ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-B3306
Revision: 05
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TRAINING PROGRAM:

NRC Operating Exam

JPM-CR1

☐ Time Critical ☒ Alternate Path Validation Time: 25 min

TITLE:

Shift Recirc Pumps to Fast Speed

☐ New Material ☐ Minor Revision ☒ Major Revision ☐ Cancellation

REASON FOR REVISION: Revised JPM to include new procedure steps added by procedure revision. Changed JPM completion point to reduce the time required to complete this JPM.

THIS DOCUMENT REPLACES: GJPM-OPS-B3306 Rev 4

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Jonathan Sparks **Preparer	5/1/10 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	10/4/11 Date
Validated By:	Chris Laird Training Representative	10/4/11 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/4/11 Date

Approval Date:* 10/4/11

* Indexing Information
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[+] Indicates that the LP has been reviewed by the Training Supervisor for inclusion of Management Expectations and items referenced on TQJA-201- DD06, Training Material Checklist.
[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Shifting Reactor Recirc Pumps to Fast Speed

Setting:	Simulator
Type:	RO
Task:	CRO-B33(1)-005
K&A:	202001: A4.01 (3.7/3.7)
Safety Function:	Recirculation System
Time Required:	25 minutes
Time Critical:	No
Alternate Path:	Yes
Performance:	Actual
Reference(s):	04-1-01-B33-1/4.2/6.2/6.3
Handout(s):	None
# Manipulations:	6
# Critical Steps:	4
Group:	2

Simulator Setup/Required Plant Conditions:

1. In the Simulator Instructor Booth, ensure Director is running and reset the simulator to IC-43 (IC with plant ready to upshift Recirc Pumps)
2. Perform or verify the following:
   - Verify plant power between 30% and 32% power
   - Verify load line < 75%
   - Verify feedwater flow > 4.0 mlbm/hr.
   - Verify Recirc Pump “B” operating in SLOW speed with FCV 95% open
   - Verify Recirc Pump “A” operating in FAST speed with:
     - FCV at min position
     - Reset cavitation interlock
     - Depress the Recirc Pump “A” start PB
   - Verify FCTR in SETUP (remote function c51310)
   - Verify that all prerequisites contained in section 4.2.1 of 04-1-01-B33-1 are satisfied.
3. Insert Malfunction rr196b (Incomplete Sequence B)

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The plant is in power ascension, approximately 34% power.
- Recirc Pump A is in FAST speed
- APRM FCTR cards are in SETUP
- Breakers CB-3B and CB-4B are racked in and closed.
- Requirements for entry into Restricted Region have been met.

Initiating Cue(s):

- The Shift Manager has directed you to shift Reactor Recirc Pump B to FAST speed.
- All prerequisites are met.
- This task is not time critical.

Task: **Shifting Reactor Recirc Pumps to Fast Speed**

Notes: (Notes to Evaluator)

1. Several parameter verifications must be made prior to transferring a Recirc pump to fast speed. The standard for doing so offers only one source for this instrumentation. There may be more than one source, so the standard usually states "or equivalent" to let the evaluator know that there may another legitimate way to verify the parameter.
2. Unless otherwise indicated, all controls and indications for this task are on panel 1H13-P680-3A - 3C.
3. If asked about monitoring for THI, inform the trainee that another operator will monitor for THI.
4. This task begins at 04-1-01-B33-1/ Step 4.2.2

Task Overview: (Detailed description of task)

- This task shifts the second Reactor Recirculation Pump to fast speed in preparation for power ascension.
- The first recirc pump is already in fast speed.
- The fault in this task is that RRP fast speed breaker CB-5B fails to close, resulting in an Incomplete Start Sequence and a system shutdown.
- The operator will enter the Reduction in Recirc System Flow ONEP and close the discharge valve for the B Recirc Pump completing the JPM.
- The core must be closely monitored for Thermal Hydraulic Instability (THI). For this task, it will be assumed that another operator will monitor for THI.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-B33-1 step 4.2.2a(1)

☐* ***ADJUST*** *Recirc Loop B FCV to MIN ED position as follows:*

☐* ***USING*** *Recirc Loop B FLO CONT on 1H13-P680,* ***THEN CLOSE*** *Recirc Loop B FCV until MIN ED (≈20%) is just indicated on B33 Process Diagram* ***OR*** *Computer point B33N027B*.

