Final Submittal

(Blue Paper)

FINAL JPMS

1. ADMINISTRATIVE JPMs
2. IN-PLANT JPMs
3. SIMULATOR JPMs (CONTROL ROOM)

HATCH DECEMBER 2007 EXAM

05000321/2007301 AND 05000366/2007301

DECEMBER 3 - 6, 2007, AND
DECEMBER 10, 2007, (WRITTEN)

Final

Facility: Plant E. I. Hatch
Examination Level: RO/SRO
Date of Examination: 12/03/2007 – 12/07/2007
Operating Test Number: _____

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	M, R	(Based on JPM 25101) Determine the effect of the failure of a relay on system performance. G 2.1.24 (RO 2.8/ SRO 3.1) JPM 10018
Conduct of Operations **SRO only**	N, R	Given a set of conditions, Determine the current Reactor mode and if Core Alterations can be performed. (G2.1.22) (SRO 3.3) JPM 10019
Conduct of Operations **RO only**	D, S/R	JPM 25101 - Correct Reactor Water Level for high drywell temperatures. G 2.1.25 (RO 2.8/ SRO 3.1)
Equipment Control	N S/R	Determine if section 7.5 of the Control Room Surveillance checks, 34SV-SUV-019-1 requires additional Drywell cooling to be placed in service. G 2.2.12 (RO 3.0/SRO 3.4) JPM 10022
Radiation Control	M, R	Given a set of exposure conditions, determine the minimum level of authorization required to allow a worker to perform work which will exceed administrative exposure limits. G2.3.4 (RO 2.5/SRO 3.1) JPM 10020
Emergency Plan **SRO only**	M, S/R	Given Plant Conditions, Determine the Emergency Classification and complete the ENN Form (Based on NEI 99-01 EAL scheme.) G2.4.29 (SRO 4.0) JPM 25062

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

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

Southern Nuclear
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Operations Training
JPM

ADMIN 1, RO, SRO-I, SRO-U

TITLE		
USE A SYSTEM LOGIC DIAGRAM (RCIC)		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVE GIDDENS	LR-JP-10018-00	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
	APPROVED FOR NRC EXAM	11/19/07

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PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-10018**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 () UNIT 2 (X)

TASK TITLE: **USE A SYSTEM LOGIC DIAGRAM (RCIC)**

JPM NUMBER: LR-JP-10018-00

TASK STANDARD: The task shall be complete when the Applicant has determined the failure condition of a relay using Plant Hatch logic drawings.

TASK NUMBER: 100.17

OBJECTIVE NUMBER: 100.017.O

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.08

SRO 2.67

K/A CATALOG NUMBER: G2.1.24

K/A CATALOG JTA IMPORTANCE RATING:

RO 2.8

SRO 3.1

OPERATOR APPLICABILITY: Reactor Operator (RO)

GENERAL REFERENCES:	Unit 2
	H 27673, H 27675, H 27679

REQUIRED MATERIALS:	Unit 2
	H 27673, H 27675, H 27679

APPROXIMATE COMPLETION TIME: 15 Minutes

SETUP: This JPM may be performed at any plant location , i.e. simulator, classroom, assessment room but must have a computer available and connected to the LAN, allowing the student access to plant drawing, Tech Specs, and procedures.

EVALUATOR COPY

UNIT 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. Unit 2 is at 100% power.
2. Relay 2E51-K52A is inoperative and is de-energized.
3. All other plant components are operable.
4. The RCIC logic function diagram LFD-2-RCIC-03 shows the related drawings are H-27675 and H-27679, which will be provided to you along with H-27673.

INITIATING CUES:

Describe the effect on the RCIC System if relay 2E51-K52A failed in the de-energized state. Prove your answer using plant logic drawings. The effect on system annunciators is not required.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs: **ALL PROCEDURE STEPS** must be completed for Satisfactory Performance.

START TIME:_____

NOTE: Provide the Applicant with drawings H-27673, H-27675, H-27679.

1.	Applicant identifies the contacts associated with relay 2E51-K52A which effect system equipment.	Applicant locates the relay tabulation for 2E51-K52A on plant drawing H 27673.	
2.	Locate on the logic drawing 2E51-K52A contacts for valve 2E51-F031.	On drawing H 27679 the Applicant locates contacts 1-2 in the logic scheme 11, valve 2E51-F031's logic.	
****3.**	Applicant determines the function of 2E51-K52A contacts for valve 2E51-F031.	Determines that upon de-energization of the relay, contacts 1-2 close, sending a signal to 2E51-F031 to **open**.	
4.	Locate on the logic drawing 2E51-K52A contacts for valve 2E51-F029.	On drawing H 27679 the Applicant locates contacts 3-4 in the logic scheme 14, valve 2E51-F029's logic.	
****5.**	Applicant evaluates the function of 2E51-K52A contacts for valve 2E51-F029.	Determines that upon de-energization of the relay, contacts 3-4 close, sending a signal to 2E51-F029 to **open**.	

END TIME:_____

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

- With no reasonable progress, the Applicant exceeds double the allotted time.
- Applicant states the task is complete.

TERMINATING CUE: That complete this JPM.

Answer key

--
--
--
N
Y
--
--
Y
Y

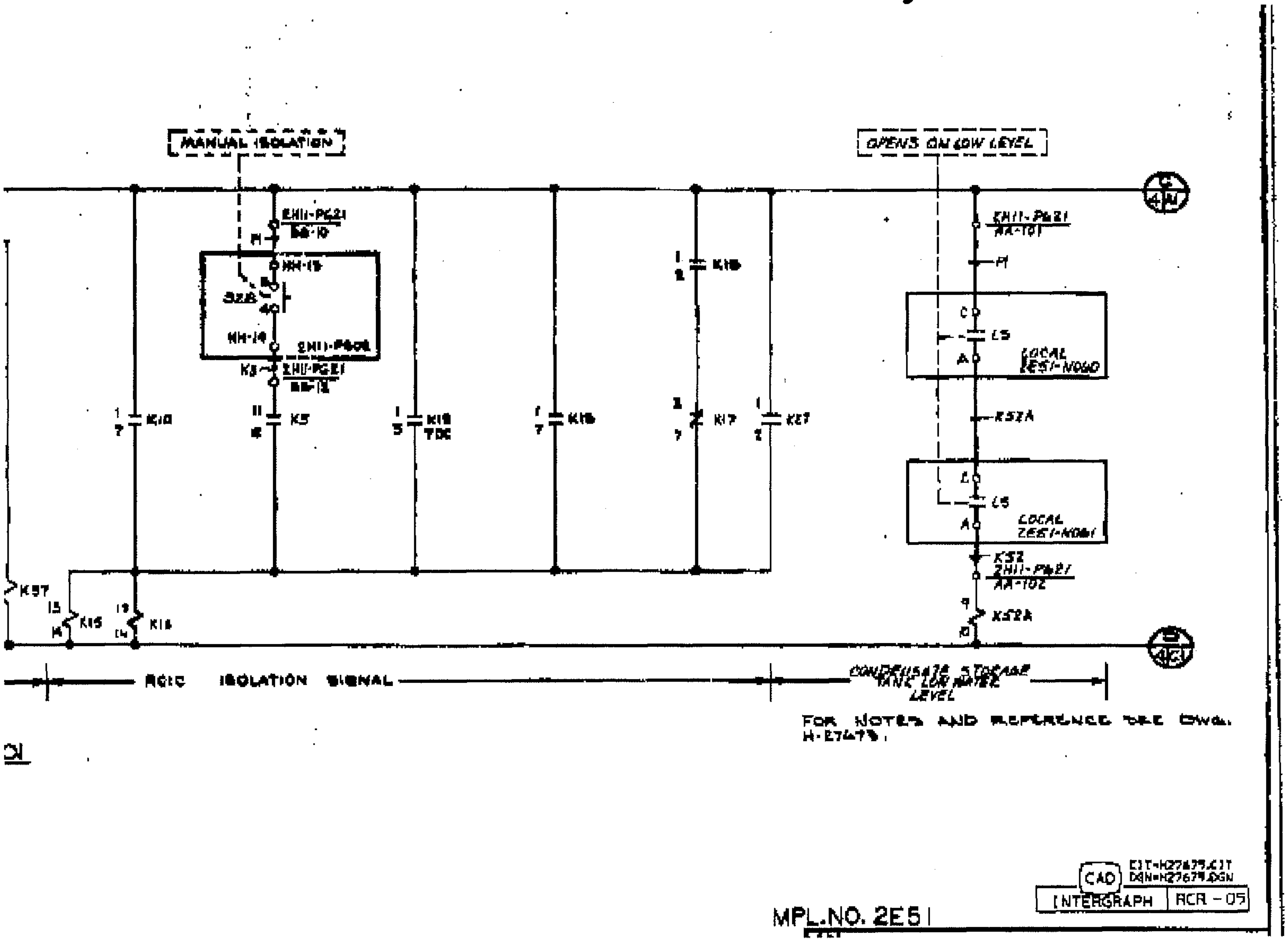
L1 L2	IA1 IA2 INST.	IB1 IB2 INST	IAT1 IAT2 TOC	IBT1 TO
K3 SH3	SPARE	SPARE	ANN. SH.6	SPARE

GE TYPE CR120ADG4041AA 125V DC				
9 10	1 2	3 4	5 6	7 8
2K51A SH.3	2E51-F031 SH.7	2E51-F029 SH.7	ANN SH.6	SPARE
2K52A SH.3	2E51-F031 SH.7 ▲	2E51-F029 SH.7 ▲	ANN ▲ SH.6	SPARE

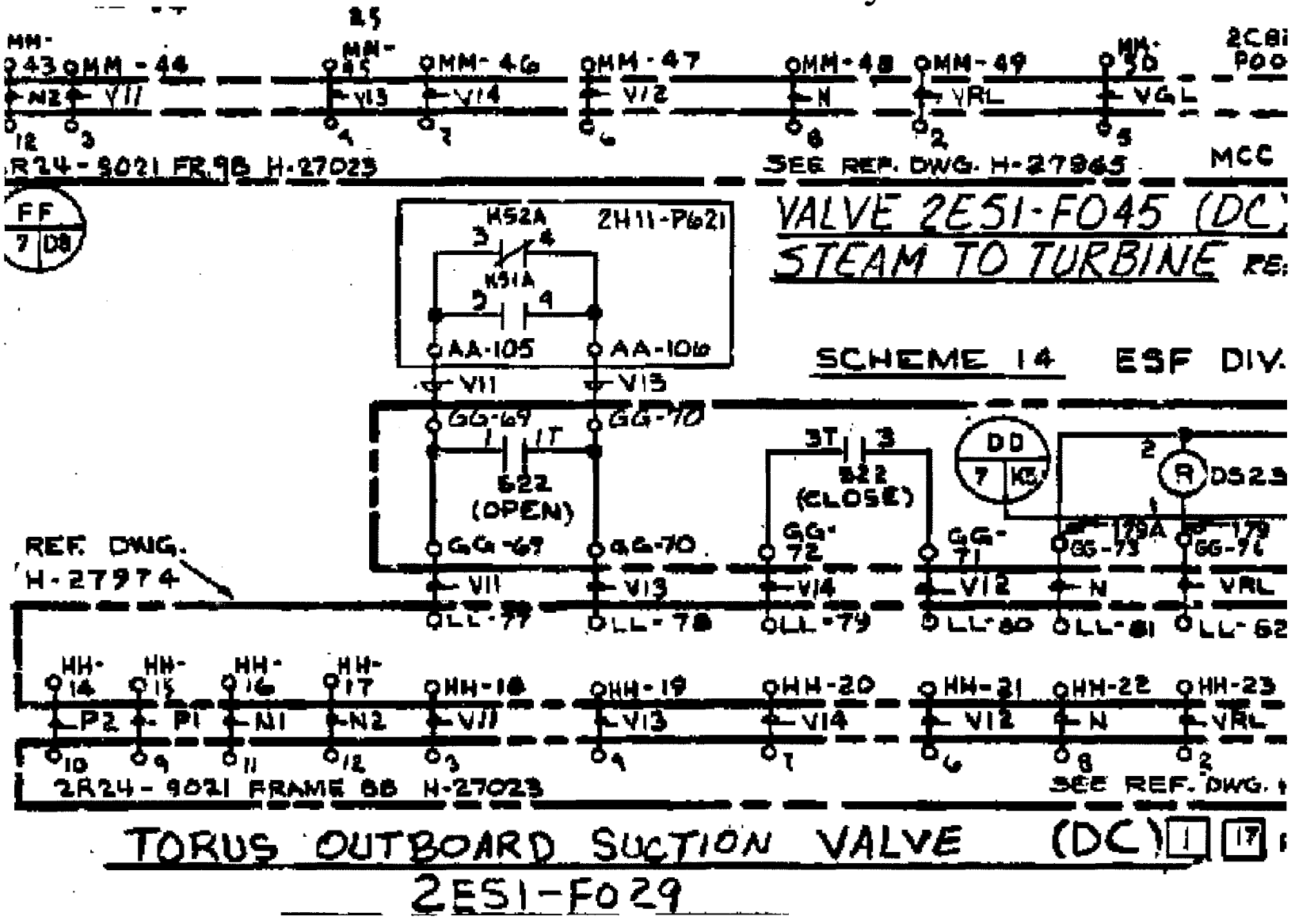
▲ CONTACT TO BE CONVERTED TO NORMALLY CLOSED POSITION

GENERAL ELECTRIC AUXILIARY RELAY 125VDC MODEL NO CR120A00404[illegible]					
RELAY MPL NO	9 10	1 2	3 4	5 6	7 8
2E51A-K56	SH 4 ZONE F7	SPDS/ERF H-24585 ZONE D5	SP	SP	SP

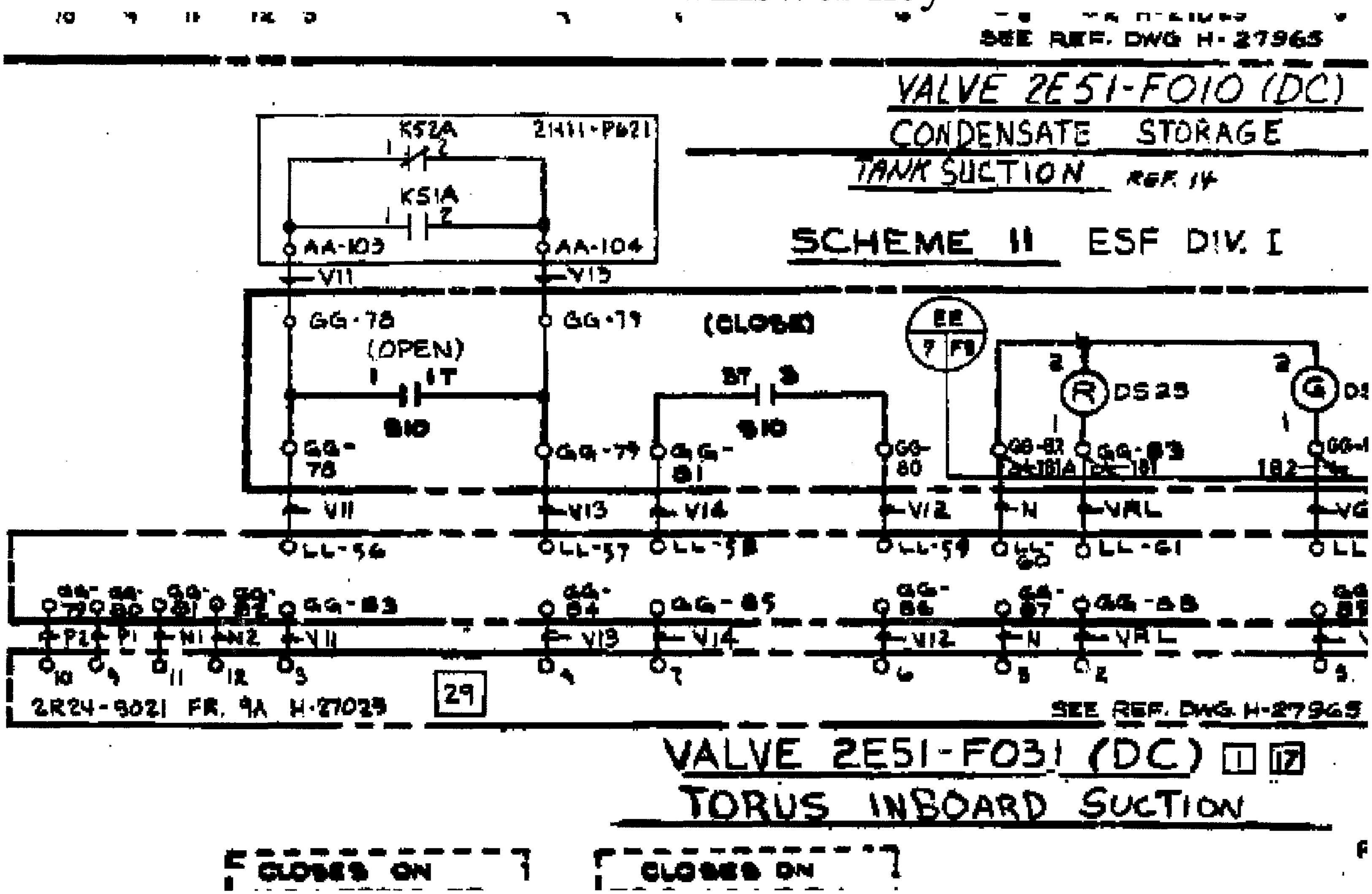
Answer key


MANUAL ISOLATION
OPENS ON LOW LEVEL
RCIC ISOLATION SIGNAL
CONDENSATE STORAGE TANK LOW WATER LEVEL
FOR NOTES AND REFERENCE SEE DWG. H-27473.
LOCAL
K10
K5
K17
K27
K52A
K57
K15
K16
CAD
INTERGRAPH
RCR - 05
MPL.NO. 2E51

Answer key


MM-44
MM-45
MM-46
MM-47
MM-48
MM-49
MM-50
N2
V11
V13
V14
V12
N
VRL
VGL
2R24-9021 FR.9B H-27023
SEE REF. DWG. H-27945
MCC
VALVE 2ESI-F045 (DC)
STEAM TO TURBINE
SCHEME 14 ESF DIV.
K52A
2H11-P621
K51A
AA-105
AA-106
GG-69
GG-70
1T
3T
522 (OPEN)
522 (CLOSE)
GG-72
GG-71
GG-73
GG-74
REF. DWG. H-27974
LL-77
LL-78
LL-79
LL-80
LL-81
LL-82
HH-14
HH-15
HH-16
HH-17
HH-18
HH-19
HH-20
HH-21
HH-22
HH-23
P2
P1
N1
N2
V11
V13
V14
V12
N
VRL
2R24-9021 FRAME 8B H-27023
SEE REF. DWG.
TORUS OUTBOARD SUCTION VALVE (DC)
2ESI-F029

Answer key


SEE REF. DWG H-27965
VALVE 2E51-F010 (DC)
CONDENSATE STORAGE
TANK SUCTION REF. 14
SCHEME II ESF DIV. I
K52A
2H11-P621
K51A
AA-103
AA-104
GG-78
(OPEN)
GG-79
(CLOSE)
DS25
LL-56
LL-57
LL-61
GG-83
GG-85
GG-88
2R24-S021 FR. 9A H-27025
29
SEE REF. DWG. H-27965
VALVE 2E51-F031 (DC)
TORUS INBOARD SUCTION
CLOSES ON
CLOSES ON

UNIT 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. Unit 2 is at 100% power.
2. Relay 2E51-K52A is inoperative and is de-energized.
3. All other plant components are operable.
4. The RCIC logic function diagram LFD-2-RCIC-03 shows the related drawings are H-27675 and H-27679, which will be provided to you along with H-27673.

