DRAFT

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training

Admin 1, RO, SRO-I

TITLE		
ELECTRICAL SAFETY REQUIREMENTS		
AUTHOR	**MEDIA NUMBER**	**TIME**
D. H. GIDDENS	LR-JP-10025-00	20 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R		

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-10025**

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

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE:	**ELECTRICAL SAFETY REQUIREMENTS**
JPM NUMBER:	LR-JP-10025-00
TASK STANDARD:	The task shall be completed when the candidate has determined the additional Personal Protective Equipment (PPE) to be worn and boundaries established IAW NMP-SH-003.
TASK NUMBER:	N/A
OBJECTIVE NUMBER:	N/A

PLANT HATCH JTA IMPORTANCE RATING:

RO N/A

SRO N/A

K/A CATALOG NUMBER: G 2.1.26

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.4

SRO 3.6

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 1**
	H-13370 NMP-SH-003, Electrical Work Practices

REQUIRED MATERIALS:	**Unit 1**
	H-13370 NMP-SH-003, Electrical Work Practices

APPROXIMATE COMPLETION TIME: 20 Minutes

SIMULATOR SETUP: NA

UNIT 1

READ AND GIVE A COPY TO THE OPERATOR

INITIAL CONDITIONS:

1. Maintenance is to work on MCC-1B, 1R24-S022
2. The feeder breaker for this MCC will need to be racked out.
3. The feeder breaker is located on 1R22-S017.
4. The bus is shown on single line diagram H-13370 which is available as a reference.
5. The following is required for all workers in the area:
   - Hard Hat
   - Safety Glasses
   - Hearing Protection
   - Natural Fiber Clothing

INITIATING CUES:

- Determine the additional Personal Protective Equipment (PPE) to be worn AND the minimum boundaries required to be established IAW NMP-SH-003.

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: Provide the operator with H-13370 and NMP-SH-003.

START TIME:_____

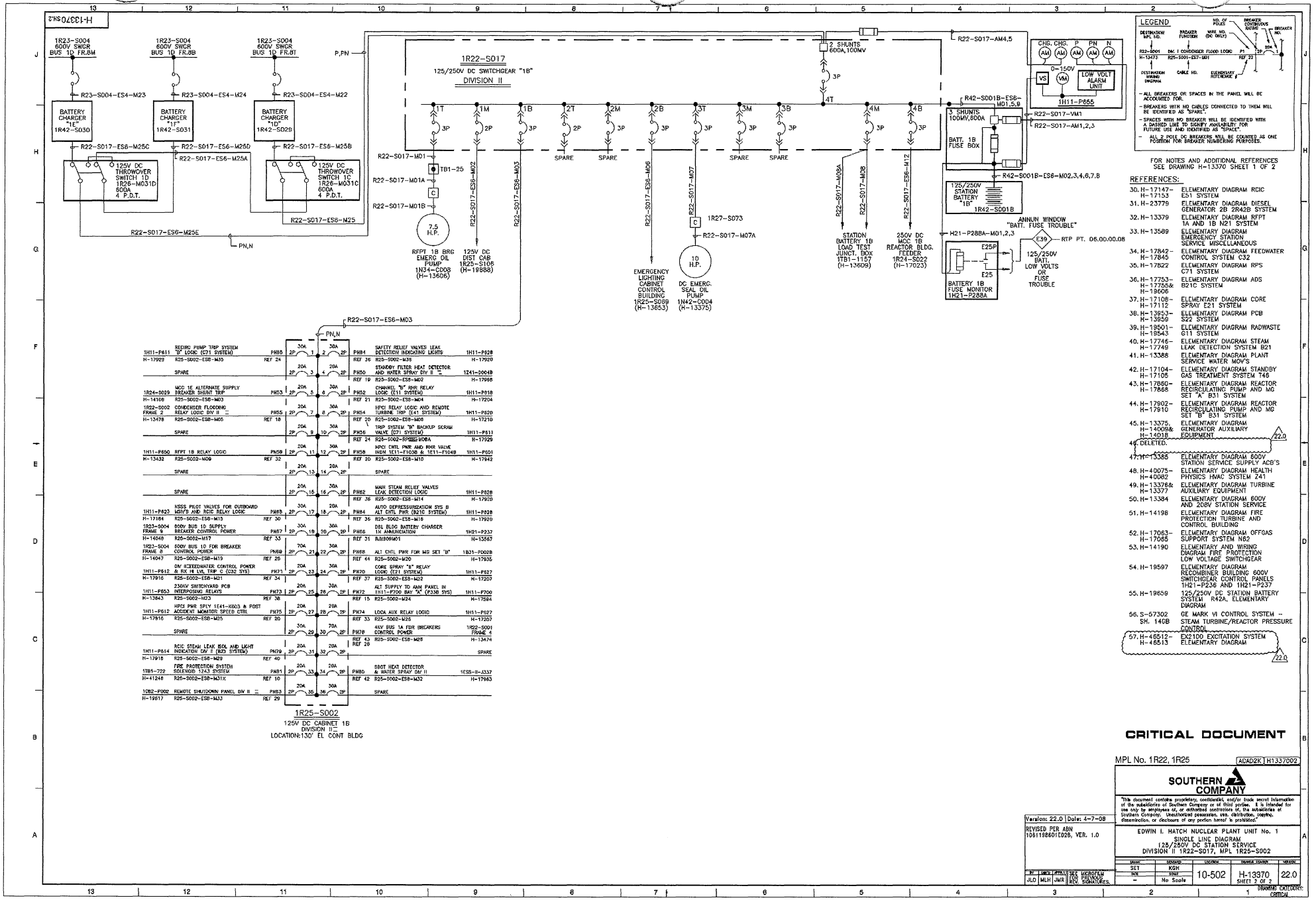
1.	Candidate obtains the procedure needed to perform the task.	Operator has obtained procedure NMP-SH-003 and Single line H-13370.	SAT / UNSAT
2.	Selects the appropriate matrix from attachment 1 of NMP-SH-003.	Selects "Station Battery Maintenance and Breaker Operation 50 to 300 VDC" matrix from attachment 1 of NMP-SH-003.	SAT / UNSAT
****3.**	Reviews Note C to see if glove requirements apply.	Determines leather or gauntlet gloves are required.	SAT / UNSAT
****4.**	Reviews Arc-Resistant Face Shield to see if requirements apply.	Determines the answer is "Yes."	SAT / UNSAT
****5.**	Reviews 20 Cal Arc Gear to see if requirements apply.	Determines the answer is "Yes."	SAT / UNSAT
6.	Reviews Prohibited Approach Boundary to see if requirements apply.	Determines the answer is "No."	SAT / UNSAT
****7.**	Reviews Restricted Approach Boundary to see if requirements apply.	Determines the answer is "Yes." Avoid Contact.	SAT / UNSAT
****8.**	Reviews Limited Approach Boundary to see if requirements apply.	Determines the answer is "Yes." The distance is 3 feet 6 inches.	SAT / UNSAT
****9.**	Reviews Flash Protection Boundary to see if requirements apply.	Determines the answer is "Yes." The distance is 10 feet.	SAT / UNSAT

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.


H-13370Sh2
1R23-S004 600V SWGR BUS 1D FR.8M
1R23-S004 600V SWGR BUS 1D FR.8B
1R23-S004 600V SWGR BUS 1D FR.8T
P,PN
BATTERY CHARGER "1E" 1R42-S030
BATTERY CHARGER "1F" 1R42-S031
BATTERY CHARGER "1D" 1R42-S029
R23-S004-ES4-M23
R23-S004-ES4-M24
R23-S004-ES4-M22
R22-S017-ES6-M25C
R22-S017-ES6-M25D
R22-S017-ES6-M25A
R22-S017-ES6-M25B
125V DC THROWOVER SWITCH 1D 1R26-M031D 600A 4 P.D.T.
125V DC THROWOVER SWITCH 1C 1R26-M031C 600A 4 P.D.T.
R22-S017-ES6-M25
R22-S017-ES6-M25E
PN,N
1R22-S017
125/250V DC SWITCHGEAR "1B"
DIVISION II
2 SHUNTS 600A,100MV
R22-S017-AM4,5
1T
1M
1B
2T
2M
2B
3T
3M
3B
4T
4M
4B
3P
2P
SPARE
R22-S017-M01
TB1-25
R22-S017-M01A
R22-S017-M01B
7.5 H.P.
RFPT 1B BRG EMERG OIL PUMP 1N34-C008 (H-13606)
125V DC DIST CAB 1R25-S106 (H-19888)
R22-S017-ES6-M02
R22-S017-ES6-M03
R22-S017-ES6-M06
R22-S017-M07
1R27-S073
R22-S017-M07A
10 H.P.
DC EMERG. SEAL OIL PUMP 1N42-C004 (H-13375)
EMERGENCY LIGHTING CABINET CONTROL BUILDING 1R25-S089 (H-13653)
R22-S017-M08A
R22-S017-M08
STATION BATTERY 1B LOAD TEST JUNCT. BOX 1TB1-1157 (H-13609)
R22-S017-ES6-M12
250V DC MCC 1B REACTOR BLDG. FEEDER 1R24-S022 (H-17023)
CHG. CHG. P PN N
0-150V
LOW VOLT ALARM UNIT
1H11-P855
R22-S017-VM1
R22-S017-AM1,2,3
3 SHUNTS 100MV,800A
R42-S001B-ES6-M01,5,8
BATT. 1B FUSE BOX
R42-S001B-ES6-M02,3,4,6,7,8
125/250V STATION BATTERY "1B" 1R42-S001B
H21-P288A-M01,2,3
E25P
E25
BATTERY 1B FUSE MONITOR 1H21-P288A
ANNUN WINDOW "BATT. FUSE TROUBLE"
E39
RTP PT. 06.00.00.08
125/250V BATT. LOW VOLTS OR FUSE TROUBLE
R22-S017-M03
PN,N
1H11-P611 REDRG PUMP TRIP SYSTEM "B" LOGIC (C71 SYSTEM) PM85 H-17929 R25-S002-ES8-M35 REF 24
PM84 REF 36 R25-S002-M38 SAFETY RELIEF VALVES LEAK DETECTION INDICATING LIGHTS 1H11-P828 H-17920
SPARE
PM50 REF 19 R25-S002-ES8-M02 STANDBY FILTER HEAT DETECTOR AND WATER SPRAY DIV II 1241-D004B H-17968
1R24-S029 MCC 1E ALTERNATE SUPPLY BREAKER SHUNT TRP PM53 H-14106 R25-S002-ES8-M03
PM52 REF 21 R25-S002-ES8-M04 CHANNEL "B" RHR RELAY LOGIC (E11 SYSTEM) 1H11-P818 H-17204
1R22-D002 CONDENSER FLOODING RELAY LOGIC DIV II PM55 H-13478 R25-S002-ES8-M05 REF 18
PM54 REF 20 R25-S002-ES8-M06 HPCI RELAY LOGIC AND REMOTE TURBINE TRIP (E41 SYSTEM) 1H11-P820 H-17210
SPARE
PM56 REF 24 R25-S002-RPMEE-M08A TRIP SYSTEM "B" BACKUP SCRAM VALVE (C71 SYSTEM) 1H11-P811 H-17929
1H11-P650 RFPT 1B RELAY LOGIC PM58 H-13432 R25-S002-M09 REF 32
PM58 REF 20 R25-S002-ES8-M10 HPCI CNTL PWR AND RHR VALVE INDN 1E11-F103B & 1E11-F104B 1H11-P601 H-17942
SPARE
SPARE
PM62 REF 38 R25-S002-ES8-M14 MAIN STEAM RELIEF VALVES LEAK DETECTION LOGIC 1H11-P828 H-17920
1H11-P623 NSSS PILOT VALVES FOR OUTBOARD MSIV'S AND RCIC RELAY LOGIC PM83 H-17184 R25-S002-ES8-M15 REF 30
PM84 REF 36 R25-S002-ES8-M16 AUTO DEPRESSURIZATION SYS B ALT CNTL PWR (B21C SYSTEM) 1H11-P828 H-17920
1R23-S004 FRAME 9 600V BUS 1D SUPPLY BREAKER CONTROL POWER PM87 H-14048 R25-S002-M17 REF 33
PM88 REF 31 RJX0069M01 DBL BLDG BATTERY CHARGER 1H ANNUNCIATION 1H21-P237 H-13567
1R23-S004 FRAME 8 600V BUS 1D FOR BREAKER CONTROL PWRDR PM89 H-14047 R25-S002-ES8-M19 REF 25
PM88 REF 44 R25-S002-M20 ALT CNTL PWR FOR MG SET "B" 1B31-P002B H-17935
1H11-P612 DIV II FEEDWATER CONTROL POWER & RX HI LVL TRIP C (C32 SYS) PM71 H-17916 R25-S002-ES8-M21 REF 34
PM70 REF 37 R25-S002-ES8-M22 CORE SPRAY "B" RELAY LOGIC (E21 SYSTEM) 1H11-P627 H-17207
1H11-P653 INTERPOSING RELAYS PM73 H-13843 R25-S002-M23 REF 38
PM72 REF 15 R25-S002-M24 230KV SWITCHYARD PCB ALT SUPPLY TO ANN PANEL IN 1H11-P700 BAY "A" (P338 SYS) 1H11-P700 H-17584
1H11-P612 ACCIDENT MONITOR SPEED CTRL PM75 H-17916 R25-S002-ES8-M25
PM74 REF 33 R25-S002-M25 HPCI PWR SPLY 1E41-K003 & POST LOCA AUX RELAY LOGIC 1H11-P627 H-17207
SPARE
PM78 REF 43 REF 28 R25-S002-ES8-M28 480V BUS 1A FOR BREAKERS CONTROL POWER 1R22-S001 FRAME 4 H-13474
1H11-P614 RCIC STEAM LEAK ISOL AND LIGHT INDICATION DIV II (B21 SYSTEM) PM79 H-17918 R25-S002-ES8-M29 REF 40
SPARE
1TB1-722 FIRE PROTECTION SYSTEM SOLENOID 12A3 SYSTEM PM81 H-41248 R25-S002-ES8-M31X REF 10
PM80 REF 42 R25-S002-ES8-M32 SBGT HEAT DETECTOR & WATER SPRAY DIV II 1ESS-II-A337 H-17963
1C82-P002 REMOTE SHUTDOWN PANEL DIV II PM83 H-19817 R25-S002-ES8-M33 REF 29
SPARE
1R25-S002
125V DC CABINET 1B
DIVISION II
LOCATION:130' EL CONT BLDG
LEGEND
DESTINATION WIRE NO. | BREAKER FUNCTION | WIRE NO. (DC ONLY) | NO. OF POLES | BREAKER CONTINUOUS RATING | BREAKER NO.
R22-S001 H-13472 | DIV. I CONDENSER FLOOD LOGIC | R25-S001-ES7-M01 | P1 | 2P | 30A | 1
DESTINATION WIRING DIAGRAM | CABLE NO. | ELEMENTARY REFERENCE # | REF 22
- ALL BREAKERS OR SPACES IN THE PANEL WILL BE ACCOUNTED FOR.
- BREAKERS WITH NO CABLES CONNECTED TO THEM WILL BE IDENTIFIED AS "SPARE".
- SPACES WITH NO BREAKER WILL BE IDENTIFIED WITH A DASHED LINE TO SIGNIFY AVAILABILITY FOR FUTURE USE AND IDENTIFIED AS "SPACE".
- ALL 2 POLE DC BREAKERS WILL BE COUNTED AS ONE POSITION FOR BREAKER NUMBERING PURPOSES.
FOR NOTES AND ADDITIONAL REFERENCES SEE DRAWING H-13370 SHEET 1 OF 2
REFERENCES:
30. H-17147 H-17153 ELEMENTARY DIAGRAM RCIC E51 SYSTEM
31. H-23779 ELEMENTARY DIAGRAM DIESEL GENERATOR 2B 2R42B SYSTEM
32. H-13379 ELEMENTARY DIAGRAM RFPT 1A AND 1B N21 SYSTEM
33. H-13589 ELEMENTARY DIAGRAM EMERGENCY STATION SERVICE MISCELLANEOUS
34. H-17842 H-17845 ELEMENTARY DIAGRAM FEEDWATER CONTROL SYSTEM C32
35. H-17822 ELEMENTARY DIAGRAM RPS C71 SYSTEM
36. H-17753 H-17756& H-19606 ELEMENTARY DIAGRAM ADS B21C SYSTEM
37. H-17108 H-17112 ELEMENTARY DIAGRAM CORE SPRAY E21 SYSTEM
38. H-13953 H-13959 ELEMENTARY DIAGRAM PCB S22 SYSTEM
39. H-19501 H-19543 ELEMENTARY DIAGRAM RADWASTE G11 SYSTEM
40. H-17746 H-17749 ELEMENTARY DIAGRAM STEAM LEAK DETECTION SYSTEM B21
41. H-13388 ELEMENTARY DIAGRAM PLANT SERVICE WATER MOV'S
42. H-17104 H-17105 ELEMENTARY DIAGRAM STANDBY GAS TREATMENT SYSTEM T46
43. H-17880 H-17868 ELEMENTARY DIAGRAM REACTOR RECIRCULATING PUMP AND MG SET "A" B31 SYSTEM
44. H-17902 H-17910 ELEMENTARY DIAGRAM REACTOR RECIRCULATING PUMP AND MG SET "B" B31 SYSTEM
45. H-13375, H-14009& H-14018 ELEMENTARY DIAGRAM GENERATOR AUXILIARY EQUIPMENT 22.0
46. DELETED.
47. H-13386 ELEMENTARY DIAGRAM 600V STATION SERVICE SUPPLY ACB'S
48. H-40075 H-40082 ELEMENTARY DIAGRAM HEALTH PHYSICS HVAC SYSTEM Z41
49. H-13376& H-13377 ELEMENTARY DIAGRAM TURBINE AUXILIARY EQUIPMENT
50. H-13384 ELEMENTARY DIAGRAM 600V AND 208V STATION SERVICE
51. H-14198 ELEMENTARY DIAGRAM FIRE PROTECTION TURBINE AND CONTROL BUILDING
52. H-17063 H-17085 ELEMENTARY DIAGRAM OFFGAS SUPPORT SYSTEM N62
53. H-14190 ELEMENTARY AND WIRING DIAGRAM FIRE PROTECTION LOW VOLTAGE SWITCHGEAR
54. H-19597 ELEMENTARY DIAGRAM RECOMBINER BUILDING 600V SWITCHGEAR CONTROL PANELS 1H21-P236 AND 1H21-P237
55. H-19859 125/250V DC STATION BATTERY SYSTEM R42A, ELEMENTARY DIAGRAM
56. S-57302 SH. 140B GE MARK VI CONTROL SYSTEM - STEAM TURBINE/REACTOR PRESSURE CONTROL
57. H-46512 H-46513 EX2100 EXCITATION SYSTEM ELEMENTARY DIAGRAM 22.0
CRITICAL DOCUMENT
MPL No. 1R22, 1R25
ACAD2K H1337002
SOUTHERN COMPANY
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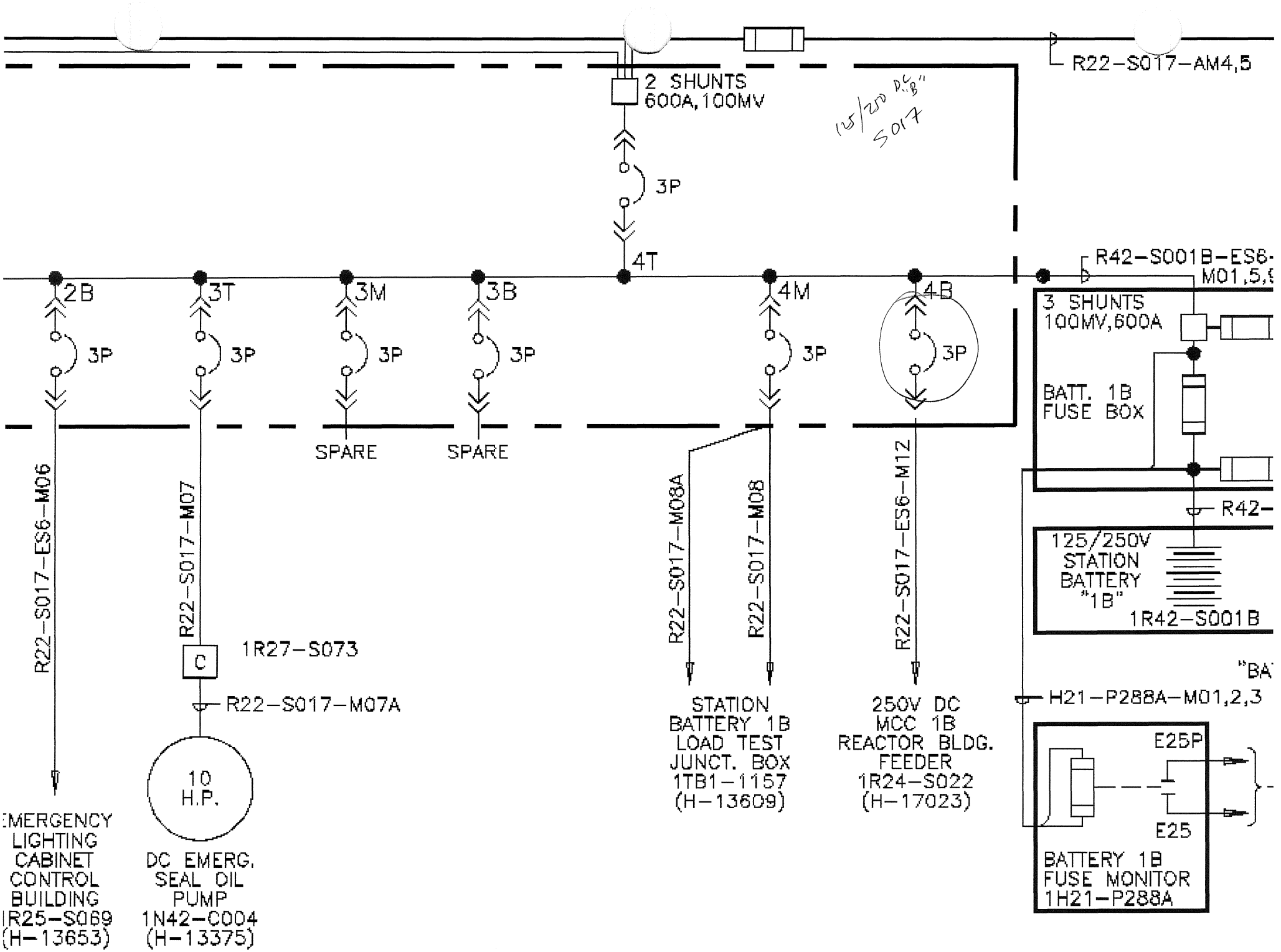
Version: 22.0 | Date: 4-7-08
REVISED PER ABN 1051198601E028, VER. 1.0
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 1
SINGLE LINE DIAGRAM
125/250V DC STATION SERVICE
DIVISION II 1R22-S017, MPL 1R25-S002
DRAWN SET | DESIGNED KGH | LOCATION 10-502 | DRAWING NUMBER H-13370 SHEET 2 OF 2 | VERSION 22.0
BY JLO | CHECK MLH | APPR'L JMR | SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.
DATE - | SCALE No Scale
DRAWING CATEGORY: CRITICAL


