FINAL

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

ADMIN 1 – SRO ONLY

TITLE		
VERIFY FUEL MOVEMENT SHEET		
AUTHOR	**MEDIA NUMBER**	**TIME**
Anthony Ball	2012-301 ADMIN-1	30 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	C. M. EDMUND	06/07/2012

SOUTHERN COMPANY

SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **2012-301 ADMIN-1**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	03/17/09	Initial development	FNF	CME
01	06/07/12	Revision for use on 2012-301 NRC Exam. After NRC Exam, Media Number will be changed to LR-JP-45.33A.	ARB	CME

UNIT 1 (X) UNIT 2 (X)

TASK TITLE:	**VERIFY FUEL MOVEMENT SHEET**
JPM NUMBER:	2012-301 ADMIN-1
TASK STANDARD:	The task will be complete when the operator has identified all in-core placement errors of all components listed on Page 1 of the attached Fuel Movement Sheet.
TASK NUMBER:	045.033
OBJECTIVE NUMBER:	045.033.O

PLANT HATCH JTA IMPORTANCE RATING:

RO Not Available

SRO Not Available

K/A CATALOG NUMBER: G2.1.35

K/A CATALOG JTA IMPORTANCE RATING:

RO 2.2

SRO 3.9

OPERATOR APPLICABILITY: Senior Reactor Operator

GENERAL REFERENCES:	**Refuel Floor**
	34FH-OPS-001-0 (current version) 42FH-ERP-014-0 (current version)

REQUIRED MATERIALS:	**Refuel Floor**
	Fuel Movement Sheets 34FH-OPS-001-0 (current version) 42FH-ERP-014-0 (current version)

APPROXIMATE COMPLETION TIME: 30 Minutes

SIMULATOR SETUP: N/A

EVALUATOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 2 is in a refueling outage.
2. You are the oncoming Refuel Floor SRO.
3. The off-going Refuel Floor SRO asks you to verify Page 1 of the attached Fuel Movement Sheet.
4. The fuel movement sheet, Core Map and pictures of the core cells are available.

INITIATING CUES:

Verify the in-core placement of all components listed on Page 1 of the attached Fuel Movement Sheet.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs:
For OJT/OJE; ALL PROCEDURE STEPS must be completed for Satisfactory Performance.
For License Examinations; ALL CRITICAL STEPS must be completed for Satisfactory Performance.

	IF	THEN
PASS	❑ Human performance tools, safety, PPE met (1), **AND** ❑ For initial trg **all** steps completed correctly OR ❑ For continuing trg, **critical** steps (if used) completed correctly	❑ Mark the JPM as a **PASS**
FAIL	❑ Above standards not met	❑ Mark the JPM as a **FAIL**

(1) The standard for human performance tools, safety, PPE, and other pertinent expectations is considered met provided any deviations are minor and have little or no actual or potential consequence. Errors may be self-corrected provided the action would not have resulted in significant actual or potential consequences. Reference: NMP-TR-111, "On-The-Job Training and Task Performance Evaluation".

START TIME:_____

PROMPT: Hand the operator the fuel movement sheet, Core Map and pictures of the core cells.

PROMPT: **IF** the operator has problems reading the bundle serial numbers, **THEN** provide the serial numbers to the operator.

PROMPT: **IF** the operator asks about Spent Fuel Pool verification, **THEN** tell the operator he is only responsible for in-core verifications.

1.	Obtains the correct procedures.	Obtains and reviews 42FH-ERP-014-0, "Fuel Movement" and 34FH-OPS-001-0, "Fuel Movement Operation."	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
2.	Verify correct loading of Control Cell 38-37.	Operator determines Control Cell 38-37 bundles are the correct bundles and in the correct orientation:	
		• JLV675	
		• JLV682	
		• JLK804	
		• JLK817	
****3.**	Determine INCORRECT loading of Control Cell 14-37.	Operator determines Control Cell 14-37 bundles are the correct bundles but in the INCORRECT orientation:	
		• JLV678	
		• JLV670	

NOTE: Bundles JLV678 and JLV670 are 180° out.

4.	Verify correct loading of Control Cell 14-37.	Operator determines Control Cell 14-37 bundles are the correct bundles and in the correct orientation:	
		• JLK805	
		• JLK812	
****5.**	Determine INCORRECT loading of Control Cell 38-17.	Operator determines Control Cell 38-17 bundle is the INCORRECT bundle but in the correct orientation:	
		• JLV668	

NOTE: Wrong bundle loaded. The correct bundle is JLV698

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
6.	Verify correct loading of Control Cell 38-17.	Operator determines Control Cell 14-37 bundles are the correct bundles and in the correct orientation:	
		• JLV674	
		• JLK807	
		• JLK820	
****7.**	Determine INCORRECT loading of Control Cell 14-17.	Operator determines Control Cell 14-17 Double Blade Guide is in the INCORRECT orientation.	

END TIME:_____

NOTE: The terminating cue shall be given to the Operator when:

- After JPM step #7 is complete.
- With no reasonable progress, the Operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: We will stop here.

EVALUATOR – PICK UP the Initiating Cue sheet.

(Indicates critical step)**

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

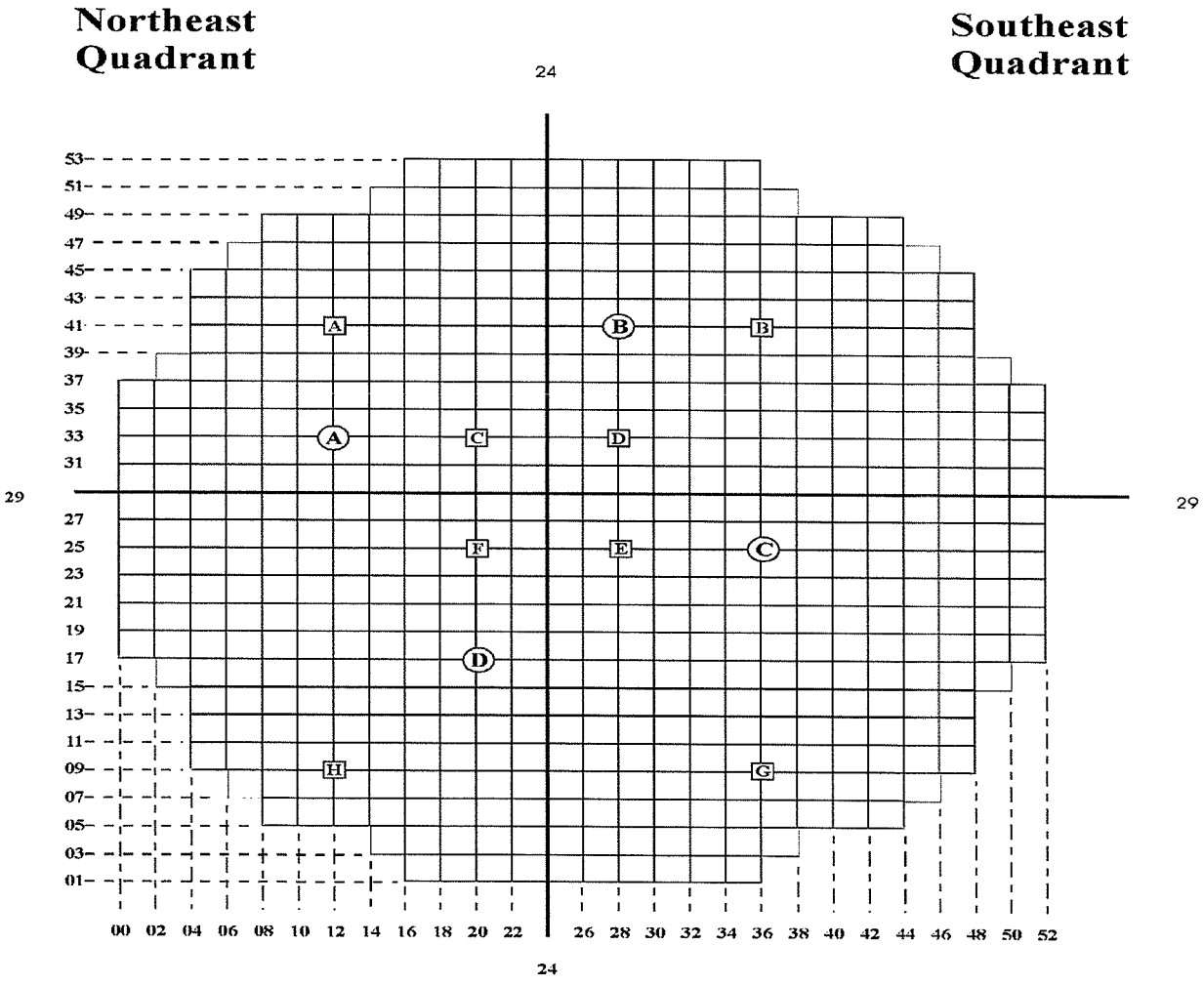
1. Unit 2 is in a refueling outage.
2. You are the oncoming Refuel Floor SRO.
3. The off-going Refuel Floor SRO asks you to verify Page 1 of the attached Fuel Movement Sheet.
4. The fuel movement sheet, Core Map and pictures of the core cells are available.

INITIATING CUES:

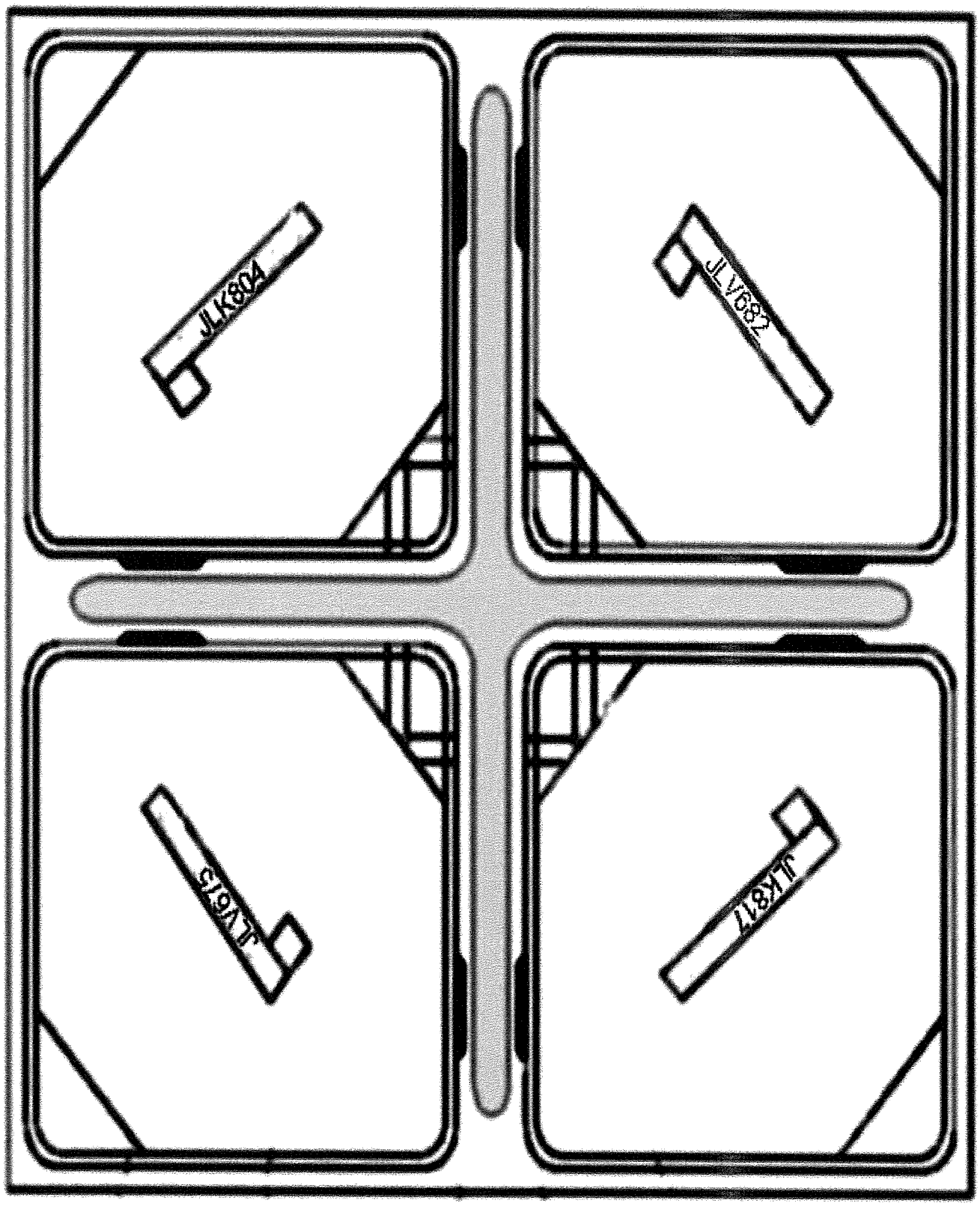
Verify the in-core placement of all components listed on Page 1 of the attached Fuel Movement Sheet.