☐ **ALLOW** computer point B33K658B.C88 at least 5 seconds for computer point updates.

☐ **IF** sufficient PDS computer points are **NOT** available, a FCV position of approximately ≈20% **USING** FEEDS indication May be used to set FCV.

Standard: Adjust B flow control valve to 20% open (Min Ed).

Cue:

Notes:

SAT / UNSAT

Step 2: 04-1-01-B33-1 step 4.2.2a(2)

☐ **CHECK** seal purge flow **AND** seal cavity pressure normal.

- ☐ Seal purge flow 1.5 to 2.5 gpm. (Local C11-FI-R020B).
- ☐ **CHECK** #1 seal cavity pressure slightly higher than Reactor pressure.
- ☐ **CHECK** #2 seal cavity pressure indicates approximately half the value of #1 seal cavity pressure.

Standard: Check purge flow and cavity pressures are normal.

Cue: Report Seal Purge Flow as 2.0 gpm when asked as the local operator to check seal purge flow.

Notes:

SAT / UNSAT

Step 3: 04-1-01-B33-1 step 4.2.2a(3)
☐ **CHECK** pump **AND** motor temperature normal on Recirc Pump Recorder 1B33-TR-R601 on 1H13-P614.
Standard:
Cue: **When the operator is on this step, inform the operator that all temperatures are normal.**
Notes: **This recorder is broken in the simulator.**
SAT / UNSAT

Step 4: 04-1-01-B33-1 step 4.2.2a(4)
☐ **OBSERVE** annunciators associated with Loop B HPU, seal flow, **AND** pump temperatures extinguished on 1H13-P680-3A.
Standard: Observes indications listed.
Cue:
Notes:
SAT / UNSAT

Step 5: 04-1-01-B33-1 step 4.2.2a(5)
☐ **DEPRESS** RECIRC PMP B CAV INTLK RESET pushbutton on 1H13-P680 **AND OBSERVE** respective status light deenergizes.
Standard: Depress pushbutton.
Cue:
Notes:
SAT / UNSAT

Step 6: 04-1-01-B33-1 step 4.2.2a(6)
☐ **DEPRESS** RX WTR LVL LO INTLK B RESET pushbutton on 1H13-P680 **AND OBSERVE** respective status light deenergizes.
Standard: Depress pushbutton.
Cue:
Notes: SAT / UNSAT

Step 7: 04-1-01-B33-1 step 4.2.2a(7)
☐* ***RAISE*** *respective BOP transformer tap setting to about 7.2 kV on Bus 11HD(12HE) for pump to be shifted*.
Standard: On panel P807, raise the tap setting on transformer 11B by turning the BOP XFMR 11B X-WDG TO BUS 12HE LTC clockwise to the "RAISE" position until approximately 7.2 KV is indicated on meter R22-R603.
Cue:
Notes: SAT / UNSAT

Step 8: 04-1-01-B33-1 step 4.2.2a(8)
☐ **NOTIFY** Chemistry **AND** Radiation Protection of the possibility of a crud burst as a result of the Recirculation pump speed transfer.
Standard: Notifies Chemistry and RP.
Cue: Chemistry and RP is notified.
Notes:

SAT / UNSAT

Step 9: 04-1-01-B33-1 step 4.2.2a(9)

☐* ***DEPRESS*** *START pushbutton on TRANS TO LFMG/START handswitch on 1H13-P680 for Recirc Pump B.*

☐ **CHECK** the following:

- ☐ CB-2B LFMG B GEN BRKR FDR 252-1205A, OPENS.
- ☐ CB-1B, LFMG B MTR FDR 152-1411 OPENS.
- ☐ Recirc Pump B COASTS down to less than 360 rpm.

