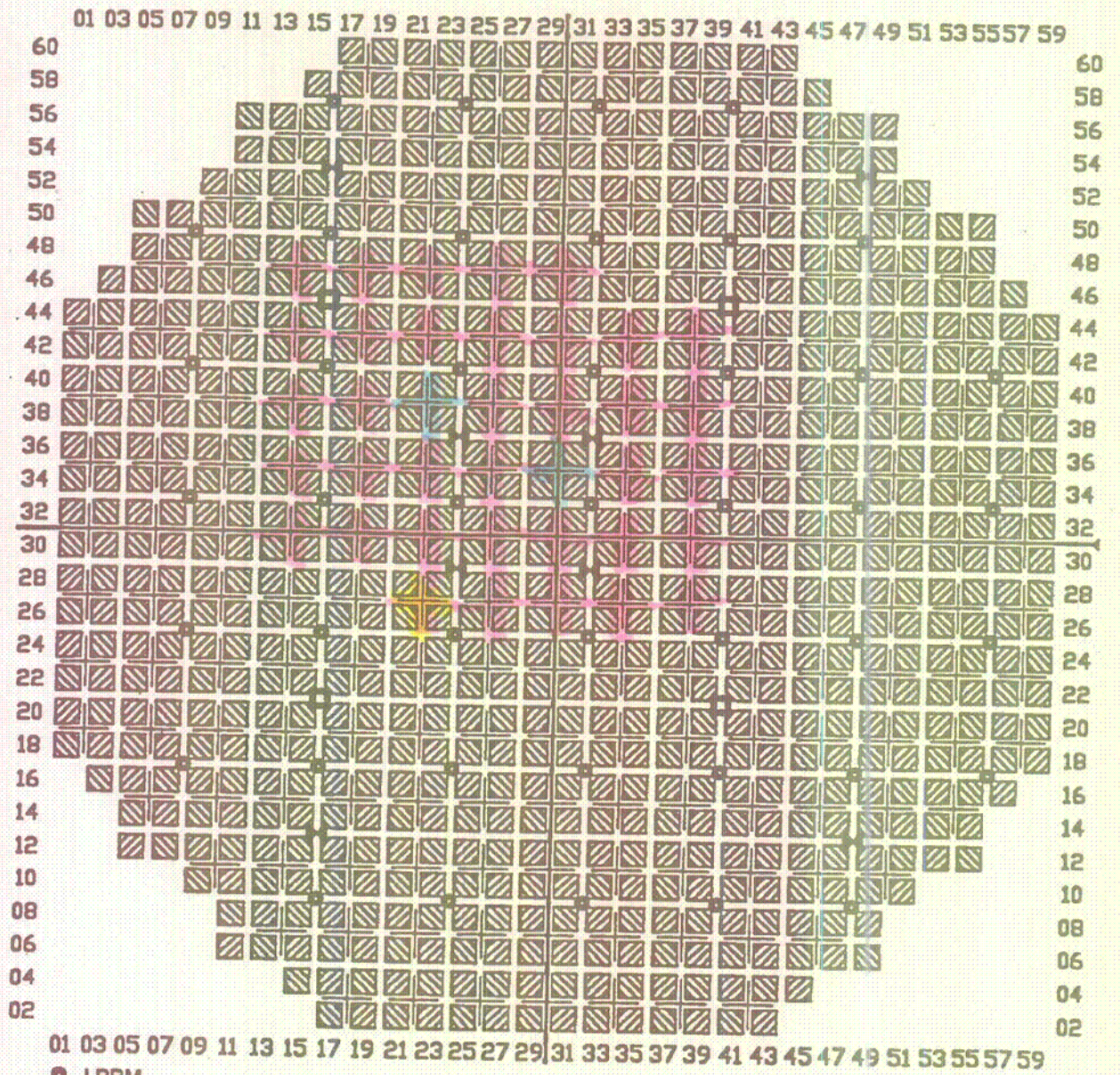
ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS
			MIN	NORM	MAX					
IF CONTROL RODS OR CONTROL ROD MECHANISMS HAVE BEEN REMOVED UNDER T/S 3.9.10.1 OR 3.9.10.2, THEN COMPLETE ITEMS 10 AND 11, OTHERWISE MARK ITEMS - N/A										
10	REACTOR MODE SWITCH POSITION	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
13	VERIFY HC.OP-ST.SF-0001(Q) IS CURRENT.	4, 5	—	—	18 MO	N/A	N/A	N/A		19mo
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)