NORTH

HATCH UNIT 2



EAST



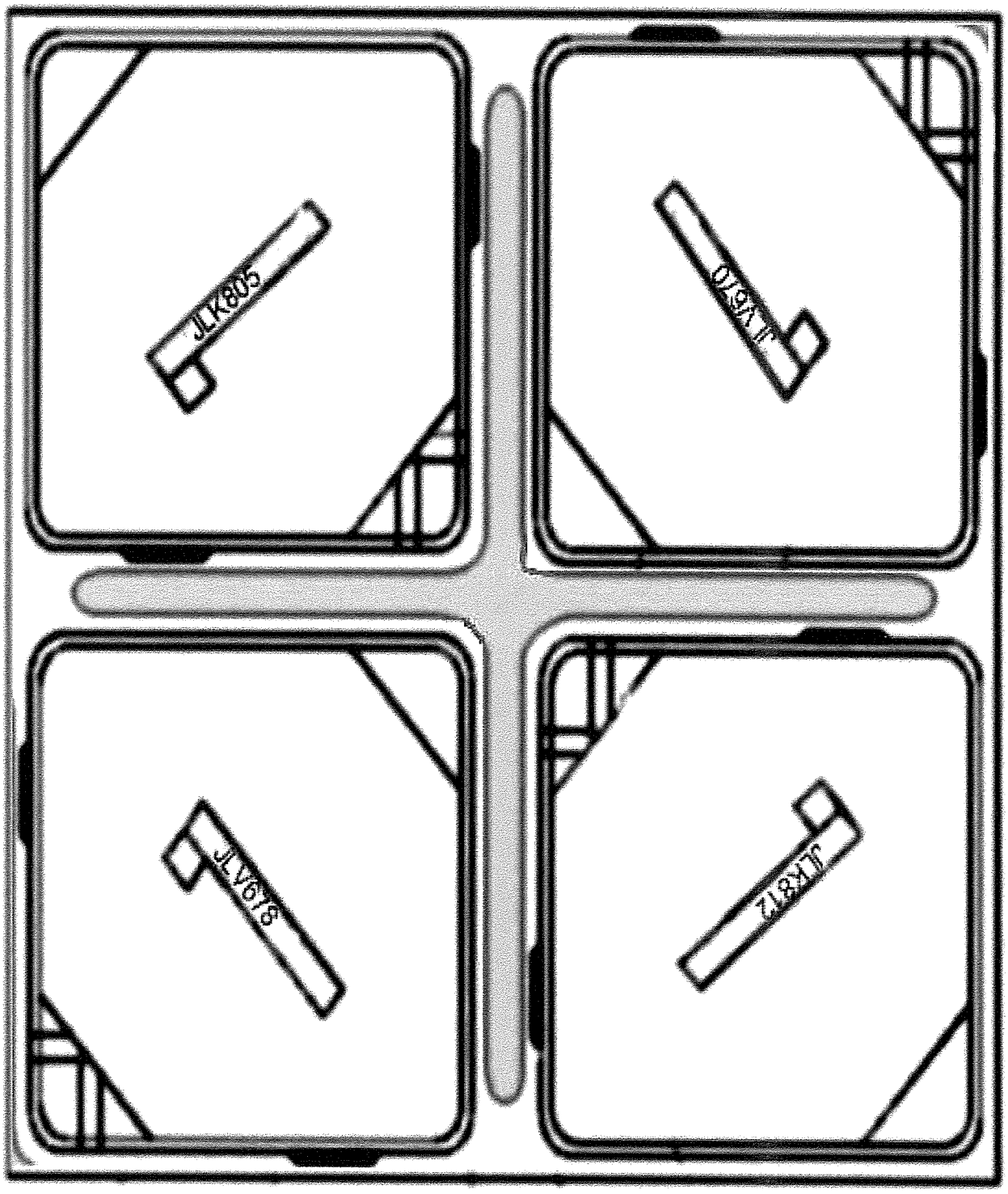
NORTH

SOUTH

WEST

CONTROL CELL 38-37

EAST



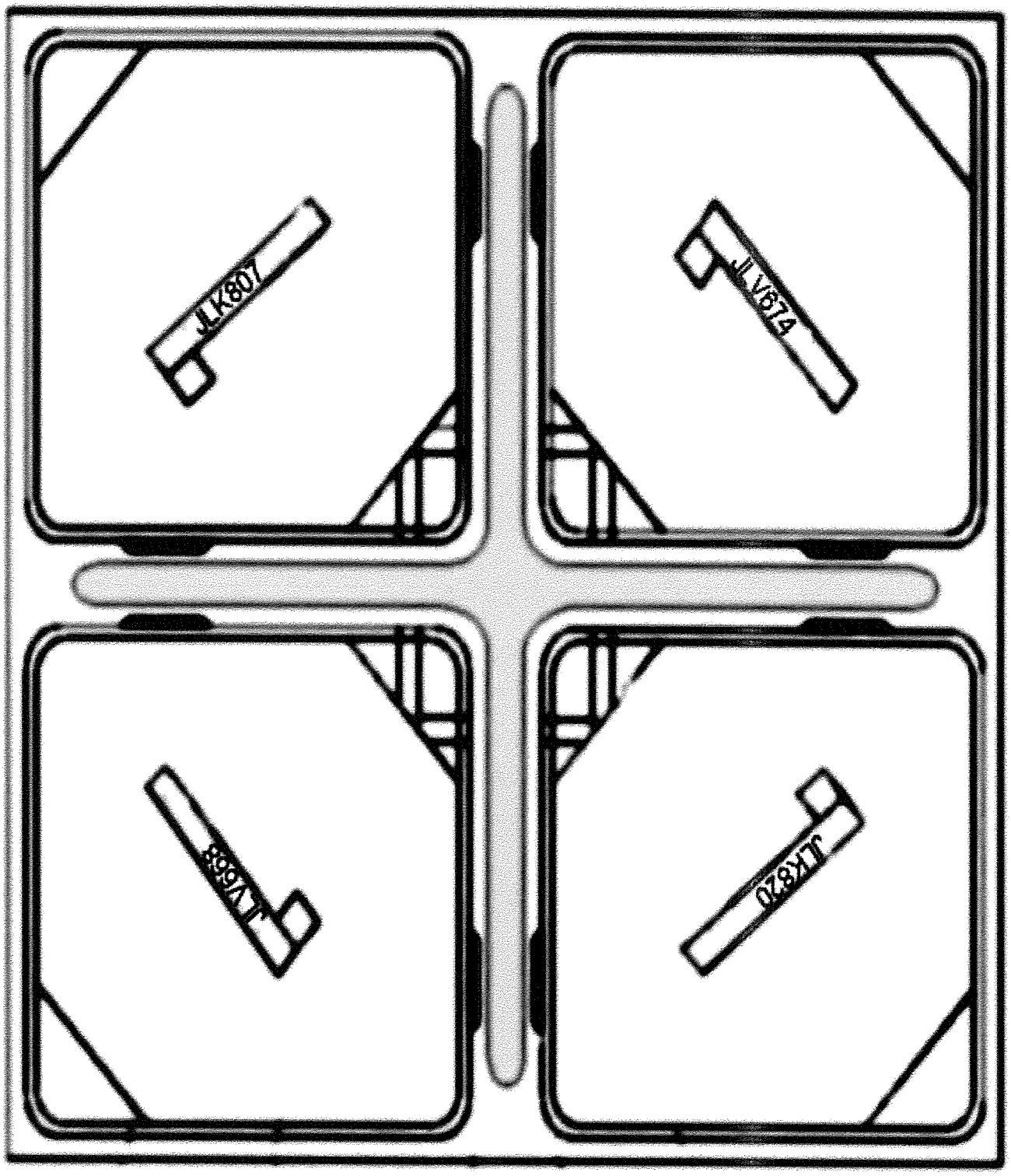
NORTH

SOUTH

WEST

CONTROL CELL 14-37

EAST



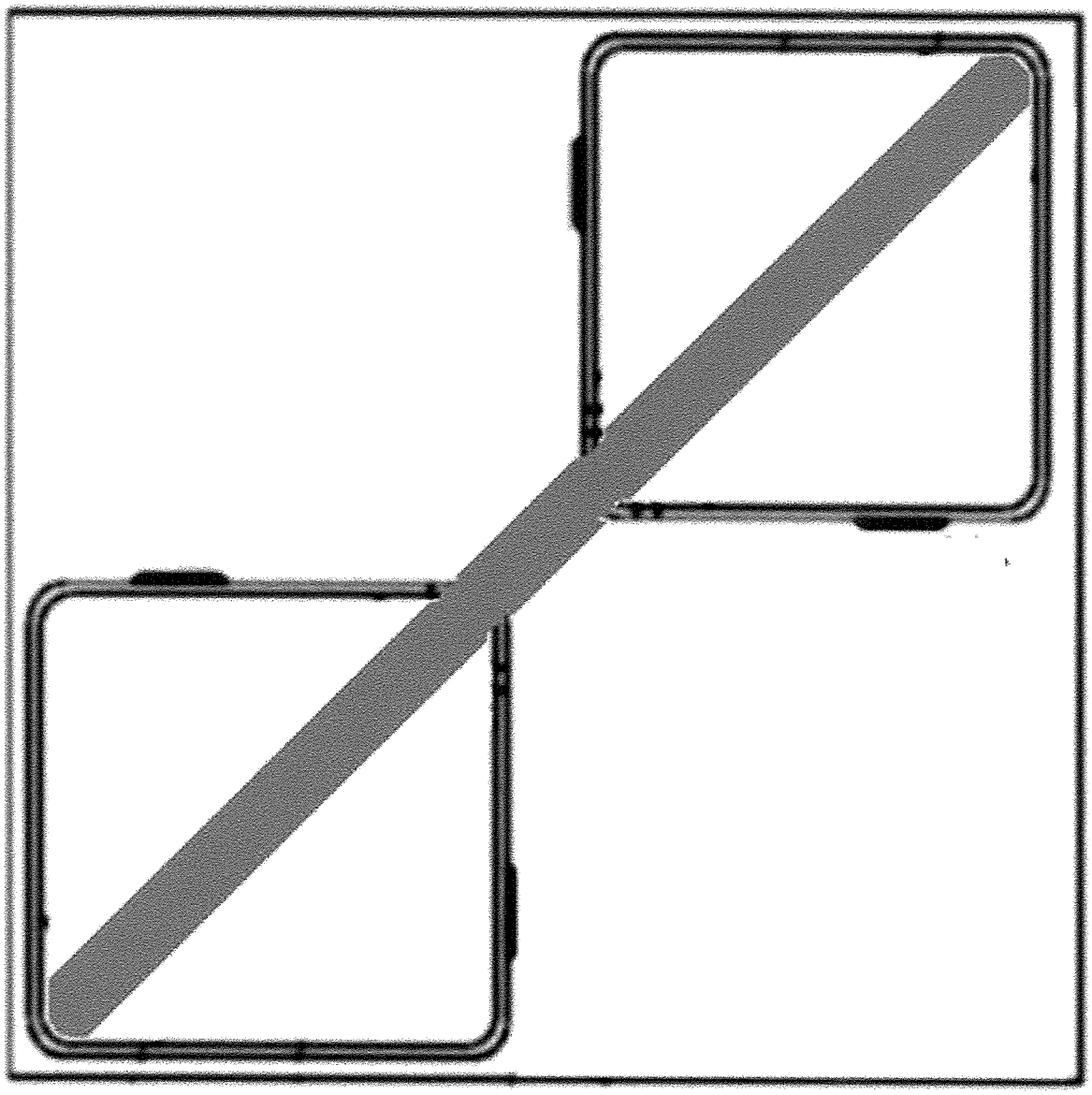
NORTH

SOUTH

WEST

CONTROL CELL 38-17

EAST



NORTH

SOUTH

WEST

CONTROL CELL 14-17

SOUTHERN NUCLEAR
PLANT E.I. HATCH

PAGE 1 OF

FORM TITLE:
FUEL MOVEMENT SHEETS

TYPE OF FUEL MOVEMENT:
(check the type of fuel sheets)

Core Off-Load:	____	Partial Offload:	____
Core Reload:	X	Upfront Shuffle:	____
Shuffle:	____	Backend Shuffle:	____
General Moves:	____	Other (Specify):	____
Special Activity:	____		

Brief description of moves: Control Cells 38-37, 14-37 and 38-37 to be loaded with fuel and blade guides removed. Control Cell 14-17 to have blade guide installed for insertion of control rod.