INITIATING CUES:

Describe the effect on the RCIC System if relay 2E51-K52A failed in the de-energized state. Prove your answer using plant logic drawings. The effect on system annunciators is not required.

replace with plant drawings H-27673, H-27675, H-27679.

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Operations Training
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ADMIN 2, SRO-I, SRO-U

TITLE		
CONDUCT OF OPERATIONS, SRO ONLY		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVE GIDDENS	LR-JP-10019-00	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
	APPROVED FOR NRC EXAM	11/19/07

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FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-10019**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 () UNIT 2 (X)

TASK TITLE: **CONDUCT OF OPERATIONS, SRO ONLY**

JPM NUMBER: LR-JP-10019-00

TASK STANDARD: This task will be met when the student determines whether the mode will change if the mode switch is transferred and whether fuel movement may occur within the core.

TASK NUMBER:

OBJECTIVE NUMBER:

PLANT HATCH JTA IMPORTANCE RATING:

RO

SRO

K/A CATALOG NUMBER: G2.1.22

K/A CATALOG JTA IMPORTANCE RATING:

RO

SRO 3.3

OPERATOR APPLICABILITY: Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 2**
	Technical Specifications 34FH-OPS-001-0, FUEL MOVEMENT OPERATION.

REQUIRED MATERIALS:	**Unit 2**
	Technical Specifications

APPROXIMATE COMPLETION TIME: 15 Minutes

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

EVALUATOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit Two is shutdown for a refueling outage.
2. Unit Two is in Mode 5 with the mode switch in REFUEL.
3. Fuel movement was in progress per 34FH-OPS-001-2, Fuel Movement Operations.
4. The reactor head is removed with the fuel pool gates removed.
5. Reactor Mode Switch Interlock Testing requires the reactor mode switch must be transferred to the RUN position for a short period of time.
6. Core reload has stopped until you determine if fuel movement can continue.

INITIATING CUES:

With respect to Reactor Mode switch testing,

1) Does Unit Two Tech Specs allow transferring the mode switch under this condition without changing plant mode? and,

2) May fuel reload continue while the Reactor Mode Switch Interlock test is in progress?

Justify your answers

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs: **ALL PROCEDURE STEPS** must be completed for Satisfactory Performance.

START TIME:_____

PROMPT: If the APPLICANT does not refer to section 3.10.2 when answering these questions, then **REQUEST** they show you, in tech specs, the bases for their answer.

1.	DETERMINES which section of tech specs apply under the current conditions.	The APPLICANT refers to the table of contents and sees that "REACTOR MODE SWITCH INTERLOCK TESTING," is contained in section 3.10.2	
2.	Identifies the LCO requirements.	The APPLICANT refers to tech spec section 3.10.2, Reactor Mode Switch Interlock Testing LCO , which states, The reactor mode switch position specified in Table 1.1-1 for MODES 3, 4, and 5 may be changed to include run, startup/hot standby, and refuel position and operation considered not to be on MODE 1 or 2, to allow testing of instrumentation associated with the reactor mode switch interlock functions, provided, a. All control rods remain fully inserted in core cells containing one or more fuel assemblies; and b. No CORE ALTERATIONS are in progress.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
3.	Determines if the plant meets the applicability requirements.	The APPLICANT evaluates the applicability statement of, MODE 5 with the reactor mode switch in the run or startup/hot standby position. From the information provided in the initial plant conditions the APPLICANT concludes the plant does meet the applicability statement.	
4.	Evaluates whether the LCO is meet for item 3.10.2.a, All control rods inserted.	For core alterations to have been in progress as stated in the initial conditions, all rods in cells containing fuel must be inserted and the answer is **YES,** this condition is met.	
5.	Evaluates whether the LCO is meet for item 3.10.2.b, No CORE ALTERATIONS in progress.	The APPLICANT determines that with fuel movement stopped this limitation **IS MET** per the initial conditions.	
****6.**	Determines the answer to question 1, Does Unit Two Tech Specs allow transferring the mode switch under this condition without changing plant mode?	The APPLICANT answer should be **YES,** the mode switch may be transferred to run without being in mode 1 per the stem of LCO 3.10.2.	
****7.**	Determines the answer to question 2, May fuel unload continue while the mode switch is in RUN?.	The APPLICANT answers **NO**, fuel unload can NOT continue with the mode switch in Run per 3.10.2.b	

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That completes this JPM.

(** **Indicates critical step)**

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit Two is shutdown for a refueling outage.
2. Unit Two is in Mode 5 with the mode switch in REFUEL.
3. Fuel movement was in progress per 34FH-OPS-001-2, Fuel Movement Operations.
4. The reactor head is removed with the fuel pool gates removed.
5. Reactor Mode Switch Interlock Testing requires the reactor mode switch must be transferred to the RUN position for a short period of time.
6. Core reload has stopped until you determine if fuel movement can continue.

INITIATING CUES:

With respect to Reactor Mode switch testing,

1) Does Unit Two Tech Specs allow transferring the mode switch under this condition without changing plant mode? and,

2) May fuel reload continue while the Reactor Mode Switch Interlock test is in progress?

Justify your answers

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Operations Training
JPM

ADMIN 4, RO, SRO-I, SRO-U

TITLE		
EQUIPMENT CONTROL, 34SV-SUV-019-1 SURVEILLANCE		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVE GIDDENS	LR-JP-10022-00	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
	APPROVED FOR NRC EXAM	11/19/07

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FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-10022**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 (X) UNIT 2 ()

TASK TITLE: **EQUIPMENT CONTROL, 34SV-SUV-019-1 SURVEILLANCE**

JPM NUMBER: LR-JP-10022-00

TASK STANDARD: This task will be satisfactorily met when the student has completeted section 7.5 of 34SV-SUV-019-1, SURVEILLANCE CHECKS, and informed the evaluator that Unit 1 drywell cooling system should be placed in "Additional Cooling Operating Mode."

TASK NUMBER:

OBJECTIVE NUMBER:

PLANT HATCH JTA IMPORTANCE RATING:

RO

SRO

K/A CATALOG NUMBER: G 2.2.12

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.0

SRO 3.4

OPERATOR APPLICABILITY: Reactor Operator (RO)

GENERAL REFERENCES:	**Unit 1**
	34SV-SUV-019-1

REQUIRED MATERIALS:	**Unit 1**
	34SV-SUV-019-1. Complete previous shift data in step 7.5.4 (149 and 148) Calculators

APPROXIMATE COMPLETION TIME: 15 Minutes

SIMULATOR SETUP: not applicable

EVALUATOR COPY

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 1 is operating at 100 % power.
2. 1T47-R611 is out of service.
3. 1T47-R612 is out of service.
4. The SS has directed this surveillance be completed as a paper version.
5. 1T47-R611 PT 14 (1T47-N009) was 149°F
   1T47-R612 PT 10 (1T47-N003) was 148°F.

INITIATING CUES:

Complete section 7.5 of 34SV-SUV-019-1, SURVEILLANCE CHECKS, which evaluates drywell temperatures,

and

Inform the evaluator of any actions that need to be taken as a result of the readings or results obtained from this surveillance.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs: **ALL PROCEDURE STEPS** must be completed for Satisfactory Performance.

PROMPT: **Give** the operator a entire copy of 34SV-SUV-019-1

START TIME:_____

NOTE: when the applicant addresses the need for SPDS readings provide attachment 1.

1.	Determine method for obtaining temperature readings.	Per note "S" of 34SV-SUV-019-1, the applicant determines temperature readings can be obtained from SPDS.	
2.	Performes step 7.5.1 of 34SV-SUV-019-1.	From the SPDS screen shot, the applicant list the temperature readings on the surveillance sheet with no errors for; 1T47-N001L 120 N004 109 N008, 114 N001M, 114 N005 114	
3.	Performes step 7.5.2 of 34SV-SUV-019-1.	The applicant evaluates the temperatures from step 7.5.1 and determines the maximum temperatute minus the minimum temperature is less than 40°F.	
4.	Performes step 7.5.3 of 34SV-SUV-019-1.	The applicant evaluates the readings in step 7.5.1. and concludes the highest is less than 275°F and the lowest temperature is greater than 50°F.	

Note: When addressing the temperature readings from the previous reading reply with

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
	1T47-R611 PT 14 (1T47-N009) was 149°F 1T47-R612 PT 10 (1T47-N003) was 148°F.		
5.	Performes step 7.5.4 of 34SV-SUV-019-1.	From the SPDS screen shot, the applicant list the temperature readings on the surveillance sheet for 1T47-N009 176 and 1T47-N003 175 and list the temperatures from the previous readings provided by the evaluator.	
****6.**	Performes step 7.5.5 of 34SV-SUV-019-1.	The applicant compares the current temperature readings in step 7.5.4 to those from the previous reading and concludes the temperatures DO differ by more than 10°F AND that a CR must be written	
7.	Performes step 7.5.6 of 34SV-SUV-019-1.	The applicant confirms the maximum reading in styep 7.5.4 is less than 275°F and the minimum is greater than 50°F AND the maximum temperature minus the minimum temperature of step 7.5.4 is less than 50°F °F .	
8.	Performes step 7.5.7 of 34SV-SUV-019-1.	From the SPDS screen shot, the applicant list the temperature readings on the surveillance sheet with no errors for; 1T47-N001J, 199 N001K, 164 N002, 157 N001A, 182 N001B, 187 N010. 154	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
9.	Performes step 7.5.8 of 34SV-SUV-019-1.	The applicant determines the maximum temperature from step 7.5.7 minus the lowest temperature from step 7.5.7 is less than 100°F.	
10.	Performes step 7.5.9 of 34SV-SUV-019-1.	The applicant confirms the maximum reading in step 7.5.7 is less than 275°F and the minimum is greater than 50°F.	
11.	Performes step 7.5.10 of 34SV-SUV-019-1.	Using the formula at the bottom of the surveillance page, the applicant calculates the average drywell temperature to be 136.7°F.	
****12.**	Addresses any additional actions that are required as a result of the average drywell temperature reading.	The applicant informs the evaluator that since average drywell temperature exceeds 135°F, per note "L" of the surveillance the shift is to place the Drywell Cooling System in "Additional Cooling Operating mode" per 34SO-T47-001-1.	

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That completes this JPM.

Answer Key

7.5	PANEL - INSTRUMENT / TECH SPEC.	NOTE	REAC MODE	FREQ	T/S OR OPER LIM	N	D
7.5.1	1H11-P657: - 1T47-R611, Pt 9 (1T47-N001L) Pt 11 (1T47-N004) Pt 13 (1T47-N008) 1H11-P654: - 1T47-R612, Pt 9 (1T47-N001M) Pt 11 (1T47-N005)	R,S,C (spec only)	1,2,3	C	NA	120 109 114 114 114	
7.5.2	Confirm max minus min in 7.5.1 $\leq$ 40°F	B	1,2,3	C		SAT	
7.5.3	Confirm max < 275°F and min > 50°F in 7.5.1	B,C	1,2,3	C	NA	SAT	
7.5.4	1H11-P657: - 1T47-R611, PT 14 (1T47-N009) Previous shift reading Present reading 1H11-P654: - 1T47-R612, PT 10 (1T47-N003) Previous shift reading Present reading	R,S	1,2,3	C	NA	149 176 148 175	
7.5.5	IF the previous reading differs from the present reading by greater than 10°F OR IF erratic instrument behavior is observed THEN submit a CR to evaluate the Operability of the instruments in step 7.5.4. (SR 3.3.3.1.1 for 3.3.3.1-1(10))	N/A	1,2,3	C	YES IF CR submitted. NR IF NOT required	YES SAT	
7.5.6	Confirm max < 275°F and min > 50°F AND max minus min $\leq$ 50°F in 7.5.4 (SR 3.3.3.1.1 for 3.3.3.1-1(10))	B	1,2,3	C	NA	SAT	
7.5.7	1H11-P657: - 1T47-R611, Pt 7, (1T47-N001J) Pt 8, (1T47-N001K) Pt 10, (1T47-N002) 1H11-P654: - 1T47-R612, Pt 7, (1T47-N001A) Pt 8, (1T47-N001B) Pt 13, (1T47-N010)	R,S	1,2,3	C	NA	199 164 157 182 187 154	
7.5.8	Confirm max minus min in 7.5.7 $\leq$ 100°F (SR 3.3.3.1.1 for 3.3.3.1.1(10))	B	1,2,3	C		SAT	
7.5.9	Confirm max < 275°F and min > 50°F in 7.5.7	B,C	1,2,3	C	NA	SAT	
7.5.10	Average Drywell Temperature (1) (SR 3.6.1.5.1)	L	1,2,3	C	$\leq$ 150°F	136.7	
					INITIALS		
Calculations verified _____					DATE _____	TIME	

(1) DW Temp = $\frac{(7.5.1\ TE's)}{5}$ (0.63) + $\frac{(7.5.4\ TE's)}{2}$ (0.22) + $\frac{(7.5.7\ TE's)}{6}$ (0.15)

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 1 is operating at 100 % power.
2. 1T47-R611 is out of service.
3. 1T47-R612 is out of service.
4. The SS has directed this surveillance be completed as a paper version.

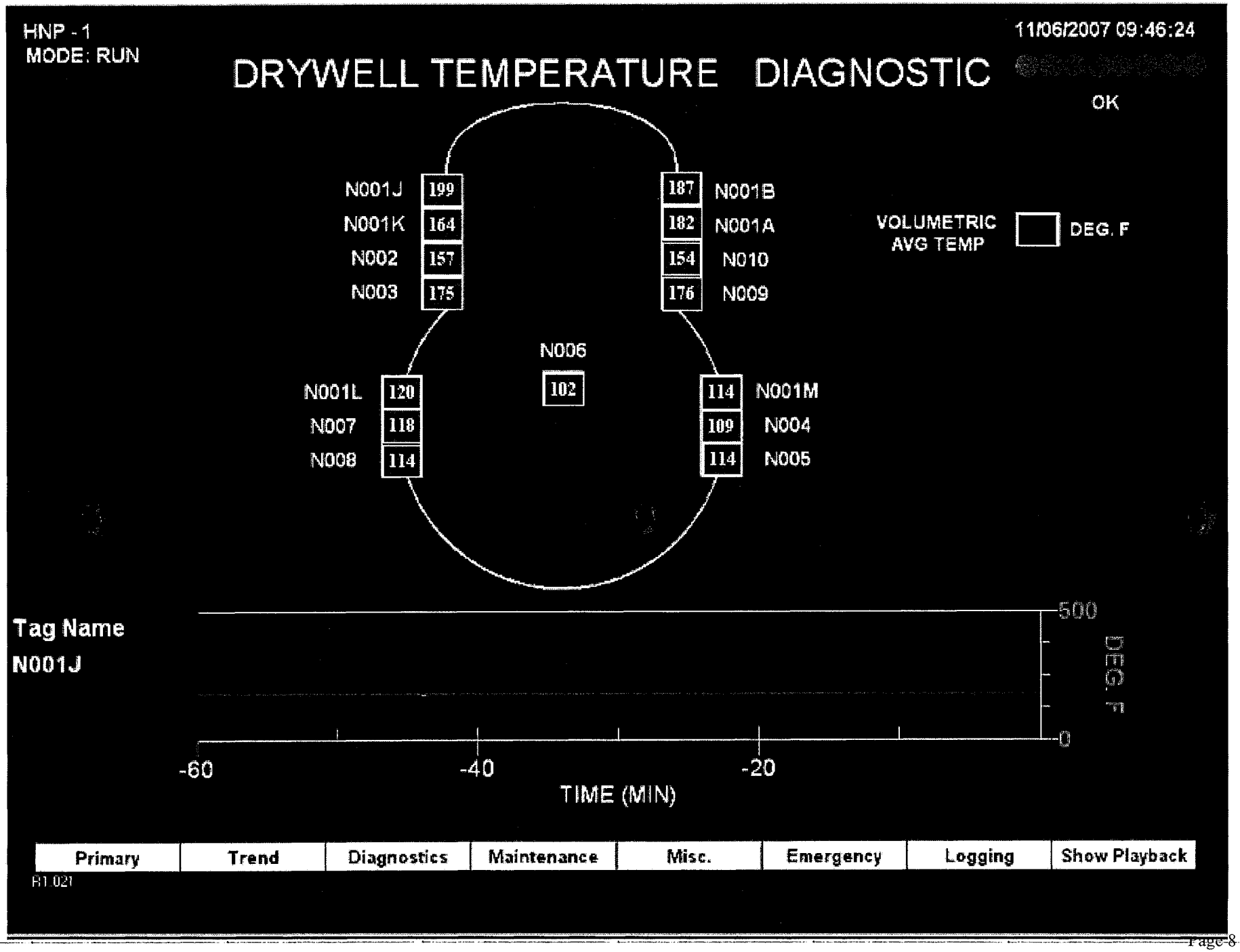
INITIATING CUES:

Complete section 7.5 of 34SV-SUV-019-1, SURVEILLANCE CHECKS, which evaluates drywell temperatures,

and

Inform the evaluator of any actions that need to be taken as a result of the readings or results obtained from this surveillance.