CORE MAP

KEY



- LPRM
- ✕ IRM
- SRM

TARGET RODS - Disarmed

Disarmed

Missed Rod

HOPE CREEK GENERATING STATION

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

REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS

USE CATEGORY: I

REVISION SUMMARYBiennial 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

CONTINUATION SHEET

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 / 08/10/01-0700
OS/CRS DATE-TIME

1.3.2 Order No. 16146504897

**ATTACHMENT 1
OS/CRS DATA AND SIGNATURE SHEET
REACTOR MODE SWITCH FUNCTIONAL TEST - 18 MONTHS
(Page 2 of 3)**

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 4.3.1.1 Table 4.3.1.1-1 Item 11 and 4.3.6 Table 4.3.6-1 Item 7 and 4.3.1.2 and the test is considered:

2.1.1 SATISFACTORY (All acceptance criteria is marked SAT)

John Smith / 08/10/01-1753
OS/CRS DATE-TIME

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

_____/_____
OS/CRS DATE-TIME

2.1.3 Order No. _____

2.1.4 Remarks : _____

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

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

3.1 I have read and understand the steps of this procedure that I am required to perform.
(All Departments)

[illegible]

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>	*

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

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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>	*

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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>	*

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**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	ANNUN NOT ENERGIZED	SAT	RC	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
5.12.18	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	ANNUN NOT ENERGIZED	SAT	RC	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
5.12.21	C5-C4 DISCH VOL HI WTR LVL TRIP BYP	ANNUN NOT ENERGIZED	ANNUN NOT ENERGIZED	SAT	RC	*
	D3463- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN A	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3464- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN C	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3465- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN B	NOT IN ALARM	NOT IN ALARM	SAT	RC	*
	D3466- RPS DISCH VOL HIGH WTR LVL TRIP BYP CHAN D	NOT IN ALARM	NOT IN ALARM	SAT	RC	*

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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>	*

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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>	<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>	*
5.12.29	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>	*
5.12.30	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>	*

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

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

STATION: HOPE CREEK

SYSTEM: Equipment Control

TASK: Verification of Minor changes to the Fuel Movement Sheet IAW HC.RE-FR.ZZ-0001(Q)
Attachment 4

TASK NUMBER: 2.2.26 – Knowledge of refueling administrative requirements

JPM NUMBER: 2003-NRC-LSRO-Admin A2

ALTERNATE PATH: ☐

APPLICABILITY: EO ☐ RO ☐ SRO ☒ LSRO ☒ **IMPORTANCE FACTOR:**

K/A NUMBER:	294000	G2.2.26
	2.5	3.7
	RO	SRO

EVALUATION SETTING/METHOD: CONTROL ROOM/SIMULATOR - PERFORM

REFERENCES: HC.RE-FR.ZZ-0001

TOOLS AND EQUIPMENT: NONE

VALIDATED JPM COMPLETION TIME: 15 min.

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

APPROVED:

N/A Archie E. Tuller [Signature]
BARGAINING UNIT **TRAINING SUPERVISOR** **OPERATIONS MANAGER**
REPRESENTATIVE **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: Equipment Control**TASK:****TASK NUMBER:** 2.2.26 – Verification of Minor changes to the Fuel Movement Sheet IAW HC.RE-FR.ZZ-0001(Q) Attachment 4**INITIAL CONDITIONS:**

- Operational Condition 5, with the reactor core partially unloaded.
- The Refueling Platform Operator found one of the move sheet pages missing.
- The RE has a replacement page but needs an independent verification.

INITIATING CUE: Perform an Independent Verification of the Fuel Movement Sheet provided IAW HC.RE.FR-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 (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Equipment Control

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.RE-FR.ZZ-0001	Operator obtains the correct procedure.		
	5.5.2	FORWARD the developed Fuel Movement Sheet(s), Attachment 1, for Independent Verification.	Examiner Note: Provide Fuel Movement Sheet.		
*	5.5.2.A	START TIME _____ Using the Reactor Engineering Fuel Location Board, <u>SIMULATE AND VERIFY</u> the accuracy of all movements designated on the Fuel Movement Sheets, Attachment 1.	Examiner Note: Provide Core Quadrant Map, and Spent Fuel Pit Map. Operator reviews Fuel Movement Sheet using criteria of HC.RE-FR.ZZ-0001. *Operator determines bundle WQ0447 CORE LOCATION 41-50 in the wrong orientation. Correct orientation should be SE.		
*	5.5.2.B	FOLLOWING the successful Independent Verification of the Fuel Movement Sheet(s), Attachment 1, <u>SIGN AND DATE</u> each sheet.	Operator withholds signature on Fuel Movement Sheet based on error found.		