R22-S017-AM4,5
2 SHUNTS
600A, 100MV
125/250 DC "B"
S017
3P
4T
R42-S001B-ES6-
M01,5,
2B
3T
3M
3B
4M
4B
3P
3P
3P
3P
3P
3P
3 SHUNTS
100MV, 600A
BATT. 1B
FUSE BOX
R42-
125/250V
STATION
BATTERY
"1B"
1R42-S001B
SPARE
SPARE
R22-S017-ES6-M06
R22-S017-M07
R22-S017-M08A
R22-S017-M08
R22-S017-ES6-M12
C
1R27-S073
R22-S017-M07A
"BA
H21-P288A-M01,2,3
10
H.P.
STATION
BATTERY 1B
LOAD TEST
JUNCT. BOX
1TB1-1157
(H-13609)
250V DC
MCC 1B
REACTOR BLDG.
FEEDER
1R24-S022
(H-17023)
E25P
E25
BATTERY 1B
FUSE MONITOR
1H21-P288A
EMERGENCY
LIGHTING
CABINET
CONTROL
BUILDING
R25-S069
(H-13653)
DC EMERG.
SEAL OIL
PUMP
1N42-C004
(H-13375)

Reference Use

Attachment 2 - Approach Boundaries – Page 1 of 2

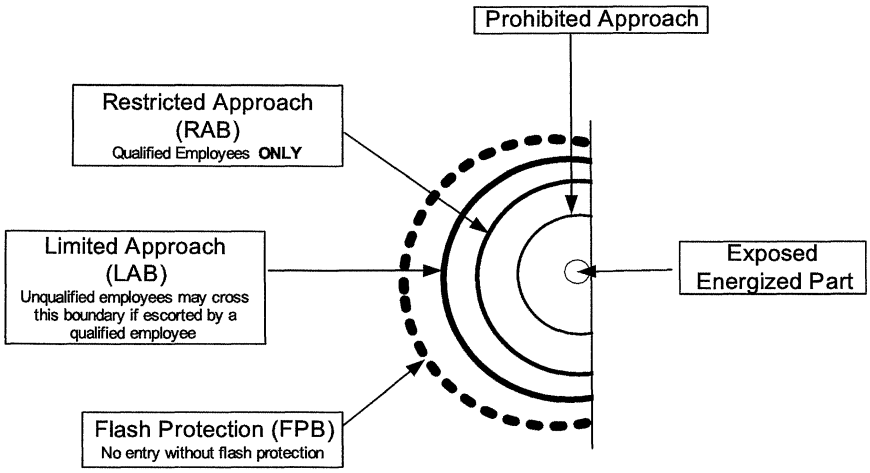


TABLE 1
ELECTRICAL CONTACT (SHOCK) PROTECTION BOUNDARIES

APPROACH BOUNDARIES FOR ALL HAZARD LEVELS (Need not be physically identified)			
VOLTAGE	**PROHIBITED APPROACH BOUNDARY**	**RESTRICTED APPROACH BOUNDARY**	**LIMITED APPROACH BOUNDARY**
Less Than 50	N/A	N/A	N/A
50 – 276	AVOID CONTACT	AVOID CONTACT	3 FEET 6 INCHES
277 – 750	0 FEET 1 INCH	1 FOOT	3 FEET 6 INCHES
751 – 15 kV	0 FEET 7 INCH	2 FEET 2 INCHES	5 FEET

TABLE 2
FLASH PROTECTION BOUNDARIES FOR WORK ON OR NEAR EXPOSED ENERGIZED PARTS

FLASH PROTECTION BOUNDARIES (*To be physically identified when ≥ 480 VAC or racking breakers)		
VOLTAGE	**TASK**	**DISTANCE**
125 – 250 VDC	ANY	10 FEET
≤ 276 VAC	ANY	3 FEET 6 INCHES
277 – 600 VAC	ANY	*10 FEET
Greater than 600 VAC	ANY	*20 FEET

NOTES:
1. **Flash protection boundaries encompass restricted and limited approach boundaries as depicted.**
2. **Specified distances are minimum distances.**
3. **Flash protection boundaries may be less than specified if work is to performed adjacent to a physical barrier such as a wall.**
4. **In instances where any boundary can not be established as specified due to equipment location/close proximity, alternate methods for providing boundaries shall be determined and established via Attachment 3, Electrical Safety Checklist.**

Sheet 7 of 11

Reference Use

Attachment 1 - Electrical PPE Job Safety Matrix

NOTE: Task assumes equipment is ENERGIZED and work is performed within the Flash Protection Boundary.

STATION BATTERY MAINTENANCE AND BREAKER OPERATION 50 to 300 VDC

Definitions X = Required	Voltage Rated Gloves	Arc-Resistant Face Shield	20 Cal Arc gear	Prohibited Approach Boundary	Restricted Approach Boundary	Limited Approach Boundary	Flash Protection Boundary
Battery Maintenance (Chemical protection and face shield required when handling electrolyte	Note A			NOTE B	NOTE B	NOTE B	
Racking 125 VDC and 250 VDC switchgear breakers.	Note C	X	X		Attachment 2 Table 1	Attachment 2 Table 1	Attachment 2 Table 2
Breaker operation with covers on	Note A				Attachment 2 Table 1	Attachment 2 Table 1	

NOTES

A. When working on exposed ENERGIZED parts (>) 50 VAC/VDC and (<) 277 VAC/160 VDC, voltage rated gloves and/or insulated tools are required. However, voltage rated gloves shall be worn when working on exposed ENERGIZED parts at a voltage (>) 277 VAC/160 VDC.
B. The approach distance shall not apply to work performed by a qualified employee in the battery working zone.
C. As a minimum leather gloves or gauntlet gloves are required to be worn, however, voltage rated gloves are not required.

DRAFT

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM
Admin 2, RO, SRO-I

TITLE		
ECCS STATUS CHECK		
AUTHOR	**MEDIA NUMBER**	**TIME**
F.N.FAGAN	LR-JP-007.15-00	15 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R		

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-007.15-00

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00		Initial development	FNF	

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE:	PERFORM A VALVE POSITION VERIFICATION OF THE SYSTEM
JPM NUMBER:	LR-JP-007.15-00
TASK STANDARD:	The task shall be complete when the operator has closed the open valve and documented the as-found condition.
TASK NUMBER:	H-OPRO007.015
OBJECTIVE NUMBER:	H-OP007.015.A

PLANT HATCH JTA IMPORTANCE RATING:

RO 2.2

SRO 2.69

K/A CATALOG NUMBER: 2.1.29

K/A CATALOG JTA IMPORTANCE RATING:

RO 4.1

SRO 4.0

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
	OPS-0050 Operator At The Controls Relief Checklist 34SV-SUV-018-2 ECCS Status Check

REQUIRED MATERIALS:	**Unit 2**
	OPS-0050 Operator At The Controls Relief Checklist 34SV-SUV-018-2 ECCS Status Check

APPROXIMATE COMPLETION TIME: 15 Minutes

SIMULATOR SETUP: Any 100% power IC. Throttle open 2E11-F040 until red light comes on and hold/throttle open for 3 seconds.

UNIT 2

READ AND GIVE A COPY TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 2 is at 100% power and1 hour into the shift you have assumed the OATC duties.
2. As per "Operator At The Controls Relief Checklist", the "ECCS Status Check" had been started and is only partially complete.

INITIATING CUES:

The Shift Supervisor directs you to complete the ECCS Status check per 34SV-SUV-018-2.

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.

NOTE: Hand the operator a partially completed "Operator At The Controls Relief Checklist" (filled in up to the ECCS Status Check) and "ECCS Status Check" procedure (filled in up to 2E11-F011B on Table 5).

START TIME:_____

1.	The operator reviews the checklist.	Operator reviews the ECCS Status Check list.	SAT / UNSAT
2.	Verify closed 2E11-F011B, RHR Hx to Torus Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT
3.	Verify closed 2E11-F073B, RHRSW Crosstie Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT
4.	Verify closed 2E11-F122B, Check Valve F050B Bypass Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT
5.	Verify open 2E11-F004B, Torus Suction Valve	• Operator observes control switch red light on. • Places checkmark in Table 5.	SAT / UNSAT
6.	Verify closed 2E11-F006B, Shutdown Cooling Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT
7.	Verify open 2E11-F004D, Torus Suction Valve	• Operator observes control switch red light on. • Places checkmark in Table 5.	SAT / UNSAT
8.	Verify closed 2E11-F006D, Shutdown Cooling Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT
9.	Verify closed 2E11-F103B, Hx Vent Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT
10.	Verify closed 2E11-F104B, Hx Vent Valve	• Operator observes control switch green light on.. • Places checkmark in Table 5.	SAT / UNSAT
11.	Verify closed 2E11-F119B, Serv Water Crosstie Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
12.	Verify closed 2E11-F053B, Hx Outlet Press Reducing Valve	• Operator observes control switch green light on. • Places checkmark in Table 5.	SAT / UNSAT

PROMPT: IF the operator asks for a relief to go to the back panels, THEN inform the operator that he has been properly relieved of the OATC duties and may continue.

13.	Verify open 2E11-F041B, Drywell Press Switches Inst Line Isolation	• Operator observes control switch red light on. • Places checkmark in Table 5.	SAT / UNSAT
14.	Verify open 2E11-F041D, Drywell Press Switches Inst Line Isolation	• Operator observes control switch red light on. • Places checkmark in Table 5.	SAT / UNSAT
15.	Verify closed 2E11-F040, RHR To Radwaste Valve	• Operator observes both control switch green light on and red light on.	SAT / UNSAT
16	Document as found valve position	Operator documents on Table 5 that the valve was opened and then circles the notation.	SAT / UNSAT
****17**	Notifies SS of dual indication on 2E11-F040.	Operator informs SS of dual indication on 2E11-F040.	SAT / UNSAT

PROMPT: WHEN notified of dual indication, THEN direct the operator to attempt to close 2E11-F040 valve.

NOTE: 2E11-F040 valve is a throttle valve and must be held in the CLOSED position to fully stroke closed.

****18**	Close 2E11-F040.	Operator places control switch for 2E11-F040 to the CLOSED position and holds there until the red light is extinguished.	SAT / UNSAT
			END TIME:_____

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

- With no reasonable progress, the Applicant exceeds double the allotted time.
- 2E11-F040 is closed and documented

TERMINATING CUE: That completes this JPM.

(Indicates critical step)**

1.0 OBJECTIVE

This procedure provides instructions for use when demonstrating Emergency Core Cooling System's operability as required by Unit 2 TS SR 3.5.1.2 and 3.5.2.4.

In addition, instructions are provided for use WHEN demonstrating Reactor Core Isolation Cooling System AND Suppression Pool Cooling and Spray Modes of the Residual Heat Removal System operability as required by Unit 2 TS SR 3.5.3.2, 3.6.2.3.1, 3.6.2.4.1, and partially covers 3.7.1.1.

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2.0 APPLICABILITY

This procedure is applicable to the valves in the flow paths of the following ECCS AND safe shutdown systems: High Pressure Coolant Injection System, Reactor Core Isolation Cooling System, LPCI AND Suppression Pool Cooling and Spray Modes of the Residual Heat Removal System AND the Core Spray System. It is performed WITHIN two hours of every shift change AND is required to be performed once every 31 days by Tech Specs. This procedure is also applicable to the ECCS and RCIC Room Coolers and valves as an administrative control over system alignment.

3.0 REFERENCES

3.1 90AC-OAM-001-0, Test and Surveillance Control

3.2 Unit 2, TS SR 3.5.1.2, 3.5.2.4, 3.5.3.2, 3.6.2.3.1, 3.6.2.4.1, and 3.7.1.1

3.3 USNRC Inspection Report 50-366/79-21

3.4 H-26014 and H-26015, RHR System P&ID, Sheets 1 and 2

3.5 H-26018, Core Spray System P&ID

3.6 H-26020 and H-26021, HPCI System P&ID, Sheets 1 and 2

3.7 H-26023 and H-26024, RCIC System P&ID, Sheets 1 and 2

4.0 REQUIREMENTS

4.1 PERSONNEL REQUIREMENTS

The number and qualification level of Operations personnel performing this procedure will be determined by Shift Supervisor.

4.2 MATERIAL AND EQUIPMENT

N/A - Not applicable to this procedure

4.3 SPECIAL REQUIREMENTS

4.3.1 IF valves OR switches are NOT in position specified, i.e., NOT in Standby Lineup, the Shift Supervisor will determine from other plant conditions IF the system/loop is operable.

4.3.2 For any valves found out of the Normal Position, perform the following:

4.3.2.1 Record AND circle the valve position in the appropriate table AND inform the Shift Supervisor.

4.3.2.2 Provide an explanation of the position as follows:

4.3.2.2.1 IF the misposition causes the ECCS OR Safe Shutdown system to be inoperable, record explanation in Unsatisfactory Conditions.

4.3.2.2.2 IF the position does NOT cause the system to be inoperable, record the explanation under Comments/Corrective Actions section.

4.3.2.3 The Shift Supervisor will initiate corrective action as necessary to return the valve OR switch to its correct position.