Verify the following for all core reload move sheets:

The first 4 steps in the movement sequence will place bundles around the SRM which will first be in the fueled region.

N/A / _____
Date

N/A / _____
Date

Verify the following for all core shuffle move sheets:

At least 2 irradiated fuel assemblies will remain around each SRM unless approved by the Reactor Engineering Supervisor or designated alternate.

Samuel Johnson / 06/18/12
Date

* Michael Best / 06/18/12
Date

Prepared by: Ben Williams / 06/18/12
Reactor Engineering — Date

Verified by: Mike Watson / 06/18/12
Reactor Engineering — Date

* Verified by: Kenneth Fairson / 06/18/12
Reactor Engineering — Date

** Approved by: William Jefferson / 06/18/12
Reactor Engineering Supervisor — Date

* Additional verification IF required by the Reactor Engineering Supervisor for certain evolutions or marked N/A, initialed and dated by the RE Supervisor.

** The "Approved" space on the actual sheets is to be signed by the Reactor Engineering Supervisor or designated alternate.

Spent Fuel Pool Inventory Database Updated By: Kenneth Fairson / 06/18/12
Date

Verified By: William Jefferson / 06/18/12
Date

SOUTHERN NUCLEAR PLANT E. I. HATCH	Unit 2	Page 1 of 1	
FORM TITLE: FUEL MOVEMENT SHEETS	[X] Performs these moves in sequence [ ] These may be performed non-sequentially	Approved William Jefferson	Date 6/18/12

Step #	Move From:					Comments:	Move To:				Double Verif.	
	Location	Init	OR	Init	Serial Number		Location	Init	OR	Init	Init	Date
1	23K11	JH	SW	JH	JLV675		37-36	JH	SE	JH	AC	06/18/12
2	23K10	JH	SW	JH	JLV682		39-38	JH	NW	JH	AC	06/18/12
3	37-38 / 39-36	JH	N/A	JH	DBL B/G		17F11 / 17G10	JH	N/A	JH	AC	06/18/12
4	23H12	JH	SW	JH	JLK804		37-38	JH	SW	JH	AC	06/18/12
5	23H11	JH	SW	JH	JLK817		39-36	JH	NE	JH	AC	06/18/12
6	23H10	JH	SW	JH	JLV678		13-36	JH	SE	JH	AC	06/18/12
7	23H09	JH	SW	JH	JLV670		15-38	JH	NW	JH	AC	06/18/12
8	13-38 / 15-36	JH	N/A	JH	DBL B/G		17F10 / 17G09	JH	N/A	JH	AC	06/18/12
9	23K09	JH	SW	JH	JLK805		13-38	JH	SW	JH	AC	06/18/12
10	23K08	JH	SW	JH	JLK812		15-36	JH	NE	JH	AC	06/18/12
11	23G11	JH	SW	JH	JLV698		37-16	JH	SE	JH	AC	06/18/12
12	23G10	JH	SW	JH	JLV674		39-18	JH	NW	JH	AC	06/18/12
13	37-18 / 39-16	JH	N/A	JH	DBL B/G		17F09 / 17G08	JH	N/A	JH	AC	06/18/12
14	23F10	JH	SW	JH	JLK807		37-18	JH	SW	JH	AC	06/18/12
15	23F09	JH	SW	JH	JLK820		39-16	JH	NE	JH	AC	06/18/12
16	17J13 / 17J12	JH	N/A	JH	DBL B/G		13-18 / 15-16	JH	N/A	JH	AC	06/18/12

Movements Performed/Verified By:

Print	Init	Date	Print	Init	Date
John Hart	JH	6/18/12			
Alan Carter	AC	6/18/12			

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Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

ADMIN 2 - ALL

TITLE		
CORRECT RWL INDICATORS FOR HIGH DRYWELL TEMPERATURES		
AUTHOR	**MEDIA NUMBER**	**TIME**
ANTHONY BALL	2012-301 ADMIN-2	11.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	C. M. EDMUND	06/07/2012

SOUTHERN COMPANY

SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **2012-301 ADMIN-2**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	06/07/12	Modified from LR-JP-25101 for use on 2012-301 NRC Exam.	ARB	CME

UNIT 1 (X) UNIT 2 (X)

TASK TITLE:	**CORRECT RWL INDICATORS FOR HIGH DRYWELL TEMPERATURES**
JPM NUMBER:	2012-301 ADMIN-2
TASK STANDARD:	The task shall be completed when the operator has determined the corrected RWL for the specified instrumentation per 34AB-B21-002.
TASK NUMBER:	201.099
OBJECTIVE NUMBER:	201.099.B

PLANT HATCH JTA IMPORTANCE RATING:

RO 4.57

SRO 3.83

STA 4.00

K/A CATALOG NUMBER: G2.1.35

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.90

SRO 4.20

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)
Shift Technical Advisor (STA)

GENERAL REFERENCES:	Unit 1	Unit 2
	34AB-B21-002-1 (current version)	34AB-B21-002-2 (current version)

REQUIRED MATERIALS:	Unit 1	Unit 2
	34AB-B21-002-1 (current version)	34AB-B21-002-2 (current version)

APPROXIMATE COMPLETION TIME: 11.0 Minutes

SIMULATOR SETUP: N/A

EVALUATOR COPY

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. The Reactor has scrammed and the board operator has reported the following **UNCOMPENSATED** Reactor Water Levels:

   1B21-R604A and 1B21-R623A (Wide Range) is -132 inches.
   1B21-R604B and 1B21-R623B (Wide Range) is -134 inches.
   1B21-R623A (Fuel Zone) is -170 inches

2. NO erratic behavior for the specified instruments has been observed.

INITIATING CUES:

Determine which of these RWL indications are valid

and

report the corrected RWL for EACH valid RWL instrument.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs:
For OJT/OJE; ALL PROCEDURE STEPS must be completed for Satisfactory Performance.
For License Examinations; ALL CRITICAL STEPS must be completed for Satisfactory Performance.

	IF	THEN
PASS	❑ Human performance tools, safety, PPE met (1), **AND** ❑ For initial trg **all** steps completed correctly OR ❑ For continuing trg, **critical** steps (if used) completed correctly	❑ Mark the JPM as a **PASS**
FAIL	❑ Above standards not met	❑ Mark the JPM as a **FAIL**

(1) The standard for human performance tools, safety, PPE, and other pertinent expectations is considered met provided any deviations are minor and have little or no actual or potential consequence. Errors may be self-corrected provided the action would not have resulted in significant actual or potential consequences. Reference: NMP-TR-111, "On-The-Job Training and Task Performance Evaluation".

START TIME:_____

1.	Operator identifies the procedure needed to perform the task.	Operator has identified the correct procedure as 34AB-B21-002-1.	

NOTE: If the operator (STA) indicates that SPDS would be checked, give the operator Supplement 1.

PROMPT: **IF** the operator addresses Drywell temperature indications, **INDICATE** for the operator that temperature is greater than 150°F (Use Supplement 1 if SPDS is addressed).

2.	Determine if RWL corrections are required.	Using SPDS (or Drywell temp indications) the operator DETERMINES: Drywell temperature is greater than 150°F. RWL corrections **ARE** required.	
3.	Review Caution 1 and Caution 2 on Attachment 1 of 34AB-B21-002-1.	The operator has REVIEWED Caution 1 and Caution 2 on Attachment 1 of 34AB-B21-002-1.	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
4.	Confirm there is no indication of erratic instrument behavior.	The operator has VERIFIED, by observation or by addressing the panel operator, that the following RWL instruments show NO erratic instrument behavior: 1B21-R604A 1B21-R604B 1B21-R623A (Wide Range) 1B21-R623B (Wide Range) 1B21-R623A (Fuel Zone)	

PROMPT: **WHEN** the operator indicates use of the Diagnostic screen of SPDS, **GIVE** the operator Supplement 2.

5.	Determine highest temperature for RTD Group 1 and 2 (Maximum Run Temperature).	At SPDS panel, the operator has DETERMINED the following Maximum Run Temperatures: RTD Group 1 - 260°F RTD Group 2 - 257°F	

PROMPT: **IF** the operator addresses temperature indications on Panels P654 and P657; indications can be **SIMULATED** using the values from Supplement 2.

****6.**	Determine if the RWL instrument may be used by comparing the Minimum Indicated Level for the associated Maximum Run Temperature.	The operator has DETERMINED the following RWL instruments are **VALID**: 1B21-R623A (Fuel Zone)	
7.	Determine if the RWL instrument may be used by comparing the Minimum Indicated Level for the associated Maximum Run Temperature.	The operator has DETERMINED the following RWL instruments are **INVALID**: 1B21-R604A 1B21-R604B 1B21-R623A (Wide Range) 1B21-R623B (Wide Range)	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**8.	Determine corrected Fuel Zone Level (1B21-R623A).	Using Attachment 3 of 34AB-B21-002-1, the operator has DETERMINED **Corrected Level** for 1B21-R623A (fuel zone) is -137 inches (accept ±1 inch).	

END TIME:_____

NOTE: The terminating cue shall be given to the Operator when:

- After JPM step #8 is complete.
- With no reasonable progress, the Operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: We will stop here.

EVALUATOR – PICK UP the Initiating Cue sheet.

(Indicates critical step)**

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. The Reactor has scrammed and the board operator has reported the following **UNCOMPENSATED** Reactor Water Levels:

   1B21-R604A and 1B21-R623A (Wide Range) is -132 inches.
   1B21-R604B and 1B21-R623B (Wide Range) is -134 inches.
   1B21-R623A (Fuel Zone) is -170 inches