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Equipment Control

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)
	5.5.2.C	<u>IF</u> fuel movement errors are found during the Independent Verification process, <u>THEN</u> RETURN the unverified Fuel Movement Sheet(s), Attachment 1, to the Preparer for disposition as necessary.	Examiner Cue: Make any necessary changes to the Fuel Movement Sheet for the Refuel Floor.		
	5.5.3	Identical copies of the Fuel Movement Sheet(s), Attachment 1, should be produced for Refuel Floor, Control Room, and Reactor Engineering Department use. For new fuel receipt activities it is unnecessary for a copy of the Fuel Movement Sheet(s), Attachment 1, to be in the control room.	Operator reads step. Operator continues at step 5.6		
	NOTE 5.6	<u>NOTE 5.6</u> Errors found subsequent to the affected move being completed, must also be documented per the guidance in this Section.	Operator reads note.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Equipment Control

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)
	5.6.1	IF it necessary to change the Fuel Movement Sheet(s), Attachment 1, to support unanticipated conditions on the fuel floor, THEN perform the following steps (Steps 5.6.1.A and 5.6.1.B should be performed in parallel with Step 5.6.1.C). (Ref. 7.13)	Examiner Cue: Perform as necessary to support fuel moves.		
	5.6.1.A	CONTACT the on-shift Reactor Engineer.	Examiner Note: Role play as Reactor Engineer.		
*	5.6.1.B	DESCRIBE the reason for the change (the problem) and provide a proposed revision to the on-shift Reactor Engineer.	Operator requests the RE change the move sheet for proper orientation of bundle WQ0447 to SE orientation. Examiner Cue: Repeat back request for change.		
	5.6.1.C	IF the current step cannot be completed as written, THEN place it in a temporary storage location in the SFP, which is approved by the Reactor Engineer. Otherwise, suspend fuel movement sequence execution prior to execution of the Fuel Movement Sheet(s), Attachment 1, step-requiring change.	Not applicable.		

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Equipment Control

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)
	5.6.2	The Reactor Engineer contacted shall perform the following steps based on the information provided.			
	5.6.2.A	EVALUATE the effect of the change on the remainder of the Fuel Movement Sheet(s), Attachment 1, <u>AND</u> make appropriate changes to maintain congruency of sequence.	Examiner Cue: Change does not effect the remainder of the Fuel Movement Sheet(s).		
*	5.6.2.B	COMPLETE Attachment 4, Verification of Minor Changes to the Fuel Movement Sheet, to determine if the change is considered minor and will not affect Shutdown Margin.	Examiner Note: Provide completed change sheet HC.RE.FR-ZZ-0001 Attachment 4 for Refueling SRO review. *Operator reviews the completed change sheet HC.RE.FR-ZZ-0001 Attachment 4 and signs the "Reviewed By" Refueling SRO signature space.		
	5.6.2.C	IF any of the changes may adversely impact Shutdown Margin as determined by Attachment 4, Verification of Minor Changes to the Fuel Movement Sheet, THEN evaluate the impact of the change on calculated SDM.	Examiner Cue: RE provided Attachment 4 to answer question. Operator should go to step 5.6.2.E		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Equipment Control

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)
	5.6.2.C.1	Compare the K-infinity of the assembly in the approved sequence to the proposed change. IF the K-infinity values are not available, THEN the performance of step 5.6.2.D is required.	Examiner Cue: RE says K Infinity is not changed.		
	5.6.2.C.2	IF the assembly K-infinity, for the proposed change, is equal to or less than the approved sequence assembly K-infinity, and it is being moved to the SAME location, THEN the change does not adversely affect SDM.	Examiner Cue: RE says K Infinity is not changed.		
	5.6.2.D	IF the changes are believed to affect SDM, THEN ensure SDM is met in accordance with Precautions and Limitations 3.4 <u>AND</u> approval process in Step 5.5.1.	Operator determines SDM is not affected.		
	5.6.2.E	IF completion of Attachment 4, Verification of Minor Changes to the Fuel Movement Sheet, determines that the changes are minor and do not affect SDM, THEN the Reactor Engineer <u>AND</u> the SRO shall perform the following:	Operator continues to step 5.6.2.E.1		