5.0 PRECAUTIONS/LIMITATIONS

5.1 PRECAUTIONS

Observe safety rules outlined in the Southern Nuclear Safety and Health Manual.

5.2 LIMITATIONS

These checks may be performed in any order necessary.

6.0 PREREQUISITES

N/A - Not applicable to this procedure

7.0 PROCEDURE

7.1 PRETEST

7.1.1 Obtain Unit 2 Shift Supervisor's permission to perform this test. JK

7.1.2 Record the Plant Condition (1, 2, 3, 4, 5 or *): 1 JK

-

7.2 ECCS STATUS CHECK

CONTINUOUS

7.2.1 IF Core Spray Loop A is required to be operable, confirm that Core Spray Loop A valves in the flow path are in the correct position by completing Table 1. JK

-

Table 1

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
Core Spray Loop A Valves				
2E21-F001A	OPEN	Torus Suction Vlv	√	
2E21-F019A	OPEN	Torus Suction Vlv	√	
2E21-F004A	OPEN	Outbd Discharge Vlv	√	
2E21-F005A	CLOSED	Inbd Discharge Vlv	√	
2E21-F015A	CLOSED	Test Vlv	√	
2E21-F031A	OPEN	Min Flow Vlv	√	
2E21-F007A	OPEN	Manual Injection Vlv	√	
2E21-F037A	CLOSED	(Testable Check) Bypass Vlv	√	

7.2.2 IF Core Spray Loop B is required to be operable, confirm that Core Spray Loop B valves in the flow path are in the correct position by completing Table 2.

JK

-

Table 2

Core Spray Loop B Valves				
2E21-F001B	OPEN	Torus Suction Vlv	√	
2E21-F019B	OPEN	Torus Suction Vlv	√	
2E21-F004B	OPEN	Outbd Discharge Vlv	√	
2E21-F005B	CLOSED	Inbd Discharge Vlv	√	
2E21-F015B	CLOSED	Test Vlv	√	
2E21-F031B	OPEN	Min Flow Vlv	√	
2E21-F007B	OPEN	Manual Injection Vlv	√	
2E21-F037B	CLOSED	(Testable Check) Bypass Vlv	√	
2G51-F017	CLOSED	Torus Water Makeup Outbd Isol (2H11-P700)	√	
2G51-F013	CLOSED	Torus Water Makeup Inbd Isol (2H11-P700)	√	

NOTE	Valves 2E11-F008 and F009 positions are confirmed whenever any loop of RHR is required to be operable.

7.2.3 Confirm that the RHR System valves in the LPCI AND Suppression Pool Cooling modes are in the correct position as follows:

7.2.3.1 IF the LPCI OR Suppression Pool Cooling mode OR Suppression Pool Spray Mode of RHR Loop A is required to be operable, confirm that RHR Loop A valves in the LPCI AND/OR Suppression Pool Cooling AND/OR Suppression Pool Spray Flow Path are in the correct position by completing Tables 3 and 4. JK

7.2.3.2 IF RHR Loop A is in a mode of operation other than Standby for LPCI and Suppression Pool Cooling AND/OR Suppression Pool Spray Modes of operation, confirm that Loop A is operable AND record that mode of operation below:

Mode of Loop A operation: N/A N/A

Table 3

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E11-F009	CLOSED	SDC Suction Vlv (2H11-P602)	√	
2E11-F008	CLOSED	SDC Suction Vlv	√	

Table 4

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
RHR Loop A Valves				
2E11-F075A	CLOSED	RHRSW Vlv	√	
2E11-F065A	OPEN	Torus Suction Vlv	√	
2E11-F065C	OPEN	Torus Suction Vlv	√	
2E11-F060A	OPEN	RHR Injection Vlv	√	

Table 4 (continued)

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E11-F017A	OPEN	RHR Outbd Inj Vlv	√	
2E11-F015A	CLOSED	RHR Inbd Inj Vlv	√	
2E11-F007A	OPEN	Min Flow Vlv	√	
2E11-F021A	CLOSED	Cnmt Spray Inbd Vlv	√	
2E11-F016A	CLOSED	Cnmt Spray Outbd Vlv	√	
2E11-F047A	OPEN	Hx Inlet Vlv	√	
2E11-F003A	OPEN	Hx Outlet Vlv	√	
2E11-F048A	OPEN	Hx Bypass Vlv	√	
2E11-F027A	CLOSED	Torus Spray Vlv	√	
2E11-F024A	CLOSED	Full Flow Test Line Vlv	√	
2E11-F028A	CLOSED	Torus Spray or Test Vlv	√	
2E11-F011A	CLOSED	RHR Hx To Torus Vlv	√	
2E11-F073A	CLOSED	RHRSW Crosstie Vlv	√	
2E11-F122A	CLOSED	Testable Check F050A Bypass Vlv	√	
2E11-F004A	OPEN	Torus Suction Vlv	√	
2E11-F004C	OPEN	Torus Suction Vlv	√	
2E11-F006A	CLOSED	Shutdown Cooling Vlv	√	
2E11-F006C	CLOSED	Shutdown Cooling Vlv	√	
2E11-F103A	CLOSED	Hx Vent Vlv	√	
2E11-F104A	CLOSED	Hx Vent Vlv	√	
2E11-F119A	CLOSED	Serv Water Crosstie Vlv	√	

Table 4 (continued)

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E11-F053A**	CLOSED	Hx. Outlet Press Reducing Vlv	√	
2E11-F041A	OPEN	D/W Press Sw Inst Line Isol (2H11-P657)	√	
2E11-F041C	OPEN	D/W Press Sw Inst Line Isol (2H11-P657)	√	

** Confirm that power is off to this valve by confirming the F053A solenoid control switch is in closed (valve fails closed on loss of power).

7.2.3.3 IF the LPCI OR Suppression Pool Cooling mode OR Suppression Pool Spray Mode of RHR Loop B is required to be operable, confirm that RHR Loop B valves in the LPCI AND/OR Suppression Pool Cooling AND/OR Suppression Pool Spray Flow Path are in the correct position by completing Tables 3 and 5. _____

7.2.3.4 IF RHR Loop B is in a mode of operation other than Standby for LPCI and Suppression Pool Cooling AND/OR Suppression Pool Spray Modes of operation, confirm that Loop B is operable AND record that mode of operation below:

Mode of Loop B operation: N/A N/A

-

Table 5

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
RHR Loop B Valves				
2E11-F075B	CLOSED	RHRSW Vlv	√	
2E11-F065B	OPEN	Torus Suction Vlv	√	
2E11-F065D	OPEN	Torus Suction Vlv	√	
2E11-F060B	OPEN	RHR Injection Vlv	√	
2E11-F017B	OPEN	RHR Outbd Inj Vlv	√	
2E11-F015B	CLOSED	RHR Inbd Inj Vlv	√	
2E11-F007B	OPEN	Min Flow Vlv	√	
2E11-F021B	CLOSED	Cnmt Spray Inbd Vlv	√	
2E11-F016B	CLOSED	Cnmt Spray Outbd Vlv	√	
2E11-F047B	OPEN	Hx Inlet Vlv	√	
2E11-F003B	OPEN	Hx Outlet Vlv	√	
2E11-F048B	OPEN	Hx Bypass Vlv	√	
2E11-F027B	CLOSED	Torus Spray Vlv	√	

Table 5 (continued)

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E11-F024B	CLOSED	Full Flow Test Line Vlv	√	
2E11-F028B	CLOSED	Torus Spray or Test Vlv	√	
2E11-F011B	CLOSED	RHR Hx To Torus Vlv		
2E11-F073B	CLOSED	RHRSW Crosstie Vlv		
2E11-F122B	CLOSED	Testable Check F050B Bypass Vlv		
2E11-F004B	OPEN	Torus Suction Vlv		
2E11-F006B	CLOSED	Shutdown Cooling Vlv		
2E11-F004D	OPEN	Torus Suction Vlv		
2E11-F006D	CLOSED	Shutdown Cooling Vlv		
2E11-F103B	CLOSED	Hx Vent Vlv		
2E11-F104B	CLOSED	Hx Vent Vlv		
2E11-F119B	CLOSED	Serv Wtr Crosstie Vlv		
2E11-F053B**	CLOSED	Hx. Outlet Press Reducing Vlv		
2E11-F041B	OPEN	Drywell Press Switches Inst Line Isolation (2H11-P654)		
2E11-F041D	OPEN	Drywell Press Switches Inst Line Isolation (2H11-P654)		
2E11-F040	CLOSED	RHR to Radwaste Vlv (2H11-P602)		
2E11-F049	CLOSED	RHR to Radwaste Vlv		

** Confirm that power is off to this valve by confirming the F053B solenoid control switch is in closed (valve fails closed on loss of power).

7.2.3.5 Confirm that the following valves are de-energized in the CLOSED position.

7.2.3.5.1 2E11-F022, Rx Head Spray Vlv _____

7.2.3.5.2 2E11-F023, Rx Head Spray Vlv _____

7.2.4 IF HPCI System is required to be operable, perform the following:

7.2.4.1 Confirm that the HPCI Flow Controller is in AUTO (green light ILLUMINATED) AND set at 4250 GPM with demand meter indicating > 100%. _____

7.2.4.2 Confirm that the valves are in the correct position by completing Table 6. _____

Table 6

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E41-F002	OPEN/STOP	Inbd Steam Isol Vlv		
2E41-F003	OPEN/STOP	Outbd Steam Isol Vlv		
2E41-F001	CLOSED	Turb Steam Supply Vlv		
2E41-F011	CLOSED	Test To CST Vlv		
2E41-F012	CLOSED	Min Flow Vlv		
2E41-F051	OPEN	Torus Suction Vlv		
2E41-F042	CLOSED	Torus Inbd Suct Vlv		
2E41-F008	CLOSED	Test To CST Vlv		
2E41-F059	CLOSED	Lube Oil Clg Wtr Vlv		
2E41-F054	CLOSED	Drain Pot Trap Byp Vlv		
2E41-F041	CLOSED	Torus Outbd Suct Vlv		
2E41-F007	OPEN	Pump Discharge Vlv		
2E41-F053	AUTO	Drain Pot Drain Vlv		

Table 6 (continued)

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E41-F004	OPEN	CST Suction Vlv		
2E41-F006	CLOSED	Pump Discharge Vlv		
2E41-F104	OPEN	Exh Vacuum Brkr Vlv (2H11-602)		
2E41-F111	OPEN	Exh Vacuum Brkr Vlv		
2E41-F025	OPEN	Barom Cndsr Disch To CRW (2H11-P602)		
2E41-F026**	CLOSED	Barom Cndsr Disch To CRW		
2E41-F028	OPEN	Steam Line Drain Vlv (2H11-P602)		
2E41-F029	OPEN	Steam Line Drain Vlv		
2E41-F3052	CLOSED	HPCI Control Vlv		
2E41-F3053	CLOSED	HPCI Stop Vlv		

** Valve cycles automatically on barometric condenser level.

7.2.5 IF RCIC System is required to be operable, perform the following:

7.2.5.1 Confirm that the RCIC Turbine Flow Controller is in AUTO (green light ILLUMINATED) AND set at 400 GPM with demand meter indicating > 100%. _____

7.2.5.2 Confirm that the valves are in the correct position by completing Table 7. _____

Table 7

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E51-F007	OPEN/STOP	Steam Supply Isol Vlv		
2E51-F008	OPEN/STOP	Steam Supply Line Isol Vlv		
2E51-F045	CLOSED	Steam to Turbine Vlv		
2E51-F019	CLOSED	Min Flow Vlv		
2E51-F022	CLOSED	Test Line To CST		
2E51-F013	CLOSED	Pump Discharge Vlv		
2E51-F012	OPEN	Pump Discharge Vlv		
2E51-F003	OPEN	Torus Suction Vlv		
2E51-F031	CLOSED	Torus Inbd Suction Vlv		
2E51-F010	OPEN	CST Suction Vlv		
2E51-F029	CLOSED	Torus Outbd Suction Vlv		
2E51-F046	CLOSED	Turb Clg Water Vlv		
2E51-F054	CLOSED	Steam Line Drain Vlv		
2E51-F004**	CLOSED	Barom Cndsr Disch To CRW		
2E51-F005	OPEN	Barom Cndsr Disch To CRW (2H11-P601)		

** Valve cycles automatically on barometric condenser level.

Table 7 (continued)

VALVE NUMBER	OPERABLE (NORMAL) POSITION	VALVE DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION (O/C)
2E51-F025	OPEN	Steam Line Drain Vlv		
2E51-F026	OPEN	Steam Line Drain Vlv (2H11-P601)		
2E51-F104	OPEN	Exh Vacuum Brkr Vlv		
2E51-F105	OPEN	Exh Vacuum Brkr Vlv (2H11-P601)		
2E51-F523	OPEN	Governor Vlv (open indication)		
2E51-F524	OPEN	Trip & Throttle Vlv		

7.2.6 Confirm that the Control Room Ventilation System is correctly aligned for the existing plant condition per 34SO-Z41-001-1, Control Room Ventilation System. _____

7.2.7 Confirm that the ECCS AND RCIC ROOM COOLER System is correctly aligned for the existing plant condition per Table 8. _____

Table 8

Panel 2H11-P657				
COOLER NUMBER	OPERABLE POSITION CIRCLE	COOLER DESCRIPTION	CONFIRMED (√)	OFF-NORMAL POSITION
2T41-B001A	AUTO/RUN (Note 1)	CRD PUMP ROOM COOLER		
2T41-B002A	AUTO (Note 2)	CS/RHR S-E DIAGONAL PUMP ROOM COOLER		
2T41-B003A	AUTO (Note 2)	CS/RHR N-E DIAGONAL PUMP ROOM COOLER		
2T41-B004A	AUTO/RUN (Note 3)	RCIC PUMP RM COOLER		
2T41-B005A	AUTO/RUN (Note 4)	HPCI PUMP RM COOLER		
Panel 2H11-P654				
2T41-B001B	AUTO/RUN (Note 1)	CRD PUMP ROOM COOLER		
2T41-B002B	AUTO (Note 2)	CS/RHR S-E DIAGONAL PUMP ROOM COOLER		
2T41-B003B	AUTO (Note 2)	CS/RHR N-E DIAGONAL PUMP ROOM COOLER		
2T41-B004B	AUTO/RUN (Note 3)	RCIC PUMP RM COOLER		
2T41-B005B	AUTO/RUN (Note 4)	HPCI PUMP RM COOLER		

Note 1. One CRD cooler in RUN, one in AUTO
Note 2. Both CS/RHR coolers in each diagonal in AUTO
Note 3. One RCIC cooler in RUN or AUTO, one in AUTO
Note 4. One HPCI cooler in RUN, one in AUTO

7.3 TEST RESULTS

7.3.1 Reason for test: ( ) Normal surveillance ( ) Other _____

7.3.2 Acceptance Criteria

7.3.2.1 WHEN a Loop of RHR is required to be operable, each Residual Heat Removal System Valve in the LPCI or Suppression Pool Cooling or Suppression Pool Spray flow path, that is NOT locked, sealed OR otherwise secured in position, is in the correct position listed in Tables 3 and 4(5) OR the Shift Supervisor had determined from other plant requirements, e.g., Shutdown Cooling required, that the Loop is operable.

7.3.2.2 WHEN a Core Spray Loop is required to be operable, each Core Spray System Valve in the flow path, that is NOT locked, sealed OR otherwise secured in position, is in the correct position listed in Table 1(2).

7.3.2.3 WHEN HPCI is required to be operable, each HPCI System Valve in the flow path, that is NOT locked, sealed OR otherwise secured in position, is in the correct position listed in Table 6, unless the Shift Supervisor had determined from other plant requirements, HPCI aligned to Torus, that HPCI is operable.

7.3.2.4 WHEN RCIC is required to be operable, each RCIC System Valve in the flow path that, is NOT locked, sealed OR otherwise secured in position, is in the correct position listed in Table 7, unless the Shift Supervisor has determined from other plant requirements e.g., Surveillance Procedure in progress, that RCIC is operable.

7.3.3 Test Result:
( ) Satisfactory
( ) Unsatisfactory

7.3.4 Unsatisfactory Conditions: _____

_____

_____

_____

_____

_____

_____

7.3.5 Comments/Corrective Actions: _____

_____

_____

_____

_____

_____

7.3.6 Test completed and/or verified by:

_____	/	_____	/	_____
Print Name	/	Initial	/	Date
_____	/	_____	/	_____
Print Name	/	Initial	/	Date
_____	/	_____	/	_____
Print Name	/	Initial	/	Date
_____	/	_____	/	_____
Print Name	/	Initial	/	Date
_____	/	_____	/	_____
Print Name	/	Initial	/	Date

7.4 TEST REVIEW

7.4.1 The Shift Supervisor will review the procedure data for completeness and indicate concurrence with the test satisfactory/unsatisfactory determination by signing below.

Results reviewed by: SS_____ Date _____

7.4.2 The Shift Supervisor will forward this procedure, with all sign-offs complete, to Document Control for retention in accordance with 20AC-ADM-002-0, Quality Assurance Records Administration.

.

SOUTHERN NUCLEAR
PLANT E. I. HATCH

FORM TITLE:
OPERATOR AT THE CONTROLS RELIEF CHECKLIST

_____ _____ to _____ ____/____/____

UNIT ____2____ OATC ON DUTY SHIFT DATE (mm/dd/yy)

Part I To be reviewed prior to OATC assuming shift.

- Control Board Walkdown (front & back panel) ☒
- Oncoming OATC reviewed OATC Log from the previous 12-hour shift ☒
- Ensure radio available. ☒

Part II To be completed as early in shift as possible. Check each box as completed

- Review Reactivity Briefing Sheet (OPS-1625 for U2) OR (OPS-1689 for U1) ☒
- Review of Active Operating Orders. ☒
- Review procedure 34SV-SUV-018-1/2, ECCS Status Check ☐
- Review condensate and RWCU demin status. ☐
- OATC has informed other NPOs on duty of work to be done on this shift. ☐
- Review Compensatory Actions for this shift. ☐
- Review RAS Log. ☐
- Review Night Order Book. ☐
- Confirm logged on to GENCOM. ☐

Part III To be completed prior to leaving shift.