Standard: Depress pushbutton.

Cue:

Notes:

SAT / UNSAT

Step 10: 04-1-01-B33-1 step 4.2.2a(10)	
☐ **WHEN** pump speed lowers below 360 rpm, **CHECK** that CB-5B, RECIRC PUMP B FDR, 252-1205) CLOSED.	
Standard:	Observes that breaker CB-5B ***DOES NOT*** close and Annunciator "PMP B AUTO XFER INC" P680-3A-D9 actuates.
Cue:	**When the operator reports that Recirc Pump B did not start, as the CRS direct the operator to enter the Reduction in Recirc System Flow ONEP (05-1-02-III-3) and implement the immediate and subsequent actions.**
Notes:	**This begins the alternate path for this JPM.**
	SAT / UNSAT

Step 11: 05-1-02-III-3 step 3.1	
☐ **MONITOR** APRMs, LPRMs, SRM period meters, and PBDS Computer Trends. IF operating in the Restricted or Monitored Region and thermal hydraulic instability is observed, THEN **IMMEDIATELY SCRAM** the Reactor.	
Standard:	
Cue:	**As the CRS inform the operator that another operator will have the responsibilities as THI watch and to continue with the ONEP subsequent actions.**
Notes:	**No conditions meet the requirements of step 2.1 Immediate Operator Actions.**
	SAT / UNSAT

Step 12: 05-1-02-III-3 step 3.2
☐* *IF one Recirc pump has stopped, THEN **CLOSE** RECIRC PMP B DISCH VLV B33-F067B.*
Standard: Closes B33-F067B
Cue: This completes the JPM.
Notes:
SAT / UNSAT

Task Standard(s):
The B Recirc Pump is tripped with the B33-F067B closed per 04-1-01-B33-1 SOI.
SAT / UNSAT

Task: **Shifting Reactor Recirc Pumps to Fast Speed**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The plant is in power ascension, approximately 32% power.
- Recirc Pump A is in FAST speed
- APRM FCTR cards are in SETUP
- Breakers CB-3B and CB-4B are racked in and closed.
- Requirements for entry into Restricted Region have been met.

Initiating Cue(s):

- The Shift Manager has directed you to shift Reactor Recirc Pump B to FAST speed.
- All prerequisites are met.
- This task is not time critical.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-E5102
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TRAINING PROGRAM:

NRC Operating Exam

JPM-CR2

☐ Time Critical ☒ Alternate Path Validation Time: 15 min

TITLE:

RCIC Manual Startup

☐ New Material ☒ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: Correct typographical errors discovered during operator validation and add instructions for the simulator operator.

THIS DOCUMENT REPLACES: GJPM-OPS-E5102 Rev 4

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Jonathan Sparks **Preparer	8/5/2010 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	9/26/2011 Date
Validated By:	Chris Laird Training Representative	9/26/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	9/28/2011 Date

Approval Date:* 9/28/2011

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: RCIC Manual Startup

Setting:	Simulator
Type:	RO
Task:	CRO-E51-003
K&A:	217000: A4.04 – 3.6/3.6
Safety Function:	Reactor Core Isolation Cooling System (RCIC)
Time Required:	15 minutes
Time Critical:	No
Alternate Path:	Yes
Performance:	Actual
Reference(s):	04-1-01-E51-1 section 5.2.2 ARI 1H13-P601-21A-G3
Handout(s):	None
# Manipulations:	12
# Critical Steps:	8
Group:	1

Simulator Setup/Required Plant Conditions:

- IC-31 (or any full power IC).
- Start SSW A per the SOI.
- Ensure P11-F064 and P11-F065 auxiliary building isolation valves are open on P870.
- Insert Malf. **E51050** at severity **100** on trigger 1, "steam leak in RCIC room upstream of E51F045"
- Insert EP **Attachment 3** as **DONE,** "RCIC Div 1 and 2 Isolations bypassed".