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____
DATE: _____

SYSTEM: Equipment Control

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)
	5.6.2.E.1	The SRO shall perform pen & ink change on Refuel Floor Fuel Movement Sheet(s), Attachment 1, <u>AND</u> any Refuel Floor copies.	Examiner Cue: This is the Refueling Floor copy Operator pen and ink changes the original move sheet IAW 5.6.2.E.5		
	5.6.2.E.2	The Reactor Engineer shall perform pen & ink change on the office copy(s) of the Fuel Movement Sheet(s), Attachment 1.	Examiner Cue: The RE has performed this step.		
	5.6.2.E.3	The Reactor Engineer, SRO <u>OR</u> RO shall perform the pen & ink change on the control room copy of the Fuel Movement Sheet(s), Attachment 1, (if applicable).	Examiner Cue: The RE has performed this step.		
	5.6.2.E.4	The Reactor Engineer shall ensure that the change to the sequence is saved in "SHUFFLEWORKS."	Examiner Cue: The RE has performed this step.		
	5.6.2.E.5	The pen and ink change should follow the following format.			
*	5.6.2.E.5.a.	Single line through the item to be changed.	Operator single lines through NE orientation of CORE 41-50		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Equipment Control

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)
*	5.6.2.E.5.b.	Corrections marked clearly	Marks correction "SE"		
	5.6.2.E.5.c.	If additional steps are required...	Not applicable to this change		
*	5.6.2.E.5.d.	Date AND initials of both SRO and Reactor Engineer (per telecon is acceptable provided SRO concurs).	Operator dates and initials next to change. Examiner Cue: The RE has marked as you directed.		
	5.5.2.A	Using the Reactor Engineering Fuel Location Board, <u>SIMULATE AND VERIFY</u> the accuracy of all movements designated on the Fuel Movement Sheets, Attachment 1.	Operator determines the Fuel Movement Sheet for bundle WQ0447 at TO Location 41-50 now has the correct orientation of SE. Operator verifies the remainder of the move sheet.		
*	5.5.2.B	FOLLOWING the successful Independent Verification of the Fuel Movement Sheet(s), Attachment 1, <u>SIGN AND DATE</u> each sheet.	Operator signs the "Independently Verified By:" line of the new move sheet.		
		STOP TIME _____	Terminating Cue: This JPM is complete.		

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

- Operational Condition 5, with the reactor core partially unloaded
- The Refueling Platform Operator found one of the move sheet pages missing
- The RE has a replacement page but needs an independent verification.

INITIATING CUE:

Perform an Independent Verification of the Fuel Movement Sheet provided IAW HC.RE.FR-ZZ-0001.

ATTACHMENT 1
FUEL MOVEMENT SHEET

KEY

REFUEL NO. 10

SHEET NO. 1

CONTINUED ON SHEET 2

Step Number	I.D. Number	FROM Location	Orientation	Time	TO Location	Orientation	Time	Operator Initials	Verified By Initials
				Date			Date		
01-01	WQ0540	SFP AS-46	SE		CORE 43-42	NE			
01-02	WQ0447	SFP AS-47	NW		CORE 41-50	NE SE			
01-03	WQ0019	SFP AS-48	SE		CORE 37-56	SW			
01-04	WQ0171	SFP AS-49	NW		CORE 35-36	NW			