- Mid Shift control room panel walk down completed. ☐
- Review 34SV-SUV-019-1/2 for completeness. ☐
- Review 34GO-OPS-030-1/2 for completeness. ☐
- Review 34GO-OPS-031-1 for completeness. ☐
- Review/sign procedures completed on shift. ☐
- Operating Orders required this shift completed. ☐
- Compensatory Actions for this shift completed. ☐
- OATC GMA Key Inventory. ☐
- Once per shift validation of ELDS entry per 34GO-OPS-018-1/2. ☐

Part IV To be completed by on duty OATC just prior to end of shift. On coming OATC will place his initials in the box when reviewed in PART IV.

General Information (i.e., Demins to be B/W & PC, etc).

_____

OFF Standard Conditions

_____

Procedures In progress

Procedures	Step	Awaiting

_____ ____/____/____
OFF GOING OATC SIGNATURE DATE (mm/dd/yy)

_____ ____/____/____
REVIEWED BY (SS) DATE (mm/dd/yy)

DRAFT

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training

Admin 3, SRO-I

TITLE		
	MCREC RAS	
AUTHOR	**MEDIA NUMBER**	**TIME**
D. H. GIDDENS	LR-JP-10027-00	20 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R		

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-10027**

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

UNIT 1 (X) UNIT 2 ()

TASK TITLE:	MCREC RAS
JPM NUMBER:	LR-JP-10027-00
TASK STANDARD:	The task shall be completed the candidate has completed sections 1 and 2 of Required Action Sheet, form 1349.
TASK NUMBER:	OPSR300.027
OBJECTIVE NUMBER:	H-OP300.027A

PLANT HATCH JTA IMPORTANCE RATING:

RO N/A

SRO N/A

K/A CATALOG NUMBER: G 2.2.23

K/A CATALOG JTA IMPORTANCE RATING:

RO NA

SRO 4.6

OPERATOR APPLICABILITY: Senior Reactor Operator

GENERAL REFERENCES:	**Unit 1**
	31GO-OPS-006, Conditions, Required Actions and Completion Times OPS-1349 TECH SPECS UNIT 1

REQUIRED MATERIALS:	**Unit 1**
	UNIT 1 TECH SPECS A blank form OPS-1349 31GO-OPS-006-0 Conditions, Required Actions and Completion Times Inop Status Indicator Picture

APPROXIMATE COMPLETION TIME: 15 Minutes

SIMULATOR SETUP: N/A

UNIT 1

READ AND GIVE A COPY TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 1 is in Mode 5 with fuel movement within the core in progress. Fuel movements are expected to last for 15 days.
2. Unit 2 is at 100% power.
3. During a routine monthly surveillance 1Z41-C012A, Main Control Room filter train fan, tripped 10 minutes after being started and will not restart.
4. The fan tripped at 0600 on 4/22/09.
5. The remaining filter train fan and the three air handling units and associated fans are operable.

INITIATING CUES:

Complete sections 1 and 2 of a Required Action Sheet, form OPS-1349, for Unit 1 for 1Z41-C012A, Main Control Room filter train fan.

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 Unit 1 tech spec	SAT / UNSAT

NOTE: Provide the candidate with a blank RAS form, OPS 1349.

PROMPT: WHEN the operator indicates he would look in the Required Action Tracking Log for a RAS number, INFORM him that the number is 1-09-027.

2.	Assign a RAS number from the Required Action Tracking Log.	Writes in 1-09-027 as the Required Action Sheet Number.	SAT / UNSAT
3.	Locates the appropriate tech spec section.	Addresses Unit 1 tech spec section 3.7.4 Action A.	SAT / UNSAT
****4.**	Completes the RAS form section 1 "MPL" number	Writes 1Z41-C012A, In the MPL block.	SAT / UNSAT
5.	Completes RAS form section 1 "Description" block.	Writes MCREC fan or a similar name In the Description block.	SAT / UNSAT
****6.**	Completes RAS form section 1 "Inoperable" time/date block	Writes 0600 for the time and 4/22/09 for the date in the Inoperable time/date block.	SAT / UNSAT
7.	Reviews the RAS section 1 "Return to Oper" time/date block.	Writes nothing in the Return To OPER Time/Date block.	SAT / UNSAT
8.	Reviews the RAS section 1 "Init" block	Writes nothing in the INIT block.	SAT / UNSAT
****9.**	Completes the RAS section 2 "Initiation" Time/Date block.	Writes time of 0600 and date of 4/22/09 in the Initiation Time/Date block of section 2.	SAT / UNSAT
****10.**	Completes the RAS section 2 "Req Restoration" Time/Date block	Writes a time of 0600 and a date of 4/29/09 in the REQ RESTORATION Time/Date block of section 2.	SAT / UNSAT
11.	Completes the RAS section 2 "Modified Completion" Time/Date	Writes N/A or similar wording in the Modified Completion Time/Date block of section 2.	SAT / UNSAT

12.	Completes the RAS section 2 "Extended Completion Time/Date/Init" block.	Writes N/A or similar wording in the Extended Completion Time/Date/Init block in section 2.	SAT / UNSAT
13.	Completes the RAS section 2 "SFDP Entered" block.	Marks the N/A box of the SFDP Entered block	SAT / UNSAT

NOTE: If candidate asks to see the Status Indication, hand the candidate a picture of the status indicators.

14.	Completes the RAS section 2 "INOP Status Indication" block.	Marks the yes box of the INOP Status Indication Block after directing personnel to switch the light on.	SAT / UNSAT
PROMPT: WHEN asked to turn on the status indication light, INFORM the operator the light is now on.			
****15.**	Completes the RAS section 2 "Applicability" block.	Writes Modes 1, 2, and 3, During movement of irradiated fuel assemblies in the secondary containment, During Core Alterations, During operations with a potential for draining the reactor vessel, (OPDRVs). In the Applicability block of section 2.	SAT / UNSAT
****16.**	Completes the RAS section 2 "REQ. Action If Comp Time Exceeded" block.	Writes, D.1 Place OPERABLE MCREC subsystem in pressurization mode Immediately OR D.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment Immediately AND D.2.2 Suspend CORE ALTERATIONS Immediately AND D.2.3 Initiate actions to suspend OPDRVs. Immediately, in the Required Action if Comp time is exceeded block.	SAT / UNSAT
17.	Completes the RAS section 2 "Reference Document" block.	Writes tech spec 3.7.4 in the reference block of section 2.	SAT / UNSAT
18.	Completes the RAS section 2 "Revision/Amendment" block.	Writes 225 in the Revision/Amendment block.	SAT / UNSAT
19.	Completes the RAS section 4, "Reference Document" block.	Writes "3.7.4.A.1" (or similar) in the "Reference Document" block	SAT / UNSAT

20.	Completes the RAS section 4, "Required Action" block.	Writes "Restore MCREC subsystem to Operable status" in the Required Action block.	SAT / UNSAT
21.	Completes the RAS section 4, "Req Comp Time of Freq" block.	Writes "7 days" in the Req Comp Time of Freq block.	SAT / UNSAT

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.

3.7 PLANT SYSTEMS

3.7.4 Main Control Room Environmental Control (MCREC) System

LCO 3.7.4 Two MCREC subsystems shall be OPERABLE.

---NOTE---
The main control room boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One MCREC subsystem inoperable.	A.1	Restore MCREC subsystem to OPERABLE status.	7 days
B. Two MCREC subsystems inoperable due to inoperable control room boundary in MODE 1, 2, or 3.	B.1	Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1	Be in MODE 3.	12 hours
	AND		
	C.2	Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- D.1 Place OPERABLE MCREC subsystem in pressurization mode. OR D.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment. AND D.2.2 Suspend CORE ALTERATIONS. AND D.2.3 Initiate action to suspend OPDRVs.	Immediately Immediately Immediately Immediately
E. Two MCREC subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.	E.1 Enter LCO 3.0.3.	Immediately

(continued)

FORM TITLE:

REQUIRED ACTION SHEET

REQUIRED ACTION SHEET NUMBER __ - ____ - _____

SECTION 1 **INITIATING CONDITIONS**

MPL	DESCRIPTION	INOPERABLE TIME/DATE		RETURN TO OPER TIME/DATE		INIT
1Z41-C012A	MCREC fan	0600	4/22/09			

SECTION 2 **REQUIRED ACTION SHEET ACTIVATION**

INITIATION TIME/DATE 0600 4/22/09	REQ. RESTORATION TIME/DATE 0600 4/22/09	MODIFIED COMPLETION TIME/DATE N/A
EXTENDED COMPLETION TIME/DATE/INIT N/A	SFDP ENTERED ☐YES ☒N/A	INOP STATUS INDIC LIT ☒YES ☐ N/A
APPLICABILITY	Modes 1, 2, and 3, During movement of irradiated fuel assemblies in the secondary containment, During Core Alterations, During operations with a potential for draining the reactor vessel, (OPDRVs).	
REQ. ACTION IF COMP TIME EXCEEDED	D.1 Place OPERABLE MCREC subsystem in pressurization mode Immediately OR D.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment Immediately AND D.2.2 Suspend CORE ALTERATIONS Immediately AND D.2.3 Initiate actions to suspend OPDRVs. Immediately.	
REFERENCE DOCUMENT	TS 3.7.4	REVISION/AMENDMENT 225
SS SIGN / TSA ACTIVE		SOS SIGN

FORM TITLE:

REQUIRED ACTION SHEET

SECTION 5 REQUIRED ACTION SHEET TERMINATION

INDICATE COMPLETE(D) ACTIONS:

☐ PROCEDURES: _____

☐ OTHER:

MWO FT COMPLETE	INOP STATUS INDIC OFF	REQUIRED ACTION TERMINATED TIME/DATE
☐YES ☐N/A	☐YES ☐N/A	

SS SIGN / TSA TERMINATED	SOS SIGN

SECTION 3 ≤ 1 HOUR ACTIONS

REFERENCE DOCUMENT	REQUIRED ACTION	REQ. COMP TIME	PERFORMED TIME/DATE	INIT
			/	
			/	
			/	
			/	
			/	
			/	

SECTION 4 > 1 HOUR ACTIONS

REFERENCE DOCUMENT	REQUIRED ACTION	REQ. COMP TIME OR FREQ.	SEQ. NO.	COMPLETE TIME/DATE	COMP. INITIAL
3.7.4.A.1	Restore MCREC subsystem to Operable Status.	7 days		/	
				/	
				/	
				/	
				/	

FORM TITLE:

REQUIRED ACTION SHEET

REQUIRED ACTION SHEET NUMBER __ - ____ - _____

SECTION 1 **INITIATING CONDITIONS**

MPL	DESCRIPTION	INOPERABLE TIME/DATE		RETURN TO OPER TIME/DATE		INIT

SECTION 2 **REQUIRED ACTION SHEET ACTIVATION**

INITIATION TIME/DATE	REQ. RESTORATION TIME/DATE	MODIFIED COMPLETION TIME/DATE
EXTENDED COMPLETION TIME/DATE/INIT	SFDP ENTERED ☐YES ☐N/A	INOP STATUS INDIC LIT ☐YES ☐ N/A

APPLICABILITY		
REQ. ACTION IF COMP TIME EXCEEDED		
REFERENCE DOCUMENT		REVISION/AMENDMENT
SS SIGN / TSA ACTIVE	SOS SIGN	

SECTION 5 **REQUIRED ACTION SHEET TERMINATION**

INDICATE COMPLETE(D) ACTIONS:

☐ PROCEDURES: _____

☐ OTHER:

MWO FT COMPLETE	INOP STATUS INDIC OFF	REQUIRED ACTION TERMINATED TIME/DATE
☐YES ☐N/A	☐YES ☐N/A	
SS SIGN / TSA TERMINATED	SOS SIGN	

FORM TITLE:

REQUIRED ACTION SHEET

SECTION 3 **≤ 1 HOUR ACTIONS**

REFERENCE DOCUMENT	REQUIRED ACTION	REQ. COMP TIME	PERFORMED TIME/DATE	INIT
			/	
			/	
			/	
			/	
			/	
			/	

SECTION 4 **> 1 HOUR ACTIONS**

REFERENCE DOCUMENT	REQUIRED ACTION	REQ. COMP TIME OR FREQ.	SEQ. NO.	COMPLETE TIME/DATE	COMP. INITIAL
				/	
				/	
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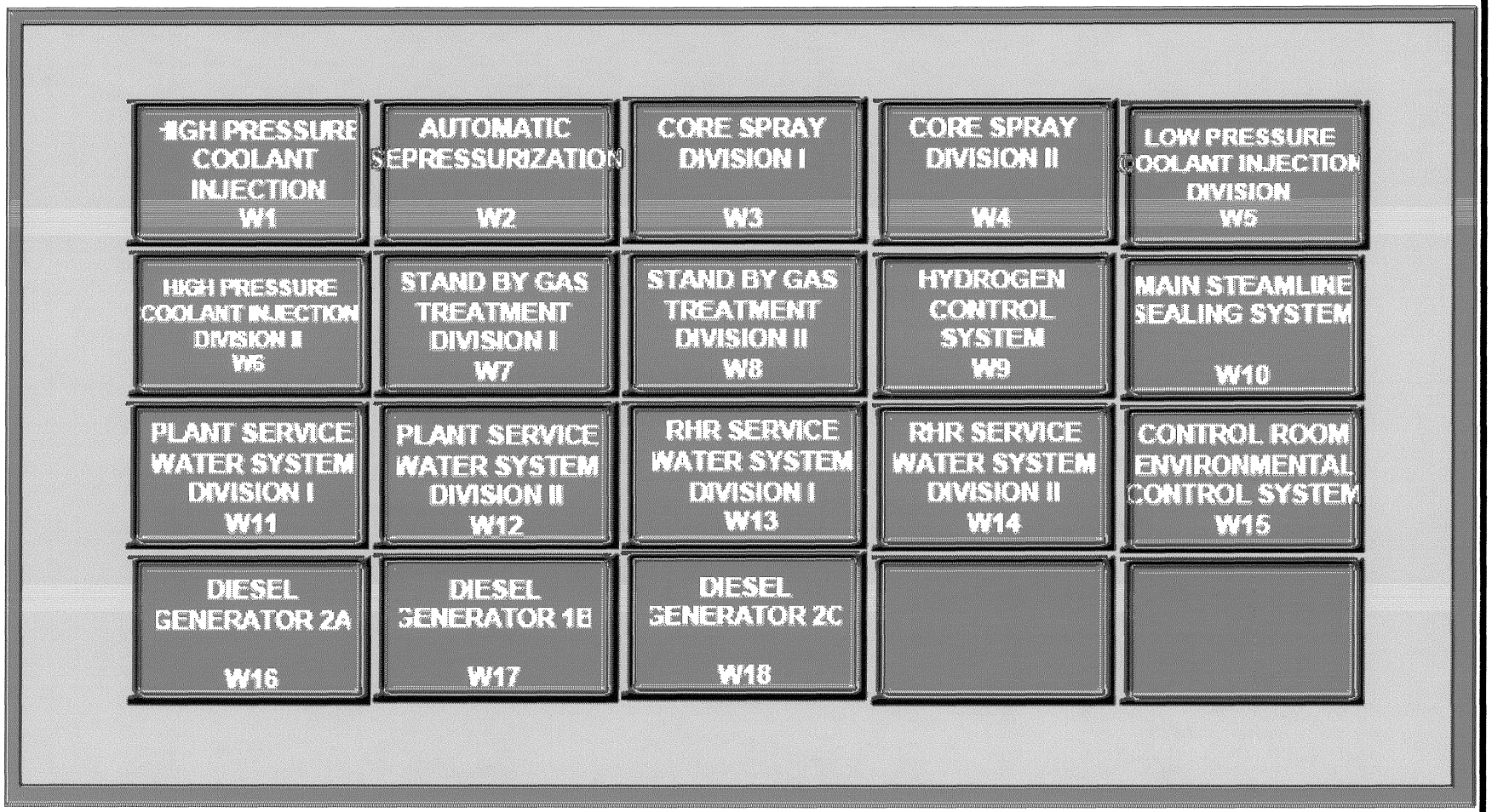
HIGH PRESSURE COOLANT INJECTION W1
AUTOMATIC DEPRESSURIZATION W2
CORE SPRAY DIVISION I W3
CORE SPRAY DIVISION II W4
LOW PRESSURE COOLANT INJECTION DIVISION W5
HIGH PRESSURE COOLANT INJECTION DIVISION II W6
STAND BY GAS TREATMENT DIVISION I W7
STAND BY GAS TREATMENT DIVISION II W8
HYDROGEN CONTROL SYSTEM W9
MAIN STEAMLINE SEALING SYSTEM W10
PLANT SERVICE WATER SYSTEM DIVISION I W11
PLANT SERVICE WATER SYSTEM DIVISION II W12
RHR SERVICE WATER SYSTEM DIVISION I W13
RHR SERVICE WATER SYSTEM DIVISION II W14
CONTROL ROOM ENVIRONMENTAL CONTROL SYSTEM W15
DIESEL GENERATOR 2A W16
DIESEL GENERATOR 1B W17
DIESEL GENERATOR 2C W18

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Operations Training
JPM

Admin 4, SRO-I

TITLE		
EVALUATE AN INOPERABLE ODCM RADIATION MONITOR		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVID GIDDENS	LR-JP-10029-00	10 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R		

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PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-10029**

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

UNIT 1 (X) UNIT 2 ()

TASK TITLE:	Declare A Tech Spec System Operable/Inoperable
JPM NUMBER:	LR-JP-10029-00
TASK STANDARD:	The task shall be completed when the candidate has provided an answer for each item within the initiating cue.
TASK NUMBER:	*H-OPSR300.006*
OBJECTIVE NUMBER:	H-OP300.006A
TYPE	SRO Administrative

PLANT HATCH JTA IMPORTANCE RATING:

RO N/A

SRO 3.00

K/A CATALOG NUMBER: G2.3.11

K/A CATALOG JTA IMPORTANCE RATING:

RO N/A

SRO 4.3

OPERATOR APPLICABILITY: Senior Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 1**
	Unit 1 Tech Specs Unit 1 TRM Unit 1 ODCM 34AR-650-350-1, HX 1A PSW/RBCCW DIFF PRESS LOW Annunciator

REQUIRED MATERIALS:	**Unit 1**
	Unit 1 ODCM Unit 1 TRM

APPROXIMATE COMPLETION TIME: 10 Minutes

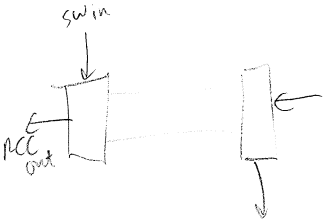
SIMULATOR SETUP: N/A

UNIT 1

READ AND GIVE A COPY TO THE OPERATOR

INITIAL CONDITIONS:

1. Maintenance reports scaffolding has fallen on a radiation monitor, 1D11-K605, severing its electrical cable and causing other damage.
2. It is estimated it will be 2 months before a replacement can be delivered.
3. Unit 1 "B" RBCCW Heat Exchanger is out of service and under clearance.
4. Annunciator 650-350-1,"HX 1A PSW/RBCCW DIFF PRESS LOW," alarms
5. An SO reports the following local pressures:
6. PSW pressure indicator P41-R577.....96 psig ("A" Heat Exchanger PSW Inlet pressure)
7. PSW pressure indicator 1P41-R578.....89 psig ("A" Heat Exchanger PSW Outlet pressure)
8. RBCCW pressure indicator 1P42-R002A,.....92 psig ("A" Heat Exchanger RBCCW Inlet pressure)
9. RBCCW pressure indicator 1P42-R005A,.....87 psig ("A" Heat Exchanger RBCCW Outlet pressure)



INITIATING CUES:

Determine if the radiation monitor is a required ~~ODCM monitor~~ and any applicable actions and/or limitations.