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- RCIC is in STANDBY mode.
- SSW A is in service.
- RP has set up an air sampler in the RCIC room and is ready to take an air sample when RCIC starts.
- Another operator is monitoring Suppression Pool temperature per 06-OP-1M24-V-0001.
- RCIC turbine oil level is between upper scribe marks in sight glass.
- RCIC pump inboard and outboard bearing oil levels were checked and were “visible in bulb”.

Initiating Cue(s):

- You have been directed to do a controlled manual startup of RCIC in the CST-to-CST mode, with the following parameters:
  - 800 gpm flow
  - 300 psig discharge pressure
- This task is not time critical.

Task: **RCIC Manual Startup**

Notes: (Notes to Evaluator)

1. Unless otherwise stated, all control manipulations will be at panel P601 in the Main Control Room.

Task Overview: (Detailed description of task)

- This task starts the RCIC system by manual operation of the system's individual components and controls.
  - The normal means of starting RCIC for Rx level control would be automatic as a function of Rx level or depressing the system's automatic initiation pushbutton.
- The critical skills examined here are the operator's ability to locate and operate RCIC system controls in a manner that would provide for safe, uninterrupted operation of the system without reliance on the logic that would automatically operate this system in the same manner. Also, diagnostics involved for recognition of a steam line break and failure of the automatic isolation to occur, along with effecting the required isolation will be examined.
- The fault in this task is a RCIC Steam Line break in the RCIC room with failure of the automatic isolation.
  - Continued operation of RCIC in this condition without isolating the steam supply line would lead to damage of equipment in the RCIC room and restricted personnel habitability, possibly spreading to other areas within the auxiliary building.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-E51-1 step 5.2.1 Prerequisites
☐ Check CST test return isolation valves P11-F064 and F065.
Standard: Check that listed valves are open.
Cue:
Notes:
SAT / UNSAT

Step 2: 02-S-01-27 Ops Philosophy 6.6.13
☐ Place the RCIC DIV 1 and 2 MOV TEST switches in TEST.
Standard: Place switches in TEST.
Cue:
Notes:
SAT / UNSAT

Step 3: 04-1-01-E51-1 step 5.2.2b
☐ **START** RCIC RM FAN COIL UNIT USING RCIC RM FAN COIL UNIT handswitch on 1H13-P870-1C.
Standard: Start fan, observing red light on and green light off.
Cue:
Notes: **step 5.2.2c is NA since the initial conditions indicate this step is complete. The operator may verify the SSW lineup.**
SAT / UNSAT

Step 4: 04-1-01-E51-1 step 5.2.2d

☐ **IF** desired to run RCIC in recirculation mode only, **CLOSE** F268, PRESS LOCK ISO FOR F013; to **PREVENT** flow to the reactor due to disc flexing of E51-F013. (Concurrent Verification Required)

Standard: Directs local operator to close E51-F268.

Cue: E51-F268 is closed.

Notes: step 5.2.2e is NA

SAT / UNSAT

Step 5: 04-1-01-E51-1 step 5.2.2f

☐* ***Shift*** *RCIC FLO CONT to MANUAL.*

Standard: Place Controller E51-R600 in manual.