Russel J. Crowe

Prepared By

Today's Date

Date

CANDIDATES SIGNATURE

Independently Verified By

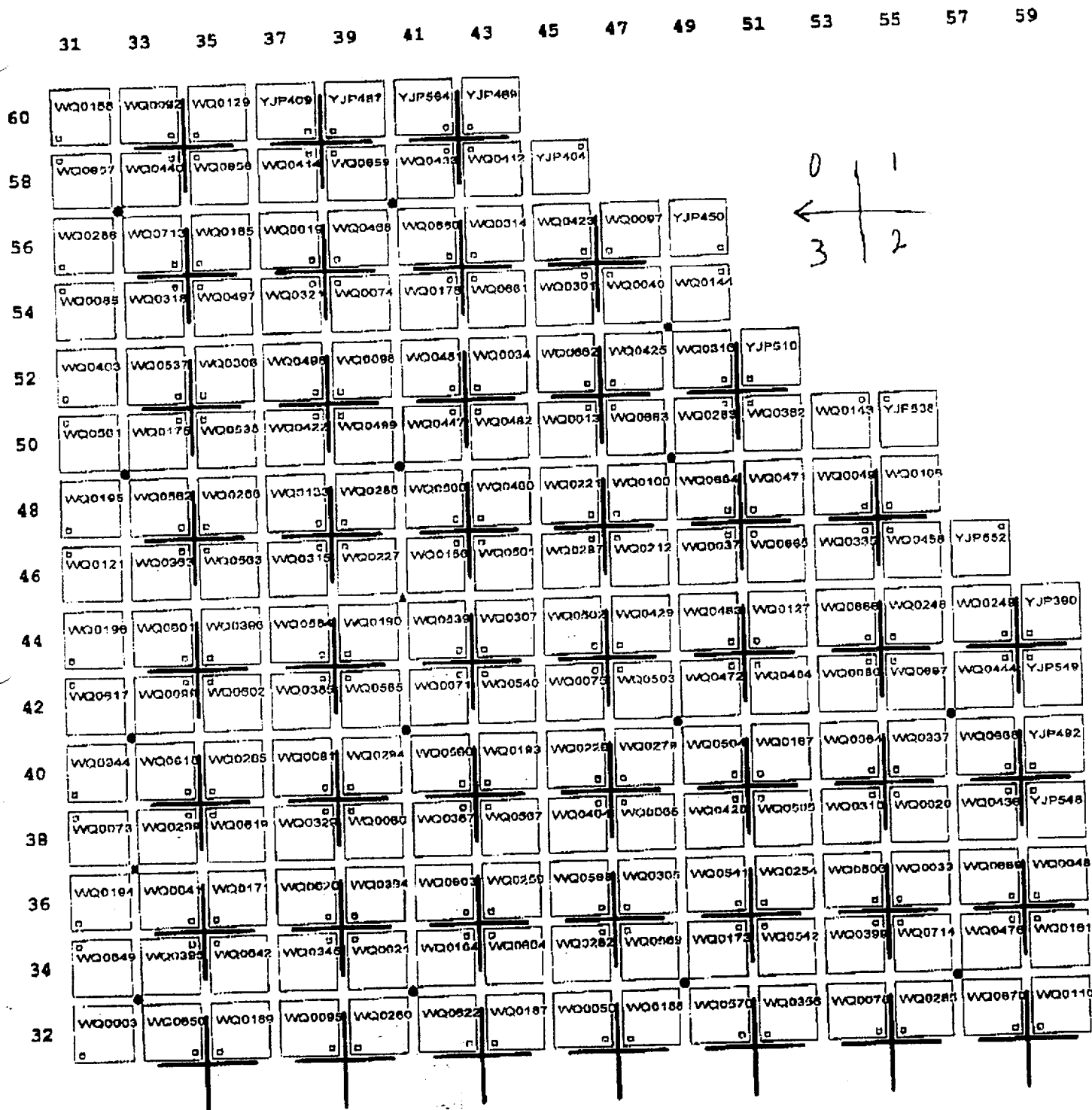
TODAY'S DATE

Date

DATE:
01/08/03
10:35

Hope Creek
Final (next cycle) Reactor Core, Cycle 12
BOC 12

N ←



ATTACHMENT 4

VERIFICATION OF MINOR CHANGES TO THE FUEL MOVEMENT SHEET

IF question 1) is answered NO, THEN the Shutdown Margin MAY be adversely impacted and any changes to the movement sheet must be verified per step 5.6.2.C OR 5.6.2.D:

- 1) All changes involve: Blade guides OR Orientation of item ONLY,
AND/OR

Changes do NOT involve movement of fuel into core during a shuffle OR to a temporary (i.e., non-final) in-core location (e.g., fuel in or being moved to the SFP OR fuel being moved into its FINAL core location during a complete offload/reload, is acceptable).

YES

NO

✓

IF any of the following questions is answered NO, THEN any changes to the movement sheet must be verified per step 5.5.2:

- 2) Has the proposed change been checked for complete support of control rods?
3) Has the proposed change been checked for conflicts with later moves?
4) If later moves are impacted, do the RE and SRO CONCUR that performance of Step 5.5.2 (simulating moves using Fuel Location Board), is NOT required?

✓

✓

✓

Effected Steps and Description of Change:

Step 01-02 WQ0447 TO Location orientation changed from NE to SE.

IF ALL questions are answered YES, THEN change(S) may be made per Step 5.6.2.E.

Completed by: Russel S. Crowe
Reactor Engineer

Today's Date
Date

Reviewed by: _____
Refueling SRO

Date

**ATTACHMENT 1
FUEL MOVEMENT SHEET**

REFUEL NO. 10

SHEET NO. 1

CONTINUED ON SHEET 2

Step Number	I.D. Number	FROM Location	Orientation	Time	TO Location	Orientation	Time	Operator Initials	Verified By Initials
				Date			Date		
01-01	WQ0540	SFP AS-46	SE		CORE 43-42	NE			
01-02	WQ0447	SFP AS-47	NW		CORE 41-50	NE			
01-03	WQ0019	SFP AS-48	SE		CORE 37-56	SW			
01-04	WQ0171	SFP AS-49	NW		CORE 35-36	NW			