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 references	Operator has obtained the Unit 1 ODCM and other controlled documents.	SAT / UNSAT

Note: The candidate has several means to find the specification for this radiation monitor. One is to use the Master Equipment Cross Reference in the Unit 1 TRM, another is the Tech Spec/TRM/ODCM reference section of the ARP.

****2.**	Determine if 1D11-K605 is a ODCM radiation monitor.	Operator determines the instrument is a required ODCM monitor.	SAT / UNSAT
3.	Locate the administrative requirements associated with this radiation monitor.	The candidate identifies that ODCM section 2.1 contains the requirements for this radiation monitor being inop.	SAT / UNSAT
4.	Selects the applicable instrument on table 2-1 of the Unit 1 ODCM.	On table 2-1 determines the inoperative monitor is addressed in section 2 of the table, as this instrument does not provide any automatic isolation.	SAT / UNSAT
5.	Evaluates whether the minimum number of channels OPERABLE is met from table 2.	Recognizes the minimum number of channels is **NOT** met.	SAT / UNSAT
6.	Evaluates the applicability of the specification, whether the instrument is required to be OPERABLE, under the current plant conditions.	Determines note (2) applies with respect to applicability which states "Whenever the Service Water System pressure is below the Closed Cooling Water System pressure, or Δp indication is not available."	SAT / UNSAT
****7.**	Evaluates the system pressure between PSW and RBCCW.	Determines the lowest PSW pressure of 89 psig IS lower than the most limiting RBCCW pressure of 92 psig, and concludes that action 101 of table 2-1 must be applied.	SAT / UNSAT

**8.	Identifies the actions required by action 101.	Determines that once per shift grab samples are collected and analyzed for a gross radioactivity at a MINIMUM DETECTABLE CONCENTRATION no higher than 1x10-7μCi/ml.	SAT / UNSAT
**9.	Identifies how long the instrument may remain inoperable before "additional" actions are required.	Identifies that if the instrument is inoperative for over 30 days, "An explanation of the circumstances must be included in the next Radioactive Effluent Release Report."	SAT / UNSAT

END
TIME:_____

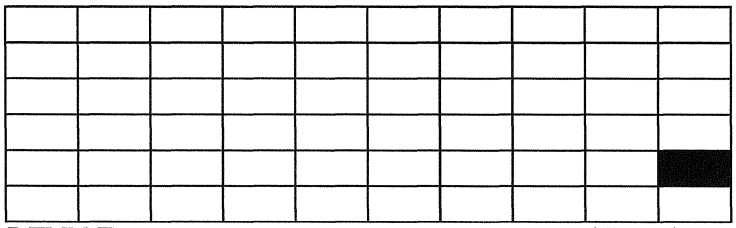
NOTE: The terminating cue shall be given to the Applicant when:

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

TERMINATING CUE: That completes this JPM.

1.0 IDENTIFICATION:

ALARM PANEL 1H11-P650



HX 1A
PSW/RBCCW DIFF
DIFF PRESS LOW

DEVICE: 1P42-R200A

SETPOINT: 7 PSID

2.0 CONDITION:

Plant Service Water to RBCCW differential pressure has decreased to setpoint.

3.0 CLASSIFICATION: EQUIPMENT STATUS

4.0 LOCATION: 1H11-P650 Panel 3

5.0 OPERATOR ACTIONS:

5.1 At 112TCT07, confirm low differential pressure by observing 1P42-B001A, Heat Exchanger, RBCCW Inlet Pressure, on 2P42-PI-R002A to 1P41-PI-R578, Service Water Outlet Pressure.

5.2 Confirm that the Plant Service Water System is in operation per 34SO-P41-001-1, Plant Service Water System.

5.3 At 112TCT07, confirm OPEN 1P41-F399A, 1P42-B001A, RBCCW Heat Exchanger Service Water Inlet Valve.

5.4 IF RBCCW loads are being isolated remove RBCCW pumps from service as required to maintain Service Water to RBCCW pressure above setpoint.

5.5 THROTTLE 1P41-F206A, RBCCW HX Serv Water Disch Vlv, to increase PSW pressure observing 1P41-PI-R578.

6.0 CAUSES:

6.1 Plant Service Water pressure has decreased from the normal operating pressure.

6.2 RBCCW Heat Exchanger service water inlet valve throttled OR closed.

7.0 REFERENCES

7.1 57SV-CAL-001-1, PSW TO RBCCW dP Channel Cal

7.2 H-13613, Wiring Diag Ann Logic Cab 1A Bag D

7.3 H-14036, Wiring Diagram 600V Swgr Bus 1C Frame 7 R23-S003

7.4 H-11609, P&ID Service Water Piping

8.0 TECH. SPECS./TRM/ODCM/FHA:

Unit One, ODCM, 2.1

Table 2-1 Radioactive Liquid Effluent Monitoring Instrumentation

Instrument	OPERABILITY Requirements[a]		
	Minimum Channels OPERABLE	Applicability[b]	ACTION
1. Gross Radioactivity Monitors Providing Automatic Termination of Release			
Liquid Radwaste Effluent Line	1	(1)	100
2. Gross Radioactivity Monitors not Providing Automatic Termination of Release			
Service Water System Effluent Line	1	(2)	101
3. Flowrate Measurement Devices[c]			
a. Liquid Radwaste Effluent Line	1	(1)	102
b. Discharge Canal	1	(1), (2)	102
4. Differential Pressure Measurement Devices			
Service Water System to Closed Cooling Water System	1	At all times	103
5. Groundwater Outfall Instrumentation			
a. Auto Sampler at			
Y22N008A	1	At all times	104
Y22N012B	1	At all times	104
b. Flow Totalizer at Y22N008A	1	At all times	105
c. Flow Meters[(d)] at			
Y22N003A	1	At all times	105
Y22N012B			

a. All requirements in this Table apply to each unit.

b. Applicability of requirements is as follows:
(1) Whenever the radwaste discharge valves are not locked closed.
(2) Whenever the Service Water System pressure is below the Closed Cooling Water System pressure, or ΔP indication is not available.

c. Pump curves may be used to estimate flow; in such cases, ACTION statement 102 is not required.

d. With either Y22N003A or Y22N012B nonfunctional, the other functional flow meter will be used to estimate the release rate.

Table 2-1 (contd) Notation for Table 2-1 - ACTION Statements

ACTION 100 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Section 2.1.2.3, and

b. At least two technically qualified individuals independently verify the discharge line valving and verify the release rate calculations.

Otherwise, suspend release of radioactive effluents via this pathway. If the channel remains inoperable for over 30 days, an explanation of the circumstances must be included in the next Radioactive Effluent Release Report.

ACTION 101 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue, provided that once per shift grab samples are collected and analyzed for gross radioactivity at a MINIMUM DETECTABLE CONCENTRATION no higher than 1×10^{-7} μCi/mL. If the channel remains inoperable for over 30 days, an explanation of the circumstances must be included in the next Radioactive Effluent Release Report.

ACTION 102 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue, provided that the flowrate is estimated at least once per 4 hours during actual releases. If the channel remains inoperable for over 30 days, an explanation of the circumstances must be included in the next Radioactive Effluent Release Report.

ACTION 103 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, assure that the Service Water System effluent monitor is OPERABLE.

ACTION 104 – With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, obtain daily grab samples and composite for weekly tritium, monthly gamma, and quarterly gross beta analyses.

ACTION 105 – With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, estimate outfall flow rate daily. If the channel remains inoperable for over 30 days, an explanation of the circumstances must be included in the next Radioactive Effluent Release Report.

TABLE T10.1-1 (SHEET 8 OF 22)
MASTER EQUIPMENT CROSS REFERENCE – SORTED BY MPL

MPL NUMBER(S)	SPECIFICATION	LOSS OF FUNCTION DIAGRAMS
1D11-D042	ODCM 3-1 (3.c.)	N/A
1D11-D051	ODCM 3-1 (1.b.)	N/A
1D11-D051	ODCM 3-1 (1.c.)	N/A
1D11-K002	ODCM 2-1 (1.)	LFD-1-PRM-01
1D11-K003	ODCM 2-1 (2.)	N/A
1D11-K600A,B	ODCM 3-1 (3.a.)	LFD-1-PRM-05
1D11-K601, K602	ODCM 3-1 (4.a.)	N/A
1D11-K603A,B,C,D	TRM TLCO 3.3.11	LFD-1-MSLR-01
1D11-K604	ODCM 2-1 (1.)	LFD-1-PRM-01
1D11-K605	ODCM 2-1 (2.)	N/A
1D11-K609A,B,C,D	TS 3.3.6.1-1 (2.d.)	LFD-1-PCIS-10
1D11-K609A,B,C,D	TS 3.3.6.2-1 (3.)	LFD-1-SCIS-03
1D11-K611A,B,C,D	TS 3.3.6.1-1 (2.e.)	LFD-1-PCIS-11
1D11-K611A,B,C,D	TS 3.3.6.2-1 (4.)	LFD-1-SCIS-04
1D11-K615A,B	TRM T3.3.8-1 (1.)	LFD-1-PRM-03
1D11-K615A,B	TRM T3.3.8-1 (2.)	LFD-1-PRM-04
1D11-K619A,B	ODCM 3-1 (1.a.)	LFD-1-PRM-02
1D11-K619A,B	ODCM 3-1 (1.b.)	N/A
1D11-K619A,B	ODCM 3-1 (1.c.)	N/A
1D11-K619A,B	ODCM 3-1 (2.b.)	N/A
1D11-K621A,B	TS 3.3.3.1-1 (5.)	N/A
1D11-K621A,B	TS 3.3.6.1-1 (2.c.)	LFD-1-PCIS-09
1D11-K622A,B,C,D	TRM T3.3.3-1 (4.)	N/A
1D11-K630	TS LCO 3.4.5.b.	N/A
1D11-K751A,B	TRM T3.3.8-1 (2.)	LFD-1-PRM-04
1D11-K752A,B,	ODCM 3-1 (3.a.)	LFD-1-PRM-05
1D11-N003A,B	TS 3.3.3.1-1 (5.)	N/A
1D11-N003A,B	TS 3.3.6.1-1 (2.c.)	LFD-1-PCIS-09
1D11-N006A,B,C,D	TRM TLCO 3.3.11	LFD-1-MSLR-01
1D11-N007	ODCM 2-1 (1.)	LFD-1-PRM-01
1D11-N008	ODCM 2-1 (2.)	N/A

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Operations Training
JPM

Admin 5, RO

TITLE		
EVALUATE AN RWP		
AUTHOR	**MEDIA NUMBER**	**TIME**
DAVID GIDDENS	LR-JP-10030-00	10 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R		

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PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-10030**

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

UNIT 1 (X) UNIT 2 (.)

TASK TITLE:	Comply with radiation work permit requirements during normal or abnormal conditions.
JPM NUMBER:	LR-JP-10030-00
TASK STANDARD:	The task shall be completed when the operator has determined: dress out requirements, time before dosimetry alarm occurs, actions if an alarm occurs and when a brief is required.
TASK NUMBER:	N/A
OBJECTIVE NUMBER:	N/A
TYPE	N/A

PLANT HATCH JTA IMPORTANCE RATING:

RO N/A

SRO N/A

K/A CATALOG NUMBER: G2.3.7

K/A CATALOG JTA IMPORTANCE RATING:

RO 3.5

SRO 3.6

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
	60AC-HPX-004-0, Radiation & Contamination Control 60AC-HPX-002, Personnel Dosimetry

REQUIRED MATERIALS:	**Unit 2**
	RWP 09-0004 for Operations HP survey 45552. 60AC-HPX-004-0, Radiation & Contamination Control

APPROXIMATE COMPLETION TIME: 10 Minutes

SIMULATOR SETUP: N/A

UNIT 1

READ AND GIVE A COPY TO THE OPERATOR

INITIAL CONDITIONS:

1. Unit 1 is at 100% power with no significant problems.
2. RWP 09-0004 is one of Operations current RWPs.
3. Health Physics survey 45552 is the latest survey of the Unit 1 Condensate Demin Valve nest.
4. You need to enter the Unit 1 Condensate Demin Valve Nest to perform an OJT module and train a new System Operator (SO).
5. HP approval has been granted to use minimum requirements for entry.
6. Assume the survey map is current.

INITIATING CUES:

Using RWP 09-004 and survey map 45552 determine the following information:

- What, if any, are the minimum dress requirements for entry
- Assuming the highest current General Area Dose Rate, calculate the maximum stay time before the DAD alarms on dose accumulated.
- Required actions if the DAD alarms on dose accumulated.
- Assuming plant conditions change, determine the minimum General Area Dose Rate which would REQUIRE an HP brief prior to entry

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: Provide the candidate with RWP 09-0004 and survey 45552.

****1.**	Determine the minimum dress requirements for entry.	Operator determines that lab coat, booties, and gloves are required when entering this area	SAT / UNSAT
NOTE: An answer of "Full Dress" makes the step UNSAT but no longer Critical (i.e. Full Dress is more conservative).			
****2.**	Determine the maximum stay time before the DAD alarms on dose accumulated.	Operator determines the max stay time is 2 hours	SAT / UNSAT
NOTE: Per RWP, DAD set at 10 mr/hr for training. Per Survey Map, the max general area dose rate is 5 mr/hr.			
****3.**	Determine required actions if the DAD alarms on dose accumulated.	Operator determines that immediate exit and HP notification is required.	SAT / UNSAT
****4.**	Determine the minimum General Area Dose Rate which would REQUIRE an HP brief prior to entry	Operator determines that > .1 Rem/hr (100 mr/hr) requires a brief.	SAT / UNSAT
NOTE: Per RWP, a briefing is required prior to entry into a High Rad Area which is defined as > .1 Rem/hr.			

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.

Radiation Work Permit

Plant Hatch

09-0004

ACTIVE

Rev **0**

Unit **0**

Job Description	Operations Inspection, Surveillance and Fire Watch - This RWP not for entries into Locked High Rad or Very High Rad Areas
Location	GENERAL PLANT LOCATION

HP Coverage	Authorization	Briefing
INTERMITTENT	WORK GROUP	CONDITIONAL

Start Date 1/1/2009 End Date 1/1/2010

Job Supv. SOS Ext. 5959

Radiological Conditions

Refer to current survey of work area.

Dosimetry

DIGITAL ALARMING DOSIMETER (DAD)

WHOLE BODY TLD

Protective Clothing Requirements

REFER TO WORKER/SPECIAL INSTRUCTIONS

Respirators

RESP

Usage is Conditional per HP

Tasks

Description	DAD Alarms Dose (mr)	DAD Alarms Rate (mr/h)
OPS Rounds, Clearances, Surveil.	**25**	**500**
OPS Control Room Activities	**10**	**50**
Supervision / Observation	**20**	**100**
JPMs /Training Activities	**10**	**100**

Instructions

DAD's must be accessible for visual monitoring. Monitor DAD periodically while in the RCA.

Lab Coats, Booties & Gloves allowed for training, inspections, surveillances, Step Off Pad maintenance or Light Work (with HP approval)

Unless otherwise specified by HP, full dress is required for contaminated area entry.