Attachment 1



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Operations Training JPM

ADMIN, SRO I, SRO-U

TITLE		
EMERGENCY CLASSIFICATION AND NOTIFICATION (NEW EALS)		
AUTHOR	**MEDIA NUMBER**	**TIME CRITICAL**
DAVE GIDDENS	LR-JP-25062-00	15.0/15.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-25062**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 (X) UNIT 2 (X)

TASK TITLE: **Emergency Classification and Notification (NEW EALS)**

JPM NUMBER: LR-JP-25062-00

TASK STANDARD: The task shall be completed when the event has been classified per 73EP-EIP-001-0, the ENN form (TRN-001) 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 2.30

SRO 4.0, 4.1

OPERATOR APPLICABILITY: Senior Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 1 & 2**
	73EP-EIP-001-0 73EP-EIP-001-0 attachment 1, 2, and 3, evaluation charts 73EP-EIP-073-0

REQUIRED MATERIALS:	**Unit 1 & 2**
	73EP-EIP-001-0 () 73EP-EIP-001-0 attachment 1, 2, and 3, evaluation charts form TRN-0001 form TRN-010

APPROXIMATE COMPLETION TIME: 15.0/15.0 Minutes

SIMULATOR SETUP: N/A

EVALUATOR COPY

UNIT 1 & 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. Unit 1 is at 100% power with no problems and no inoperative equipment.
2. Unit 2 is at 100% power, the SS is addressing a fire situation.
3. As the Shift Manager you have just been notified of a fire. Operations personnel report that RHR pump, 2E11-C002B is burning with significant damage and that Core Spray pump, 2E21-C001B may also be burning.
4. The fire is believed to have started from welding in the diagonal and sabotage is NOT suspected.
5. No personnel injuries or contaminations have occurred

INITIATING CUES:

Determine the emergency classification that should be declared.

Complete the ENN form (TRN-001) for offsite notifications.

Direct the OPERATOR to make the proper offsite notifications.

Use the current time for being notified of the fire.

Current time is: _____

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.

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 ENN form and direction to make the **NOTIFICATIONS MUST BE COMPLETED WITH 15 MINUTES** of that clock start.

Note: Ensure the student is given the color versions of TRN-0001 and TRN-010(ensure you **DO NOT** hand out the marked up TRN-0001 AND TRN-010 included in the back of this JPM..

1st START TIME:_____

1.	APPLICANT identifies the procedure needed to perform the task.	APPLICANT has identified the correct procedure as 73EP-EIP-001-0.	

PROMPT: If questioned about the time the fire has been burning, REPLY that visual confirmation was received immediately preceding his/her notification. The student should not wait until the fire has lasted greater than 15 minutes as no time limit is used in this classification, but only in the NUE classification.

****2.**	APPLICANT classified event per 73EP-EIP-001-0.	APPLICANT has CLASSIFIED the event as an **ALERT EMERGENCY** based on IC# HA2, FIRE OR EXPLOSION Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown.	

NOTE: The expected classification is an **ALERT.** 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:_____

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

PROMPT: **WHEN** the APPLICANT enquires about meteorological conditions, **GIVE** the APPLICANT the MIDAS Information Sheet.

2nd START TIME:_____

****3.**	APPLICANT properly completes the ENN form per 73EP-EIP-073-0.	APPLICANT has properly COMPLETED TRN-001, "Southern Nuclear Emergency Notification form.	

NOTE: To successfully complete the ENN form, **Steps 1 through 13 that are in red font** must be properly completed.

To be properly completed, the ENN form must have all the required steps completed with correct information. Steps 4 and 13 must contain sufficient information to describe the event.

****4.**	APPLICANT directs an operator to make the ENN notifications	APPLICANT has DIRECTED the plant operator to make the required ENN notifications.	

2nd END TIME:_____

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

- With no reasonable progress, the APPLICANT exceeds double the allotted time.
- APPLICANT states the task is complete.

TERMINATING CUE: That completes this JPM.

Answer key

NOTE:	Events should be classified based on meeting the IC and a TV for an EAL considering each unit independently. If both units are in concurrent events, then the highest classification must be made and used for the offsite notifications with the other unit events noted on the emergency notification form.

1. Select the affected unit's operating mode:

   ✓ Mode 1, 2 or 3 (go to step # 2)
   ☐ Mode 4, 5 or DEFUELED (go to step # 4)

2. Evaluate the status of the fission product barriers using Attachment 1 of procedure 73EP-EIP-001-0.

   a. Select the condition for each fission product barriers:

Fuel Cladding Integrity	☐ LOSS	☐ POTENTIAL LOSS	✓ INTACT
Reactor Coolant System	☐ LOSS	☐ POTENTIAL LOSS	✓ INTACT
Containment Integrity	☐ LOSS	☐ POTENTIAL LOSS	✓ INTACT

   b. Determine the highest applicable fission product barrier Initiating Condition (IC):

   (select one) ☐ **FG1** ☐ **FS1** ☐ **FA1** ☐ **FU1** ✓ **None**

NOTE:	Determination of the initiating condition and associated threshold value is based on events which are in progress, past events, and their impact on the current plant conditions.

3. Using Attachment 2 of procedure 73EP-EIP-001-0, evaluate and determine the highest applicable "HOT" IC and associated Threshold Value (TV). **NEXT**, go to step 5.

   IC# HA2 **or** ☐ **None**

4. Using Attachment 3 of procedure 73EP-EIP-001-0, evaluate and determine the highest applicable "COLD" IC and associated TV. **NEXT**, go to step 5.

   IC# _____ **or** ✓ **None**

5. Check the **highest** emergency classification level identified from **EITHER** step 2 or 3 **OR** step 4:

(select one)	**Classification based on IC#**
☐ Notification of Unusual Event	
✓ Alert Emergency	HA2
☐ Site-Area Emergency	
☐ General Emergency	

6. **IC Description**: Fire affecting the operability of systems required to establish or maintain safe shutdown . The fire is affecting emergency core cooling systems in the Unit 2 Reactor Building. Or a similar description

7. **Emergency Declaration:** today (DATE) current (TIME)

Emergency Director Signature: _____

Answer key

1. ✓ DRILL [B] ACTUAL EVENT MESSAGE #
2. ✓ INITIAL [B] FOLLOW-UP NOTIFICATION: TIME_____ DATE____/____/____ AUTHENTICATION N/A
3. SITE: **HATCH NUCLEAR** Confirmation Phone # CR or TSC- **(912) 3662000 ext.** _____ EOF – **(205)992-6586**

4. **EMERGENCY CLASSIFICATION:** [A] UNUSUAL EVENT ✓ ALERT [C] SITE AREA EMERGENCY [D] GENERAL

BASED ON EAL HA2 EAL DESCRIPTION:

Fire affecting the perability of systems required to establish or maintain safe shutdown . The fire is emergency core cooling systems in the Unit 2 Reactor Building Or a similar

5. **PROTECTIVE ACTION** ✓ NONE

[B] EVACUATE

[C] SHELTER

[D] Advise Remainder of EPZ to monitor local radio/TV ons/Tone Alert Radios for additional information CONSIDER THE USE OF KI (POTASSIUM) IN ACCORDANCE WITH STATE PLANS AND Y.

[E]

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

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

8. EVENT [A] Improving [B] Stable ✓ Degrading

9. METEOROLOGICAL Wind Direction from 130 degrees Wind Speed 5 mph

Precipitation 0 Stability Class [A] [B] [C] ✓ [E] [F] [G]

10. ✓ DECLARATION [B] TERMINATION Time CURRENT Date ____/____/____

11. AFFECTED UNIT(S): [1] ✓ [All]

12. UNIT STATUS: (Unaffected Unit(s) Status Not Required for Notifications)

[A] U1 100 % Power Shutdown at Time _____ Date

[B] U2 100 % Power Shutdown at Time _____ Date

13. REMARKS:

CAN VARY WITH THE

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

EMERGENCY RELEASE TA. NOT REQUIRED LINE 6 A IS D.

14. RELEASE 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 Projection period: Estimated Release Duration

Projection performed: Time _____ Date Accident Type:_____

16. PROJECTED

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

17. APPROVED BY: student signature Title emergency director Time _____

NOTIFIED BY:

RECEIVED BY: Time _____ (To be completed by receiving

UNIT 1 & 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. Unit 1 is at 100% power with no problems and no inoperative equipment.
2. Unit 2 is at 100% power, the SS is addressing a fire situation.
3. As the Shift Manager you have just been notified of a fire. Operations personnel report that RHR pump, 2E11-C002B is burning with significant damage and that Core Spray pump, 2E21-C001B may also be burning.
4. The fire is believed to have started from welding in the diagonal and sabotage is NOT suspected.
5. No personnel injuries or contaminations have occurred

INITIATING CUES:

Determine the emergency classification that should be declared.

Complete the ENN form (TRN-001) for offsite notifications.

Direct the APPLICANT to make the proper offsite notifications.

Use the current time for being notified of the fire.

Current time is: _____

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

NORMAL RANGE	KAMAN
1D11-K600A	1D11-R631
2.00E 01	

1D11-K600B
2.00E 01

STABILITY CLASS
D

U1 RX. BLDG. VENT

NORMAL RANGE	KAMAN
1D11-K619A	1D11-R631
5.04E 01	

1D11-K619B

U2 RX. BLDG. VENT

NORMAL RANGE	KAMAN
2D11-K636A	2D11-R631
4.00E 01	

2D11-K636B
4.00E 01

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

ADMIN 3, RO,

TITLE		
CORRECT RWL INDICATORS FOR HIGH DRYWELL TEMPERATURES		
AUTHOR	**MEDIA NUMBER**	**TIME**
R. A. BELCHER	LR-JP-25101-10	12 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-25101**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
01	09/24/92	General revision and format change	WMM	RSG
02	09/22/93	General revision, word processor change	RAB	RSG
03	08/14/96	Format change, make step 4 non-critical	RAB	DHG
04	10/07/96	Modified due to procedural correction factor changes	RAB	DHG
05	03/20/00	Format modification, correct graphics, correct and update K/As, correct final values due to procedure changes	RAB	DHG
06	11/06/00	Include objective number	RAB	DHG
07	03/25/02	Include initial operator statement	RAB	RAB
08	06/27/05	Deleted "S" from procedure numbers, changed Revision and Rev. numbers to "Current Version," changed to Nuclear Plant Operator, updated to new fuel zone and wide range indicators, revised Initial License statement for successful completion.	ARB	RAB
09	07/25/06	Remove Response Cues	RAB	RAB
10		Update KA information	DHG	

UNIT 1 () UNIT 2 (X)

TASK TITLE: **CORRECT RWL INDICATORS FOR HIGH DRYWELL TEMPERATURES**

JPM NUMBER: LR-JP-25101-10

TASK STANDARD: The task shall be completed when the Applicant 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: 216000A208, G2.1.25

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.20, 2.8

SRO 3.40, 3.1

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

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

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

APPROXIMATE COMPLETION TIME: 12 Minutes

SIMULATOR SETUP: N/A

EVALUATOR COPY

UNIT 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. The Reactor has scrammed and the board operator has reported the following:

   Indicated level on 2B21-R604A and 2B21-R623A (Un--compensated reading, Wide Range) is -135 inches.

   Indicated level on 2B21-R604B and 2B21-R623B (Un--compensated reading, Wide Range) is -137 inches.

   Indicated level on 2B21- R623A (Fuel Zone) is -185 inches uncompensated.

INITIATING CUES:

Determine which of these RWL indications are valid and report the corrected RWL for all valid RWL instrumentation.

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.

START TIME:_____

1.	Applicant identifies the procedure needed to perform the task.	Applicant has identified the correct procedure as 34AB-B21-002-2.	

PROMPT: **IF** the Applicant (STA) indicates that SPDS would be checked, **GIVE** the Applicant Supplement 1.

PROMPT: **IF** the Applicant addresses Drywell temperature indications, **INDICATE** for the Applicant 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 Applicant DETERMINES: Drywell temperature is greater than 150°F. RWL corrections **ARE** required.	
3.	Review Caution 1 and Caution 2 on Attachment 1 of 34AB-B21-002-2.	The Applicant has reviewed Caution 1 and Caution 2 on Attachment 1 of 34AB-B21-002-2.	

PROMPT: **IF** the Applicant addresses instrument behavior, as the board operator, **INFORM** the Applicant that no erratic behavior for the specified instruments has been observed.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
4.	Confirm there is no indication of erratic instrument behavior.	The Applicant has VERIFIED, by observation or by addressing the panel operator, that the following RWL instruments show no erratic instrument behavior: 2B21-R604A 2B21-R604B 2B21-R623A (Wide Range) 2B21-R623B (Wide Range) 2B21- R623A (Fuel Zone)	

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

PROMPT: **WHEN** the Applicant addresses temperature indications on Panels P654, P657, and P650; **INDICATE** that detector N015 is 257°F and N014 is 260°F. All other indications can be **SIMULATED** using Supplement 2.

5.	Determine highest temperature for RTD Group 1 and 2 (Maximum Run Temperature).	At SPDS and panel 2H11-P657, the Applicant has DETERMINED the Maximum Run Temperature for RTD Group 1 is 260°F. At SPDS and panel 2H11-P654, the Applicant has DETERMINED the Maximum Run Temperature for RTD Group 2 is 257°F.	
6.	Determine if the RWL instrument may be used by comparing the Minimum Indicated Level for the associated Maximum Run Temperature.	The Applicant has DETERMINED the following RWL instruments are **INVALID**: 2B21-R604A 2B21-R604B 2B21-R623A (Wide Range) 2B21-R623B (Wide Range)	

NOTE: The 2B21-R604A & B and 2B21-R623A & B (Wide Range) indicators are Invalid because they are below the Minimum Indicated Level per Caution 1 of Attachment 1.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
	NOTE Attachment 3 is contained on the following page for a reference to the evaluator.		
**7.	Determine corrected Fuel Zone Level (2B21-R623A).	Using Attachment 3 of 34AB-B21-002-2, the Applicant has DETERMINED **Corrected Level** for 2B21-R623A (Fuel Zone uncompensated) is -146 inches.	

END TIME:_____

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

- With no reasonable progress, the Applicant exceeds double the allotted time.
- Applicant states the task is complete.

TERMINATING CUE: That completes this JPM.

Answer key

SNC PLANT E. I. HATCH		Pg 1 of 3
DOCUMENT TITLE: RPV WATER LEVEL CORRECTIONS	DOCUMENT NUMBER: 34AB-B21-002-2	VERSION No: 6.10
ATTACHMENT 3 TITLE: 2B21-R623A AND B FUEL ZONE UNCOMPENSATED SIGNAL LEVEL CORRECTION TABLE		Att. Pg. **!Syntax Error, !** of **!Syntax Error, !**

IND LEVEL	CORRECTED LEVEL					IND LEVEL
	0 PSIG	200 PSIG	400 PSIG	600 PSIG	800 PSIG	
-17	-28	11	31	48	65	-17
-20	-31	7	28	45	61	-20
-25	-36	2	22	39	55	-25
-30	-41	-4	16	33	48	-30
-35	-46	-9	10	27	42	-35
-40	-51	-15	4	21	36	-40
-45	-56	-20	-1	15	30	-45
-50	-61	-26	-7	9	23	-50
-55	-66	-31	-13	3	17	-55
-60	-71	-37	-19	-4	11	-60
-65	-76	-42	-25	-10	5	-65
-70	-81	-48	-30	-16	-2	-70
-75	-86	-54	-36	-22	-8	-75
-80	-91	-59	-42	-28	-14	-80
-85	-96	-65	-48	-34	-20	-85
-90	-101	-70	-54	-40	-27	-90
-95	-106	-76	-59	-46	-33	-95
-100	-111	-81	-65	-52	-39	-100
-105	-116	-87	-71	-58	-46	-105
-110	-121	-92	-77	-64	-52	-110
-115	-126	-98	-83	-70	-58	-115
-120	-131	-103	-88	-76	-64	-120
-125	-136	-109	-94	-82	-71	-125
-130	-141	-114	-100	-88	-77	-130
-135	-146	-120	-106	-94	-83	-135
-140	-151	-125	-112	-100	-89	-140
-145	-156	-131	-117	-106	-96	-145
-150	-161	-136	-123	-112	-102	-150
-155	-166	-142	-129	-118	-108	-155
-160	-171	-147	-135	-124	-114	-160
-165	-176	-153	-141	-130	-121	-165

Answer key

SNC PLANT E. I. HATCH		Pg 1 of 3
DOCUMENT TITLE: RPV WATER LEVEL CORRECTIONS	DOCUMENT NUMBER: 34AB-B21-002-2	VERSION No: 6.10
ATTACHMENT 3 TITLE: 2B21-R623A AND B FUEL ZONE UNCOMPENSATED SIGNAL LEVEL CORRECTION TABLE		Att. Pg. **!Syntax Error, !** of **!Syntax Error, !**

IND LEVEL	CORRECTED LEVEL					IND LEVEL
	0 PSIG	200 PSIG	400 PSIG	600 PSIG	800 PSIG	
-170	-181	-158	-146	-136	-127	-170
-175	-186	-164	-152	-142	-133	-175
-180	-191	-170	-158	-148	-139	-180
-185	-196	-175	-164	-154	-146	-185
-190	-201	-181	-170	-161	-152	-190
-195	-206	-186	-175	-167	-158	-195
-200	-211	-192	-181	-173	-164	-200
-205	-216	-197	-187	-179	-171	-205
-210	-221	-203	-193	-185	-177	-210
-215	-226	-208	-199	-191	-183	-215
-220	-231	-214	-204	-197	-189	-220
-225	-236	-219	-210	-203	-196	-225
-230	-241	-225	-216	-209	-202	-230
-235	-246	-230	-222	-215	-208	-235
-240	-251	-236	-228	-221	-214	-240
-245	-256	-241	-234	-227	-221	-245
-250	-261	-247	-239	-233	-227	-250
-255	-266	-252	-245	-239	-233	-255
-260	-271	-258	-251	-245	-240	-260
-265	-276	-263	-257	-251	-246	-265
-270	-281	-269	-263	-257	-252	-270
-275	-286	-274	-268	-263	-258	-275
-280	-291	-280	-274	-269	-265	-280
-285	-296	-286	-280	-275	-271	-285
-290	-301	-291	-286	-281	-277	-290
-295	-306	-297	-292	-287	-283	-295
-300	-311	-302	-297	-293	-290	-300
-305	-316	-308	-303	-299	-296	-305
-310	-321	-313	-309	-305	-302	-310
-315	-326	-319	-315	-311	-318	-315
-317	-328	-321	-317	-314	-311	-317

UNIT 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. The Reactor has scrammed and the board operator has reported the following:

   Indicated level on 2B21-R604A and 2B21-R623A (Un--compensated reading, Wide Range) is -135 inches.

   Indicated level on 2B21-R604B and 2B21-R623B (Un--compensated reading, Wide Range) is -137 inches.

   Indicated level on 2B21- R623A (Fuel Zone) is -185 inches uncompensated.

INITIATING CUES:

Determine which of these RWL indications are valid and report the corrected RWL for all valid RWL instrumentation.