Russel J. Crowe

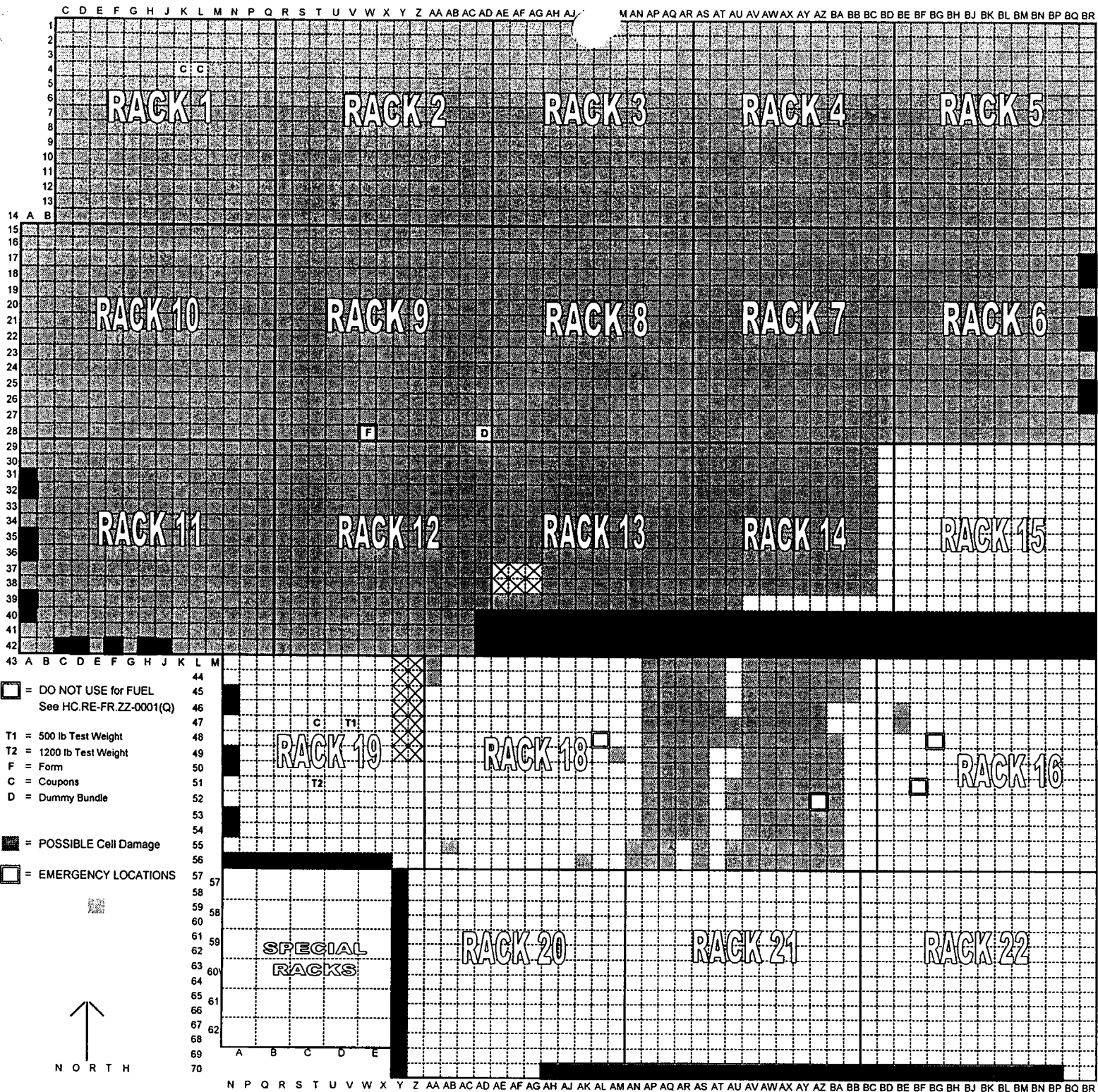
Today's Date

Prepared By

Date

Independently Verified By

Date



866

888

617

159

TOTAL
2530

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

- Operational Condition 5, with the reactor core partially unloaded
- The Refueling Platform Operator found one of the move sheet pages missing
- The RE has a replacement page but needs an independent verification.

INITIATING CUE:

Perform an Independent Verification of the Fuel Movement Sheet provided IAW HC.RE.FR-ZZ-0001 Steps 5.6.2.