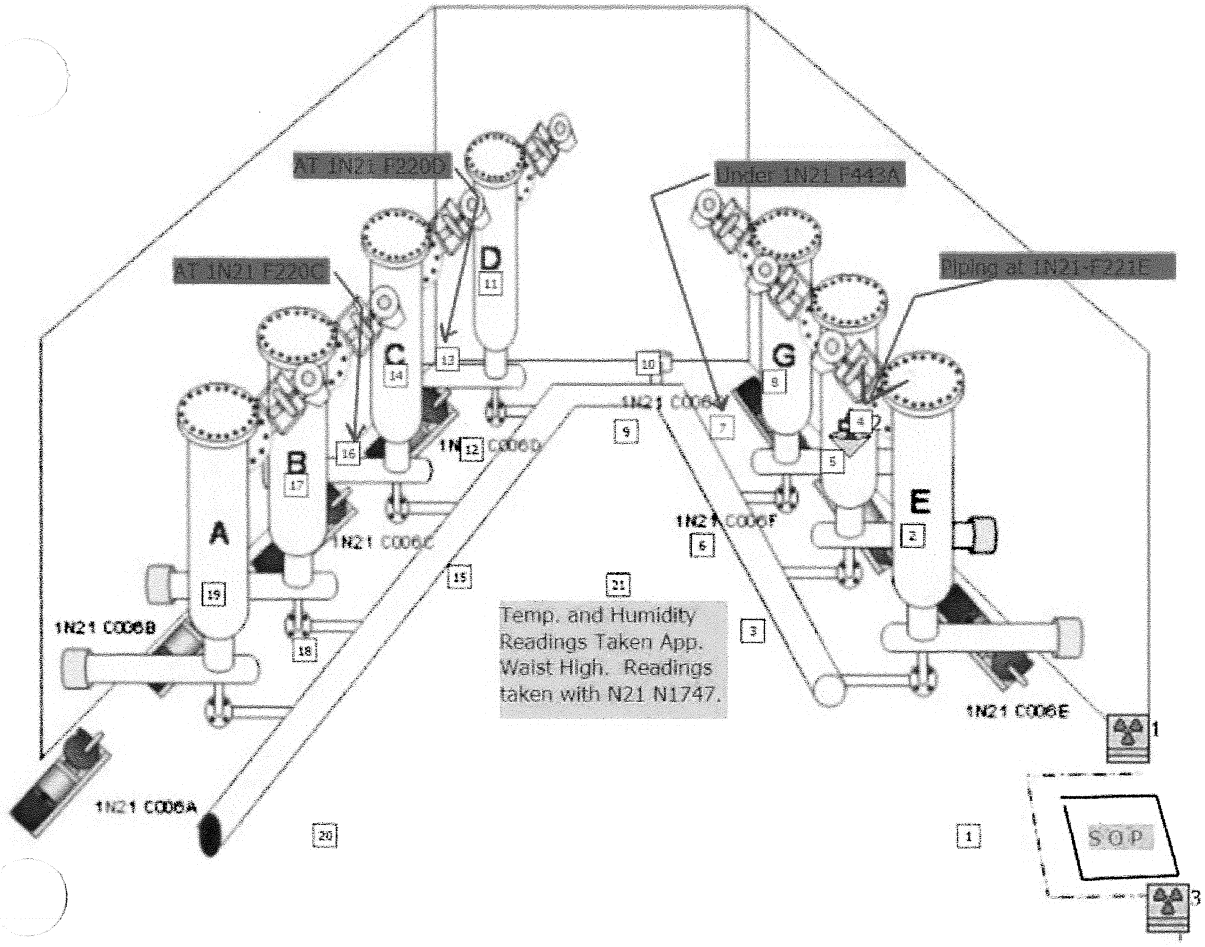
Use Cameras in lieu of entry, when possible, to reduce exposure.

Entries into Locked High Rad or Very High Rad areas are not permitted on this RWP.

Briefing required prior to entering a High Radiation Area

Prepared	Health Physics Staff	Approved	12/26/2008 08:25 by DPHOBBS	Suspended	Terminated

U1 Condensate Demin Valve Nest (1TB112)



Status:	Approved		**Rx Reactor Power:**	100%
Performed By:	Lindy Williams Danny Sweat		**Reactor Mode:**	1
			H2 Injection Level:	10
Max Dose Rate:	5 mrem/hr		**Void Level:**	0
Max Cntm:	<MDA dpm/100 cm2		**System Running:**	Yes
Approved By:	Williams,Lindy	07/20/2008 03:50	**Survey Dose:**	1

Purpose: Routine Survey
Remarks: Di Rad 03-1087N Survey
Component:

ASR #s	RWP #s
	08-0001

Instrument	Description	Comment
42123-1	TENNELEC	
5680	RO-20	

ngs:

#	Type	Description
1	Caution - Rad Sign	Contaminated Area
		Radiation Area
		Radioactive Material

2	Catch Basin	
3	Caution - Rad Sign	Contaminated Area
		Radiation Area
		Radioactive Material

Point Data:

#	Point	Type	Value	Units	Level	Comments
1	Flex	Dose Rate - Gamma G/A	<2	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
2	Flex	Dose Rate - Gamma G/A	3	mrem/hr	Low	
	Flex	Dose Rate - Gamma Contact	5	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
3	Flex	Dose Rate - Gamma G/A	2	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
4	Flex	Dose Rate - Gamma G/A	3	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
5	Flex	Dose Rate - Gamma G/A	4	mrem/hr	Low	
	Flex	Dose Rate - Gamma Contact	8	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
	Flex	Dose Rate - Gamma G/A	2	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
7	Flex	Dose Rate - Gamma G/A	3	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
8	Flex	Dose Rate - Gamma G/A	4	mrem/hr	Low	
	Flex	Dose Rate - Gamma Contact	8	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
9	Flex	Dose Rate - Gamma G/A	2	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
10	Flex	Dose Rate - Gamma G/A	<2	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
11	Flex	Dose Rate - Gamma G/A	3	mrem/hr	Low	
	Flex	Dose Rate - Gamma Contact	8	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
12	Flex	Dose Rate - Gamma G/A	2	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
13	Flex	Dose Rate - Gamma G/A	3	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
14	Flex	Dose Rate - Gamma G/A	5	mrem/hr	Low	

	Flex	Dose Rate - Gamma Contact	10	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
1	Flex	Dose Rate - Gamma G/A	2	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
16	Flex	Dose Rate - Gamma G/A	3	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
17	Flex	Dose Rate - Gamma G/A	4	mrem/hr	Low	
	Flex	Dose Rate - Gamma Contact	9	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
18	Flex	Dose Rate - Gamma G/A	2	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
19	Flex	Dose Rate - Gamma G/A	4	mrem/hr	Low	
	Flex	Dose Rate - Gamma Contact	9	mrem/hr	Low-Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
20	Flex	Dose Rate - Gamma G/A	2	mrem/hr	Low	
	Flex	Contamination - Alpha	<20	dpm/100 cm2	Low-Low	
	Flex	Contamination - B/G	<MDA	dpm/100 cm2	Low-Low	
21	Flex	Temperature	109	Deg F	High-High	
	Flex	Humidity	30	%	Low-Low	

DRAFT

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM
Admin 6, SRO Only

TITLE		
REVIEW/AUTHORIZE EMERGENCY EXPOSURES		
AUTHOR	**MEDIA NUMBER**	**TIME**
F.N.FAGAN	LR-JP-200.108-00	10 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R		

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:

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
00		Initial development	FNF	

UNIT 1 (X) UNIT 2 ()

TASK TITLE:	Develop Duty Roster For Extended Emergency Activities
JPM NUMBER:	LR-JP-200.108-00
TASK STANDARD:	The task shall be complete when the operator has completed review and/or approval of TRN-0115, "Authorization To Exceed 10 CFR 20 Limits".
TASK NUMBER:	H-OPSR200.108
OBJECTIVE NUMBER:	

PLANT HATCH JTA IMPORTANCE RATING:

RO N/A

SRO 4.08

K/A CATALOG NUMBER: G2.4.38

K/A CATALOG JTA IMPORTANCE RATING:

RO N/A

SRO 4.4

OPERATOR APPLICABILITY: Senior Reactor Operator (SRO)

GENERAL REFERENCES:	**Unit 1**
	73EP-EIP-017-0 , Emergency Exposure Control 60AC-HPX-001-0, Radiation Exposure Limits

REQUIRED MATERIALS:	**Unit 1**
	73EP-EIP-017-0 , Emergency Exposure Control

APPROXIMATE COMPLETION TIME: 10 Minutes

SIMULATOR SETUP: N/A

UNIT 1

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. An ATWS has occurred with fuel damage.
2. A General Emergency has been declared.
3. You are the Emergency Director.
4. The OSC is manned and requests your review and approval for emergency radiation exposures.

INITIATING CUES:

Review and approve the forms for "Authorization To Exceed 10 CFR 20 Limits" per the guidelines of 73EP-EIP-017-0, "Emergency Exposure Control".

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: Provide the operator with the attached TRN-0115 Forms.

START TIME:_____

1.	Obtains the correct procedure.	Emergency Director obtains a copy of 73EP-EIP-017-0.	SAT / UNSAT
2.	Reviews precautions and limitations.	Emergency Director reviews precautions and limitations.	SAT / UNSAT
3.	Reviews procedural guidelines for dose.	Emergency Director reviews "Emergency Response Personnel Exposure Guides" table.	SAT / UNSAT
4.	Reviews first form for "Authorization To Exceed 10 CFR 20 Limits".	Emergency Director reviews form TRN-0115 for Mary T. Jones.	SAT / UNSAT
5.	Determine if operator meets the dose guidelines of 73EP-EIP-017-0.	Emergency Director determines Mary T. Jones does **NOT** meet the guidelines.	SAT / UNSAT

NOTE: Limitation 5.2.3, limits declared pregnant females dose to normal operating procedures (60AC-HPX-001-0: 50 mr/month, 450 mr total).

****6.**	Determine if form "Authorization To Exceed 10 CFR 20 Limits" will be signed.	Emergency Director does **NOT** sign form TRN-0115 for Mary T. Jones.	SAT / UNSAT
7.	Reviews second form for "Authorization To Exceed 10 CFR 20 Limits".	Emergency Director reviews form TRN-0115 for Jack R. Smith.	SAT / UNSAT
8.	Determine if operator meets the dose guidelines of 73EP-EIP-017-0.	Emergency Director determines Jack R. Smith **DOES** meet the guidelines.	SAT / UNSAT
****9.**	Determine if form "Authorization To Exceed 10 CFR 20 Limits" will be signed.	Emergency Director **DOES** sign form TRN-0115 for Jack R. Smith.	SAT / UNSAT
			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: We will stop here.

7.4 EMERGENCY EXPOSURE GUIDELINES

7.4.1 The Emergency Director will establish the exposure limits for the emergency response personnel based on the following Emergency Response Personnel Exposure Guides:

NOTES:	• These guidelines do not establish a rigid upper limit of exposure. The Emergency Director may use his/her judgment in establishing the appropriate limit. • No thyroid limit is specified for lifesaving action since the complete loss of the thyroid may be considered an acceptable risk for saving a life; however, thyroid exposure must be minimized through the use of respiratory protection and/or KI tablets.

EMERGENCY RESPONSE PERSONNEL EXPOSURE GUIDES

Dose Limit* (REM)	*Activity*	*Condition*
5	all	n/a
10	protecting valuable property	lower dose not practicable
25	life saving or protection of large populations	lower dose not practicable
>25	life saving or protection of large populations	only on a voluntary basis to persons fully aware of the risks involved

* This limit is expressed as the sum of the effective dose equivalent (EDE) and the committed effective dose equivalent (CEDE). The lens of the eye will normally be limited to three (3) times the values AND doses to other organs (including skin and extremities) will normally be limited to ten (10) times the listed value.

7.4.2 Review the qualifications of the volunteer emergency response personnel to ascertain which volunteers would have the highest probability of completing the rescue while accumulating the least exposure.

7.4.3 Review the exposure history of the emergency response personnel for current accumulated exposure levels.

NOTE:	Authorizing signatures of emergency volunteers and the Emergency Director will normally be obtained prior to receiving emergency exposure; however, to expedite Search and Rescue operations, verbal authorization by all parties is sufficient until signatures can be obtained.

7.4.4 Complete Form TRN-0115, Authorization To Exceed 10CFR20 Exposure Limits, with the following information:

7.4.4.1 Emergency response personnel's name, TLD number and security badge number.

7.4.4.2 Emergency response personnel yearly accumulated exposure .

7.4.4.3 Authorized exposure limit, and if applicable, thyroid emergency exposure limit.

7.4.4.4 Date and time limitations associated with authorized emergency limits.

7.4.4.5 Signature of volunteer emergency response personnel indicating awareness of exposure limit extension AND risks associated with the exposure. A summary of risks associated with large doses of radiation may be found in Attachment 1.

7.4.4.6 Authorization of the Emergency Director.

SOUTHERN NUCLEAR
PLANT E.I. HATCH | PAGE 1 OF 1

FORM TITLE: AUTHORIZATION TO EXCEED 10 CFR 20 LIMITS

MARY	T.	JONES	9872	3455
(FIRST)	(M.I.)	(LAST)	TLD NUMBER	SECURITY BADGE NO

is authorized to receive an exposure of

7 REM and a thyroid exposure of 0 REM

for the period of 04/20/09 to 04/21/09.

Reason for requesting exposure in excess of 10CFR20 limits:

A fire in the HPCI Room requires manual actuation of the sprinkler system. The operator is the only volunteer to actuate the sprinkler system. Mary is a declared pregnant female, 32 years old, in good health and understands the risks associated with the exposure.

Current year exposure:

25 mr

Exposure determined by:

Barry Barns 4/20/09
Dosimetry Representative Date

EXPOSURE IN EXCESS OF 10CRF20 LIMITS	EXPOSURE ABOVE 25 REM
I have been made aware of the extension of my exposure limits.	I have been made aware of the risks involved with the exposures listed above and I accept that risk.
Mary T. Jones 4/20/09	N/A
Employee's Signature / Date	Employee's Signature / Date

APPROVAL

/
Emergency Director Date

FORM TITLE: AUTHORIZATION TO EXCEED 10 CFR 20 LIMITS

JACK	R.	SMITH	1802	9458
(FIRST)	(M.I.)	(LAST)	TLD NUMBER	SECURITY BADGE NO

is authorized to receive an exposure of

35 REM and a thyroid exposure of 0 REM

for the period of 04/20/09 to 04/21/09.

Reason for requesting exposure in excess of 10CFR20 limits:

A man is injured and pinned in a high radiation area and is expected to receive a lethal dose in 60 minutes. The operator is the only volunteer to perform a rescue. Jack is a 49 year old man, in good health and understands the risks associated with the exposure.

Current year exposure:

1200 mr

Exposure determined by:

Barry Barns 4/20/09
Dosimetry Representative Date

EXPOSURE IN EXCESS OF 10CRF20 LIMITS	EXPOSURE ABOVE 25 REM
I have been made aware of the extension of my exposure limits.	I have been made aware of the risks involved with the exposures listed above and I accept that risk.
Jack R. Smith 4/20/09	Jack R. Smith 4/20/09
Employee's Signature / Date	Employee's Signature / Date

APPROVAL

/
Emergency Director Date

5.0 PRECAUTIONS/LIMITATIONS

5.1 PRECAUTIONS

5.1.1 The risks of actual or potential radiation induced damage must carefully be weighed against the benefits to be gained when authorizing exposures in excess of 10CFR20 limits.

5.1.2 Every reasonable effort must be made to maintain personnel exposures, As Low As Reasonably Achievable (ALARA).

5.1.3 Personnel known to be allergic to KI must not be given KI tablets.

5.1.4 Personnel who experience potential allergic reactions after having taken KI must not be administered any additional KI AND must be given immediate medical attention. Possible reactions to KI include skin rashes, swelling of salivary glands, and "iodism" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes stomach upset and diarrhea).

5.1.5 After consultation with HP supervision, the Emergency Director may determine that emergency response personnel who have to enter any area of airborne radioactivity prior to air sample analysis may be administered KI as a precautionary measure.

5.2 LIMITATIONS

5.2.1 Doses to workers performing emergency services will be treated as a once-in-a-lifetime exposure.

5.2.2 Radiation doses to all workers during emergencies will, to the extent practicable, be limited to 5 REM. Justification of exposures above 5 REM must include the presence of conditions that prevent the rotation of workers or other commonly used dose reduction methods.

5.2.3 To assure adequate protection of minors and the unborn during emergencies, declared pregnant individuals exposures will be controlled in accordance with normal operating procedures.

5.2.4 The effectiveness of Potassium Iodide (KI) as a blocking agent drops quickly as a function of time AND therefore must be taken as soon as possible after authorization by the Emergency Director. The following guide provides an approximation of the effectiveness:

5.2.4.1 KI tablet taken before or concurrently with exposure is 90% effective.

5.2.4.2 KI tablet taken 3 to 4 hours after exposure is 50% effective.

5.2.4.3 KI tablet taken 12 hours after exposure has only limited effect.

5.2.5 KI has a shelf life specified by the distributing pharmaceutical company AND must be replaced prior to expiration.

5.2.6 Any rescue action that may involve substantial personnel risk must be performed by volunteers. Each of the emergency workers must be advised of the known estimated extent of such risk prior to participation. Healthy volunteers above the age 45 will receive first consideration.

6.0 PREREQUISITES

6.1 This procedure will be utilized for drills, exercises and actual emergencies.

REFERENCE

7.0 PROCEDURE

Emergency response personnel may receive exposure under a variety of circumstances in order to assure protection of others and of valuable property. These exposures will be justified if the risks permitted to the workers are acceptably low, AND the costs to others that are avoided by their actions outweigh the risks to which workers are subjected.

7.1 SAVING OF HUMAN LIFE

Where the potential risk of radiation hazard following the nuclear incident is such that life would be in jeopardy, or that there would be severe effects on the public health or loss of property detrimental to the public safety, the following criteria for saving of human life shall apply:

7.1.1 In consultation with HP supervision, the Emergency Director will evaluate the risks involved versus the benefits to be gained by considering the following:

7.1.1.1 The reliability of the prediction of radiation injury. Consideration must be given to limits of error associated with specific instruments AND techniques used to estimate the dose rate. This is especially crucial when the estimated dose approximates 100 REM or more.

7.1.1.2 Assessment of the capability of reducing inherent risks from the hazard through the use of appropriate mechanisms such as protective equipment, remote manipulation equipment or similar means.

7.1.1.3 The probable effects of acute exposure that may be incurred AND numerical estimates of the delayed effects. These effects are listed in Attachment 1 Emergency Worker Risks and Delayed Health Effects Associated With Large Doses of Radiation.

7.1.1.4 The probability of success of the emergency action.

7.1.2 Make exposure authorizations in accordance with subsection 7.4 Emergency Exposure Guidelines.

7.2 PROTECTION OF HEALTH AND PROPERTY

7.2.1 When the Emergency Director in consultation with HP supervision, deems it necessary to reduce a hazard OR potential hazard to acceptable levels to prevent a substantial loss of property, an exposure of up to, but not to exceed, 10 REM may be received by individuals participating in the operation.

7.2.2 The person in charge of emergency action at the incident scene may elect, under special circumstances (e.g., first aid, removal of injured personnel, etc.), to waive these limits AND permit volunteers to receive an exposure up to, but not to exceed, 25 REM.

7.2.3 Where the potential risk of radiation hazard following the nuclear incident is such that life would be in jeopardy, that there would be severe effects on the public health OR loss of property detrimental to the public safety, the criteria for saving of human life (subsection 7.1) shall apply.

7.2.4 Make exposure authorizations in accordance with subsection 7.4 Emergency Exposure Guidelines.

7.3 RECOVERY OF DECEASED VICTIMS

7.3.1 Since the element of time is not a critical factor, the recovery of deceased victims must be well planned. The amount of radiation exposure received by persons in recovery operations shall be controlled within existing occupational exposure guides.