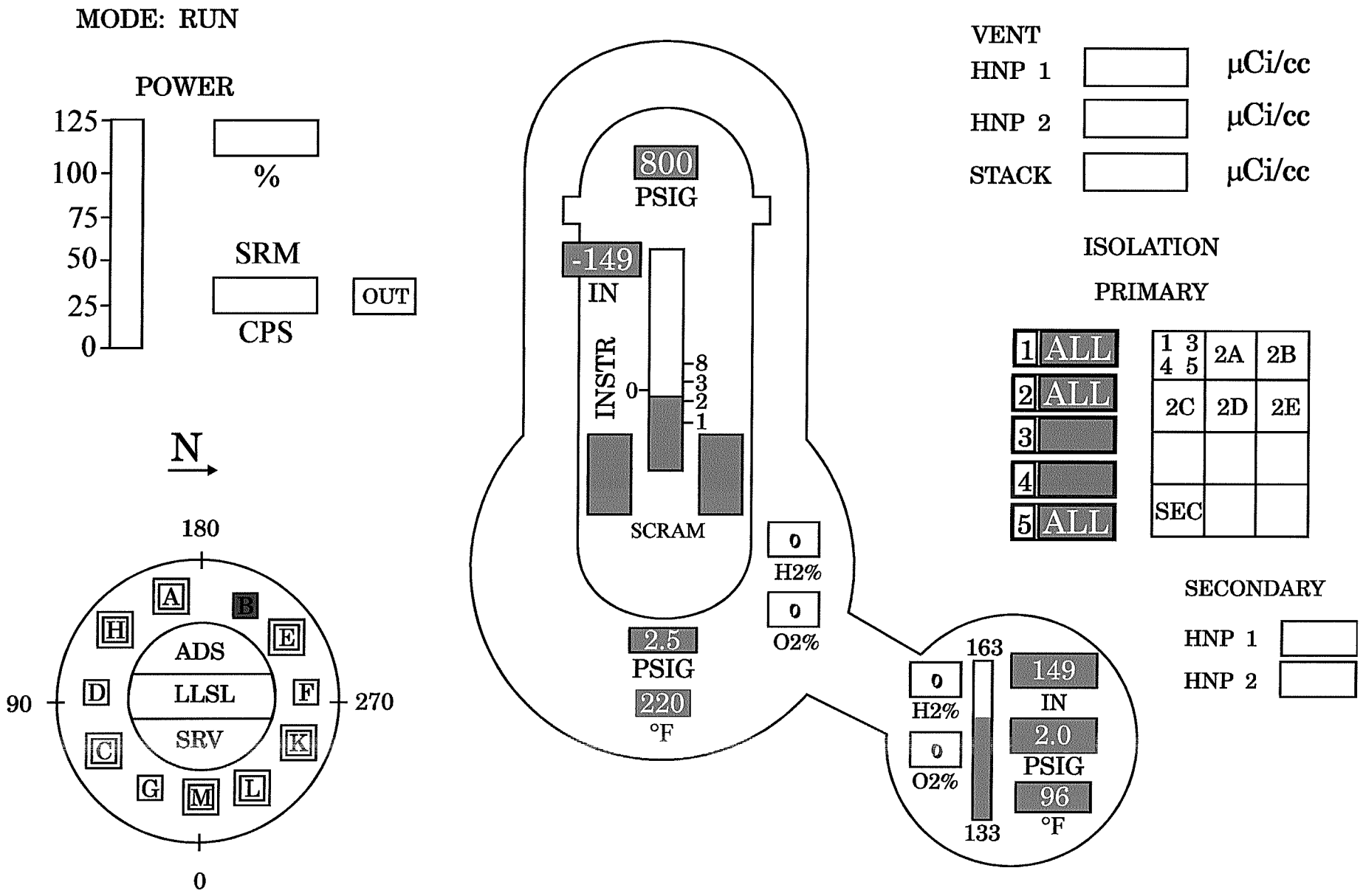
2. NO erratic behavior for the specified instruments has been observed.

INITIATING CUES:

Determine which of these RWL indications are valid

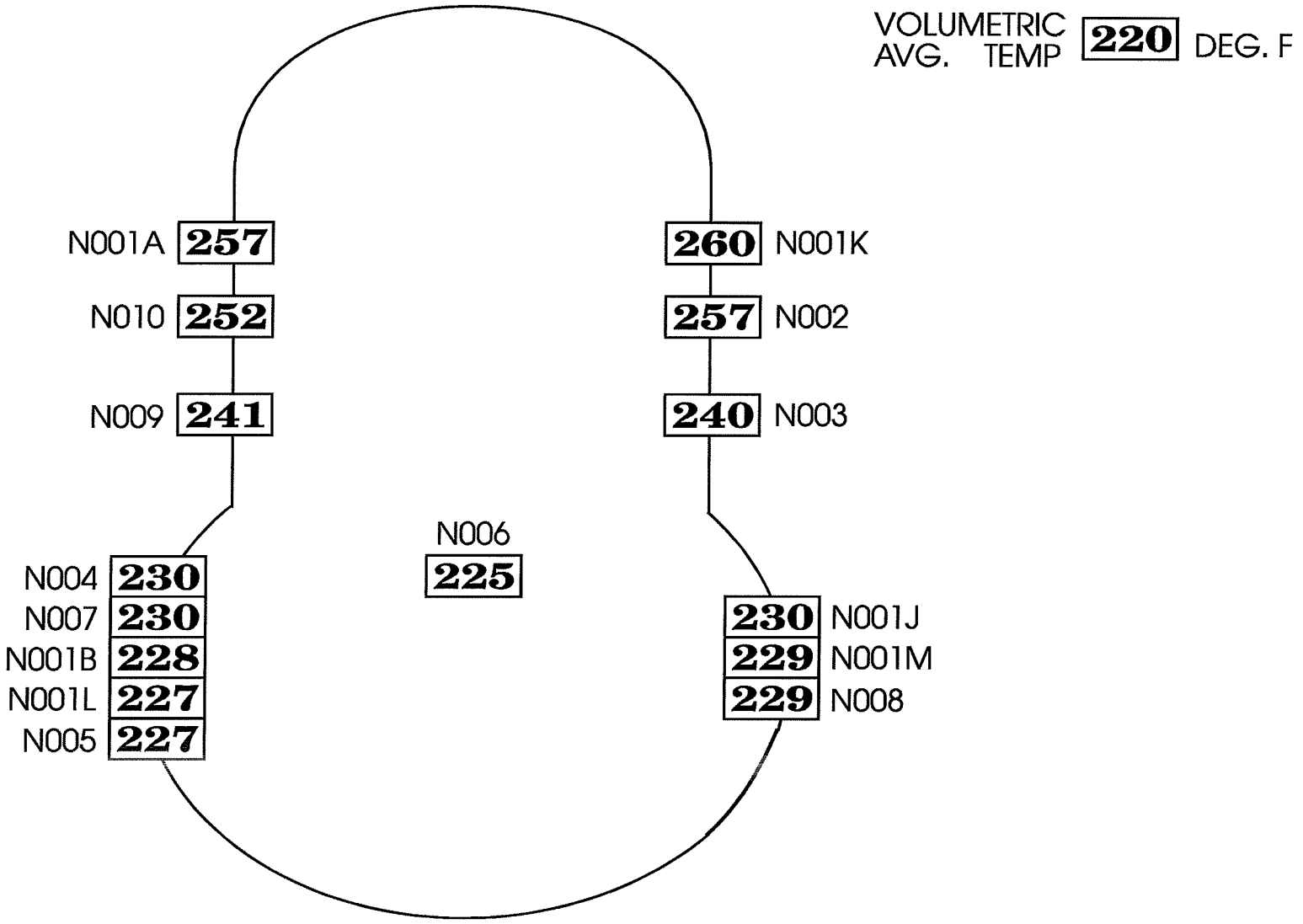
and

report the corrected RWL for EACH valid RWL instrument.



SUPPLEMENT 1

DRYWELL TEMPERATURE DIAGNOSTIC



SUPPLEMENT 2

FINAL

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

ADMIN 3 - RO ONLY

TITLE		
Determine if plant conditions allow a "Quick Restart" of a Recirculation Pump.		
AUTHOR	**MEDIA NUMBER**	**TIME**
Anthony Ball	2012-301 ADMIN-3	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
NR	C. M. EDMUND	06/07/2012

SOUTHERN COMPANY

SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **2012-301 ADMIN-3**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	06/07/12	Modified from LR-JP-25050 & will become new LR-JP-25053 after NRC Exam.	ARB	CME

UNIT 1 (X) UNIT 2 ( )

TASK TITLE:	**Determine if plant conditions allow a "Quick Restart" of a Recirculation Pump.**
JPM NUMBER:	2012-301 ADMIN-3
TASK STANDARD:	The task shall be complete when it has been determined that the requirements of 34SO-B31-001-1, "Reactor Recirculation System" have been met to start a Reactor Recirculation pump.
TASK NUMBER:	004.002
OBJECTIVE NUMBER:	004.002.A

K/A CATALOG NUMBER: Generic 2.1.20/Generic 2.1.32

K/A CATALOG JTA IMPORTANCE RATING:

RO 4.3/3.4

SRO 4.2/3.8

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)/Senior Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 1**
	34SO-B31-001-1 (Current Version)

REQUIRED MATERIALS:	**Unit 1**
	34SO-B31-001-1 (Current Version)

APPROXIMATE COMPLETION TIME: 15 Minutes

SIMULATOR SETUP: N/A, Used for NRC Admin JPM (classroom setting)

EVALUATOR COPY

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. 10 minutes ago, the Unit 1 reactor scrammed from 100% power.
2. Both Reactor Recirculation pumps tripped during the scram transient.
3. Reactor water level went as low as –10 inches and has been restored to +37 inches using Reactor Feedwater Pumps.
4. HPCI and RCIC were not required during the transient and have remained in standby.
5. RWCU is in service.
6. The Shift Supervisor has given direction to perform a Quick Restart of the **"1B"** Reactor Recirculation pump to prevent thermal stratification.
7. An operator has entered 34SO-B31-001-1, "Reactor Recirculation System" and completed steps 7.1.4.2.1 through 7.1.4.2.5 ("Recirc Pump B Quick Re-start").
8. Data collection began 4 minutes ago and the operator has completed gathering plant data for use with step 7.1.4.2.6 of 34SO-B31-001-1.

INITIATING CUES:

Determine if plant conditions meet the procedural requirements for "Quick" starting the **"1B"** Reactor Recirculation pump per step 7.1.4.2.6 of 34SO-B31-001-1, "Reactor Recirculation System".

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs:
For OJT/OJE; ALL PROCEDURE STEPS must be completed for Satisfactory Performance.
For License Examinations; ALL CRITICAL STEPS must be completed for Satisfactory Performance.

	IF	THEN
PASS	❑ Human performance tools, safety, PPE met (1), **AND** ❑ For initial trg **all** steps completed correctly OR ❑ For continuing trg, **critical** steps (if used) completed correctly	❑ Mark the JPM as a **PASS**
FAIL	❑ Above standards not met	❑ Mark the JPM as a **FAIL**

(1) The standard for human performance tools, safety, PPE, and other pertinent expectations is considered met provided any deviations are minor and have little or no actual or potential consequence. Errors may be self-corrected provided the action would not have resulted in significant actual or potential consequences. Reference: NMP-TR-111, "On-The-Job Training and Task Performance Evaluation".

START TIME:_____

NOTE: **34SO-B31-001-1, Attachment 6** serves as an answer key for this JPM. It is NOT to be provided to the student.

NOTE: At this time, provide the operator with **Attachment 1** (Plant Data page) and a copy of 34SO-B31-001-1.

PROMPT: **IF** addressed by the operator, **INFORM** the operator that the ASD is NOT in local control.

1.	Operator refers to step 7.1.4.2.6 and is directed to Attachment 6 of 34SO-B31-001-1.	Step 7.1.4.2.6	
2.	Operator selects "B" Recirc Pump.	Places a check mark next to "B" Recirc. Att. 6 Step 1.0	
3.	The operator enters the current time.	Records current time. Att. 6 Step 2.0	
****4.**	The operator determines RPV saturation temperature.	Tsat = 521° F (±2° F) Att. 6 Step 2.0 (A)	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

NOTE: Data is NOT required to be filled in for the "1A" Recirc Pump in the following step.

5.	The Operator enters suction temperature for Recirculation Pumps.	Recirc "1A": 470° F Recirc "1B": 475° F (Att. 6 Step 2.0 (A) & (B))	
6.	The operator enters the bottom head temperature.	Bottom head temperature: 365° F (Att. 6 Step 2.0 (D))	
7.	The operator calculates the Δt between the "1B" loop and the RPV.	Δt = (521° F - 475° F) = 46° F (±2° F) (Att. 6 Step 1.2.1)	
****8.**	The operator determines the Δt between the "1B" loop and the RPV **IS** acceptable.	Δt of 46° F (±2° F) is < 50° F (Att. 6 Step 3.1)	

NOTE: The student should NOT use step 4.2 to perform the following confirmation of plant conditions due to the NOTE that precedes step 4.0 (RWCU is in service). If the operator does refer to step 4.2, the check will NOT be acceptable due to Feedwater temperature < 300° F.

****9.**	The operator calculates the Δt between bottom head and steam dome.	Δt = (521° F - 379° F) = 142° F (±2° F) (Att. 6 Step 4.1)	
****10.**	The operator determines that the Δt between bottom head and steam dome **IS** acceptable.	Δt of 142° F (±2° F) is < 145° F (Att. 6 Step 4.1)	
11.	The operator reports to the Shift Supervisor.	Plant conditions **ARE** acceptable for starting the "1B" Reactor Recirculation pump.	