Matrix# 1
SRO QUESTION # Admin A3-1
KACatalogID G 2.3.5
KA Statement Knowledge of use of personnel monitoring equipment

SRORating 2.5
Question level S
COGNITIVE LEVEL Fundamental
Question Topic Response to personnel contamination
REFERENCE Radiation Worker Training Handout Page 31
Material Provided **Closed Reference**
LEARNING
OBJECTIVE
QSOURCE Peach Bottom LSRO 2002 modified for Hope Creek
QUESTION Given the following conditions:

- An operator has exited the Refueling Platform after handling poles in the Fuel Pool
- The operator removed PC's at the step-off-pad undress area
- The operator alarmed the Personal Contamination Monitor on the refuel floor one time

What are the operator's required actions?

CORRECT ANSWER 1- May re-monitor one time.

EXAMINER CUE: After the the operator states he would re-monitor, **Cue: "The monitor alarms again"**

2- Minimize the spread of contamination (i.e. contact with personnel, tools, or equipment, etc.)

3- Contact Radiation Protection for assistance

Student Copy

Reference material is not available for this question

SRO QUESTION # Admin A3-1

QUESTION Given the following conditions:

- An operator has exited the Refueling Platform after handling poles in the Fuel Pool
- The operator removed PC's at the step-off-pad undress area
- The operator alarmed the Personal Contamination Monitor on the refuel floor one time

What are the operator's required actions?

- If your hands are clean, pick up the probe, and move it over the body (or surface) at about two inches per second. DO NOT allow probe to touch the surface being monitored.
- If you see an increase in indicated counts hold the probe still and if there is an increase of 100 cpm or more, there may be contamination present. If this occurs, stay where you are and contact RP.
- The second type of frisking device is the personnel contamination monitor. Three types of personnel contamination monitors are used at this site:
 - IPM8/IPM9
 - Portal monitors
 - Hand and foot monitors

Use caution when utilizing any of these devices to ensure that the detectors are not damaged. Ask for help from Radiation Protection or a demonstration if you need it. If the monitor alarms on any of these devices, stay where you are, minimize touching anything, and contact RP. NOTE: If you alarm an IPM, you may proceed to another monitor and check again. If you alarm it the second time, stay where you are and contact RP. Radiation Protection personnel will direct you in the proper decontamination procedures if necessary.*

Control of Contaminated Materials

When working on contaminated systems, it is possible to contaminate tools, equipment, or materials. Company policy is to minimize the contamination of these articles. Some of the things that you can do to help in this effort are:

- Minimize the amount of material contaminated while on the job. Use only those tools that are necessary, keep the amount of packing material taken into the RCA at a minimum, and minimize the amount of trash generated.
 - When getting tools for use in the RCA, get the tools needed from the hot tool issue point.
 - If a contaminated article needs to be taken out of a contaminated area, it may either be deconned (wiped down) before coming across the step-off pad or it should be bagged in a poly bag designated for radioactive material. Contact Radiation Protection personnel for direction.
-

Contaminated Area Postings

Signs warn you of plant areas that are known to be contaminated. These signs are as follows:

- Contamination Area—This is an area that has $\geq 1,000$ dpm/100 cm² of beta-gamma or ≥ 20 dpm/100 cm² of alpha contamination. Entry requires RWP authorization and meeting the RWP entry requirements.
- High Contamination Area—This is an area that has $\geq 100,000$ dpm/100 cm² of beta-gamma or $\geq 1,000$ dpm/100 cm² alpha. Entry requires RWP authorization and meeting the RWP entry requirements.

Any area designated as a Contamination or High Contamination area will be posted. This area is typically roped off with yellow and magenta rope with signs hanging from the rope with the area designation. There is an entrance and exit to the area marked with a step-off pad. The step-off pads are the only authorized ways in or out of the area.

Failure to adhere to these requirements can result in the spread of contamination, personnel contaminations, and potential disciplinary action.

Prior to the start of work, prior to entering overhead areas or systems breaches, notify a knowledgeable Rad Pro technician to discuss the scope of the work, and any changes to the work plan and work methodology.

Entry and Exit through the Control Point

When entering or exiting the Control Point, care must be taken to complete all of the required steps. Self-checking using the STAR method is essential during this process.

Discrete Particles

Discrete particles were discussed earlier and are a concern because an individual may receive a large dose due to the high levels of radioactivity these particles are capable of. Radiation Protection will provide special instructions when working in a discrete particle area. Several methods are employed by Radiation Protection to warn you of discrete particle hazards and keep dose ALARA. Ropes, signs, barrier tape, bull pens, or a combination may be used.

Awareness of discrete particles, changing radiological conditions, and radiological hazard postings are helpful in alerting you to radiological hazards.