MODE: RUN

POWER

125
100
75
50
25
0

%

SRM

CPS

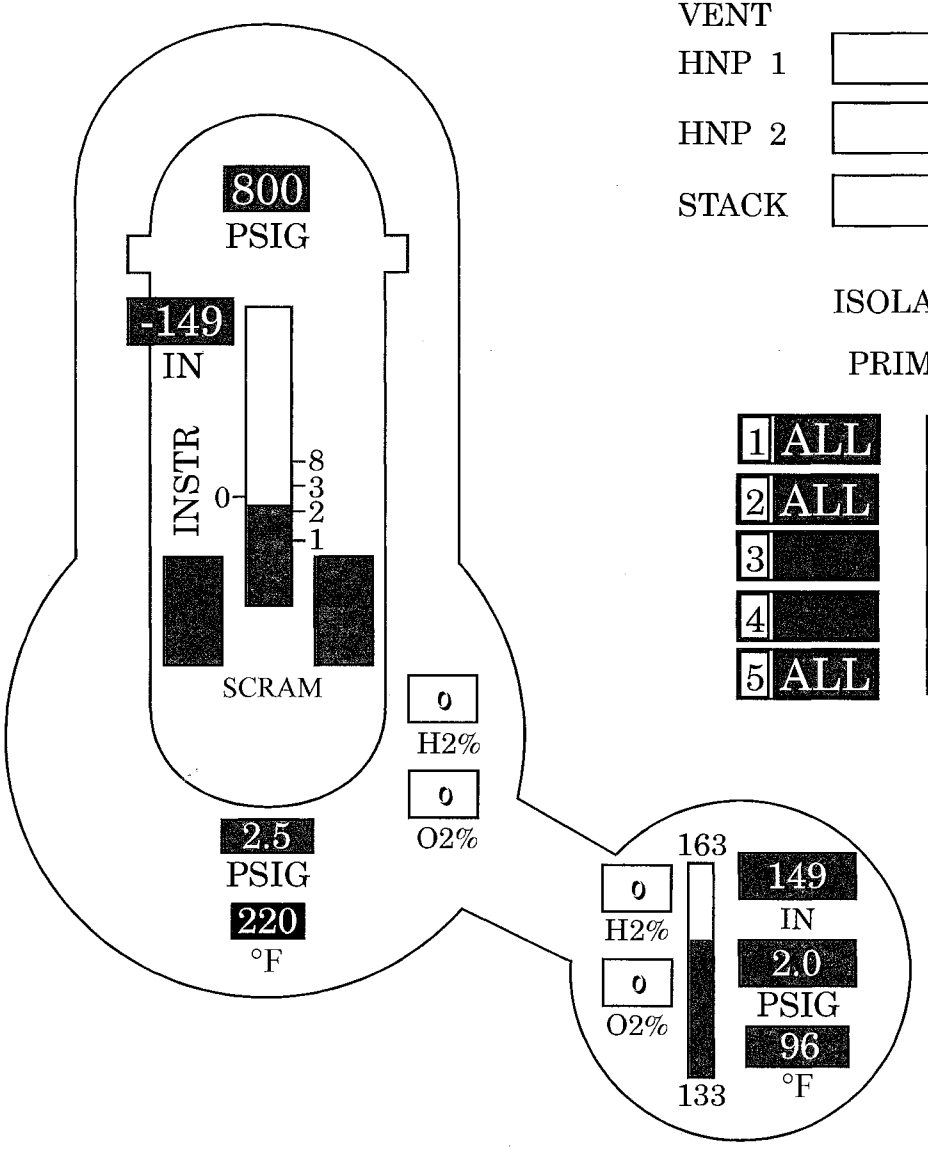
OUT

N

180
90
270
0

A
H
E
D
F
C
K
G
M
L

ADS
LLSL
SRV



VENT

HNP 1 ____ µCi/cc

HNP 2 ____ µCi/cc

STACK ____ µCi/cc

ISOLATION

PRIMARY

1 ALL	
2 ALL	
3	
4	
5 ALL	

1 3 4 5	2A	2B
2C	2D	2E
SEC		

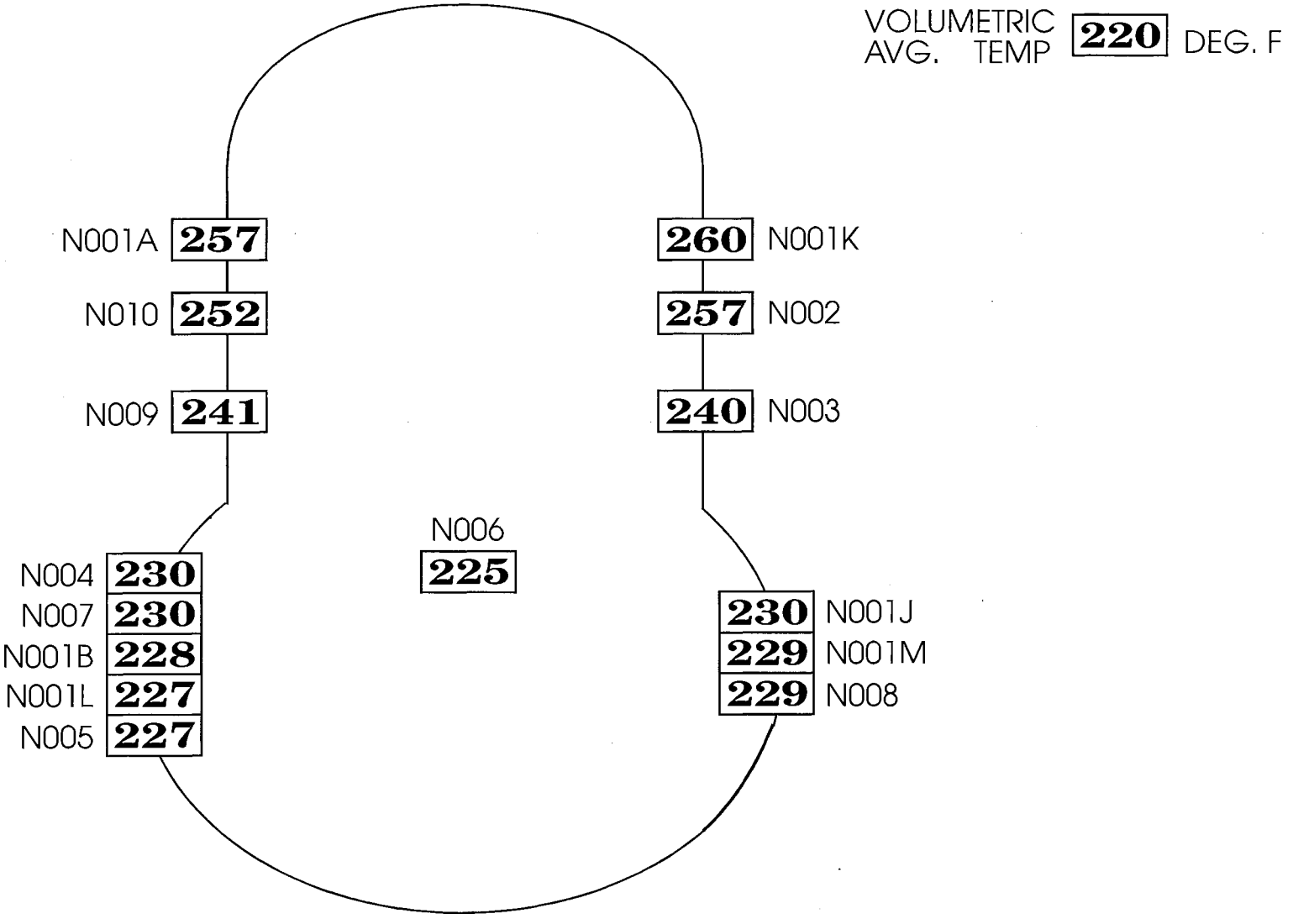
SECONDARY

HNP 1

HNP 2

SUPPLEMENT 1

DRYWELL TEMPERATURE DIAGNOSTIC



SUPPLEMENT 2

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM
(ADMIN 5- RO, SRO-I, SRO-U)

TITLE		
Radiation Exposure Calculation and Required Authorization		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVE GIDDENS	LR-JP-10020-00	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
	APPROVED FOR NRC EXAM	11/29/07

SOUTHERN COMPANY

Energy to Serve Your World℠

SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-10020**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE: **Radiation Exposure Calculation and Required Authorization.**

JPM NUMBER: LR-JP-10020-00

TASK STANDARD: The task shall be complete when it has been determined the job cannot be performed and it is determined that there is no allowance for exceeding the administrative limits.

TASK NUMBER: N/A

OBJECTIVE NUMBER: LT-30008.01

K/A CATALOG NUMBER: Generic 2.3.4

K/A CATALOG JTA IMPORTANCE RATING:

RO 2.5

SRO 3.1

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) Calculator

APPROXIMATE COMPLETION TIME: 15 Minutes

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

Evaluator Copy

UNIT 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. You are a pregnant radiation worker at Hatch and have been assigned to perform a non-emergency 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 35 minutes.
4. Your total exposure (TEDE) for the year so far has been confirmed to be 350 mrem.
5. One of the radiation fields you will work in for 20 minutes is 48 mrem/hour (gamma radiation).
6. The other radiation field that you will work in for 15 minutes is 120 mrem/hour (gamma radiation).
7. The dose in the travel path to the CUPS room is 20 mrem/hr.
8. Travel time through the 20 mrem/hr field to the CUPS area is 7.5 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 (**350 mrem**) and that which will be received from this job, determine if you are allowed to perform this job and if so, who must authorize the exposure, if anyone, IAW 60AC-HPX-001-0.

Page 3 of 6	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.

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 48 mrem/hour field.	$\frac{48 \text{ mrem/hr}}{60 \text{ min}} \times 20 \text{ min} =$ **16 mrem.**	
****2.**	The applicant calculates exposure in the 120 mrem/hour field.	$\frac{120 \text{ mrem/hr}}{60 \text{ min}} \times 15 \text{ min} =$ **30 mrem**	
****3.**	The applicant calculates the dose received from travel time.	$\frac{20 \text{ mrem/hr}}{60 \text{ min}} \times 7.5 \text{ min} \times 2 \text{ trips}$ = **5 mrem.**	
****4.**	The applicant calculates total exposure:	16 30 5 51 (dose from job) 350 (previous dose) 401 **mrem** total dose	

Page 4 of 6	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**5.	The applicant determines that the monthly Hatch Prenatal Radiation Exposure limit will be exceeded while performing the work.	The Hatch Administrative limits are 450 mrem for the entire pregnancy at a rate NOT to exceed 50 mrem per month. (60AC-HPX-001-0 step 8.2.1)	

NOTE: The applicant may address being on the Margin List when within 400 mrememem 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.

**6.	The applicant determines the job cannot be performed and that there is no allowance to exceed the Hatch Prenatal Radiation Exposure limit.	The applicant determines that the job cannot be performed due to exceeding 50 mrem in a month. (The limit of 450 mrem during pregnancy will not be exceeded.) (Step 8.2.3.2) And The applicant determines that authorization to exceed the limit is not allowed.	

END TIME:_____

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

- With no reasonable progress, the applicant exceeds double the allotted time.
- Applicant states the task is complete.

TERMINATING CUE: That completes this JPM.

UNIT 2

READ TO THE APPLICANT

INITIAL CONDITIONS:

1. You are a pregnant radiation worker at Hatch and have been assigned to perform a non-emergency 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 35 minutes.
4. Your total exposure (TEDE) for the year so far has been confirmed to be 350 mrem.
5. One of the radiation fields you will work in for 20 minutes is 48 mrem/hour (gamma radiation).
6. The other radiation field that you will work in for 15 minutes is 120 mrem/hour (gamma radiation).
7. The dose in the travel path to the CUPS room is 20 mrem/hr.
8. Travel time through the 20 mrem/hr field to the CUPS area is 7.5 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 (**350 mrem**) and that which will be received from this job, determine if you are allowed to perform this job and if so, who must authorize the exposure, if anyone, IAW 60AC-HPX-001-0.

FINAL

Facility: **Plant E.I Hatch** Date of Examination: **12/03/2007 – 12/07/2007**

Exam Level: RO SRO-I **SRO-U** Operating Test No.: _____

Control Room Systems[@] (8 for RO); (7 for SRO-I); (2 or 3 for **SRO-U**, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
Control Rod and Drive Mechanism / Withdraw Control Rods (rod uncouples)	S A N L	3.1 Reactivity Control – JPM 1.10 (12 min) KA 201003A2.02 (RO 3.7/SRO 3.8), **SIM 1 - ALL**
RCIC / RCIC Start, with start pushbutton failure	S D	3.2 Reactor Water Level Control – JPM 25022 (5 min) KA 217000A2.01 (RO 3.8/SRO 3.7) **SIM 2 - ALL**
Reactor/Turbine pressure regulating system Perform RC-3, Rx pressure control (Bypass valve stuck open) (ESF)	S A N	3.3 Reactor Pressure Control – JPM 20166 – (10-min) KA 241000A2.03 (RO 4.1/SRO 4.2) **SIM 3 - All**
HPCI / Place HPCI in Pressure Control Mode	S N	3.4 Heat removal from Reactor Core – JPM 5.15 - (10 min) KA 206000A4.06 (RO 4.3/SRO 4.3) **SIM 4 – SRO-I and RO**
RHR/LPCI: Containment Spray System Mode / Initiate Drywell Spray with a valve failure	S A D	3.5 Containment Integrity – JPM 25033 (10 minutes) KA 226001A2.11 (RO 3.0/SRO 3.0) **SIM 5 – SRO-I and RO**
Bypass valve fails-RPS B fails, scram logic manual actuation fails, Mode switch to Shutdown	S A N L	3.7 Instrumentation – (10 min) JPM 25063 KA 215003A3.03 (RO 3.7/SRO 3.6) **SIM 6 – SRO-I and RO**
Plant Ventilation Systems / Verify an Automatic Secondary Containment Isolation	S A M P	3.9 Radioactivity Release – Modified from JPM 13.38 – (13Min) KA 288000A2.04 JPM 20021 **SIM 7 – SRO-I and RO**
A.C. Electrical Distribution / Energize Startup Aux Transformer 2D *(RO only)*	S D	3.6 Electrical – JPM 27.49 (8 min) KA 262001A4.01 (RO 3.4/SRO 3.7) **SIM 8 – RO Only**
In-Plant Systems[@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
Emergency Generators / Locally Start an Emergency Diesel Generator using the air start override	A D E	3.6 Electrical - JPM 28.24 (17 min) KA 264000A2.09 (RO 3.7/SRO 4.1) **IP 9 - ALL**
Loss of Air / Align Emergency Nitrogen to drywell Pneumatics	D R E	3.8 Plant Service Systems – JPM 25028 (16 min) KA 295019AA1.01 (RO 3.5/SRO 3.3) **IP 10 – SRO-I and RO**
Scram / Insert a SCRAM using the SDV level switches	D R E	3.1 Reactivity Control – JPM 10.18 (8 min) KA 295006AA1.06 (RO 3.5/SRO 3.6) **IP 11 - ALL**

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Operations Training
JPM

SIM 1, RO, SRO-I, SRO-U

TITLE		
WITHDRAW CONTROL RODS (ROD UNCOUPLES)		
AUTHOR	**MEDIA NUMBER**	**TIME**
D. H. GIDDENS	LR-JP-001.10-00	12 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
NA	APPROVED FOR NRC EXAM	11/19/07

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PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-001.10**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 () UNIT 2 (X)

TASK TITLE: **WITHDRAW CONTROL RODS (ROD UNCOUPLES)**

JPM NUMBER: LR-JP-001.10-00

TASK STANDARD:

TASK NUMBER: 001.010

OBJECTIVE NUMBER: 001.010.A

PLANT HATCH JTA IMPORTANCE RATING:

RO 2.8

SRO 2.8

K/A CATALOG NUMBER: 201003 A2.02,

K/A CATALOG JTA IMPORTANCE RATING:

RO **3.7**

SRO 3.8

OPERATOR APPLICABILITY: Reactor Operator (RO)

GENERAL REFERENCES:	**Unit 2**
	34AR-603-248-2 34GO-OPS-065-0 34GO-OPS-001-2

REQUIRED MATERIALS:	**Unit 2**
	34AR-603-248-2 34GO-OPS-065-0

APPROXIMATE COMPLETION TIME: 12 Minutes

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator to **IC #104** and leave in **FREEZE**.

2. **INSERT** the following **MALFUNCTIONS:**

MALF #	TITLE	FINAL VALUE	RAMP RATE	ACT. TIME
mfC12_23	Control rod 10-47 uncoupled			0000

3. **INSERT** the following **SIMULATOR VALUE OVERRIDES (SVO):**

SVO #	DESCRIPTION	FINAL VALUE	RAMP RATE	ACT. TIME
	none			

4. **INSERT** the following **REMOTE FUNCTIONS:**

REM #	DESCRIPTION	STATUS
	none	

5. **INSERT** the following **ORS OVERRIDES:**

TAG #	P/L	DESCRIPTION	STATUS	ACT. TIME
		none		

6. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**

   A. Give the student the marked up copy of 34GO-OPS-001-2.

7. **PLACE** the Simulator in **FREEZE** until the INITIATING CUE is given.

8. **PLACE DANGER TAGS** on the following equipment:

MPL #	COMPONENT	TAGGED POSITION
NONE		

9. **ESTIMATED** Simulator **SETUP TIME**:

10. **Once the operator begins inserting the control rod to re-couple, REMOVE the malfunction.**

INSTRUCTOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A Reactor Startup is in progress, 34GO-OPS-001-2 is in progress, and will be provided to you..
2. Control rods are being withdrawn to increase power per 34GO-OPS-065-0. The current control rod group is 12 with all rods in this group being at position 24.
3. The Control Rod Movement Pre-job Brief and associated checklist have been completed.
4. Continuous Rod Movement is desired for these rod movements
5. No one will be performing peer checks but proceed with the task.

INITIATING CUES:

Continue control rod withdrawal in rod group 12.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs: **ALL PROCEDURE STEPS** must be completed for Satisfactory Performance.

START TIME:_____

1.	Operator identifies the procedure needed to perform the task.	Operator has identified the correct procedure as 34GO-OPS-065-0.	
2.	Operator verifies the status of the currently latched rod group.	On 2H11-P03, the operator selects each control rod in the currently latched group, observing their position on the four rod display AND comparing to the pull sheet.	
3.	The operator selects the first rod to be withdrawn 02-23.	On 2H11-P603, the operator selects the first rod in the currently latched group.	

Note: With regard to withdrawing the rod , if the applicant notches the rod out one or two notches and then transitions to continuous withdrawal is acceptable.