7.3.2 In situations where bodies are located in areas which are inaccessible because of high radiation fields, where the recovery mission would result in exposure in excess of occupational exposure limits, the use of special remote recovery devices will be considered to retrieve the bodies.

7.3.3 In special circumstances where it is impossible to recover bodies without the entry of emergency response personnel into the area, the Emergency Director may determine it necessary to exceed the occupational exposure limits.

7.3.4 Exposures received under these circumstances will be controlled in accordance with subsection 7.4, Emergency Exposure Guidelines.

DRAFT

Southern Nuclear
E. I. Hatch Nuclear Plant

Operations Training
JPM

Admin 7, RO

TITLE		
PREPARE EQUIPMENT DANGER TAGOUT		
AUTHOR	**MEDIA NUMBER**	**TIME**
KIP WAINWRIGHT	LR-JP-25020-05	40 Minutes
RECOMMENDED BY	**APPROVED BY**	**DATE**
N/R		

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PLANT E. I. HATCH

FORM TITLE: TRAINING MATERIAL REVISION SHEET

Program/Course Code: **OPERATIONS TRAINING** Media Number: **LR-JP-25020**

Rev. No.	Date	Reason for Revision	Author's Initials	Supv's Initials
01	10/01/92	General revision and format change	WMM	SMC
02	07/14/94	General revision, word processor change, adjust format	RAB	SMC
03	07/05/05	Updated to NMP-AD-003 "Equipment Clearance and Tagging" requirements, update to new JPM format, Include initial operator statement for successful completion	BKW	RAB
04	05/11/06	Remove Response Cues	BKW	RAB
05	10/24/06	Corrected "Supplement 1" based on procedure requirement.	BKW	DHG

UNIT 1 ( ) UNIT 2 (X)

TASK TITLE:	**PREPARE EQUIPMENT DANGER TAGOUT**
JPM NUMBER:	LR-JP-25020-05
TASK STANDARD:	The task shall be completed when the operator has generated a Danger Tagout for RBCCW Pump 2A per procedure NMP-AD-003 "Equipment Clearance and Tagging".
TASK NUMBER:	300.016
OBJECTIVE NUMBER:	300.016.O

PLANT HATCH JTA IMPORTANCE RATING:

RO 3.20
SRO 2.74

K/A CATALOG NUMBER: 2.2.13

K/A CATALOG JTA IMPORTANCE RATING:

RO 4.1
SRO 4.3

OPERATOR APPLICABILITY: Nuclear Plant Operator (NPO)

GENERAL REFERENCES:	**Unit 2**
NMP-AD-003 Equipment Clearance and Tagging (current version) NMP-AD-003-F01 Tagout Cover Sheet (current version) NMP-AD-003-F02 Tagout Tag Listing (current version) NMP-AD-003-F08 Tagout Preparation And Approval Checklist (current version) 34SO-P42-001-2 Reactor Building Closed Cooling Water System (current version) NMP-OS-002 Verification Policy (current version) Plant Drawing H-26054	

REQUIRED MATERIALS:	**Unit 2**
NMP-AD-003 Equipment Clearance and Tagging (current version) NMP-AD-003-F01 Tagout Cover Sheet (current version) NMP-AD-003-F02 Tagout Tag Listing (current version) NMP-AD-003-F08 Tagout Preparation And Approval Checklist (current version) 34SO-P42-001-2 Reactor Building Closed Cooling Water System (current version) NMP-OS-002 Verification Policy (current version) Plant Drawing H-26054	

APPROXIMATE COMPLETION TIME: 40 Minutes

SIMULATOR SETUP: N/A

UNIT 2

READ TO THE OPERATOR

INITIAL CONDITIONS:

1. The RBCCW Pump 2A, 2P42-C001A, has tripped.
2. The SO sent to investigate the tripped RBCCW pump has reported the supply breaker has tripped.
3. The Maintenance Foreman believes that the pump impeller may be bound and is writing up the MWO to investigate the pump trip. Maintenance will require a Danger Tagout on RBCCW Pump 2A.
4. The eSOMs Software System is down and will not be restored for several days.
5. The Shift Manager wants to keep RBCCW 2B and 2C Pumps operable.
6. The last manual tagout number used was 2-DT-09-2T46-30002, per section 4.0 of NMP-AD-003.

INITIATING CUES:

Prepare a Danger Tagout for RBCCW Pump 2A, per Section 6.5 of NMP-AD-003.

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.

NOTE: **Steps of this JPM may be completed in any order.**

START TIME:_____

1.	Operator identifies the procedure needed to perform the task.	Operator has IDENTIFIED the correct procedure as NMP-AD-003.	SAT / UNSAT
2.	Operator identifies the procedure manual forms needed to perform the task.	Operator has IDENTIFIED the correct procedure manual forms as F01 and F02.	SAT / UNSAT
3.	Operator identifies the reference materials which are required.	Operator has IDENTIFIED the required reference materials and where to obtain them. Possible Ref Material: • NMP-AD-003 • 34SO-P42-001-2 • H-26054	SAT / UNSAT
4.	Operator determines "A" RBBCW Pump control switch requires a tag.	Operator has DETERMINED that "A" RBCCW Pump Control switch requires a tag.	SAT / UNSAT

NOTE: The valves listed in this JPM are the minimum requirements for safe tagging. Components tagged in excess of this minimum will require a case-by-case determination by the evaluator.

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
**5.	Determine the equipment/components which must be tagged for the tagout.	The operator has DETERMINED the following must be tagged: **2R23-S003 FR 2B, pump breaker** **2P42-F004A, pump suction vlv** **2P42-F005A, pump discharge vlv** **2P42-FD005, disch line drain vlv** **2P42-F044A, pump casing vent valve**	 SAT / UNSAT SAT / UNSAT SAT / UNSAT SAT / UNSAT SAT / UNSAT
6.	Complete the following on the Tagout Cover Sheet (Form 01): ① Clearance Number ② Tagout Number ③ Component Affected ④ Description ⑤ Ops Instructions ⑥ Holder Instructions ⑦ References	On the Tagout Cover Sheet (Form 01), the operator has COMPLETED the following: ① Clearance Number – **2-DT-09** ② Tagout Number – **2-DT-09-2P42-30003** ③ Component Affected - **RBCCW Pump 2P42-C001A** ④ Description - **Investigate problem with RBCCW pump** ⑤ Ops Instructions - **Notify Lab prior to draining to Radwaste** ⑥ Holder Instructions – **None** ⑦ References – **H26054**	 ① SAT / UNSAT ② SAT / UNSAT ③ SAT / UNSAT ④ SAT / UNSAT ⑤ SAT / UNSAT ⑥ SAT / UNSAT ⑦ SAT / UNSAT

PROMPT: **IF** the operator addresses the Tagout Number, **PROVIDE** copy of Training Reference "Form 06 – Clearance Tagout Log Sheet".

7.	⑧ Tagout Attributes	⑧ Tagout Attributes- **May be left blank**	SAT / UNSAT
8.	⑨ WorkDoc Holder List	⑨ WorkDoc Holder List – **May be left blank**	SAT / UNSAT

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)

PROMPT: **IF** the operator addresses Tagout Attributes, **INFORM** the operator as the Shift Supervisor that no additional attributes are required for this tagout.

PROMPT: **IF** the operator addresses WorkDoc No., **INFORM** the operator as the Maintenance Foreman the MWO is not written yet and a number has not been generated.

9.	Complete the following on the Tagout Tag Listing (Form 02): ① Clearance Number ② Tagout Number	On the Tagout Tag Listing (Form 02), the operator has COMPLETED the following: ① Clearance Number – **2-DT-09** ② Tagout Number – **2-DT-09-2P42-30003**	① SAT / UNSAT ② SAT / UNSAT
****10.**	Complete the following on the Tagout Tag Listing (Form 02): ⑩ Tag Type ⑪ Equipment ID and description / location ⑫ Placement configuration and sequence ⑬ Verification requirement	On the Tagout Tag Listing (Form 02), the operator has COMPLETED the following: ⑩ Tag Type – ***Similar to supplement 1** ⑪ Equipment ID and description / location - ***Similar to supplement 1** ⑫ Placement configuration and sequence - ***Similar to supplement 1** ⑬ Verification requirement - ***Similar to supplement 1**	⑩ SAT / UNSAT ⑪ SAT / UNSAT ⑫ SAT / UNSAT ⑬ SAT / UNSAT

PROMPT: **IF** the operator addresses Tag serial numbers, **INFORM** the operator as the Shift Supervisor that the Tag numbers will be created when the Tagout is Authorized.

(Indicates critical step)**

STEP #	PERFORMANCE STEP	STANDARD	SAT/UNSAT (COMMENTS)
11.	Complete the following on the Tagout Cover Sheet (Form 01): ⑭ Tagout Verification Prepared Name & Date	On the Tagout Cover Sheet (Form 01), the operator has COMPLETED the following: ⑭ Tagout Verification Prepared Name & Date - **Operator Signs & Dates Tagout as Preparer**	SAT / UNSAT

PROMPT: **IF** the operator addresses review or authorization of Tagout, **INFORM** the operator as the Shift Supervisor that another Shift Supervisor will review the Tagout and forward it to him for authorization.

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: We will stop here.

(Indicates critical step)**

Clearance:	1
Tagout:	2
Component Affected:	
3	
Description:	
4	
OPS Instructions:	
5	
Holder Instructions:	
6	
References:	
7	

Tagout Attributes:

Attribute Description	Attribute Value
8	

WorkDoc Holder List:

Number / Equipment ID	Description	1st Verified	2nd Verified
9			

Tagout Verification:

Status	Description	Name	Verification Date
Prepared	Prepared	14	
Reviewed	Reviewed		
Authorized	Authorized		
Tags Verified Hung	Tags Verified Hung		
Removal Prepared	Removal Prepared		
Removal Reviewed	Removal Reviewed		
Removal Authorized	Removal Authorized		
Tags Verified Removed	Tags Verified Removed		
Records Forwarded	Records Forwarded		

Page 1 of __

Tagout Tag List

Clearance: # :	1
Tagout: #:	2

Tag		Equipment	Placement					Restoration				
Num	Type	Equipment ID Description/Location	Verif	Seq	Configuration Notes	1st Verif	2nd Verif	Verif	Seq	Configuration Notes	1st Verif	2nd Verif
	10	11	13	12	12							

UNIT 2

Clearance		Tagout			Installed		Released	
Type	Number	Number	Component Affected	Reason for Tagout	Date	Initials	Date	Initials
DT	2-DT-09	2P33-30000	2P33-F003	*Repair air leak*	1/24/09	*BKW*	1/26/09	*BKW*
DT	2-DT-09	2E11-30001	2E11-F007A	*Quarterly PM*	2/05/09	*ARB*	2/06/09	*MMG*
DT	2-DT-09	2T46-30002	2T46-D001B	*DOP Test*	3/15/09	*CME*	3/16/09	*ARB*

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Tagout Tag List

Clearance: # :	2-DT-09
Tagout: #:	2-DT-09-2P42-30003

"Verif" requirements may be "SV, "CV" or "IV"

CS Tagging is normal but not a "Critical Task".

Tag		Equipment	Placement					Restoration				
Num	Type	Equipment ID Description/Location	Verif	Seq	Configuration Notes	1st Verif	2nd Verif	Verif	Seq	Configuration Notes	1st Verif	2nd Verif
	Danger	2P42C001A CS RBCCW Pmp 2A, 2H11P650	CV	1	OFF/PTL							
	Danger	2R23S003 FR 2B RBCCW Pmp 2A, 130 U2 C/B	CV	2	RACKOUT							
	Danger	2P42F004A HW RBCCW Pump 2A Suct Vlv	CV	3	CLOSED							
	Danger	2P42F005A HW RBCCW Pump 2A Disch Vlv	CV	4	CLOSED							
	Danger	2P42FD005 HW RBCCW Pmp 2A Dis Line drn	CV	5	OPEN							
	Danger	2P42F044A HW RBCCW Pmp 2A casing vent	CV	6	OPEN							

4.20 **Supplemental Worker Supervisor** – An individual or a "Plant Position" identified as a Tagout Holder. Typically, this will be the job supervisor. This individual shall sign on to a Tagout electronically as a Work Document Holder and shall maintain the Supplemental Worker List for the associated work document. This individual shall be responsible for briefing the Supplemental Workers and keeping them informed of Tagout boundaries and protections provide by the Tagout. This individual may not sign off the Tagout as Work Doc Holder until all supplemental workers have signed off the Supplemental Worker List.

4.21 **Tagger** – A qualified person, who repositions equipment per a Tagout and hangs, removes or verifies tags.

4.22 **Tagging Official** - The Tagging Desk Operator (TDO), Unit Shift Supervisor C&T (USS C&T), Shift Support Supervisor (SSS), Shift Technical Advisor (STA) or Shift Supervisor that may perform all Clearance and Tagging functions outlined in this procedure. The Tagging Official can serve as designee for the Shift Supervisor, provided that person is cognizant of the plant's status/configuration and the Shift Supervisor is made aware of all resultant changes to the plant configuration.

4.23 **Tagout** – A tool used to uniquely identify and authorize a collection of data to remove equipment from service, track component changes, track activities associated with the entity and return the equipment to service. A Tagout is a unique document that is used once and only once and is then stored as a completed document.

4.24 **Tagout Holder** – An individual or a "Plant Position" identified on a Tagout Holder List. This individual is usually the "lead" person responsible for the overall direction of a crew performing maintenance or an individual requiring administrative hold on a Tagout. It can also be the "Authorized Employee" or "lead" person responsible for performing a test or maintenance under an Operating Permit Tagout.

4.25 **Tagout Lockout** – A Tool used on Tagouts to Preclude Sign-on of Tagout Holders and Work Document Holders.

4.26 **Tagout Number** – A unique control number assigned to a Tagout document. The Tagout Number will be a 6-part alpha numeric designator using the unit number, Clearance Tagout Type, year or outage identifier, system number, consecutive or assigned number and the revision number. Example: 1-DT-04-1208(E11)-00014(002) would be the second revision of the fourteenth Danger Tagout document issued in 2004. The unit 1 designator will be used for unit one and common equipment. Computer generated Tagouts will be assigned the next sequential number available. Manual or hand written Tagouts will be numbered sequentially starting with the number 30,000 proceeded by the unit, Tagout type, system number and year. An index will be maintained to prevent duplication of manually generated Tagout numbers and can be discarded at the end of the calendar year.

4.27 **Tagout Point** – Any device, valve, breaker, switch, etc. that is positioned by a step on a Tagout.

4.28 **Tag Numbers** – The number placed on each Tag. The Tag Number will be a 4-part alpha numeric designator using the unit number, Clearance Tagout Type, year issued, and the consecutive number. Example: 1-DT-04-00014 would be the fourteenth Danger Tag issued in 2004. Outage Tags will be identified by the Outage number replacing the year issued field. Example 1-DT-R14-00014 the R14 would identify the Outage code. Manual or hand written tags will be numbered sequentially starting with the number 30,000 proceeded by the unit, Clearance Tagout type, and year. An index will be maintained to prevent duplication of manually generated tag numbers and can be discarded at the end of the calendar year.

4.29 **Tags** – See NMP-AD-003-001, "Tag Standards" for Tag definitions.

4.30 **Temporary Lift (Temp Lift)** - The act of releasing one or more Tagout points with the possibility or intent to reinstall the Tagout points at a later time. This is performed after the component or subsystem has been placed in a configuration that assures personnel safety and the safe operation of plant equipment. Temporary Lift tags are similar to that shown on Figure 4 of NMP-AD-003-GL01.

4.31 **Verification** - The "second check" of a component's condition/position. Performed by an individual other than the one who performed the initial check/positioning. Requirements for verification can be found in procedure NMP-OS-002, "Verification Policy".

4.31.1 NV - No Verification used for position of steps such as NO TAG steps that will only be used for configuration control or as specified by Operations Management

4.31.2 SC - Single Check is normally used for placing and restoring components such as NON Safety related items that do not meet the Purpose or Applicability of Verification Policy per NMP-OS-002

4.31.3 CV - Concurrent Verification to be used per NMP-OS-002, "Verification Policy"

4.31.4 IV - Independent Verification to be used per NMP-OS-002, "Verification Policy"

4.32 **Work Document Holder** - An individual, who Signs-On a Tagout to identify that they are working under the protection of the Tagout. The individuals who Sign-on to the Tagout will do so by entry of the work document, user name, and date/time on to the Work Document/Holder List. This must be done by all workers who are afforded protection from energy sources or other hazards by the Tagout. Workers who are Work Document Holder qualified in the electronic system shall use the electronic system. Others who do not have electronic system access are called Supplemental Workers per this procedure and should sign on using the Supplemental Worker List, NMP-AD-003-F07.

5.0 Responsibilities

5.1 Plant Manager Nuclear Plant

Ensuring that plant personnel are informed of their individual responsibilities regarding the Equipment Clearance and Tagging Procedure

5.2 Department Managers (all Departments)

- Ensures all department personnel (including contractors) working for their department are trained on and comply with this procedure

- No pressure such as Nitrogen over pressure exists in the main steam system
- The main steam header has been drained as necessary to ensure no adverse water flow will occur when the MSIV's are opened

6.4.3.2 With Shift Supervisor concurrence and satisfactory completion of the above prerequisites, tags may be placed on appropriate components which will prevent heat input into the main steam system from the reactor. Consideration should be given to the following when selecting appropriate components to tag.

- Nitrogen supply to the main steam lines.
- Auxiliary steam heat from opposite Unit.
- RCP pump heat input to the RCS.
- Pressurizer heater input to the RCS.

6.4.3.3 Tagging of components associated with RCS Pump and Pressurizer Heater heat input to the RCS is not required if the following conditions are met:

- Administrative controls are verified in place to ensure the Reactor Vessel level is maintained below the MSLs at Plant Hatch.
- Administrative controls are verified in place to ensure the RCS is maintained less than 200 ℉ (Farley/Vogtle) or 150° F (Hatch).
- Administrative controls are in place to ensure MSIVs are re-tagged prior to RCS Temperature exceeding 200 ℉ (Farley/Vogtle) or 150℉ (Hatch), if a MSIV boundary is required.