NOTE: Step 4.2 is **NOT** required to be performed (it is an alternate method). If the student chooses to perform step 4.2, the conditions will **NOT** allow the start of the Recirc Pump (FW temp <300 F). The following information is expected to be determined by the student (see **Attachment** for details):

(a) is met (>40% of rated flow prior to the RPT).
(b) is met (HPCI and RCIC have not injected since the RPT)
(c) is NOT met (FW temp is not >300 F since the RPT) is met (<30 minutes since trip) and start time (calculated time to start is required to be 30 minutes from the RPT time)

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

PROMPT: **IF** addressed by the operator, as the STA, **INFORM** the operator that power/flow map conditions are acceptable for starting the Recirc Pump.

PROMPT: **IF** addressed by the operator, as the Shift Supervisor, **INFORM** the operator that another operator will verify his calculations.

END TIME:_____

NOTE: The terminating cue shall be given to the operator when:

- After JPM step #11 is complete.
- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: We will stop here.

EVALUATOR – **PICK UP** the Initiating Cue sheet.

(Indicates critical step)**

CONTINUOUS

NOTE:	This attachment may be performed in Modes 1, 2, AND 3.

EVALUATOR USE ONLY (KEY)
DO NOT give to candidate

1.0 **Recirc** Loop and RPV Limit Checks:

Pre-startup checks for (√): _____ "A" recirc
_____√_____ "B" recirc

2.0 **Record** the following data: Time **CURRENT TIME** **APPLICANTS INITIALS**

	Parameter	Location	Value	
(A)	RPV Saturation Temp.	SPDS MISC RPV Heatup/ Cooldown OR Steam Tables	**521°F (±2°F)**	(A)
(B)	"A" Recirc Suction Temp	1B31-R650 OR Equivalent, average of process computer points B034, B035	**470°F**	(B)
(C)	"B" Recirc Suction Temp	1B31-R650 OR Equivalent, average of process computer points B036, B037	**475°F**	(C)
(D)	*Vessel Bottom Head Drain	*1B21-R606 Pt 3 OR 1G31-N601 Pt 5	***379°F**	(D)

* The Bottom Head Drain temperature (D) may still be used even IF RWCU is NOT in service. (See Limitation 5.2.14). IF Bottom Head Drain temperature is NOT available, (i.e., inoperable), THEN use the alternate method of confirming the Bottom Head to Coolant ΔT in step 4.0.

Critical

3.0 FOR the Recirc loop to be started,
confirm the ΔT between the reactor coolant temperature in the loop AND the RPV coolant temperature is ≤ 50°F by performing step3.1 OR 3.2 below:

3.1 IF both recirc loops are idle;
Loop "A" ΔT = |(A) - (B)| = _____ (acceptable ≤ 50°F) **NA**
OR
Loop "B" ΔT = |(A) - (C)| = **46°F (±2°F)** (acceptable ≤ 50°F) **INITIALS**

•••••••••••••••••••••••••••••••••••• **OR** ••••••••••••••••••••••••••••••••••••

3.2 IF only one recirc loop is idle,
THEN **loop** ΔT = |(B) - (C)| = _____ (acceptable ≤ 50°F) **NA**

NOTE:	IF a direct indication is NOT available for Vessel Bottom Head Drain temp (D), THEN within 30 minutes of an RPT, the bottom head to coolant ΔT (≤ 145°F) may be confirmed per the alternate method in step 4.2.

Critical

4.0 **Confirm** the ΔT between the bottom head coolant temperature AND the reactor pressure vessel (RPV) coolant temperature is ≤ 145°F by performing step 4.1 OR 4.2 below:

4.1 ΔT = |(A) - (D)| = **142° F (±2°F)** (acceptable ≤ 145°F) **INITIALS**

•••••••••••••••••••••••••••••••••••• **OR** ••••••••••••••••••••••••••••••••••••

4.2 Per Tech Spec BASES B.3.4.9, **confirm** ALL of the following:

(a) One OR more loop drive flows were > 40% (18,000 gpm) of rated flow prior to the RPT, AND **NA TRUE**

(b) HPCI and RCIC Systems have NOT injected since the RPT, AND **NA TRUE**

(c) Feedwater temperature has remained > 300°F since the RPT, AND **NOT CORRECT**

(d) Time between the RPT AND restart is < 30 minutes.

These are calculated by the student, based on JPM start time. The time will vary.

Record Recirc RPT trip time: _____ (T1)

Recirc start is required prior to:

(T1) + 30 minutes = _____

EVALUATOR USE ONLY (KEY)
DO NOT give to candidate

INITIALS

Critical

5.0 IF only ONE Recirc pump is idle, THEN **confirm** the operating pump loop flow is < 22,500 gpm. **NA**

Critical

6.0 **Confirm** the:

(1) Power/flow condition is acceptable for restart per the STA/Rx Engineering. **INITIALS**

OR

(2) IF the OPRM System is inoperable, the reactor is 10% below the 61% Load Line of Attachment 1, OPRM System INOP Power vs. Flow map in 34AB-C51-001-1, in order to avoid inadvertent entry into the RPI. **INITIALS**

7.0 **Independently verify** the data recorded above is ACCEPTABLE prior to proceeding with the recirc pump start. (VERIFIED) **INITIALS**

Critical

8.0 **Confirm** the steps 1.0 thru 7.0 above, was performed within the last 15 minutes. **INITIALS**

9.0 **Record** Recirc pump start time: _____ **INITIALS**

EVALUATOR USE ONLY
(KEY)
DO NOT give to candidate

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. 10 minutes ago, the Unit 1 reactor scrammed from 100% power.
2. Both Reactor Recirculation pumps tripped during the scram transient.
3. Reactor water level went as low as –10 inches and has been restored to +37 inches using Reactor Feedwater Pumps.
4. HPCI and RCIC were not required during the transient and have remained in standby.
5. RWCU is in service.
6. The Shift Supervisor has given direction to perform a Quick Restart of the **"1B"** Reactor Recirculation pump to prevent thermal stratification.
7. An operator has entered 34SO-B31-001-1, "Reactor Recirculation System" and completed steps 7.1.4.2.1 through 7.1.4.2.5 ("Recirc Pump B Quick Re-start").
8. Data collection began 4 minutes ago and the operator has completed gathering plant data for use with step 7.1.4.2.6 of 34SO-B31-001-1.

INITIATING CUES:

Determine if plant conditions meet the procedural requirements for starting the **"1B"** Reactor Recirculation pump per step 7.1.4.2.6 of 34SO-B31-001-1, "Reactor Recirculation System".

PROVIDE TO APPLICANT

Plant Data

- **Reactor pressure:** 805 psig
- **"A" Recirc Suction Temp** (1B31-R650): 470° F
- **"B" Recirc Suction Temp** (1B31-R650): 475° F
- **Vessel Bottom Head Drain** (1B21-R606 Pt 3): 379° F
- **Reactor Feedwater temperature:** 295° F

FINAL

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

ADMIN 4 – ALL

TITLE		
REVIEW OF HPCI PUMP OPERABILITY SURVEILLANCE		
AUTHOR	**MEDIA NUMBER**	**TIME**
Anthony Ball	2012-301 ADMIN-4	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/A	C. M. EDMUND	06/07/2012

SOUTHERN COMPANY

SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **2012-301 ADMIN-4**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	06/07/12	Initial development.	ARB	CME

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE:	**REVIEW OF HPCI PUMP OPERABILITY SURVEILLANCE**
JPM NUMBER:	2012-301 ADMIN-4
TASK STANDARD:	The task shall be complete when the operator reviews the completed surveillance procedure, 34SV-E41-002-2, makes any required calculations and determines HPCI surveillanc is unsat, one PSW valve is sat and the other is inoperable.
TASK NUMBER:	300.011
OBJECTIVE NUMBER:	300.011.O

K/A CATALOG NUMBER: Generic 2.2.12

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.7

SRO 4.1

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO) / Senior Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 2**
	34SV-E41-002-2 (current version)

REQUIRED MATERIALS:	**Unit 2**
	Completed surveillance package: 34SV-E41-002-2.

APPROXIMATE COMPLETION TIME: 15 Minutes

SIMULATOR SETUP: N/A

EVALUATOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 2 is at 100% power.
2. A Normal HPCI Pump Quarterly Inservice Test (IST) Data Test has just been completed for the HPCI pump IAW 34SV-E41-002-2, "HPCI Pump Operability".
3. Unit 2 reactor pressure is 1043 psig.

INITIATING CUES:

Review Attachment 1 of 34SV-E41-002-2, "HPCI Pump Operability".

Complete any calculations required by the surveillance data sheets.

Using Attachment 1 of 34SV-E41-002-2 data COMPLETE Section 7.8 TEST RESULTS, step 7.8.1 through step 7.8.6.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs:
For OJT/OJE; ALL PROCEDURE STEPS must be completed for Satisfactory Performance.
For License Examinations; ALL CRITICAL STEPS must be completed for Satisfactory Performance.

	IF	THEN
PASS	❑ Human performance tools, safety, PPE met (1), **AND** ❑ For initial trg **all** steps completed correctly OR ❑ For continuing trg, **critical** steps (if used) completed correctly	❑ Mark the JPM as a **PASS**
FAIL	❑ Above standards not met	❑ Mark the JPM as a **FAIL**

(1) The standard for human performance tools, safety, PPE, and other pertinent expectations is considered met provided any deviations are minor and have little or no actual or potential consequence. Errors may be self-corrected provided the action would not have resulted in significant actual or potential consequences. Reference: NMP-TR-111, "On-The-Job Training and Task Performance Evaluation".

START TIME:_____

PROMPT: **AT** this time, **GIVE** the applicant a complete copy of 34SV-E41-002-2, HPCI Pump Operability.

PROMPT: **AT** this time, **GIVE** the applicant **Attachment 2 of this JPM** (Data has been filled in for this JPM).

PROMPT: **IF** the applicant addresses the IST Book, **INFORM** the applicant that a supervisor has verified the reference data.

NOTE: JPM Steps 1 - 8 can be performed in any order.

1.	The applicant evaluates parameters on Attachment 1 and finds Turbine Speed N_r is acceptable.	On Attach. 1 of 34SV-E41-002-2, the applicant EVALUATES Turbine Speed N_r data is SATISFACTORY. **3900 rpm** (Acceptable Range: 3861 (0.99) to 3939 (1.01) rpm)	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
2.	The applicant evaluates parameters on Attachment 1 and finds Inlet Pressure (Stopped) (P_i) is acceptable.	On Attach. 1 of 34SV-E41-002-2, the applicant EVALUATES Inlet Pressure (Stopped) (P_i) data is SATISFACTORY. **34 psig** Acceptable Range: >7 psig.	
3.	The applicant evaluates parameters on Attachment 1 and finds Inlet Pressure (Running) (P_i) is acceptable.	On Attach. 1 of 34SV-E41-002-2, the applicant EVALUATES Inlet Pressure (Running) (P_i) data is SATISFACTORY. **31 psig** Acceptable Range: >7 psig.	
4.	The applicant evaluates parameters on Attachment 1 and finds Outlet Pressure (Running) P_o is NOT acceptable.	At step 7.8.2.1.1 of 34SV-E41-002-2, the applicant EVALUATES Outlet Pressure data **IS NOT SATISFACTORY.** 1072 psig is NOT in the Acceptable Range of $\geq$ 1135 psig.	

NOTE: At this time, the applicant may elect to inform the Shift Supervisor that Outlet Pressure (Running) P_o is NOT acceptable and HPCI has failed the surveillance. This action **IS** acceptable.

It **IS** also acceptable for the applicant to complete the review before bringing this to the supervisor's attention.

PROMPT: **IF** the applicant addresses the out of spec. item(s), **DIRECT** the applicant to finish the data package review.

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
5.	The applicant calculates and then evaluates on Attachment 1 and finds Differential Pressure (2) dPr is NOT acceptable.	On Attach. 1 of 34SV-E41-002-2, the applicant CALCULATES AND EVALUATES Differential Pressure (2) dP_r data **IS NOT SATISFACTORY. 0.88 dPr is NOT in the Acceptable Range of 0.90 to 1.10 dPr.**	

NOTE: Ratio Differential Pressure (2) dP_r is equal to the Test Value dP_r divided by the Reference Value dP_r. 1041/1183 = 0.88.