****4.**	The operator withdraws the selected rod to position 48.	The operator positions both the Rod Movement Control switch and the RONOR switch to the withdraw position and holds them until the rod moves to position 48.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
	NOTE: 34GO-OPS-065-0 instructions for performing a coupling check only addresses using the rod movement switch. It is acceptable if the student uses the RONOR switch along with the rod movement switch in withdrawing the rod for the coupling check.		
**5.	The operator performs a coupling check on the selected control rod by providing a separate (second) withdraw signal.	The operator positions the Rod Movement Control switch to the withdraw position observing for: • The red withdraw light illuminates • Momentary loss of the "48" position indication • The rod does NOT move beyond position "48." • Annunciator rod overtravel does NOT illuminate. • Documents the check on the movement form.	
6.	The operator selects the next rod to be withdrawn 10-47.	On 2H11-P603, the operator depresses the pushbutton on the select panel for the next rod in the currently latched group.	
**7.	The operator withdraws the selected rod to position 48.	On 2H11-P603, the operator positions both the Rod Movement Control switch and the RONOR switch to the withdraw position and holds them until the rod moves to position 48.	
**8.	The operator performs a coupling check on the selected control rod by providing a separate (second) withdraw signal.	The operator positions the Rod Movement Control switch to the withdraw position observing for: • The red withdraw light illuminates • Momentary loss of the "48" position indication • The rod MOVES beyond position 48. • Annunciator rod overtravel **DOES** illuminate.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
9.	Operator identifies the procedure needed to perform the task	The operator reviews ARP 34AR-603-248-2, "Rod Over travel."	
10.	Notifies the Shift Supervisor.	The operator reports the status of the control rod which experienced over travel.	

PROMPT: Simulator operator remove the uncouple rod malfunction mfC12_23 for rod 10-47.

**11.	Attempts to re-couple the rod by notching the rod in.	On panel 2H11-P603, the operator inserts the rod from one to three notches, notching the rod in using the Rod Movement Switch.	

NOTE: The operator may choose to use continuous withdrawal or notch withdrawal to return the control rod to position 48.

**12.	Withdraw the rod to position 48	On 2H11-P603, the operator positions both the Rod Movement Control switch and the RONOR switch to the withdraw position and holds them until the rod moves to position "48."	

NOTE: 34GO-OPS-065-0 instructions for performing a coupling check only addresses using the rod movement switch. It is acceptable if the student uses the RONOR switch along with the rod movement switch in withdrawing the rod for the coupling check.

**13.	The operator performs a coupling check on the selected control rod.	The operator positions the Rod Movement Control switch to the withdraw position observing for: • The red withdraw light illuminates • Momentary loss of the "48" position indication • The rod does NOT move beyond position 48. • Annunciator rod overtravel does NOT illuminate. • Documents the check on the movement form.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
14	Informs supervision of the re-coupling attempt.	The operator reports to the SS that the coupling check was successful.	

PROMPT: When the operator selects the third control rod inform him/her that another operator will assume control rod movement duties and the JPM will be stopped here.

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That Completes this JPM..

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A Reactor Startup is in progress, 34GO-OPS-001-2 is in progress, and will be provided to you..
2. Control rods are being withdrawn to increase power per 34GO-OPS-065-0. The current control rod group is 12 with all rods in this group being at position 24.
3. The Control Rod Movement Pre-job Brief and associated checklist have been completed.
4. Continuous Rod Movement is desired for these rod movements
5. No one will be performing peer checks but proceed with the task.

INITIATING CUES:

Continue control rod withdrawal in rod group 12.

Replace this page with

1. the marked up startup procedure, 34GO-OPS-001-2,
2. The marked up pull sheet for control rod withdrawal.

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Operations Training
JPM

SIM 4, RO, SRO-I

TITLE		
PLACE HPCI IN PRESSURE CONTROL MODE		
AUTHOR	**MEDIA NUMBER**	**TIME**
D. H. GIDDENS	LR-JP-005.15.00	10 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
	APPROVED FOR NRC EXAM	11/19/07

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FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-00515**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 () UNIT 2 (X)

TASK TITLE: **PLACE HPCI IN PRESSURE CONTROL MODE**

JPM NUMBER: LR-JP-005.15.00

TASK STANDARD: The task will be met when HPCI has been placed in pressure control mode.

TASK NUMBER: 005.015

OBJECTIVE NUMBER: 005.015.A

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.8

SRO 3.8

K/A CATALOG NUMBER: 206000A4.06

K/A CATALOG JTA IMPORTANCE RATING:

RO 4.3

SRO 4.3

OPERATOR APPLICABILITY: Reactor Operator (RO)

GENERAL REFERENCES:	**Unit 2**
	31EO-EOP-107-2

REQUIRED MATERIALS:	**Unit 2**
	31EO-EOP-107-2

APPROXIMATE COMPLETION TIME: 10 Minutes

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator to a 100% IC and leave in **FREEZE**.

2. **INSERT** the following **MALFUNCTIONS:**

MALF #	TITLE	FINAL VALUE	RAMP RATE	ACT. TIME
NONE				

3. **INSERT** the following **SIMULATOR VALUE OVERRIDES (SVO):**

SVO #	DESCRIPTION	FINAL VALUE	RAMP RATE	ACT. TIME
NONE				

4. **INSERT** the following **REMOTE FUNCTIONS:**

REM #	DESCRIPTION	STATUS
NONE		

5. **INSERT** the following **ORS OVERRIDES:**

TAG #	P/L	DESCRIPTION	STATUS	ACT. TIME
RFE41_153		HPCI TORUS SUCTION BYPASS	OVRD	0000

6. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**

   A. From 100% power insert a manual scram.
   B. Perform RC-1 and RC-2.
   C. Allow the plant to stabilize with turbine bypass valves controlling reactor pressure and RFPTs controlling water level.
   D. Ensure HPCI is in standby with no initiation signal present.

7. **PLACE** the Simulator in **FREEZE** until the INITIATING CUE is given.

8. **PLACE DANGER TAGS** on the following equipment:

MPL #	COMPONENT	TAGGED POSITION
NONE		

9. **ESTIMATED** Simulator **SETUP TIME:** **15**

INSTRUCTOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. The unit has been scrammed to allow work on an EHC system leak
2. RFPTs are controlling reactor water level.
3. The HPCI High Torus Level Suction Swap has been over-ridden per 31EO-EOP-100-2.

INITIATING CUES:

Place HPCI in Pressure Control Mode per 31EO-EOP-107-2, "ALTERNATE RPV PRESSURE CONTROL" and control reactor pressure between 500 and 800 psig.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs: **ALL PROCEDURE STEPS** must be completed for Satisfactory Performance.

START TIME:_____

1,	Reset the HPCI initiation signal, IF the HPCI initiation cannot be reset, THEN do NOT perform this section.	Confirm a HPCI initiation signal does not exist by verifying the HPCI auto initiation light is not illuminated On 2H11-P601.	
2.	IF HPCI system isolation has occurred and the isolation signal has cleared, THEN take HPCI Auto Isolation Signal A(B) switches to RESET. OR IF a HPCI system isolation has occurred and CANNOT be reset, DO NOT continue with this subsection.	Confirm a HPCI isolation does not exist by verifying the HPCI isolation alarms are not illuminated and that 2E41-F002 and 2E41-F003 are open, red lights illuminated On 2H11-P601	
3.	To maintian HPCI suction source aligned to the CST, override the HPCI high torus level suction swap per 31EO-EOP-100-2, section 3.5.	Student is informed in the turnover that this function has been overridden.	
4.	Confirm OPEN/ 2E41-F029, Steam Line Drain 2E41-F003, Outbd Steam Isol 2E41-F028, Steam Line Drain	Verify the red light is illuminated for the following valves; 2E41-F029, panel 2H11-P601 2E41-F003, panel 2H11-P601 2E41-F028, panel 2H11-P602.	
5.	Confirm OPEN 2E41-F002, Inboard Steam Isolation Valve.	On 2H11-P601, verify 2E41-F002 is open, red light illuminated.	
****6.**	OPEN 2E41-F059, Lube Oil Cooling Wtr Valve.	On 2H11-P601, the operator places the switch 2E41-F059 to open, red light illuminates.	
7.	START HPCI Vacuum Pump.	On 2H11-P601, the operator places the switch for the HPCI vacuum pump to start.	
8.	Confirm CLOSED 2E41-F006, Pump Discharge Valve.	On 2H11-P601, the operator verifies 2E41-F006 is closed, green light illuminated.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**9.	OPEN 2E41-F008, Test to CST Valve.	On 2H11-P601, the operator places the switch for 2E41-F008 to the open position, red light illuminates.	
**10.	OPEN 2E41-F011, Test to CST Valve.	On 2H11-P601, the operator places the switch for 2E41-F011 to the open position, red light illuminates.	
**11.	OPEN 2E41-F001, Turbine Steam Supply Valve.	On 2H11-P601, the operator places the switch for 2E41-F001 to the open position, red light illuminates.	

Note: If the Aux Oil Pump is not started until after the 2E41-F001 is full open the following annunciators will be received:

- 601-103, HPCI TURBINE TRIP.
- 601-112, HPCI TURBINE BRG OIL PRESS LOW.
- 601-231, HPCI PUMP DISCHARGE FLOW LOW.

**12.	START the HPCI Auxiliary Oil Pump.	On 2H11-P601, the operator places the switch for the HPCI Auxiliary Pump to start position, red light illuminates.	
**13.	Control HPCI turbine speed/system flow, and IF necessary throttle 2E41-F008, Test to CST Vlv, to control Reactor pressure.	On 2H11-P601, the operator adjust HPCI flow controller 2E41-R612 and/or throttles 2E41-F008 to control reactor pressure.	

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That Completes this JPM

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. The unit has been scrammed to allow work on an EHC system leak
2. RFPTs are controlling reactor water level.
3. The HPCI High Torus Level Suction Swap has been over-ridden per 31EO-EOP-100-2.

INITIATING CUES:

Place HPCI in Pressure Control Mode per 31EO-EOP-107-2, "ALTERNATE RPV PRESSURE CONTROL" and control reactor pressure between 500 and 800 psig.

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Operations Training
JPM

SIM 8, RO ONLY

TITLE		
ENERGIZE STARTUP AUXILIARY TRANSFORMER 2D		
AUTHOR	**MEDIA NUMBER**	**TIME**
R. A. BELCHER	LR-JP-27.49-12	8.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-27.49**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
01	08/13/93	General revision, include a switching order, word processor change	RAB	RSG
02	08/19/94	Modify simulator setup, adjust format, change time allowance, make initiating cue more specific and include phonetics	RAB	RSG
03	07/23/96	Format change, modify time allowance	RAB	DHG
04	04/10/97	Revised based on feedback from the 1996 Requal annual exam.	SCB	RSG
05	03/05/99	Revised due to new simulator computer.	SCB	DHG
06	02/25/00	Format modification, change time allowance based on running average, procedure change, reference correct section of procedure and change initiating cue to direct operator to the correct section, correct simulator setup	RAB	DHG
07	11/02/00	Include objective number	RAB	DHG
08	03/11/02	Include initial operator statement	RAB	RAB
09	03/08/05	Documentum Revision	DNM	RAB
10	06/13/05	Revised Initial License statement for successful completion	RAB	RAB
11	04/19/06	Remove Response Cues	RAB	RAB
12		Update KA information	DHG	

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE: **ENERGIZE STARTUP AUXILIARY TRANSFORMER 2D**

JPM NUMBER: LR-JP-27.49-12

TASK STANDARD: The task will be complete when SUT "2D" is energized per 34SO-S22-001-1.

TASK NUMBER: 027.049

OBJECTIVE NUMBER: 027.049.A

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.07

SRO 2.83

K/A CATALOG NUMBER: 262001A403, 262001A4.02

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.20, 3.4

SRO 3.40, 3.4

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
	34SO-S22-001-1 (current version)

REQUIRED MATERIALS:	**Unit 2**
	34SO-S22-001-1 (current version)

APPROXIMATE COMPLETION TIME: 8.0 Minutes

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator to **100% Power** and leave in **FREEZE**.

2. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**

   A. Transfer 4160 VAC Busses E, F, and G to the alternate power supply, resetting equipment between each bus being transferred. Place danger tags with the PCB number and the previous switching order number on the tags.
   B. Open PCB 179520 and 179530.

3. **INSERT** the following **ORS OVERRIDES:**

TAG #	P/L	DESCRIPTION	STATUS	ACT. TIME
lo1S40-S43G1	L	Disconnect Switch PCB 179530 green light	OFF	00000
lo1S40-S43R2	L	Disconnect Switch PCB 179530 red light	OFF	00000

4. **PLACE** the Simulator in **FREEZE** until the INITIATING CUE is given.

5. **PLACE DANGER TAGS** on the following equipment:

MPL #	COMPONENT	TAGGED POSITION
PCB 179520	PCB 179520	OPEN
PCB 179530	PCB 179530	OPEN

6. **ESTIMATED** Simulator **SETUP TIME**: **10 Minutes**

INSTRUCTOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Due to a maintenance requirement, SUT "2D" has been de-energized.
2. 4160 VAC Buses "E," "F," and "G" are on their alternate power supply.
3. Work has been satisfactorily completed on the transformer.
4. All lockout relays on the transformer have been reset.
5. The transformer is ready to be re-energized.

INITIATING CUES:

Energize SUT "2D" from 230 kV Bus No. 2 per Step 7.3.1.7.5 of 34SO-S22-001-1.

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.

START TIME:_____

PROMPT: **Only provide the switching order (attachment 1) when requested.**

PROMPT: **IF** the operator addresses confirming lockout relays reset, **INFORM** the operator that another operator has verified that all "2D" SUT lockout relays are reset.

1.	Have Substation Maintenance close or confirm close: Line Disconnect 179549 Motor Disconnect 179521 Motor Disconnect 179523	The operator has contacted Substation Maintenance to close or confirm CLOSE: Line Disconnect 179549 Motor Disconnect 179521 Motor Disconnect 179523.	

Prompt: As substation maintenance, report disconnects 179549, 179521, and 179523 are CLOSED.

TABLE 1

POWER CIRCUIT BREAKER	SYNC SWITCH		POWER CIRCUIT BREAKER	SYNC SWITCH	
	R	I		R	I
179400	BUS 2	VIDALIA	179480	BUS 1	BUS 2
179410	BUS 1	VIDALIA	179490	BUS 2	OFFERMAN
179430	BUS 2	EASTMAN	179500	GEN	OFFERMAN
179440	BUS 1	EASTMAN	179510	GEN	BUS 1
179450	BUS 1	EASTMAN	179520	BUS 2	BUS 1
179460	BUS 2	S. HAZLEHURST	179530	BUS 2	AUTO BANK 10
179470	BUS 1	S. HAZLEHURST	179540	BUS 1	AUTO BANK 10

NOTE: The breaker to be closed is 179520. The above table shows the positions for the switchyard sync switch positions of the R switch positioned to R and the I switch positioned to Bus 1.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
2.	Remove Danger Tag from PCB 179520.	At panel 1H11-P653, operator REMOVES the Danger Tag from PCB 179520.	
****3.**	On panel 1H11-P653, place sync switch SSW BUS No. 2 in the "R" position.	On panel 1H11-P653, operator has PLACED sync switch SSW BUS NO. 2 in the "R" position.	
****4.**	On panel 1H11-P653, place sync switch SSW BUS No. 1 in the "I" position.	On panel 1H11-P653, operator has PLACED sync switch SSW BUS NO. 1 in the "I" position.	

NOTE: The control switchfor 179520 must be held in the close position for at least five seconds to overcome the breaker closing time delay.

****5.**	Close PCB 179520 to energize SUT "2D."	On panel 1H11-P653 operator has CLOSED PCB 179520, red light illuminated.	
6.	Applicant completes the switching order	Applicant completes the switching order by writing the date, time and signing the switching order.	

PROMPT: **IF** the operator addresses closing PCB 179530, as the Shift Supervisor, **INFORM** the operator that it is not desired at this time.

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That Completes this JPM.

(Indicates critical step)**

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Due to a maintenance requirement, SUT "2D" has been de-energized.
2. 4160 VAC Buses "E," "F," and "G" are on their alternate power supply.
3. Work has been satisfactorily completed on the transformer.
4. All lockout relays on the transformer have been reset.
5. The transformer is ready to be re-energized.

INITIATING CUES:

Energize SUT "2D" from 230 kV Bus No. 2 per Step 7.3.1.7.5 of 34SO-S22-001-1.

DATE TODAY

ORDERS ISSUED BY WEST

OPERATOR RECEIVING ORDERS BOOHER

SWITCHING: REMOVE TAG FROM PCB 179520

CLOSE PCB 179520

SWITCHING DONE BY

TIME DATE

DUPLICATE **Leave this copy in book**

ORDER No 109104 A

ATTACHMENT 1

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
ALTERNATE PATH JPM

SIM 7, RO, SRO-I

TITLE		
VERIFY AN AUTOMATIC SECONDARY CONTAINMENT ISOLATION		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVE GIDDENS	LR-JP-20021-00	13.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-20021**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE: **VERIFY AN AUTOMATIC SECONDARY CONTAINMENT ISOLATION**

JPM NUMBER: LR-JP-20021-00

TASK STANDARD: The task shall be completed when the operator has verified that the Reactor Building Ventilation System is isolated per 34AB-T22-003-2.

TASK NUMBER: 013.038

OBJECTIVE NUMBER: 013.038.A

TYPE ALTERNATE PATH

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.42

SRO 3.42

K/A CATALOG NUMBER: 295034EA103, 288000A2.04

K/A CATALOG JTA IMPORTANCE RATING:

RO 4.00, 3.7

SRO 3.90, 3.8

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
	34AB-T22-003-1

REQUIRED MATERIALS:	**Unit 2**
	34AB-T22-003-1 (current revision)

APPROXIMATE COMPLETION TIME: 13.0 Minutes

SIMULATOR SETUP: Refer to simulator setup sheet on the following page

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator to an **IC at 1005 RTP** and leave in **FREEZE.**

2. **INSERT** the following **MALFUNCTIONS:**

MALF #	TITLE	FINAL VALUE	RAMP RATE	ACT. TIME
mfG31_52	RWCU System Leak (0-250 gpm)	50	1000	00000
mfT41_12	2T41-F023A/B FAIL TO CLOSE			00000

3. **INSERT** the following **SIMULATOR VALUE OVERRIDES (SVO):**

SVO #	DESCRIPTION	FINAL VALUE	RAMP RATE	ACT. TIME
svoD11174	D11-K609A Rx Bldg Pot Contam Area Vnt	23	1000	00000
svoD11175	D11-K609B Rx Bldg Pot Contam Area Vnt	20	1000	00000
svoD11176	D11-K609C Rx Bldg Pot Contam Area Vnt	20	1000	00000
svoD11177	D11-K609D Rx Bldg Pot Contam Area Vnt	23	1000	00000

4. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**

   A. Allow the RWCU System to isolate.
   B. Ensure Radiation Monitors 2D11-K609A, B, C, & D are reading approximately 20 mR/hr and RX BLDG POT CONTAM AREA VENT RADN HI-HI (34AR-601-420-2), is illuminated.