6.5 Tagout Placement Preparation

NOTE:	**Action shall be initiated to correct any database error found such as equipment name or location, etc. during preparation, review, approval and hanging of a Tagout by the individual discovering the error**

6.5.1 A Preparer will use the guidance provided in NMP-AD-003-F08, "Tagout Preparation and Approval Checklist" (or equivalent) and prepare the Tagout as follows:

6.5.1.1 Review the scope of work to ensure a thorough understanding of the protection needed for personnel and equipment.

6.5.1.2 Using approved documents, determine hazardous energy sources and isolations necessary to provide a safe work boundary for each work activity.

6.5.1.3 Identify and assess all potential hazards, automatic actions and/or effects on the plant which may result due to execution of the Tagout. These hazards should be identified in the Tagout Instructions when possible. Guidance should be provided as appropriate to inform and/or prevent any unwanted occurrences.

6.5.1.4 If approved documents do not exist for equipment to be tagged, then a physical walk down may be performed.

6.5.1.5 Enter the required information on the Tagout.

6.5.1.6 Components that are removed from the system or having maintenance performed on them should be identified with a "No-tag" tag type to ensure that it is positioned properly upon placement and removal. Do not hang any other type of tag on that component.

6.5.1.7 For components that are positioned but not tagged, mark the tag as a "No-tag" tag type.

6.5.1.8 For Tagout points that are to be used for Information only an "INFO Step" may be used.

6.5.1.9 Utilizing the Tagout points, prepare the Tagout:

- Indicate type of tag
- Indicate component number and name
- List the required position and sequence
- Indicate verification requirements
- If special instructions are applicable, annotate in appropriate section

6.5.1.10 Sign the Tagout as Preparer.

6.5.1.11 Sign the Work Documents listed on the Tagout as 1st Verified.

6.6 Tagout Placement Review

6.6.1 A Reviewer will perform an independent review of the Tagout.

6.6.2 Verify the Tagout points and boundary isolations selected provide adequate plant and personnel safety for work activities listed.

6.6.3 Verify and assess all potential automatic actions and/or effects on the plant which may result due to execution of the Tagout. Ensure these items are identified and are properly documented on the Tagout when possible.

6.6.4 Review the Tagout points for the correct:

- Tag type used
- Component number and name
- Position and sequence
- Placement verifications required

6.6.5 Review impact on equipment (including Tech Specs).

6.6.6 Review or add any special instructions that apply to the Tagout.

6.6.7 Sign the Tagout as Reviewer.

6.6.8 Sign the Work Documents listed on the Tagout as 2nd Verified.

Tagout #	

CLEARANCE PREPARATION AND APPROVAL CHECKLIST	
Installation	
Ensure Work Scope is understood.	
Check all work documents are identified and are correct.	
Check Syncpowr support tab is updated for all work docs.	
Ensure correct Tagout Type is selected.	
Ensure common or shared systems use the UNIT ONE folders.	
Ensure all Hazards, Automatic actions, SPVs or plant effects are identified.	
Ensure safe work boundaries are established.	
Ensure work area drained and vented and can be maintained in that condition.	
Verify correct unit designation is used for all components.	
Ensure Equipment numbers, descriptions and locations are correct.	
Ensure correct Tag type is identified for each step.	
Ensure required position and sequence numbers are correct.	
Identify special installation notes annotated.	
Ensure that Caution Tags have Placement Notes annotated.	
Ensure Placement Verifications are correct for steps.	
Check CV on placement steps for components requiring IV.	
Identify and list all references on Tagout.	
Ops/Holder Instructions: Identify locked components.	
Ops/Holder Instructions: Identify procedures to be used.	
Holder Instructions: Identify Special actions.	
Holder Instructions: Identify any Boundary or Drainage issues.	
Check tag status for each T/O (Conflict Check).	
Tag Control Switches of breakers that are tagged.	
Verify tagging installation sequence is correct.	
Ensure Attributes are populated as required.	
Removal	
Ensure required position and sequence numbers are correct.	
Ensure system boundaries are restored prior to re-admitting energy.	
Identify special installation notes annotated.	
Ensure Placement Verifications are correct for steps.	
Removal notes address controls which will restored a component. When left out of position.	
Check tag status for each T/O (Conflict Check)	
Identify shared Tags and impact of release.	
Ensure required position and sequence numbers are correct.	
Verify tagging removal sequence is correct.	
Ensure all Hazards, Automatic actions, or plant effects are identified.	
Identify special removal notes annotated.	

Southern Nuclear Operating Company			
SOUTHERN COMPANY *Energy to Serve Your World®*	**Nuclear Management Form**	Tagout Cover Sheet	NMP-AD-003-F01 Version 1.0 Page 1 of 1

Clearance:	
Tagout:	
Component Affected:	
Description:	
OPS Instructions:	
Holder Instructions:	
References:	

Tagout Attributes:

Attribute Description	Attribute Value

WorkDoc Holder List:

Number / Equipment ID	Description	1st Verified	2nd Verified

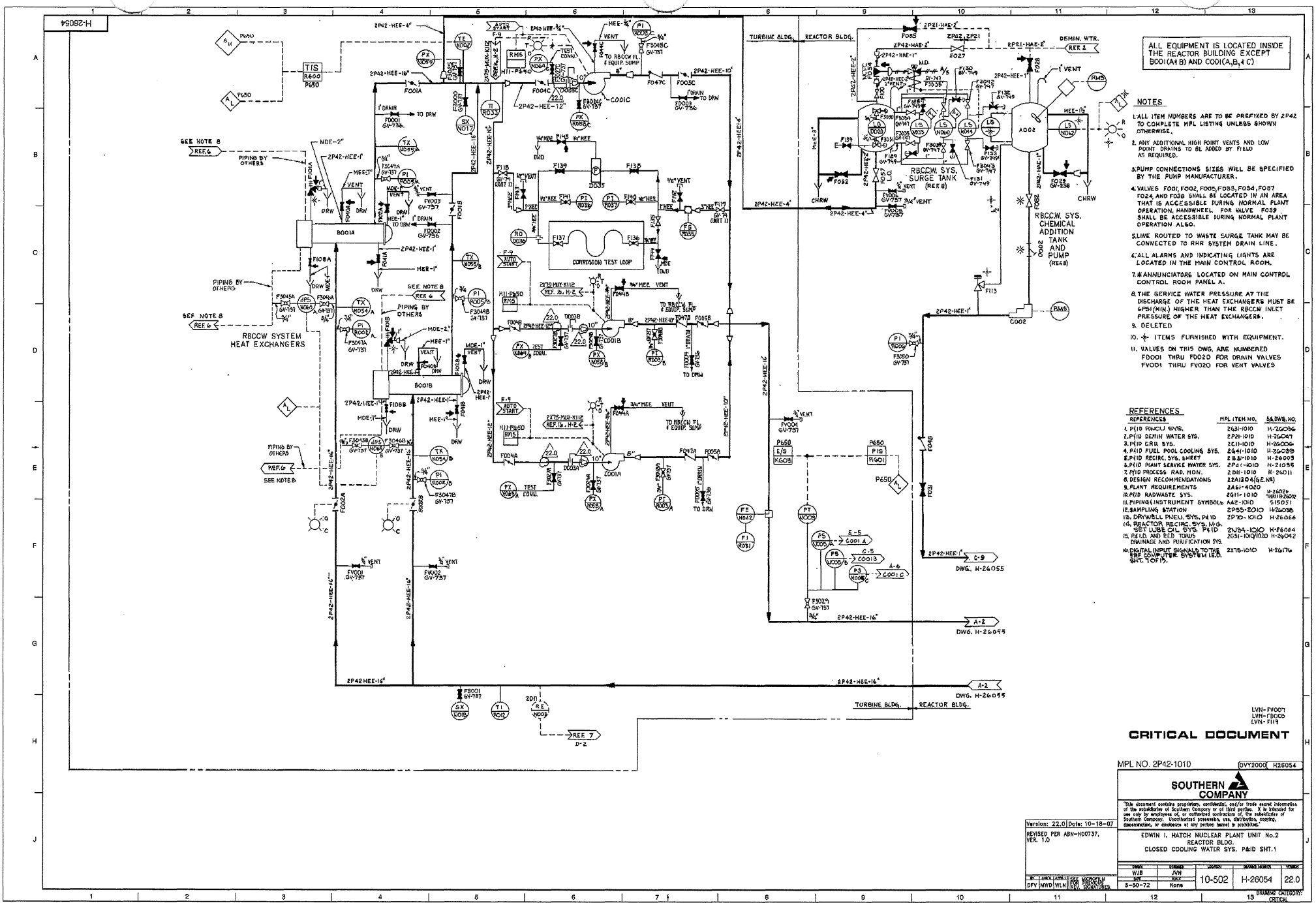
Tagout Verification:

Status	Description	Name	Verification Date
Prepared	Prepared		
Reviewed	Reviewed		
Authorized	Authorized		
Tags Verified Hung	Tags Verified Hung		
Removal Prepared	Removal Prepared		
Removal Reviewed	Removal Reviewed		
Removal Authorized	Removal Authorized		
Tags Verified Removed	Tags Verified Removed		
Records Forwarded	Records Forwarded		

Southern Nuclear Operating Company			
SOUTHERN COMPANY *Energy to Serve Your World*	**Nuclear Management Form**	Tagout Tag Listing	NMP-AD-0[illegible]2 Version 1.0 Page 1 of 1

Clearance: # :	
Tagout: #:	

Tag		**Equipment**	**Placement**					**Restoration**				
Num	Type	Equipment ID Description/Location	Verif	Seq	Configuration Notes	1st Verif	2nd Verif	Verif	Seq	Configuration Notes	1st Verif	2nd Verif


H-26054
ALL EQUIPMENT IS LOCATED INSIDE THE REACTOR BUILDING EXCEPT B001(A&B) AND C001(A,B,&C)
NOTES
1. ALL ITEM NUMBERS ARE TO BE PREFIXED BY 2P42 TO COMPLETE MPL LISTING UNLESS SHOWN OTHERWISE.
2. ANY ADDITIONAL HIGH POINT VENTS AND LOW POINT DRAINS TO BE ADDED BY FIELD AS REQUIRED.
3. PUMP CONNECTIONS SIZES WILL BE SPECIFIED BY THE PUMP MANUFACTURER.
4. VALVES F001, F002, F005, F033, F034, F037 F024, AND F038 SHALL BE LOCATED IN AN AREA THAT IS ACCESSIBLE DURING NORMAL PLANT OPERATION. HANDWHEEL FOR VALVE F039 SHALL BE ACCESSIBLE DURING NORMAL PLANT OPERATION ALSO.
5. LINE ROUTED TO WASTE SURGE TANK MAY BE CONNECTED TO RHR SYSTEM DRAIN LINE.
6. ALL ALARMS AND INDICATING LIGHTS ARE LOCATED IN THE MAIN CONTROL ROOM.
7. * ANNUNCIATORS LOCATED ON MAIN CONTROL CONTROL ROOM PANEL A.
8. THE SERVICE WATER PRESSURE AT THE DISCHARGE OF THE HEAT EXCHANGERS MUST BE GPSI(MIN.) HIGHER THAN THE RBCCW INLET PRESSURE OF THE HEAT EXCHANGERS.
9. DELETED
10. ✳ ITEMS FURNISHED WITH EQUIPMENT.
11. VALVES ON THIS DWG. ARE NUMBERED F0001 THRU F0020 FOR DRAIN VALVES FV001 THRU FV020 FOR VENT VALVES
REFERENCES
REFERENCES | MPL ITEM NO. | S&B DWG. NO.
1. P&ID RWCU SYS. | 2G31-1010 | H-26086
2. P&ID DEMIN WATER SYS. | 2P21-1010 | H-26047
3. P&ID CRD SYS. | 2C11-1010 | H-26006
4. P&ID FUEL POOL COOLING SYS. | 2G41-1010 | H-26038
5. P&ID RECIRC. SYS. SHEET 1 | 2B31-1010 | H-26003
6. P&ID PLANT SERVICE WATER SYS. | 2P41-1010 | H-21038
7. P&ID PROCESS RAD. MON. | 2D11-1010 | H-26011
8. DESIGN RECOMMENDATIONS | 22A1204(G.E.NE) |
9. PLANT REQUIREMENTS | 2A61-4020 |
10. P&ID RADWASTE SYS. | 2G11-1010 | H-26028 THRU H-26032
11. PIPING & INSTRUMENT SYMBOLS | 442-1010 | 515051
12. SAMPLING STATION | 2P55-2010 | H-26035
13. DRYWELL P&ID SYS. P&ID | 2P33-1010 | H-26066
14. REACTOR RECIRC. SYS. M-G. SET LUBE OIL SYS. P&ID | 2N34-1010 | H-26044
15. P&ID AND P&ID TORUS DRAINAGE AND PURIFICATION SYS. | 2G51-1010 THRU 1012 | H-26042
16. DIGITAL INPUT SIGNALS TO THE SPDS COMPUTER SYSTEM I&D SHT. 1 OF 17. | 2X75-1010 | H-26176
LVN-FV007
LVN-FD005
LVN-F119
CRITICAL DOCUMENT
MPL NO. 2P42-1010
OVY2000 H26054
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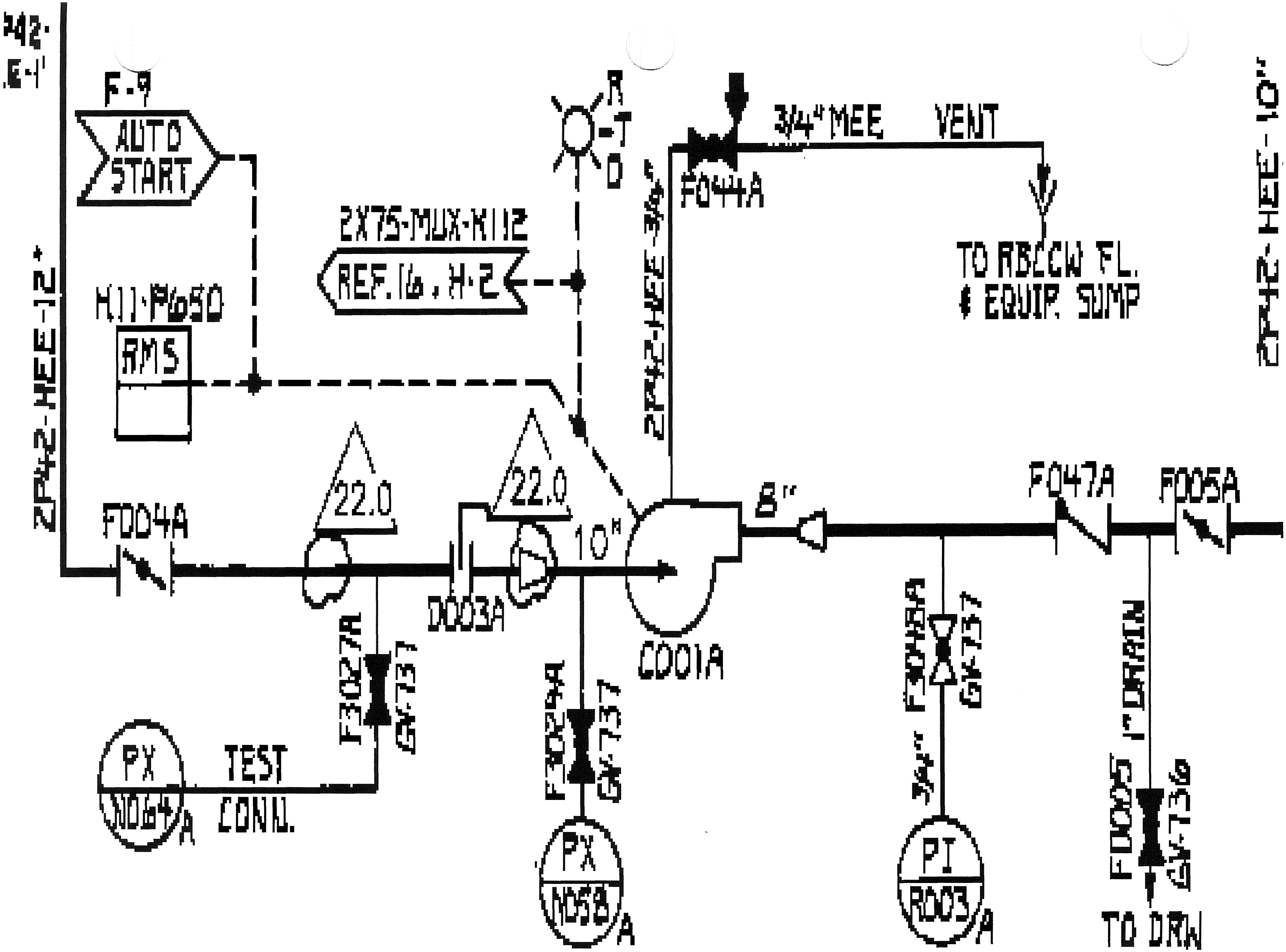
EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
REACTOR BLDG.
CLOSED COOLING WATER SYS. P&ID SHT.1
DRAWN WJB | DESIGNED JVN | LOCATION 10-502 | DRAWING NUMBER H-26054 | VERSION 22.0
DATE 5-30-72 | SCALE None
Version: 22.0 | Date: 10-18-07
REVISED PER ABN-H07037, VER. 1.0
DFY MWD WLN
DRAWING CATEGORY: CRITICAL
TURBINE BLDG.
REACTOR BLDG.
RBCCW SYSTEM HEAT EXCHANGERS
RBCCW. SYS. SURGE TANK (RE18)
RBCCW. SYS. CHEMICAL ADDITION TANK AND PUMP (RE18)
CORROSION TEST LOOP
B001A
B001B
C001A
C001B
C001C
DWG. H-26055
DWG. H-26054
REF. 7 D-2



242-
E-1'
F-9
AUTO START
R-T-D
3/4" MEE
VENT
F044A
2X75-MUX-K112
REF. 16, H-2
TO RBCCW FL. & EQUIP. SUMP
2P42-HEE-10"
2P42-HEE-3/4"
H11-P650
RMS
2P42-HEE-12"
F004A
22.0
22.0
10"
8"
F047A
F005A
D003A
C001A
F302A
GV737
F302A
GV737
F304A
GV737
3/4"
1" DRAIN
F005
GV736
TO DRW
PX
N064A
TEST CONN.
PX
N058A
PI
R003A