At this time, the applicant may elect to inform the Shift Supervisor that Differential Pressure (2) dPr is NOT acceptable and HPCI must be declared inoperable. This action **IS** acceptable.

It **IS** also acceptable for the applicant to complete the review before bringing this to the supervisor's attention.

PROMPT: **IF** the applicant addresses the out of spec. item(s), **DIRECT** the applicant to finish the data package review.

6.	The applicant evaluates parameters on Attachment 1 and finds Flowrate (4) (Q_r) is acceptable.	On Attach. 1 of 34SV-E41-002-2, the applicant EVALUATES Flowrate (4) (Q_r) data (**4250 gpm**) is SATISFACTORY. Acceptable value is 4250 gpm.	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
7.	The applicant evaluates the stroke time data for the cooling water valve 2P41-F035A.	On Attach. 1 of 34SV-E41-002-2, the applicant evaluates the stroke time data for 2P41-F035A and determines that the valve data is SATISFACTORY. **4.4 seconds is within** the Calculated Allowable Time range of 1.5 to 4.5 seconds.	
8.	The applicant evaluates the stroke time data for the cooling water valve 2P41-F035B.	On Attach. 1 of 34SV-E41-002-2, the applicant evaluates the stroke time data for 2P41-F035B and determines that the valve data is **NOT SATISFACTORY.** 5.2 seconds has exceeded the MAXIMUM Time Limit of 5.0 seconds.	

NOTE: At this time, the applicant may elect to inform the Shift Supervisor that 2P41-F035B has exceeded the MAXIMUM Time Limit of 5.0 seconds and failed the surveillanc. This action **IS** acceptable.

It **IS** also acceptable for the applicant to complete the review before bringing this to the supervisor's attention.

PROMPT: **WHEN** the applicant addresses the Out of Spec readings, **INFORM** the applicant to finish the data package review.

9.	The applicant performs step 7.8.1 Reason for test:	The applicant places a check mark for "Norm. Surv." per the initial conditions.	
10.	The applicant performs step 7.8.2.1.1 HPCI pump delivers at least 4250 gpm at a pump discharge pressure of greater than OR equal to 1135 psig with reactor pressure of > 920 psig AND < 1058 psig.	The applicant has determined HPCI pump Outlet Pressure (Running) P_o <1135 psig has failed to meet the acceptance criteria of step 7.8.2.1.1.	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
11.	The applicant performs step 7.8.2.1.2 HPCI pump discharge lines up stream of valves 2E41-F006 AND F011 are filled.	The applicant has verified that HPCI pump discharge lines up stream of valves 2E41-F006 AND F011 are filled.	

PROMPT: **WHEN** the applicant addresses the HPCI pump discharge lines upstream of valves 2E41-F006 AND F011 are filled, **INFORM** the applicant that HPCI pump discharge lines up stream of valves 2E41-F006 AND F011 are filled.

12.	The applicant performs step 7.8.2.1.3 2T41-B005A AND 2T41-B005B, HPCI Pump Rm Cooling Fans, auto start, WHEN HPCI is started.	The applicant has verified that 2T41-B005A AND 2T41-B005B, HPCI Pump Rm Cooling Fans, auto start, WHEN HPCI started.	

PROMPT: **WHEN** the applicant addresses the 2T41-B005A AND 2T41-B005B, HPCI Pump Rm Cooling Fans, **INFORM** the applicant that 2T41-B005A AND 2T41-B005B, HPCI Pump Rm Cooling Fans, auto started.

13.	The applicant performs step 7.8.2.1.4 2P41-F035A AND 2P41-F035B, HPCI Pump Rm Cooler Valves, OPEN, WHEN cooler is running.	The applicant has verified that 2P41-F035A AND 2P41-F035B, HPCI Pump Rm Cooler Valves, OPEN, WHEN cooler is running.	

PROMPT: **WHEN** the applicant addresses the 2P41-F035A AND 2P41-F035B, HPCI Pump Rm Cooler Valves, open when HPCI is running, **INFORM** the applicant that 2P41-F035A AND 2P41-F035B, HPCI Pump Rm Cooler Valves, auto opened.

14.	The applicant performs step 7.8.2.1.5 Oil level AND pressure is observed.	The applicant has verified that Oil level AND pressure is observed.	

PROMPT: **WHEN** the applicant addresses the Oil level AND pressure is observed, **INFORM** the applicant that Oil level AND pressures were observed.

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
15.	The applicant evaluates step 7.8.2.2.1 HPCI pump Outlet Pressure (Running) P_o data.	The applicant has determined that HPCI pump Outlet Pressure (Running) P_o has **FAILED** to meet the acceptance criteria of step 7.8.2.2.1.	

NOTE: At this time, the applicant may elect to inform the Shift Supervisor that Outlet Pressure (Running) P_o is NOT acceptable and HPCI has failed the surveillance. This action **IS** acceptable.

It **IS** also acceptable for the applicant to complete the review before bringing this to the supervisor's attention.

16.	The applicant evaluates step 7.8.2.2.1 HPCI pump dPr data.	The applicant has determined that Differential Pressure dP_r has **FAILED** to meet the acceptance criteria of step 7.8.2.2.1.	

NOTE: At this time, the applicant may elect to inform the Shift Supervisor that Differential Pressure (2) dPr is NOT acceptable. This action **IS** acceptable.

It **IS** also acceptable for the applicant to complete the review before bringing this to the supervisor's attention.

17.	The applicant evaluates step 7.8.2.2.1 Flowrate (4) (Q_r) data.	The applicant has determined that Flowrate (Q_r) data meets the acceptance criteria of step 7.8.2.2.1.	
18.	The applicant performs step 7.8.2.2.2 HPCI Pump Rm Cooler valve operability was performed.	The applicant has verified that HPCI Pump Rm Cooler valve operability was performed.	

PROMPT: **WHEN** the applicant addresses HPCI Pump Rm Cooler valve operability, **INFORM** the applicant that HPCI Pump Rm Cooler valve operability was performed.

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
19.	The applicant evaluates step 7.8.3 if Response Time Test was performed.	The applicant evaluates if Response Time Test was performed.	

PROMPT: **WHEN** the applicant addresses Response Time Test, **INFORM** the applicant that Response Time Test was NOT performed.

20.	The applicant performs step 7.8.4.1 for 2P41-F035A, The stroke times for each valve are less than the MAXIMUM TIME LIMIT.	The applicant compares the stroke time and has determined that HPCI 2P41-F035A stroke time **IS** less than the MAXIMUM TIME LIMIT.	
21.	The applicant performs step 7.8.4.1 for 2P41-F035B, The stroke times for each valve are less than the MAXIMUM TIME LIMIT.	The applicant compares the stroke time and has determined that HPCI 2P41-F035B has **FAILED** to meet the acceptance criteria of step 7.8.4.1.	

NOTE: At this time, the applicant may elect to inform the Shift Supervisor that 2P41-F035B has exceeded the MAXIMUM Time Limit of 5.0 seconds and failed the surveillance. This action **IS** acceptable.

It **IS** also acceptable for the applicant to complete the review before bringing this to the supervisor's attention.

22.	The applicant performs step 7.8.4.2 for 2P41-F035A, The stroke times for each valve are WITHIN the CALCULATED ALLOWABLE time range on Attachment 1.	The applicant compares the stroke time and has determined that HPCI 2P41-F035A stroke time **IS** within the CALCULATED ALLOWABLE time range on Attachment 1.	
23.	The applicant performs step 7.8.4.2 for 2P41-F035B, The stroke times for each valve are WITHIN the CALCULATED ALLOWABLE time range on Attachment 1.	The applicant compares the stroke time and has determined that HPCI 2P41-F035B stroke time **IS NOT** within the CALCULATED ALLOWABLE time range on Attachment 1.	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

NOTE: At this time, the applicant may elect to inform the Shift Supervisor that 2P41-F035B has exceeded the CALCULATED ALLOWABLE time range. This action **IS** acceptable.

It **IS** also acceptable for the applicant to complete the review before bringing this to the supervisor's attention.

24.	The applicant performs step 7.8.4.3 Valve stem travel > 80% open based on local stem mounted position indicator.	The applicant has verified that Valve stem travel was > 80% open based on local stem mounted position indicator.	

PROMPT: **WHEN** the applicant addresses valve stem travel > 80% open based on local stem mounted position indicator, **INFORM** the applicant that valve stem travel **WAS** > 80% open based on local stem mounted position indicator.

****25.**	The applicant performs step 7.8.5 Test Result.	The applicant completes step 7.8.5 and marks the step **UNSAT**.	

NOTE: JPM Steps 26 - 28 can be performed in any order.

****26.**	The applicant performs step 7.8.6 for HPCI pump Outlet Pressure (Running) P_o <1135 psig has failed to meet the acceptance criteria of step 7.8.2.1.1.	The applicant lists in step 7.8.6 that HPCI pump Outlet Pressure (Running) P_o has **FAILED** to meet the acceptance criteria of step 7.8.2.1.1 & 7.8.2.2.1 (<1135 psig).	

****27.**	The applicant performs step 7.8.6 HPCI Differential Pressure dP_r.	The applicant also lists in step 7.8.6 that HPCI Differential Pressure dP_r has **FAILED** to meet the acceptance criteria of step 7.8.2.2.1 (dP_r < 0.90).	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**28.	The applicant performs step 7.8.6 for HPCI 2P41-F035B.	The applicant also lists in step 7.8.6 that HPCI 2P41-F035B has **FAILED** to meet the acceptance criteria of step 7.8.4.1 (Exceeded Maximum Time Limit).	

NOTE: If the applicant addresses writing a Condition Report (CR) based on this surveillance, inform the applicant that another operator will write the CR.

END TIME:_____

NOTE: The terminating cue shall be given to the Applicant when:

- After JPM step #28 is complete.
- With no reasonable progress, the Applicant exceeds double the allotted time.
- Applicant states the task is complete.

TERMINATING CUE: We will stop here.

EVALUATOR – PICK UP the Initiating Cue sheet.

(Indicates critical step)**

ATTACHMENT 1
**** KEY ****
DO NOT give this to applicant

Reference Data Changes:

Is reference data being changed? ( ) Yes (✓) No

IF YES, list justification for so doing: _____

(2E41-C001)

PARAMETER	INSTRU MPL NO.	REFERENCE VALUE	DATE REF VALUE TAKEN	TEST VALUE	ACCEPT. RANGE	ALERT RANGE	REQ'D ACTION RANGE (1)	RATIO (3)
Turbine Speed (N_r)	2E41-R610	***3900***	***01/18/2010***	***3900***	0.99 to 1.01 RPM	N/A	N/A	N/A
Inlet Pressure (Stopped) (P_i)	2E41-R606	***34***	***01/18/2010***	***34***	≥7 PSIG	N/A	< 7 PSIG	N/A
Inlet Pressure (Running) (P_i)	2E41-R606	***32***	***01/18/2010***	***31***	≥7 PSIG	N/A	< 7 PSIG	N/A
Outlet Pressure (Running) (P_o)	2E41-R601	***1215***	***01/18/2010***	***1072***	N/A	N/A	N/A	N/A
Differential Pressure (2) (DP_r)	N/A	***1183***	***01/18/2010***	***1041***	0.90 to 1.10 dPr	N/A	<0.90 dPr or >1.10 dPr	***0.88***
Flowrate (4) (Q_r)	2E41-R612	4250	N/A	***4250***	N/A	N/A	N/A	1.0

(1) Pump declared inoperable according to 31GO-INS-001-0.

(2) Differential pressure must be calculated as: dP = Outlet Pressure (pump running) - Inlet Pressure (Pump running)

(3) Ratio = Test Value divided by Reference Value

(4) Test value must equal reference value. Ratio for flowrate must equal 1.0.

ATTACHMENT 1
**** KEY ****
DO NOT give this to applicant

NOTE:	WHEN calculating OR recording valve stroke times, round off to the nearest tenth second.