5. **PLACE** the Simulator in **FREEZE** until the INITIATING CUE is given.

6. **ESTIMATED** Simulator **SETUP TIME:** **10 Minutes**

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UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 2 is operating at 100% power.
2. There has been a leak discovered on the RWCU Non-Regenerative Heat Exchanger Outlet. Other operators are taking the actions to isolate this leak.
3. RX BLDG POT CONTAM AREA VENT RADN HI-HI (34AR-601-420-2) has actuated.
4. Secondary Containment HVAC exhaust radiation levels have exceeded the Secondary Containment HVAC isolation setpoint.

INITIATING CUES:

Verify Secondary Containment Isolation per Attachment 7 of 34AB-T22-003-2.

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.

START TIME:_____

1.	Operator obtains the procedure needed to perform the task.	Operator has obtained procedure 34AB-T22-003-2, attachment 7.	

NOTE: It is the intent of the JPM that the operator verifies Secondary Containment and determines which valves have failed to isolate. The action to close the unisolated valves is necessary to complete the critical portion of the task.

2.	Operator confirms the following automatic actions: 2T41-C002A & B, STOPS, 2T41-C005A & B, STOPS, 2T41-F003A, CLOSED,	At panel 2H11-P657, the operator verifies the following: 2T41-C002A, Refuel Flr Vent Supply Fan, is OFF, green light illuminated. 2T41-C002B, Refuel Flr Vent Supply Fan, is OFF, green light illuminated. 2T41-C005A, Refuel Flr Vent Exh Fan is OFF, green light illuminated. 2T41-C005B, Refuel Flr Vent Exh Fan is OFF, green light illuminated. 2T41-F003A, Refuel Flr Supply Fans Disch Inboard Isol Dmprs, is CLOSED, green light illuminated.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**3.	2T41-F023A, CLOSED,	2T41-F023A, Refuel Flr Exhaust Fans Disch/Suction Inboard Dmprs, is **NOT CLOSED**, Red light illuminated and closes the valve.	
4.	2T46-F003A, OPEN, and 2T46-F001A, OPEN.	2T46-F003A, SBGT A Fltr Inlet From Refuel Floor, is OPEN, red light illuminated. 2T46-F001A, SBGT A Fltr Inlet From Rx Bldg, is OPEN, red light illuminated.	
5.	Operator confirms or performs the following automatic actions: 2T46-F002A, OPEN, 2T41-C001A & B, STOPS, 2T41-C007A & B, STOPS, and 2T41-F011A, CLOSED.	At panel 2H11-P657, the operator verifies the following: 2T46-F002A, SBGT A Fltr Disch, is OPEN, red light illuminated. 2T41-C001A, Rx Bldg Supply Fan, is OFF, green light illuminated. 2T41-C001B, Rx Bldg Supply Fan, is OFF, green light illuminated. 2T41-C007A, Rx Bldg Vent Exhaust Fan, is OFF, green light illuminated. 2T41-C007B, Rx Bldg Vent Exhaust Fan, is OFF, green light illuminated. 2T41-F011A, Rx Bldg Supply Fans Disch Inboard Isol Dmprs, is CLOSED, green light illuminated.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
6.	Operator confirms or performs the following automatic actions: 2T41-F044A, CLOSED, 2T48-C003, STOPS, and 2T46-D001A, START.	At panel 2H11-P657, the operator has verified the following: 2T41-F044A, Rx Bldg Inboard Isol Dmprs, Inaccessible Areas Exhaust Fans Disch, is CLOSED, green light illuminated. 2T48-C003, Purge Air Supply Fan, is STOPPED, green light illuminated. 2T46-D001A, SBGT Filter Fan A, is STARTED, red light illuminated.	
7.	Operator confirms or performs the following automatic actions: 2T41-F003B, CLOSED,	At panel 2H11-P654, the operator verifies the position of each of the following valves: 2T41-F003B, Refuel Flr Supply Fans Disch Outboard Isol Dmprs, is CLOSED, green light illuminated.	
****8.**	2T41-F023B, CLOSED,	2T41-F023B, Refuel Flr Exhaust Fans Disch/Suction Outboard Dmprs, is **NOT CLOSED**, red light illuminated and closes the valve.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
9.	2T46-F003B, OPEN, 2T46-F001B, OPEN, 2T46-F002B, OPEN, 2T46-D001B, START, 2T41-F011B, CLOSED, 2T41-F044B, CLOSED	2T46-F003B, SBGT B Fltr Inlet From Refuel Floor, is OPEN, red light illuminated. 2T46-F001A, SBGT B Fltr Inlet From Rx Bldg, is OPEN, red light illuminated. 2T46-F002B, SBGT B Fltr Disch, is OPEN, red light illuminated. 2T46-D001B, SBGT Filter Fan A, is STARTED, red light illuminated. 2T41-F011B, Rx Bldg Supply Fans Disch Outboard Isol Dmprs, is CLOSED, green light illuminated. 2T41-F044B, Rx Bldg Outboard Isol Dmprs, Inaccessible Areas Exhaust Fans Disch is CLOSED, green light is illuminated.	

END TIME:_____

PROMPT: Once the operator closes the failed secondary containment valves and completes the Unit 2 portion of the isolation verification, state: "Another operator will perform the remainder of the procedure. This JPM is complete.

TERMINATING CUE: That completes this JPM.

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 2 is operating at 100% power.
2. There has been a leak discovered on the RWCU Non-Regenerative Heat Exchanger Outlet. Other operators are taking the actions to isolate this leak.
3. RX BLDG POT CONTAM AREA VENT RADN HI-HI (34AR-601-420-2) has actuated.
4. Secondary Containment HVAC exhaust radiation levels have exceeded the Secondary Containment HVAC isolation setpoint.

INITIATING CUES:

Verify Secondary Containment Isolation per Attachment 7 of 34AB-T22-003-2.

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Operations Training
Alternate Path JPM

SIM 3, RO, SRO-I, SRO-U

TITLE		
PERFORM RC3 (BYPASS VALVE STUCK OPEN)		
AUTHOR	**MEDIA NUMBER**	**TIME**
D. H. GIDDENS	LR-JP-20166-00	10 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
	APPROVED FOR NRC EXAM	11/19/07

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FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-20166**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE: **PERFORM RC3 (BYPASS VALVE STUCK OPEN)**

JPM NUMBER: LR-JP-20166-00

TASK STANDARD: This task will be met once the MSIVs have been closed.

TASK NUMBER: 201.066

OBJECTIVE NUMBER: 201.066

Alternate Path JPM

PLANT HATCH JTA IMPORTANCE RATING:

RO 4.1

SRO 4.1

K/A CATALOG NUMBER: 241000A2.03

K/A CATALOG JTA IMPORTANCE RATING:

RO 4.1

SRO 4.2

OPERATOR APPLICABILITY: Reactor Operator (RO)

GENERAL REFERENCES:	**Unit 2**
	34AB-C71-001-2

REQUIRED MATERIALS:	**Unit 2**
	34AB-C71-001-2

APPROXIMATE COMPLETION TIME: 10 Minutes

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator to a 100% power IC and leave in **FREEZE**.
2. **INSERT** the following **MALFUNCTIONS: None**
3. **INSERT** the following **SIMULATOR VALUE OVERRIDES (SVO):**

SVO #	DESCRIPTION	FINAL VALUE	RAMP RATE	ACT. TIME
N37227	C BPV POSITION	.6	100	9999
svoB21053	PT-N127A SRV ELECTRICAL OPEN	1000	1000	0000
svoB21054	PT-N127B SRV ELECTRICAL OPEN	1000	1000	0000
svoB21055	PT-N127C SRV ELECTRICAL OPEN	1000	1000	0000
svoB21056	PT-N127D SRV ELECTRICAL OPEN	1000	1000	0000

4. **INSERT** the following **REMOTE FUNCTIONS: NONE**
5. **INSERT** the following **ORS OVERRIDES: NONE**
6. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**
   A. Perform RC-1 ENSURE THE MODE SWITCH HAS BEEN TAKEN TO **SHUTDOWN**
   B. TRIP ONE RFPT and perform RC-2
   C. Once the mode switch has been placed to shutdown insert SVO N37227 to .6 at a ramp rate of 100.
   D. Allow the simulator to run until reactor pressure has decreased below 920 psi.
7. **PLACE** the Simulator in **FREEZE** until the INITIATING CUE is given.
8. **PLACE DANGER TAGS** on the following equipment: - NONE
9. **ESTIMATED** Simulator **SETUP TIME**: **10 minutes**

INSTRUCTOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit Two is shutting down due to fuel problems.
2. Management has decided to insert a scram at this time.
3. Other operators will be performing RC-1 and RC-2.

INITIATING CUES:

PERFORM the scram procedure immediate and subsequent actions for RPV pressure control IAW 34AB-C71-001-2.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

For **INITIAL** Operator Programs: **ALL PROCEDURE STEPS** must be completed for Satisfactory Performance.

			START TIME:_____
1.	MONITOR RPV pressure.	On 2H11-P603 the operator monitors 2C32-R605A, B, C, recorder 2C32-R608, 2C32-R609, or the plasma display.	
2.	Confirm Proper Operation Of Pressure Control System (TBV, LLS, etc.).	On the Main Turbine Control panel on 2H11-P650, DETERMINES the "C" BPV has FAILED open 60%.	
3.	Informs the SS of pressure system status.	Informs the SS the "C" BPV has failed open.	

PROMPT: when informed that the "C" BPV is failed open **DIRECT** the operator to maintain RPV pressure between 1074 and 800 psig.

Note: Closing "either" the inboard or outboard MSIV on each Main Steam lines (MSL) will satisfy the critical step.

****4.**	Close MSIVS **2B21-F022A** AND/OR **2B21-F028A** on the "A" MSL.	Per 34AB-C71-001-2 step 4.13, on panel 2H11-P601, the operator places the control switch for 2B21-F028A to CLOSE. And/or On panel 2H11-P602, the operator places the control switch for 2B21-F028A to CLOSE.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**5.	Close MSIVS **2B21-F022B** AND/OR **2B21-F028B** on the "B" MSL.	On panel 2H11-P601, the operator places the control switch for 2B21-F028B to CLOSE. And/or On panel 2H11-P602, the operator places the control switch for 2B21-F028B to CLOSE.	
**6.	Close MSIVS **2B21-F022C** AND/OR **2B21-F028C** on the "C" MSL.	On panel 2H11-P601, the operator places the control switch for 2B21-F028C to CLOSE. And/or On panel 2H11-P602, the operator places the control switch for 2B21-F028C to CLOSE.	
**7.	Close MSIVS **2B21-F022D** AND/OR **2B21-F028D** on the "D" MSL.	On panel 2H11-P601, the operator places the control switch for 2B21-F028D to CLOSE. And/or On panel 2H11-P602, the operator places the control switch for 2B21-F028D to CLOSE.	

PROMPT: Due to the length of time the BPV has remained open, Reactor pressure may not return to the LLS arming setpoint for a significant amount of time. When the MSLs have been isolated and reactor pressure is rising the evaluator may ask the operator what actions remain to complete task. If the operator replies with the following two steps from RC-3, the evaluator may reply with "this JPM is complete."

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**8.	Allow RPV pressure to exceed 1074 psig then cycle any SRV to initiate LLS before reaching the mechanical lift setpoint, (1150 psig). LLS will not auto initiate .	ON panel 2H11-P602, once reactor pressure exceeds 1074, the operator cycles one SRV.	
9.	Maintains RPV pressure between 1074 and 800 psig	On panel 2H11-P603, the operator monitors reactor pressure and verifies LLS operates properly.	
10.	Notify SS of pressure control system operation.	Notify SS of LLS operation.	
			END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That Completes this JPM

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit Two is shutting down due to fuel problems.
2. Management has decided to insert a scram at this time.
3. Other operators will be performing RC-1 and RC-2.

INITIATING CUES:

PERFORM the scram procedure immediate and subsequent actions for RPV pressure control IAW 34AB-C71-001-2.

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Operations Training
JPM

SIM 2, RO, SRO-I, SRO-U

TITLE		
PERFORM A MANUAL RCIC STARTUP (PUSHBUTTON FAILURE)		
AUTHOR	**MEDIA NUMBER**	**TIME**
R. A. BELCHER	LR-JP-25022-010	3.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-25022**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	03/10/97	Initial development	RAB	RSG
01	03/05/99	Revised due to new simulator computer.	SCB	DHG
02	03/21/00	Format modification	RAB	DHG
03	04/24/00	Made time critical	RAB	DHG
04	05/19/00	Correct simulator setup	RAB	DHG
05	11/03/00	Include objective number	RAB	DHG
06	03/19/02	Include initial operator statement	RAB	RAB
07	02/04/03	Incorporate procedure change	DNM	DHG
08	06/27/05	Revised Initial License statement for successful completion	RAB	RAB
09	05/30/06	Remove Response Cues	RAB	RAB
10		Update KA information	DHG	

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE: **PERFORM A MANUAL RCIC STARTUP (PUSHBUTTON FAILURE)**

JPM NUMBER: LR-JP-25022-010

TASK STANDARD: The task shall be completed when the RCIC System is injecting to the Reactor at 400 gpm with turbine speed above 2000 rpm per 34SO-E51-001-2.

TASK NUMBER: 039.002

OBJECTIVE NUMBER: 039.002.C

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.36

SRO 2.93

K/A CATALOG NUMBER: 217000A403, 217000A2.01

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.40, 3.8

SRO 3.30, 3.7

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
	34SO-E51-001-2 (current version) 31EO-EOP-010-2 (current version)

REQUIRED MATERIALS:	**Unit 2**
	34SO-E51-001-2 (current version)

APPROXIMATE COMPLETION TIME: 3.0 Minutes

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator an to **IC for RTP** and leave in **FREEZE**.

2. **INSERT** the following **MALFUNCTIONS:**

MALF #	TITLE	FINAL VALUE	RAMP RATE	ACT. TIME
mfE41_107	HPCI Failure to Start (F001 Stuck)			00000
mfE51_109	RCIC Failure To Auto Start			00000
mfN21_87A	Feedwater Pump A Trip			00000
mfN21_87B	Feedwater Pump B Trip			00000

3. **INSERT** the following **REMOTE FUNCTIONS:**

REM #	DESCRIPTION	STATUS
rfE51155	RCIC Torus Suction Bypass	BYPASS

4. **INSERT** the following **ORS OVERRIDES:**

TAG #	P/L	DESCRIPTION	STATUS	ACT. TIME
E51-S33DI	P	RCIC Manual Initiation	OFF	00000

5. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**

   A. Place the MSIV control switches to CLOSE.
   B. Allow the simulator to run until RWL as indicated on 2B21-R623A and B is -50 inches.
   C. Acknowledge all annunciators.

6. **PLACE** the Simulator in **FREEZE** until the INITIATING CUE is given.

7. **ESTIMATED** Simulator **SETUP TIME**: **15 Minutes**

Instructor Copy

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. RWL is decreasing and the MSIVs are closed. RCIC is required for RWL control.
2. 31EO-EOP-010-2 (RC) is in progress. The SS is using 31EO-EOP-010-2, Table 2 for RPV water level restoration.
3. The Shift Support Supervisor has defeated the Torus high level suction transfer logic.
4. The RCIC start Pushbutton is inoperative and not functioning.

INITIATING CUES:

Start RCIC manually and inject to the Reactor per 34SO-E51-001-2, Reactor Core Isolation Cooling (RCIC) System and restore water level to +3 to +50 inches.

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.

START TIME:_____

**1.	Open 2E51-F046.	At panel 2H11-P602, the operator OPENS Turb Cool Water Vlv 2E51-F046, red light illuminated.	
2.	Start the Barometric Condenser Vacuum Pump.	At panel 2H11-P602, the operator STARTS Barom Cndsr Vac Pump 2E51-C002-2, red light illuminated.	

**3.	Open 2E51-F045.	At panel 2H11-P602, the operator OPENS Steam To Turbine Vlv, 2E51-F045, red light illuminated.	

NOTE: The following step should be performed as the RCIC System starts and comes up to speed.

4.	Confirm that the minimum flow valve operates as required.	At panel 2H11-P602, the operator VERIFIES that Min Flow Vlv, 2E51-F019, is OPEN when RCIC pump discharge pressure is greater than 128 psig and flow is less than 55 gpm. VERIFIES that Min Flow Vlv, 2E51-F019 is CLOSED when system flow is greater than 79.3 gpm.	
**5.	Open 2E51-F013.	At panel 2H11-P602, the operator OPENS Pump Discharge Vlv, 2E51-F013, red light illuminated.	
6.	Confirm that the Barometric Condenser Condensate Pump operates automatically.	At panel 2H11-P602, the operator VERIFIES that RCIC Barom Cndsr Level High annunciator (602-327) is CLEAR.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
7.	Confirms that the RCIC is operating correctly, injecting at 400 gpm.	At panel 2H11-P602, the operator VERIFIES that RCIC Turbine Controller, 2E51-R612, controls RCIC speed and flow at 400 gpm..	

Note: LLS acitivation may cause reactor water level and pressure oscillations.

PROMPT: **IF** the operator addresses posting High Radiation Areas, as the Shift Supervisor, **INFORM** the operator that Health Physics is posting the area.

PROMPT: **IF** the operator addresses CST level or Torus water level, **INDICATE** for the operator that CST level is 25 feet and Torus level is 148 inches.

PROMPT: **IF** the operator addresses shift from RWL control to pressure control, as the Shift Supervisor, **INFORM** the operator that it is not desired at this time.

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- When RCIC is operating with reactor water level increasing.

TERMINATING CUE: That Completes this JPM..

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. RWL is decreasing and the MSIVs are closed. RCIC is required for RWL control.
2. 31EO-EOP-010-2 (RC) is in progress. The SS is using 31EO-EOP-010-2, Table 2 for RPV water level restoration.
3. The Shift Support Supervisor has defeated the Torus high level suction transfer logic.
4. The RCIC start Pushbutton is inoperative and not functioning.

INITIATING CUES:

Start RCIC manually and inject to the Reactor per 34SO-E51-001-2, Reactor Core Isolation Cooling (RCIC) System to restore water level.