There are several ways to identify a discrete particle:

- When frisking, a discrete particle can cause the meter to rapidly rise to a much higher count rate. Remember that the frisker will respond only if you have it close enough to the discrete particle and are moving it slowly enough for the detector to respond.

Matrix#	2
SRO QUESTION #	Admin A3-2
KACatalogID	G 2.3.10
KA Statement	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure
SRORating	3.3
Question level	S
COGNITIVE LEVEL	Fundamental
Question Topic	Requirements for removal of tools or equipment from the Spent Fuel Pool
REFERENCE	NC.RE-AP.ZZ-0049 Rev. 0 Step 3.3.1.G
Material Provided	Closed Reference
LEARNING	
OBJECTIVE	
QSOURCE	New
QUESTION	While performing fuel bundle movements in the Fuel Pool, the Main Fuel Grapple must be stored to repair a submerged air line.

What radiological requirements must be met to remove the grapple from the water?

CORRECT ANSWER The Grapple must be surveyed when removed from the Spent Fuel Pool.*

*Minimum answer required for full credit underlined

Student Copy

Reference material is not available for this question

SRO QUESTION # Admin A3-2

QUESTION While performing fuel bundle movements in the Fuel Pool, the Main Fuel Grapple must be stored to repair a submerged air line.

What radiological requirements must be met to remove the grapple from the water?

Matrix#	3
SRO QUESTION #	Admin A4-1
KACatalogID	G 2.4.40
KA Statement	Knowledge of SRO's responsibilities in emergency plan implementation
SRORating	4.0
Question level	S
COGNITIVE LEVEL	Comprehension
Question Topic	EP Event requiring Accountability of plant personnel
REFERENCE	Emergency Preparedness Overview page 12&13
Material Provided	Open Reference
LEARNING OBJECTIVE	
QSOURCE	New
QUESTION	You are supervising operators loading new fuel bundles into the Fuel Pool when ACCOUNTABILITY is called.

What location(s) do they have to report to and what action(s) must they take at these location(s)?

CORRECT ANSWER	<ul style="list-style-type: none"> - The Control Point 137' elevation to frisk out. There is an ACCOUNTABILITY BADGE READER located at the Control Point but this is for RP and Security personnel inside the RCA. - The operators then report to the Operations Support Center (OSC) to use the ACCOUNTABILITY BADGE READER located there.
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Student Copy

SRO QUESTION # Admin A4-1

QUESTION You are supervising operators loading new fuel bundles into the Fuel Pool when ACCOUNTABILITY is called.

What location(s) do they have to report to and what action(s) must they take at these location(s)?

Matrix# 4
SRO QUESTION # Admin A4-2
KACatalogID G 2.4.41
KA Statement Knowledge of emergency action level thresholds and classifications

SRORating 4.1
Question level S
COGNITIVE LEVEL Application
Question Topic EP Event classification for fuel handling event
REFERENCE Hope Creek ECG
Material Provided Open Reference

LEARNING
OBJECTIVE
QSOURCE
QUESTION

New

During movement of spent fuel within the Fuel Pool, a 3 times burned bundle is full-up on the fuel grapple.

The Refueling Platform crew leaves the bridge to reposition lights.

Subsequently, Fuel Pool level begins lowering rapidly.

Given:

- The Control Room receives a low Fuel Pool level alarm.
- The Rad Pro technician notices radiation levels increasing and notifies the crew.
- All personnel leave the Refueling Floor.
- Operations personnel stop the inventory loss.
- Rad Pro survey indicates the general area dose rate to be 800 mRem/hour on the Refueling Floor.
- The fuel bundle on the fuel grapple is 3 inches exposed above the water line as viewed by camera.

CORRECT ANSWER ALERT* IAW ECG Emergency Action Level 6.4.2.c*
"Visual observation of Irradiated Fuel uncovered"

*Minimum answer required for full credit underlined

Student Copy

SRO QUESTION # Admin A4-2

QUESTION During movement of spent fuel within the Fuel Pool, a 3 times burned bundle is full-up on the fuel grapple.
The Refueling Platform crew leaves the bridge to reposition lights.
Subsequently, Fuel Pool level begins lowering rapidly.

Given:

- The Control Room receives a low Fuel Pool level alarm.
- The Rad Pro technician notices radiation levels increasing and notifies the crew.
- All personnel leave the Refueling Floor.
- Operations personnel stop the inventory loss.
- Rad Pro survey indicates the general area dose rate to be 800 mRem/hour on the Refueling Floor.
- The fuel bundle on the fuel grapple is 3 inches exposed above the water line as viewed by camera.

Determine the required Event classification and Emergency Action Level