COLUMN 1 MPL (TYPE)	COLUMN 2 REFERENCE TIME (SEC)		COLUMN 3 CALCULATED ALLOWABLE TIME (SEC)				COLUMN 4 OPERATING TIME (SEC)		COLUMN 5 MAXIMUM TIME LIMIT (SEC)		TIMED BY: INIT
	OPEN	CLOSE	OPEN MIN / MAX		CLOSE MIN / MAX		OPEN	CLOSE	OPEN	CLOSE	
2P41-F035A AOV	***3.0***	N/A	***1.5***	***4.5***	N/A	N/A	***4.4***	N/A	≤ 5	N/A	***SMH***
2P41-F035B AOV	***2.5***	N/A	***1.3***	***3.8***	N/A	N/A	***5.2***	N/A	≤ 5	N/A	***SMH***

IF operating time is less than 1 second, **record** 1 second as operating time.

VERIFY STROKE TIMES ACCEPTABLE: _____ DATE: _____

7.8 TEST RESULTS

7.8.1 Reason for test: (✓) Norm. Surv. ( ) WO # _____

( ) Other _____

7.8.2 Acceptance Criteria:

7.8.2.1 IF any test was performed:

7.8.2.1.1 HPCI pump delivers at least 4250 gpm at a pump discharge pressure of greater than OR equal to 1135 psig with reactor pressure of ≥ 920 psig AND ≤ 1058 psig.

7.8.2.1.2 HPCI pump discharge lines up stream of valves 2E41-F006 AND F011 are filled.

7.8.2.1.3 2T41-B005A AND 2T41-B005B, HPCI Pump Rm Cooling Fans, auto start, WHEN HPCI is started.

7.8.2.1.4 2P41-F035A AND 2P41-F035B, HPCI Pump Rm Cooler Valves, OPEN, WHEN cooler is running.

7.8.2.1.5 Oil level AND pressure is observed.

7.8.2.2 IF (IST) was performed:

7.8.2.2.1 HPCI pump data matches the reference data WITHIN the limits stated on appropriate Attachment 1, 7, OR 8.

7.8.2.2.2 HPCI Pump Rm Cooler valve operability was performed.

7.8.3 IF Response Time Test was performed:

7.8.3.1 HPCI reaches rated flow AND pressure in ≤ 70 seconds.

7.8.4 IF HPCI Room Cooler Valve Operability was performed:

7.8.4.1 The stroke times for each valve are less than the MAXIMUM TIME LIMIT.

7.8.4.2 The stroke times for each valve are WITHIN the CALCULATED ALLOWABLE time range on Attachment 1 or Attachment 7.

7.8.4.3 Valve stem travel > 80% open based on local stem mounted position indicator.

ATTACHMENT 1
**** KEY ****
DO NOT give this to applicant

SOUTHERN NUCLEAR PLANT E. I. HATCH		PAGE 41 OF 67
DOCUMENT TITLE: HPCI PUMP OPERABILITY	DOCUMENT NUMBER: 34SV-E41-002-2	VERSION NO: 31.0

7.8.5 Test Result:

( ) Satisfactory (✓) Unsatisfactory

7.8.6 Unsatisfactory Conditions: (1)HPCI pump Outlet Pressure (Running) Po has FAILED to meet the acceptance criteria of step 7.8.2.1.1 & 7.8.2.2.1 (<1135 psig)

(2)HPCI Differential Pressure dPr has FAILED to meet the acceptance criteria of step 7.8.2.2.1 (dPr < 0.90).

(3)HPCI 2P41-F035B has FAILED to meet the acceptance criteria of step 7.8.4.1 (Exceeded Maximum Time Limit).

7.8.7 Comments/Corrective Actions: _____

7.8.8 Test completed and/or verified by:

_____ / _____ / _____
Print Name / Initial / Date

_____ / _____ / _____
Print Name / Initial / Date

_____ / _____ / _____
Print Name / Initial / Date

_____ / _____ / _____
Print Name / Initial / Date

Reference Data Changes:

Is reference data being changed? ( ) Yes (✓) No

IF YES, list justification for so doing: _____

(2E41-C001)

PARAMETER	INSTRU MPL NO.	REFERENCE VALUE	DATE REF VALUE TAKEN	TEST VALUE	ACCEPT. RANGE	ALERT RANGE	REQ'D ACTION RANGE (1)	RATIO (3)
Turbine Speed (N_r)	2E41-R610	***3900***	***01/18/2010***	***3900***	0.99 to 1.01 RPM	N/A	N/A	N/A
Inlet Pressure (Stopped) (P_i)	2E41-R606	***34***	***01/18/2010***	***34***	≥7 PSIG	N/A	< 7 PSIG	N/A
Inlet Pressure (Running) (P_i)	2E41-R606	***32***	***01/18/2010***	***31***	≥7 PSIG	N/A	< 7 PSIG	N/A
Outlet Pressure (Running) (P_o)	2E41-R601	***1215***	***01/18/2010***	***1072***	N/A	N/A	N/A	N/A
Differential Pressure (2) (DP_r)	N/A	***1183***	***01/18/2010***	***1041***	0.90 to 1.10 dPr	N/A	<0.90 dPr or >1.10 dPr	____
Flowrate (4) (Q_r)	2E41-R612	4250	N/A	***4250***	N/A	N/A	N/A	1.0

(1) Pump declared inoperable according to 31GO-INS-001-0.

(2) Differential pressure must be calculated as: dP = Outlet Pressure (pump running) - Inlet Pressure (Pump running)

(3) Ratio = Test Value divided by Reference Value

(4) Test value must equal reference value. Ratio for flowrate must equal 1.0.

NOTE:	WHEN calculating OR recording valve stroke times, round off to the nearest tenth second.

COLUMN 1 MPL (TYPE)	COLUMN 2 REFERENCE TIME (SEC)		COLUMN 3 CALCULATED ALLOWABLE TIME (SEC)				COLUMN 4 OPERATING TIME (SEC)		COLUMN 5 MAXIMUM TIME LIMIT (SEC)		TIMED BY: INIT
	OPEN	CLOSE	OPEN MIN / MAX		CLOSE MIN / MAX		OPEN	CLOSE	OPEN	CLOSE	
2P41-F035A AOV	***3.0***	N/A	***1.5***	***4.5***	N/A	N/A	***4.4***	N/A	≤ 5	N/A	***SMH***
2P41-F035B AOV	***2.5***	N/A	***1.3***	***3.8***	N/A	N/A	***5.2***	N/A	≤ 5	N/A	***SMH***

IF operating time is less than 1 second, **record** 1 second as operating time.

VERIFY STROKE TIMES ACCEPTABLE: _____ DATE: _____

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 2 is at 100% power.
2. A Normal HPCI Pump Quarterly Inservice Test (IST) Data Test has just been completed for the HPCI pump IAW 34SV-E41-002-2, "HPCI Pump Operability".
3. Unit 2 reactor pressure is 1043 psig.

INITIATING CUES:

Review Attachment 1 of 34SV-E41-002-2, "HPCI Pump Operability".

Complete any calculations required by the surveillance data sheets.

Using Attachment 1 of 34SV-E41-002-2 data COMPLETE Section 7.8 TEST RESULTS, step 7.8.1 through step 7.8.6.

FINAL

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

Admin 5- ALL

TITLE		
RADIATION EXPOSURE CALCULATION AND REQUIRED AUTHORIZATION		
AUTHOR	**MEDIA NUMBER**	**TIME**
Anthony Ball	2012-301 ADMIN-5	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/A	C. M. EDMUND	06/07/2012

SOUTHERN COMPANY

SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **2012-301 ADMIN-5**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
01	06/07/12	Revision for HLT-7 NRC Exam. After NRC Exam, Media Number will be changed to LR-JP-10020-01.	ARB	CME

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE:	**Radiation Exposure Calculation and Required Authorization.**
JPM NUMBER:	2012-301 ADMIN-5
TASK STANDARD:	The task shall be complete when it has been determined the job cannot be performed without exceeding annual administrative radiation exposure limits, and determining the level of approval to exceed the annual administrative radiation exposure limit.
TASK NUMBER:	N/A
OBJECTIVE NUMBER:	LT-30008.01

K/A CATALOG NUMBER: Generic 2.3.4

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.2

SRO 3.7

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO) / Senior Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 2**
	60AC-HPX-001-0 (current version)

REQUIRED MATERIALS:	**Unit 2**
	60AC-HPX-001-0 (current version)

APPROXIMATE COMPLETION TIME: 15 Minutes

SIMULATOR SETUP: N/A

EVALUATOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. You are a radiation worker at Hatch and have been assigned to perform a job in the Unit 2 Clean Up Phase Separator (CUPS) room.
2. Gamma radiation is the only type of radiation of concern for this particular job (no airborne, Beta or Alpha).
3. Your job inside the CUPS room, will take 1 hour.
4. Your total exposure (TEDE) for the year so far has been confirmed to be 1400 mrem.
5. One of the radiation fields you will work in for 20 minutes is 4500 mrem/hour (Gamma radiation).
6. The other radiation field that you will work in for 40 minutes is 1200 mrem/hour (Gamma radiation).
7. The dose in the travel path to the CUPS room is 1800 mrem/hr.
8. Travel time through the 1800 mrem/hr field to the CUPS area is 6 minutes EACH WAY.

INITIATING CUES:

Calculate the Total exposure you will receive for the job.

Determine if any Administrative Radiation Exposure Limits will be exceeded.

Considering your current exposure (**1400 mrem**) and that which will be received from this job, determine the HIGHEST AUTHORIZATION who must authorize the exposure, if anyone, IAW 60AC-HPX-001-0.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs:
For OJT/OJE; ALL PROCEDURE STEPS must be completed for Satisfactory Performance.
For License Examinations; ALL CRITICAL STEPS must be completed for Satisfactory Performance.

	IF	THEN
PASS	❑ Human performance tools, safety, PPE met (1), **AND** ❑ For initial trg **all** steps completed correctly OR ❑ For continuing trg, **critical** steps (if used) completed correctly	❑ Mark the JPM as a **PASS**
FAIL	❑ Above standards not met	❑ Mark the JPM as a **FAIL**

(1) The standard for human performance tools, safety, PPE, and other pertinent expectations is considered met provided any deviations are minor and have little or no actual or potential consequence. Errors may be self-corrected provided the action would not have resulted in significant actual or potential consequences. Reference: NMP-TR-111, "On-The-Job Training and Task Performance Evaluation".

START TIME:_____

NOTE: If the applicant addresses 8.1.2.1 which states: Prior to an individual's first work assignment in which the individual is likely to receive in excess of 2% of the limits in 8.1.1, the individual **MUST** submit a signed statement indicating the amount of occupational radiation exposure received during the current calendar year from sources of radiation possessed by other licensees. **INFORM** the applicant that this form has been signed.

****1.**	The applicant calculates exposure in the 4,500 mrem/hour field.	(4,500 mrem/hr) X 20 min = 60 min **1500 mrem** **(± 1% to accomodate rounding)**	

****2.**	The applicant calculates exposure in the 1200 mrem/hour field.	(1200 mrem/hr) X 40 min = 60 min **800 mrem** **(± 1% to accomodate rounding)**	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**3.	The applicant calculates the dose received from travel time.	(1800 mrem/hr) X 6 min X 2 trips 60 min = **360 mrem**	
**4.	The applicant calculates total exposure for the job:	1500 (± 1%) 800 (± 1%) 360 2660 **mrem** Total (± 1%)	

NOTE: 2660 mrem (± 1%) is the Total Exposure for the job.

**5.	The applicant calculates their total exposure performing the job:	1400 1500 (± 1%) 800 (± 1%) 360 4060 **mrem** Total (± 1%)	
**6.	The applicant determines that the Hatch Annual Administrative Radiation Exposure limit will be exceeded while performing the work.	The Hatch Administrative limits are 2,000 and 4000 mrem/year. (60AC-HPX-001-0 step 8.2.1)	

NOTE: The applicant may address being on the Margin List when within 400 mrem of the administrative exposure limit. It is NOT necessary for the applicant to discuss the requirements of the margin list for this JPM.

PROMPT: **IF** the applicant addresses the margin list, **STATE** that the Health Physics department is taking appropriate actions for Margin List requirements based on expected exposures for this job.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**7.	The applicant determines the authorization requirements to exceed the Annual Administrative limits.	With available exposure confirmed, the HIGHEST authorization must be written approval from the Plant Manager. (Step 8.2.2)	

END TIME:_____

NOTE: The terminating cue shall be given to the Operator when:

- After JPM step #7 is complete.
- With no reasonable progress, the Operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: We will stop here.