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Operations Training
ALTERNATE PATH JPM

SIM 5, RO, SRO-I

TITLE		
PERFORM A MANUAL INITIATION OF DRYWELL SPRAY (VALVE FAILURE)		
AUTHOR	**MEDIA NUMBER**	**TIME**
D. H. GIDDENS	LR-JP-25033-09	5
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-25033**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	11/15/99	Initial development	RAB	DHG
01	05/19/00	Correct simulator setup to incorporate instructor comments	RAB	DHG
02	11/06/00	Include objective number	RAB	DHG
03	03/25/02	Include initial operator statement	RAB	RAB
04	02/04/03	Reference 5000gpm limit as referenced in SAG/EOP. Add placing RHR in SP cooling as initial condition.	DNM	DHG
05	05/27/05	Revised Initial License statement for successful completion	RAB	RAB
06	06/30/06	Remove Response Cues	RAB	RAB
07	05/19/07	Correct the value for maximum drywell spray flow, 12500 gpm.	DHG	RAB
08	06/01/07	Revised to have both loops of torus cooling in service	DHG	BKW
09		Update KA information	DHG	

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE: **PERFORM A MANUAL INITIATION OF DRYWELL SPRAY (VALVE FAILURE)**

JPM NUMBER: LR-JP-25033-09

TASK STANDARD: The task shall be completed when the RHR System has been initiated in the Drywell Spray Mode, per 34SO-E11-010-2.

TASK NUMBER: 007.001

OBJECTIVE NUMBER: 007.001.O

Type ALTERNATE PATH

PLANT HATCH JTA IMPORTANCE RATING:

RO 4.71

SRO 4.05

K/A CATALOG NUMBER: 226001A403, 226001A2.11

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.50, 3.0

SRO 3.40, 3.0

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
	34SO-E11-010-2 (current version) 31EO-EOP-012-2 (current version

REQUIRED MATERIALS:	**Unit 2**
	34SO-E11-010-2 (current version) Key for 2E11-F016 A(B)

APPROXIMATE COMPLETION TIME: 10

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator to an **IC 100%** and leave in **FREEZE**. INSERT triggers which deletes the close function for the 2E11-F016 valve NOT initially operated (allows the second loop to be placed in drywell sprays).

2. **INSERT** the following **MALFUNCTIONS:**

MALF #	TITLE	FINAL VALUE	RAMP RATE	ACT. TIME
mfE51_110	RCIC Turbine Trip			00000
mfB21_229B	FW Line B Break Inside Containment (Var)	50	1000	00000
mfB21_48A	Steam Line A Break (After Restrictor) (Var)	2	1000	99999

3. **INSERT** the following **REMOTE FUNCTIONS:**

REM #	DESCRIPTION	STATUS
mfE11_167	2E11-F017A & B Override 5 Min Timer	ORIDE

4. **INSERT** the following **ORS OVERRIDES:**

TAG #	P/L	DESCRIPTION	STATUS	ACT. TIME
diE11-F016A	P	Contmt Spray Outboard Drywell	CLOSE	00000
diE11-F016B	P	Contmt Spray Outboard Drywell	CLOSE	0000

5. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**

   A. Take the simulator out of FREEZE.
   B. Close 2N21-F006B. Allow the valve to go FULL CLOSE.
   C. Place the "A" and "B" Loops of RHR in torus spray.
   D. When the operator starts Drywell spray, activate Malfunction mfB21_48A.
   E. Place both Recirc pumps switches in the TRIP position.
   F Place the Drywell Cooling Fans to "off."

6. **PLACE** the Simulator in **FREEZE** until the crew assumes the shift.

7. **ESTIMATED** Simulator **SETUP TIME**: **20 Minutes**

INSTRUCTOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Torus pressure is greater than 11 psig.
2. Drywell pressure and temperature are within the SAFE region of the Drywell Spray Initiation Limit Curve. (GRAPH 8)
3. Both Recirc pumps are tripped.
4. Both loops of RHR have been placed in torus sprays.
5. All Drywell Cooling fans are tripped.
6. Torus level is <215 inches.
7. 31EO-EOP-012-2, "PC-1 Primary Containment Control" is in progress.
8. The links to override the 5 minute LOCA OPEN interlock for RHR OUTBD INJ VLVs has been OPENED.

INITIATING CUES:

Initiate one loop of RHR in Drywell sprays per 34SO-E11-010-2, "Residual Heat Removal System" to lower drywell pressure to 1.0 psig.

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.

START TIME:_____

1.	Identifies the procedure for the task.	Operator EITHER utilizes 34SO-E11-010-2 attachment 5 OR section 7.4.6.	

NOTE: it is acceptable for the operator to place the 2/3 core height switch to override even though not required.

2.	IF reactor water level is < 2/3 core height, (-193 inches indicated on 2B21-R623A or B, Rx Level, at 2H11-P601), PLACE 2E11-S18A(B), Cnmt Spray Vlv Cntl 2/3 Core Ht Permis switch, in the MANUAL OVERRD position.	Operator observes current RPV water level is above 193 inches indicated on 2B21-R623A or B, Rx Level, at 2H11-P601 and that overriding the 2/3 interlock is not required.	
3.	Place the Containment Spray Valve control switch 2E11-S17A/B to the Manual position.	At panel 2H11-P601, the operator PLACES the CONTAINMENT SPRAY VALVE CONTROL switch to MANUAL, white light illuminated. This switch will already be in manual due to having torus sprays in service.	

NOTE: The operator may throttle or close 2E11-F017A/B even though the RHR System is not injecting into the Reactor.

NOTE: Once the operator selects the loop to be initially used, have the simulator operator **remove** the ORS **diE11-F016** for the **OTHER loop of RHR**

4.	Confirm or start RHR pumps in selected Loop.	At panel 2H11-P601, the operator CONFIRMS the RHR pumps are running in the selected loop, red lights illuminated.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
5.	Addresses torus sprays	The operator recognizes torus sprays have already been placed in service.	
6.	Open Containment Spray Valve 2E11-F021A/B.	At panel 2H11-P601, the operator PLACES the CNMT SPRAY INBD VLV, 2E11-F021A/B to OPEN, red light illuminated.	

PROMPT: **WHEN** the operator reports that 2E11-F016A/B will not open, read the initiating cue. "Initiate one loop of RHR in Drywell sprays per 34SO-E11-010-2, Residual Heat Removal System to lower drywell pressure to 1.0 psig."

7.	Attempts to slowly throttle open the Containment Spray Outboard Vlv. 2E11-F016A/B to start flow.	At panel 2H11-P601, the operator RECOGNIZES that CNMT SPRAY OUTBD VLV, 2E11-F016A/B failed to OPEN, green light illuminated.	
8.	Place the Containment Spray Valve control switch 2E11-S17B/A to the Manual position.	At panel 2H11-P601, the operator PLACES the CONTAINMENT SPRAY VALVE CONTROL to MANUAL, white light illuminated.	

NOTE: The operator may throttle or close 2E11-F017B/A even though the RHR System is not injecting into the Reactor. The operator may close 2E11-F027A/B, Torus Spray valve, but this is not required because only one loop will be in drywell sprays.

9.	Confirm or start RHR pumps in selected loop.	At panel 2H11-P601, the operator CONFIRMS the RHR pumps are RUNNING, red lights illuminated.	
****10.**	Open Containment Spray Valve 2E11-F021B/A.	At panel 2H11-P601, the operator PLACES the CNMT SPRAY INBD VLV, 2E11-F021B/A, to OPEN, red light illuminated.	
****11.**	Slowly throttle open the Containment Spray Outboard Vlv. 2E11-F016B/A to start flow.	At panel 2H11-P601, the operator THROTTLES the CNMT SPRAY OUTBD VLV, 2E11-F016B/A, to OPEN, red light illuminated.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
	NOTE: Drywell Spray flow rate must be at least 5000 GPM to ensure an effective drywell pressure reduction (reference EOP/SAG Appendix "C" calculations).		
**12.	RHR flow rate established within limits.	At panel 2H11-P601, the operator VERIFIES that RHR Flow is less than or equal to 17,000 gpm, but greater than 5,000 gpm, on RHR FLOW 2E11-R603A/B.	
	NOTE: This JPM may be stopped once drywell pressure is decreasing.		

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That Completes this JPM.

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Torus pressure is greater than 11 psig.
2. Drywell pressure and temperature are within the SAFE region of the Drywell Spray Initiation Limit Curve. (GRAPH 8)
3. Both Recirc pumps are tripped.
4. Both loops of RHR have been placed in torus sprays.
5. All Drywell Cooling fans are tripped.
6. Torus level is <215 inches.
7. 31EO-EOP-012-2, "PC-1 Primary Containment Control" is in progress.
8. The links to override the 5 minute LOCA OPEN interlock for RHR OUTBD INJ VLVs has been OPENED.

INITIATING CUES:

Initiate one loop of RHR in Drywell sprays per 34SO-E11-010-2, "Residual Heat Removal System" to lower drywell pressure to 1.0 psig.

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Operations Training
ALTERNATE PATH JPM

SIM 6, RO, SRO-I

TITLE		
Bypass valves fail, RPS fails to complete scram		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVE GIDDENS	LR-JP-25063-00	5 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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SOUTHERN NUCLEAR OPERATING COMPANY PLANT E. I. HATCH	Page 1 of 1
FORM TITLE: TRAINING MATERIAL REVISION SHEET	

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-25063**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE: **Bypass valves fail, RPS fails to complete scram**

JPM NUMBER: LR-JP-25063-00

TASK STANDARD: The task shall be completed when a full scram has been inserted per 30AC-OPS-003-0 or 34AR-603-210-2.

TASK NUMBER: 001.010

OBJECTIVE NUMBER: 001.010.A

TYPE alternate path

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.57

SRO 3.52

K/A CATALOG NUMBER: 215003 A.3.03

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.7

SRO 3.60

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
	30AC-OPS-003-0. 34AR-603-210-2 34AR-603-219-2 34AR-603-109-2 34AR-603-117-2 34AR-603-118-2 (current versions)

REQUIRED MATERIALS:	**Unit 2**
	34AR-603-210-2

APPROXIMATE COMPLETION TIME: 5 Minutes

SIMULATOR SETUP: REFER TO SIMULATOR SETUP SHEET ON THE FOLLOWING PAGE

SIMULATOR SETUP

Simulator Initial Conditions:

1. **RESET** the Simulator to **IC # 107 (8% RTP, Transferring Mode Switch to Run)** with the Rx Mode Switch in the Start-Up position and leave in **FREEZE**.

2. **Ensure that the #1 bypass valve is OPEN > 50% and that #2 & #3 bypass valves are closed**

3. **INSERT** the following **MALFUNCTIONS:**

MALF #	TITLE	FINAL VALUE	RAMP RATE	ACT. TIME
mfC71_241B	REACT PROT System B Fails to Auto Scram			0
mfN37_134	All Bypass Valves Fail Closed **(KEY # 1)**			9999
mfB21_226A	Low Low Set A Fails INOP			0
mfB21_226B	Low Low Set B Fails INOP			0

TAG #	S/L	DESCRIPTION	STATUS	ACT. TIME
diC71A-S3B	S	REACTOR MANUAL SCRAM B	OFF	0
diC71A-S3D	S	REACTOR MANUAL SCRAM B	OFF	0

4. Take the Simulator **OUT OF FREEZE** and **PERFORM** the following **MANIPULATIONS:**

   A. **Ensure that the APRMs are displaying APRM status (Rx Power), NOT LPRM status.**
   B. Ensure reactor pressure (B025) is in window 2 of plasma display

5. **PLACE** the Simulator in **FREEZE** until the **INITIATING CUE** is given.

6. **ESTIMATED** Simulator **SETUP TIME:** **15 Minutes**

EVALUATOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A normal plant startup is in progress per 34GO-OPS-001-2, "Plant Startup"
2. A pre-job brief is in progress in the Shift Manager's office for the crew that will transfer the Reactor Mode Switch to Run.
3. You are the only Operator on Unit 2 while the brief is in progress.

INITIATING CUES:

Monitor Unit 2 Control Room Front Panels and respond to any changing plant conditions.

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.

START TIME:_____

1.	Applicant assumes Unit 2 Operator position	Applicant assumes the Operator position and is monitoring the control panels.	

Evaluator: Have the Simulator Operator **activate** malfunction **mfN37-134, All Bypass valves fail closed.**

2.	Acknowledges annunciator 34AR-603-219-2, APRM Upscale AND 34AR-603-238-2, Rod Out Block	At panel 2H11-P603, the operator recognizes that reactor power is increasing on the APRMs and a Rod Out block has occurred.	

NOTE: 30AC-OPS-003-0, PLANT OPERATIONS, step 8.5.4.1.6 directs the reactor operator to:

> "Manually align, start, or initiate any automatically actuated system equipment, signal, or function that has indication of a start failure or incomplete initiation so that it will perform its intended function unless operation would create a condition that would not mitigate a transient."

NOTE: 34AR-603-210-2, APRM/OPRM Trip states:

> "IF more than one APRM/OPRM instrument indicates an APRM tripped or inop condition, OR an OPRM tripped condition, confirm that a full reactor scram has occurred AND enter 34AB-C71-001-1, Scram Procedure."

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
3.	Manually insert a scram in the "B" channel of RPS.	At panel 2H11-P603, REACTOR "B" channel SCRAM PUSHBUTTONS are depressed OR The Reactor Mode Switch is placed in "Shutdown" Within 3 minutes of two or more APRMs exceeding the Trip setpoint. (Note: two APRMs exceeded the Trip setpoint when the "A" RPS de-energized.)	
****4**	Place Mode Switch to Shutdown.	On panel 2E11-P603 places the reactor mode switch to shutdown.	
5.	Perform Immediate operator actions of 34AB-C71-001-2, Scram Procedure.	The operator notifies the SS that RPS failed to automatically scram and that a manual scram has been inserted.	

NOTE: The task is to insert a full scram and to notify the SS. Once this is done inform the operator that another operator will take over RC-1 actions and that this completes the JPM.

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- The task is complete.

TERMINATING CUE: That Completes this JPM.

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A normal plant startup is in progress per 34GO-OPS-001-2, "Plant Startup"
2. A pre-job brief is in progress in the Shift Manager's office for the crew that will transfer the Reactor Mode Switch to Run.
3. You are the only Operator on Unit 2 while the brief is in progress.

INITIATING CUES:

Monitor Unit 2 Control Room Front Panels and respond to any changing plant conditions.

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Operations Training
JPM

IP 11, RO, SRO-I, SRO-U

TITLE		
FROM OUTSIDE THE CONTROL ROOM, INSERT A MANUAL REACTOR SCRAM USING THE SCRAM DISCHARGE VOLUME LEVEL SWITCHES		
AUTHOR	**MEDIA NUMBER**	**TIME**
R. A. BELCHER	LR-JP-10.18-14	8.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

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FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-10.18**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
01	06/30/89	General revision and format change	JEM	SMC
02	08/07/89	Add LR lesson plan references	JEM	DHG
03	07/23/90	Format revision	JEM	DHG
04	04/25/91	General revision and format change	CME	DHG
05	08/12/92	General revision and format change	WMM	SCB
06	08/27/93	General revision, change arrangement and number of critical steps, expand note explaining use of critical steps, word processor change	RAB	RSG
07	06/10/96	Format change	RAB	DHG
08	03/28/97	Changed cover page to reflect the minimum level at which this JPM is used to evaluate Task performance.	JGK	RSG
09	02/03/00	Format modification, change time allowance based on running average	RAB	DHG
10	10/31/00	Include objective number	RAB	DHG
11	02/27/02	Include initial operator statement	RAB	RAB
12	06/01/05	Deleted "S" from procedure numbers, changed Revision and Rev. numbers to "Current Version," added PROMPT after step #4 on U2 JPM to agree with procedure, Revised Initial License statement for successful completion	BEB RAB	RAB
13	04/06/06	Remove Response Cues	RAB	RAB
14		Update KA information, critical steps	DHG	

UNIT 1 (X) UNIT 2 (X)

TASK TITLE: **FROM OUTSIDE THE CONTROL ROOM, INSERT A MANUAL REACTOR SCRAM USING THE SCRAM DISCHARGE VOLUME LEVEL SWITCHES**

JPM NUMBER: LR-JP-10.18-14

TASK STANDARD: The task shall be completed when the operator has tripped at least one Scram Discharge Volume level switch in both RPS channels per 31RS-OPS-001.

TASK NUMBER: 010.018

OBJECTIVE NUMBER: 010.018.O

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.80

SRO Not Available

K/A CATALOG NUMBER: 295016G006, 295006 AA1.06

K/A CATALOG JTA IMPORTANCE RATING:

RO 4.10, 3.5

SRO 4.10, 3.6

OPERATOR APPLICABILITY: Systems Operator (SO)

GENERAL REFERENCES:	Unit 1	Unit 2
	31RS-OPS-001-1 (current version)	31RS-OPS-001-2 (current version)

REQUIRED MATERIALS:	Unit 1	Unit 2
	31RS-OPS-001-1 (current version)	31RS-OPS-001-2 (current version)

APPROXIMATE COMPLETION TIME: 8.0 Minutes

SIMULATOR SETUP: N/A

INSTRUCTOR COPY

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A condition has occurred which required the Control Room to be evacuated.
2. The Reactor is NOT shutdown.
3. 31RS-OPS-001-1, SHUTDOWN FROM OUTSIDE CONTROL ROOM, is in progress.

INITIATING CUES:

Insert a scram using the Scram Discharge Volume Level Switches.

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.

START TIME:_____

1.	Operator identifies the procedure needed to perform the task.	Operator has identified the correct procedure as 31RS-OPS-001-1.	
2.	Operator identifies the materials that are required.	Operator has identified the required materials and where to obtain them. The only tool needed is a screwdriver, located in the gang box near the North 130' elev personnel airlock. The applicant can unlock the cabinet or break the lock, (fire lock) to retrieve the tool.	

NOTE: It is the intent of the procedure and JPM for all four level switches to be tripped. However, tripping one level switch on "A" side of RPS and one switch on "B" side of RPS will successfully complete the task. The operator should remove the cover from A & B (C & D), trip the switches and then proceed to the other set of switches. The order in which the level switches are tripped is NOT critical.

****3.**	Remove the covers from SDV level switches: 1C11-N013A **AND/OR** 1C11-N013C	At location 139RER11, the cover is REMOVED from SDV level switch **1C11-N013A**, **AND/OR** At location 139RER03, the cover is REMOVED from SDV level switch **1C11-N013C**.	

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**4.	Remove the covers from SDV level switches: 1C11-N013B **AND/OR** 1C11-N013D	At location 139RER11, the cover is REMOVED from SDV level switch **1C11-N013B**, **AND/OR** At location 139RER03, the cover is REMOVED from SDV level switch **1C11-N013D**.	
**5.	Trip SDV level switches: 1C11-N013A **AND/OR** 1C11-N013C	At location 139RER11, SDV level switch **1C11-N013A** is TRIPPED, **AND/OR** At location 139RER03, SDV level switch **1C11-N013C** is TRIPPED.	
**6.	Trip SDV level switches: 1C11-N013B **AND/OR** 1C11-N013D	At location 139RER11, SDV level switch **1C11-N013B** is TRIPPED, **AND/OR** At location 139RER03, SDV level switch **1C11-N013D** is TRIPPED.	

END TIME:_____

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

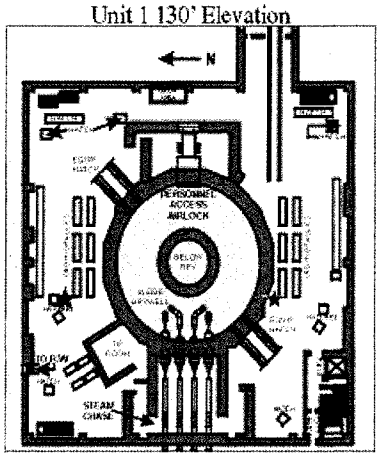
- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That Completes this JPM.

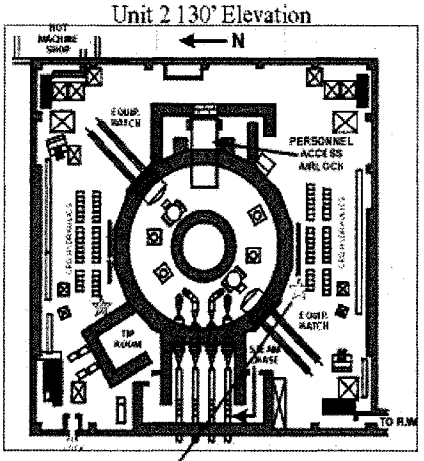
(Indicates critical step)**

JPM 010.018	Outside the MCR Insert a Rx Scram w/SDV Lvl Switches	Page 1 of 1

Unit 1 130' Elevation



Unit 2 130' Elevation

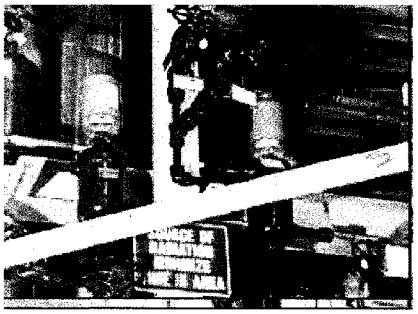


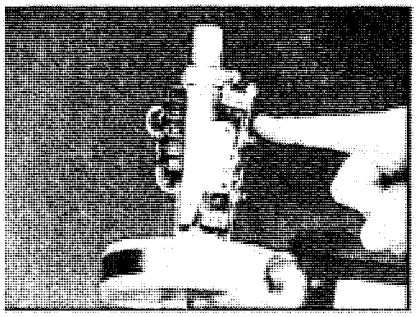
★ 1C11-N013C & D

★ 1C11-N013A & B

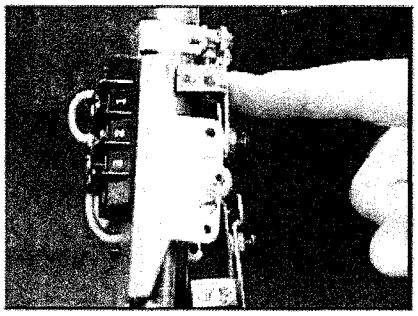
★ 2C11-N013A & B

☆ 2C11-N013C & D





Switch Not Depressed



Switch Depressed

1. Remove Covers & TRIP SDV switches
   C11-N013A & B AND/OR C11-N013C & D.

(Indicates critical step)**

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A condition has occurred which required the Control Room to be evacuated.
2. The Reactor is NOT shutdown.
3. 31RS-OPS-001-1, SHUTDOWN FROM OUTSIDE CONTROL ROOM, is in progress.

INITIATING CUES:

Insert a scram using the Scram Discharge Volume Level Switches.

(Indicates critical step)**

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
ALTERNATE PATH JPM

IP 9, RO, SRO –I, SRO-U

TITLE		
LOCALLY START A DIESEL GENERATOR USING THE AIR START OVERRIDE		
AUTHOR	**MEDIA NUMBER**	**TIME**
R. A. BELCHER	LR-JP-28.24-10	17.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

SOUTHERN COMPANY

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SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-28.24**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	06/22/95	Initial development	RAB	SMC
01	07/23/96	Format change, modify time allowance	RAB	DHG
02	04/11/97	Revised based on feedback from the 1996 Requal annual exam.	SCB	DHG
03	02/25/00	Format modification, change time allowance based on running average, update K/As	RAB	DHG
04	11/02/00	Correct second prompt following Step 2, include objective number	RAB	DHG
05	03/11/02	Include initial operator statement	RAB	RAB
06	03/08/05	Documentum revision	DNM	RAB
07	05/27/05	Revised Initial License statement for successful completion	RAB	RAB
08	04/19/06	Remove Response Cues	RAB	RAB
09	05/19/07	Clarify the initiating cue	DHG	RAB
10		Update KA information and critical steps	DHG	

UNIT 1 (X) UNIT 2 (X)

TASK TITLE: **LOCALLY START A DIESEL GENERATOR USING THE AIR START OVERRIDE**

JPM NUMBER: LR-JP-28.24-10

TASK STANDARD: The task shall be completed when the operator has successfully locally started an Emergency Diesel Generator per 34AB-R43-001.

TASK NUMBER: 028.024

OBJECTIVE NUMBER: 028.024.O

TYPE ALTERNATE PATH

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.86

SRO 3.00

K/A CATALOG NUMBER: 2640002130, 264000 A2 09

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.90, 3.7

SRO 3.40, 4.1

OPERATOR APPLICABILITY: System Operator (SO)

GENERAL REFERENCES:	**Unit 2**
	34AB-R43-001-2 (current version) 31RS-OPS-002-2 (current version)

REQUIRED MATERIALS:	**Unit 2**
	34AB-R43-001-2 (current version)

APPROXIMATE COMPLETION TIME: 17.0 Minutes

SIMULATOR SETUP: N/A

(Indicates critical step)**

INSTRUCTOR COPY

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A control room evacuation has occurred due to an inadvertent initiation of CO2 in the cable spreading room with leakage into the control room.
2. Simultaneously a loss of normal and alternate power has occurred to Bus "2E" with a failure of its associated Diesel Generator to auto start.
3. The normal and alternate supply breakers for Bus "2E" are open.
4. 31RS-OPS-002-2 (Electrical Restoration) is in progress due to a Control Room evacuation.
5. Other operators are taking the actions for D/G "2C".

INITIATING CUES:

Manually start the "2A" Emergency Diesel Generator locally using 34AB-R43-001-2, "DIESEL GENERATOR RECOVERY."

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.

START TIME:_____

NOTE: This task starts at step 4.1.6 of 34AB-R43-001-2. The applicant will need to skip several steps to get to step 4.1.6.

1.	Operator identifies the procedure needed to perform the task.	Operator has identified the correct procedure as 34AB-R43-001-2 and determines that the task begins at step 4.1.6..	

PROMPT: **WHEN the operator addresses Control Power lights, INDICATE for the operator that they are EXTINGUISHED.**

2.	Confirm Control Power ON lights for Circuits 1 through 4 are illuminated.	At panel 2R43-P003A, the operator observes CONTROL POWER ON CIRCUIT lights and determines they are **NOT** illuminated for Circuits 1 through 4.	
3.	Evaluates what effect the lack of control power will have on starting the diesel.	Diagnoses that the diesel will not start using the electrical system and starting air must be manually applied to the diesel.	
4.	Attempts to restore control power.	At 125VDC Cab 2D, 2R25-S004 the applicant checks breakers 6, 10, 18 which are open. Applicant closes each breaker but when closed the breaker immediately re-opens.	

PROMPT: As the operator closes the each breaker, indicate that the breakers are tripping to OFF as soon as they are closed.

PROMPT: **WHEN** the operator addresses restoring Control Power, **INFORM** the applicant that **another** operator will begin investigating the problem with Control Power and for the applicant to continue with steps to get the diesel started.

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

NOTE: Two DC powered air start solenoid pilot valves that are normally de-energized supply air to their respective air start control valve holding it closed. The air start control valves isolate starting air from the air start distributor and air start check valves.

The air start solenoid pilot valves energize upon receipt of a diesel generator start signal (either automatic or manual). This action isolates control air and vents the operator of the air start control valves allowing starting air to open the valves.

A local manual lever type valve can be used to perform the same function on one of the air start solenoid pilot valves. This allows a manual start of a diesel generator with a loss of control power or failure of the solenoid actuators on the air start solenoid pilot valves.

**5.	Manually start the Diesel with the Air Start Manual Override Lever.	On the Diesel skid near the Air Start Solenoids, the operator USES 2R43-F099A, AIR START MANUAL OVERRIDE LEVER, TO START the Diesel Generator.	

PROMPT: If the previous steps were performed successfully and the applicant request information concerning whether the diesel started, REPLY that you heard the air system actuate and hear engine noise.

PROMPT: **WHEN** the operator addresses Diesel speed, **INDICATE** for the operator that Diesel speed is 900 rpm.

6.	Confirm the Diesel Generator "2A" comes up to rated speed.	At panel 2R43-P003A, the operator VERIFIES Diesel Generator "2"A speed indicates 900 rpm on meter ENGINE RPM 2R43-R024A (accept ±50 rpm).	

PROMPT: **WHEN** the operator addresses generator voltage, **INDICATE** for the operator that voltage is 4160 volts.

7.	Confirm generator voltage comes up to rated voltage (4160 volts).	At panel 2R43-P001A, the operator VERIFIES generator voltage is at rated voltage 4160 volts (accept 4100 to 4400 volts).	

Note: Once the operator completes the above step inform the operator the JPM is complete.

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That completes this JPM..

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. A control room evacuation has occurred due to an inadvertent initiation of CO2 in the cable spreading room with leakage into the control room.
2. Simultaneously a loss of normal and alternate power has occurred to Bus "2E" with a failure of its associated Diesel Generator to auto start.
3. The normal and alternate supply breakers for Bus "2E" are open.
4. 31RS-OPS-002-2 (Electrical Restoration) is in progress due to a Control Room evacuation.
5. Other operators are taking the actions for D/G "2C".

INITIATING CUES:

Manually start the "2A" Emergency Diesel Generator locally using 34AB-R43-001-2, "DIESEL GENERATOR RECOVERY."

Replace with 34AB-R43-001-2, "DIESEL GENERATOR RECOVERY.

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

IP 10, RO, SRO-I

TITLE		
ALIGN EMERGENCY NITROGEN TO DRYWELL PNEUMATICS		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVE GIDDENS	LR-JP-25028-08	16.0 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R	APPROVED FOR NRC EXAM	11/19/07

SOUTHERN COMPANY

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SOUTHERN NUCLEAR OPERATING COMPANY
PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-25028**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00	11/20/97	Initial development as a result of PRA vs training analysis.	SCB	RSG
01	02/11/98	Revised typographical errors.	SCB	DHG
02	01/20/99	Revised based on evaluator comments.	SCB	DHG
03	03/20/00	Format modification, change time allowance based on running average	RAB	DHG
04	11/03/00	Include objective number	RAB	DHG
05	03/19/02	Incorporate ADY comment, correct Nitrogen pressure readings to agree with procedural requirement, add step to review the procedure, include initial operator statement	RAB	RAB
06	02/24/05	Changed procedure numbers and corrected step reference in initial conditions section of page 2 and 5.	TFP	DHG
07	06/27/05	Revised Initial License statement for successful completion	RAB	RAB
08	06/23/06	Remove Response Cues,.	RAB	RAB
09		delete reference to a fire	DHG	

UNIT 1 (X) UNIT 2 (X)

TASK TITLE: **ALIGN EMERGENCY NITROGEN TO DRYWELL PNEUMATICS**

JPM NUMBER: LR-JP-25028-08

TASK STANDARD: The task shall be complete when the operator aligns the Emergency Nitrogen Bottles in the Reactor Building to the Drywell Pneumatic System.

TASK NUMBER: 042.005

OBJECTIVE NUMBER: 042.005.O

PLANT HATCH JTA IMPORTANCE RATING:

RO 2.86

SRO Not Available

K/A CATALOG NUMBER: 223001A411, 295019 AA1.01

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.10, 3.5

SRO 3.00, 3.3

OPERATOR APPLICABILITY: Systems Operator (SO)

GENERAL REFERENCES:	**Unit 1**
	34SO-P70-001-1 (current versions)

REQUIRED MATERIALS:	**Unit 1**
	34SO-P70-001-1 (current version)

APPROXIMATE COMPLETION TIME: 16.0 Minutes

SIMULATOR SETUP: N/A

INSTRUCTOR COPY

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 1 has experienced a loss of the Nitrogen system.
2. The SS has decided to transfer the SRV pneumatic system to the emergency N2 bottles.

INITIATING CUES:

Align Nitrogen to SRVs from emergency temporary Nitrogen bottles per 34SO-P70-001-1.

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.

START TIME:_____

1.	Operator reviews the procedure.	The Operator REVIEWS the procedure.	

PROMPT: **WHEN** addressed by the operator, as the Shift Supervisor, **INFORM** the operator that 1P70-F004 and 1P70-F066 have been verified in the closed position on the 1H11-P700 panel.

NOTE: 1P70-A002A is on top of the Nitrogen bottle.

****2.**	Open Emergency Nitrogen bottle 1P70-A002A outlet valve 1P70-F138A.	On elev. 130RLR09, Nitrogen Bottle outlet valve 1P70-F138A handwheel is TURNED counter clockwise until it stops.	
3.	Confirm correct Nitrogen pressure on 1P70-PCV-F140.	At 130RLR09, the operator CONFIRMS 1P70-PCV-140 indicates between 100-110 psig.	

PROMPT: **WHEN** addressed by the operator, indicate that 1P70-PCV-140 indicates between 100-110 psig.

****4.**	Open Emergency Nitrogen supply header inboard isolation, 1P70-F141.	At 130RLR09, the operator TURNS 1P70-F141, Emergency Nitrogen Supply Header Inboard Isolation valve, parallel with the pipe.	
****5.**	Open Emergency Nitrogen supply isolation, 1P70-F084.	At 130RLR09, the operator TURNS 1P70-F084, Emergency Nitrogen Supply Header Inboard Isolation valve, counter clockwise until it stops.	

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
6.	Confirm and monitor correct Nitrogen pressure on 1P70-PCV-F140.	At 130RLR09, the operator CONFIRMS 1P70-PCV-140 indicates between 100-110 psig.	

PROMPT: **WHEN** addressed by the operator, indicate that 1P70-PCV-140 indicates between 100-110 psig.

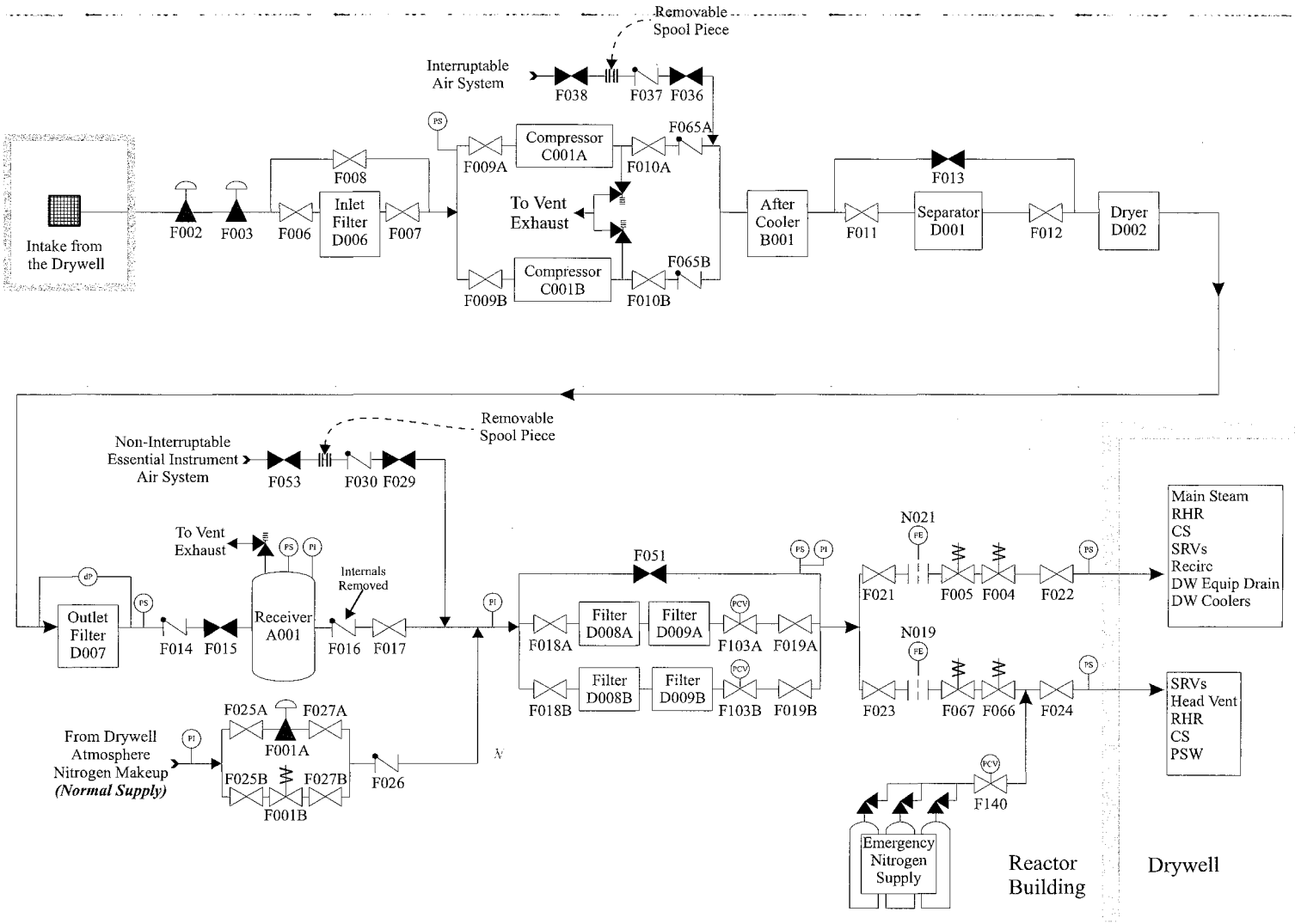
PROMPT: **INFORM** the operator that another operator will continuously monitor nitrogen pressure and replace bottles as necessary.

END TIME:_____

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

- With no reasonable progress, the operator exceeds double the allotted time.
- Operator states the task is complete.

TERMINATING CUE: That Completes this JPM.



Drywell Pneumatics

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 1 has experienced a loss of the Nitrogen system.
2. The SS has decided to transfer the SRV pneumatic system to the emergency N2 bottles.

INITIATING CUES:

Align Nitrogen to SRVs from emergency temporary Nitrogen bottles per 34SO-P70-001-1.