EVALUATOR – **PICK UP** the Initiating Cue sheet.

UNIT 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. You are a radiation worker at Hatch and have been assigned to perform a job in the Unit 2 Clean Up Phase Separator (CUPS) room.
2. Gamma radiation is the only type of radiation of concern for this particular job (no airborne, beta or alpha).
3. Your job inside the CUPS room, will take 1 hour.
4. Your total exposure (TEDE) for the year so far has been confirmed to be 1400 mrem.
5. One of the radiation fields you will work in for 20 minutes is 4500 mrem/hour (gamma radiation).
6. The other radiation field that you will work in for 40 minutes is 1200 mrem/hour (gamma radiation).
7. The dose in the travel path to the CUPS room is 1800 mrem/hr.
8. Travel time through the 1800 mrem/hr field to the CUPS area is 6 minutes EACH WAY.

INITIATING CUES:

Calculate the total exposure you will receive for the job.

Determine if any administrative radiation exposure limits will be exceeded.

Considering your current exposure (**1400 mrem**) and that which will be received from this job, determine the HIGHEST AUTHORIZATION who must authorize the exposure, if anyone, IAW 60AC-HPX-001-0.

FINAL

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

Admin 6- SRO ONLY

TITLE		
EMERGENCY CLASSIFICATION AND NOTIFICATION (NEW EALS)		
AUTHOR	**MEDIA NUMBER**	**TIME CRITICAL**
Anthony Ball	2012-301 ADMIN-6	15.0/15.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	C. M. EDMUND	06/07/2012

SOUTHERN COMPANY

SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **2012-301 ADMIN-6**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	04/30/07	Initial development	CME	RAB
01	11/04/10	Added Task and HU Pass/Fail criteria. Updated Southern Company logo.	ELJ	CME
02	01/12/11	Updated references to NMP-EP-110 and NMP-EP-111	MCK	DNM
03	06/07/12	General revision for use on NRC Exam 2012-301. After NRC Exam, Media Number will be changed to LR-JP-25061-03.	ARB	CME

UNIT 1 (X) UNIT 2 (X)

TASK TITLE:	**Emergency Classification and Notification (NEW EALS)**
JPM NUMBER:	2012-301 ADMIN-6
TASK STANDARD:	The task shall be completed when the event has been classified per NMP-EP-110, the EN form NMP-EP-111 Figure 1 has been completed, and offsite notifications have been directed.
TASK NUMBER:	200.052
OBJECTIVE NUMBER:	200.052.A

PLANT HATCH JTA IMPORTANCE RATING:

RO 4.67

SRO 4.04

K/A CATALOG NUMBER: Generic 2.4.41

K/A CATALOG JTA IMPORTANCE RATING:

RO 2.9

SRO 4.6

OPERATOR APPLICABILITY: Senior Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 1 & 2**
	NMP-EP-110 (current version) NMP-EP-111 (current version)

REQUIRED MATERIALS:	**Unit 1 & 2**
	NMP-EP-110 (current version) NMP-EP-111 FIGURE 1 (current version)

APPROXIMATE COMPLETION TIME: 15.0/15.0 Minutes

SIMULATOR SETUP: N/A

EVALUATOR COPY

UNIT 1 & 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. **Unit 2** is in a LOSP due to a failure of the 2D and 2C SUTs.
2. The Reactor scrammed and All rods fully inserted on the scram signal.
3. For the last 15 minutes, Only Emergency Diesel 2A has been running and is supplying power to 2E 4160 VAC bus.
4. Emergency Diesel Generators 1B and 2C start attempts have not been successful.
5. All other Unit 2 parameters are normal.
6. The following Unit 1 conditions exists:
   100% power
   All parameters normal

INITIATING CUES:

Determine the emergency classification that should be declared.

Complete the EN form NMP-EP-111 Figure 1 for offsite notifications.

Direct the operator to make the proper offsite notifications.

Current time is: _____

THIS IS TIME CRITICAL.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs:
For OJT/OJE; ALL PROCEDURE STEPS must be completed for Satisfactory Performance.
For License Examinations; ALL CRITICAL STEPS must be completed for Satisfactory Performance.

	IF	THEN
PASS	❑ Human performance tools, safety, PPE met (1), **AND** ❑ For initial trg **all** steps completed correctly OR ❑ For continuing trg, **critical** steps (if used) completed correctly	❑ Mark the JPM as a **PASS**
FAIL	❑ Above standards not met	❑ Mark the JPM as a **FAIL**

(1) The standard for human performance tools, safety, PPE, and other pertinent expectations is considered met provided any deviations are minor and have little or no actual or potential consequence. Errors may be self-corrected provided the action would not have resulted in significant actual or potential consequences. Reference: NMP-TR-111, "On-The-Job Training and Task Performance Evaluation".

NOTE: For the completion of this JPM, there is **TWO SEPARATE CLOCKS**.

The **CLASSIFICATION** must be made within 15 minutes of the initial prompt.

When the classification is made, a second clock starts. The EN form and direction to make the **NOTIFICATIONS MUST BE COMPLETED WITH 15 MINUTES** of that clock start.

1st START TIME:_____

1.	Operator identifies the procedure needed to perform the task.	Operator has identified the correct procedure as NMP-EP-110.	
****2.**	Operator classified event per NMP-EP-110.	Operator has CLASSIFIED the event as an **ALERT EMERGENCY**.	

NOTE: The expected classification is an **ALERT** based on IC# SA5, Single power source to the ESF busses and an additional failure will result in a station blackout. If follow-up questioning reveals that a classification was declared and based on another IC #, the classification should be evaluated for validity.

1st END TIME:_____

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

NOTE: The classification **IS MADE** when the operator **STATES OR WRITES** the classification. This starts the second clock.

PROMPT: **WHEN** the operator enquires about Meteorological conditions, **GIVE** the operator the MIDAS Information Sheet.

2nd START TIME:_____

**3.	Operator properly completes the EN form per NMP-EP-111.	Operator has properly COMPLETED NMP-EP-111 FIGURE 1, "Southern Nuclear Emergency Notification form.	

NOTE: To successfully complete the EN form, **ALL STEPS HIGHLIGHTED IN YELLOW** must be properly completed.

To be properly completed, the EN form must have all the required steps completed with correct information. **APPLICABLE HIGHLIGHTED** steps must contain sufficient information to describe the event.

**4.	Operator directs an operator to make the EN notifications	Operator has DIRECTED the Nuclear Plant Operator to make the required EN notifications.	

2nd END TIME:_____

NOTE: The terminating cue shall be given to the Operator when:

- After JPM step #4 is complete.
- With no reasonable progress, the Operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: We will stop here.

EVALUATOR – PICK UP the Initiating Cue sheet.

(Indicates critical step)**

ATTACHMENT 1 ** KEY ** DO NOT GIVE TO APPLICANT

Figure 1 – Emergency Notification Form (page 1 of 2)

1. [✓] DRILL [B] ACTUAL EVENT MESSAGE # _____
2. [✓] INITIAL [B] FOLLOW-UP NOTIFICATION: TIME_____DATE____/____/__ AUTHENTICATION #_____
3. SITE: **Plant Hatch** Confirmation Phone #_____

4. EMERGENCY CLASSIFICATION: [A] UNUSUAL EVENT [✓] ALERT [C] SITE AREA EMERGENCY [D] GENERAL EMERGENCY
BASED ON EAL# **SA5** EAL DESCRIPTION: **Single power source to the Emergency busses and an additional failure will result in a station blackout. (OR similar words describing SA5)**

5. PROTECTIVE ACTION RECOMMENDATIONS: [✓] NONE
[B] EVACUATE _____
[C] SHELTER _____
[D] Advise Remainder of EPZ to Monitor Local Radio/TV Stations/Tone Alert Radios for Additional Information and Consider the use of KI (potassium iodide) in accordance with State plans and policy.
[E] OTHER _____

6. EMERGENCY RELEASE: [✓] None [B] Is Occurring [C] Has Occurred

7. RELEASE SIGNIFICANCE: [✓] Not applicable [B] Within normal operating limits [C] Above normal operating limits [D] Under evaluation

8. EVENT PROGNOSIS: [A] Improving [✓] Stable [C] Degrading

9. METEOROLOGICAL DATA: Wind Direction from **130** degrees* Wind Speed **5.0** mph*

(*May not be available for Initial Notifications)* Precipitation **0.00*** Stability Class* [A] [B] [C] [✓] [E] [F] [G]

10. [✓] DECLARATION [B] TERMINATION Time **Within 15 Minutes of "Current Time"** Date **Today's Date**

11. AFFECTED UNIT(S): [1] ** [✓] [All]

12. UNIT STATUS: (Unaffected Unit(s) Status Not Required for Initial Notifications)
[A] U1 **100** % Power Shutdown at Time _____ Date ___/____/____
[✓] U2 **0** % Power Shutdown at Time **15 Minutes before "Current Time"** Date **Today's Date**

13. REMARKS: **May or may NOT write "NONE" or may give comments, either is acceptable.**
** Step 11 is NOT critical if Unit 2 is identified in step 13. "Remarks" or another place on this form.

FOLLOW-UP INFORMATION (Lines 14 through 16 Not Required for Initial Notifications)

EMERGENCY RELEASE DATA NOT REQUIRED IF LINE 6 A IS SELECTED.

14. RELEASE CHARACTERIZATION: TYPE: [A] Elevated [B] Mixed [C] Ground UNITS: [A] Ci [B] Ci/sec [C] µCi/sec
MAGNITUDE: Noble Gases:_____ Iodines:_____ Particulates:_____ Other: _____
FORM: [A] Airborne Start Time _____ Date ___/____/____Stop Time _____ Date ___/____/____
[B] Liquid Start Time _____ Date ___/____/____Stop Time _____ Date ___/____/____

15. PROJECTION PARAMETERS: Projection period: _____Hours Estimated Release Duration _____Hours
Projection performed: Time _____ Date ___/____/____ Accident Type: _____

16. PROJECTED DOSE:

DISTANCE	TEDE (mrem)	Adult Thyroid CDE (mrem)
Site boundary		
2 Miles		
5 Miles		
10 Miles		

17. APPROVED BY: **Applicants' Signature** Title **Emergency Director (ED)** Time **Within 15 Minutes Of Declaration Time** Date **Today's Date**

NOTIFIED BY: _____

RECEIVED BY: _____ Time _____Date___/____/____
(To be completed by receiving organization)

MIDAS INFORMATION

METEOROLOGICAL

10M WIND SPD	100M WIND SPD	10M WIND DIR	100M WIND DIR
1Y33-R601	1Y33-R603	1Y33-R601	1Y33-R603
5.0	5.0	130	130

AMBIENT TEMP	DELTA T	DELTA T	RAINFALL
(F) 10M	60-10	100-10	15 MIN. AVG
54	-1.6	-2.9	.000

RADIOLOGICAL

MAIN STACK		U1 RX. BLDG. VENT		U2 RX. BLDG. VENT	
NORMAL RANGE	KAMAN	NORMAL RANGE	KAMAN	NORMAL RANGE	KAMAN
1D11-K600A	1D11-R631	1D11-K619A	1D11-R631	2D11-K636A	2D11-R631
2.00E 01		5.04E 01		4.00E 01	
1D11-K600B		1D11-K619B		2D11-K636B	
2.00E 01				4.00E 01	

STABILITY CLASS
D

UNIT 1 & 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. **Unit 2** is in a LOSP due to a failure of the 2D and 2C SUTs.
2. The Reactor scrammed and All rods fully inserted on the scram signal.
3. For the last 15 minutes, Only Emergency Diesel 2A has been running and is supplying power to 2E 4160 VAC bus.
4. Emergency Diesel Generators 1B and 2C start attempts have not been successful.
5. All other Unit 2 parameters are normal.
6. The following Unit 1 conditions exists:
   100% power
   All parameters normal

INITIATING CUES:

Determine the emergency classification that should be declared.

Complete the EN form NMP-EP-111 Figure 1 for offsite notifications.

Direct the operator to make the proper offsite notifications.

Current time is: _____

THIS IS TIME CRITICAL.