Cue:

Notes:

SAT / UNSAT

Step 6: 04-1-01-E51-1 step 5.2.2g

☐* ***Reduce*** *RCIC FLO CONT output to minimum.*

Standard: Lower E51-R600 controller to 0%

Cue:

Notes:

SAT / UNSAT

Step 7: 04-1-01-E51-1 step 5.2.2h
☐* ***OPEN*** *F046* ***USING*** *RCIC WTR TO TURB LUBE OIL CLR handswitch.*
Standard: Opens E51-F046, observing red light on and green light off.
Cue:
Notes: SAT / UNSAT

Step 8: 04-1-01-E51-1 step 5.2.2i
☐* ***START*** *Turbine Gland Seal compressor* ***USING*** *RCIC GL SEAL COMPR handswitch.*
Standard: Start compressor, observing red light on and green light off.
Cue:
Notes: SAT / UNSAT

Step 9: 04-1-01-E51-1 step 5.2.2j
☐* ***OPEN*** *F095* ***USING*** *RCIC STM SPLY BYP VLV handswitch.*
Standard: Open valve, observing red light on and green light off.
Cue:
Notes: SAT / UNSAT

Step 10: 04-1-01-E51-1 step 5.2.2k	
☐* *AFTER 6 seconds, **OPEN** F045 **USING** RCIC STM SPLY TO RCIC TURB handswitch.*	
Standard:	Opens E51-F045, observing red light on and green light off.
Cue:	
Notes:	SAT / UNSAT

Step 11: 04-1-01-E51-1 step 5.2.2l	
☐ **RAISE** turbine speed to develop greater than 2000 rpm **USING** RCIC FLO CONT in MANUAL.	
Standard:	Raises turbine speed >2000 rpm as indicated on E51-R605.
Cue:	
Notes:	**An over-speed trip during this step will constitute a failure of the JPM.** SAT / UNSAT

Step 12: 04-1-01-E51-1 step 5.2.2m(1)

☐* ***WHEN*** *discharge pressure is above 125 psig,* ***ESTABLISH*** *RCIC discharge flow path.*

☐* ***OPEN*** *F059* ***USING*** *RCIC OTBD TEST RTN TO CST handswitch.*

☐* ***OPEN*** *F022* ***USING*** *RCIC INBD TEST RTN TO CST handswitch.*

☐ **THROTTLE OPEN** FV-F551 **USING** RCIC TEST RTN FCV TO CST handswitch.

☐ **RAISE** turbine speed as desired to establish desired flow.

Standard: Open E51-F059 and E51-F022, observing red lights on and green lights off.

Cue: If asked for guidance, as the CRS direct the operator to ensure automatic actions occur.

Notes: Once E51-F022 is open, the steam leak will be triggered. The operator will have indications of a steam leak in the RCIC room as indicated by: (1) RCIC area temp high alarms (P601-21A-H2, H3, G3), (2) RCIC steam line high ΔP alarms (P601-21A-C1,D1), (3) PDS EP-4 Operator Guide, (4) E31N602B on 1H13P642.

SAT / UNSAT

Step 13: 02-S-01-27 Ops Philosophy 6.1.1b	
☐* *Close E51-F063 or E51-F064, RCIC Steam Supply Isolation Valves to isolate the steam leak in the RCIC room.*	
Standard:	Closes E51-F063 and E51-F064, observing red lights off and green lights on.
Cue:	
Notes:	**This completes the JPM. Depressing RCIC MAN ISOL pushbutton will not isolate RCIC steam supply and is not functional unless RCIC has been manually or automatically initiated.**
	SAT / UNSAT

Task Standard(s):

RCIC was started IAW SOI 04-1-01-E51-1. RCIC steam supply line was isolated by closing E51F063 or E51F064 to isolate the steam leak in the RCIC room.

SAT / UNSAT

Task: RCIC Manual Startup

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- RCIC is in STANDBY mode.
- SSW A is in service.
- RP has set up an air sampler in the RCIC room and is ready to take an air sample when RCIC starts.
- Another operator is monitoring Suppression Pool temperature per 06-OP-1M24-V-0001.
- RCIC turbine oil level is between upper scribe marks in sight glass.
- RCIC pump inboard and outboard bearing oil levels were checked and were “visible in bulb”.

Initiating Cue(s):

- You have been directed to do a controlled manual startup of RCIC in the CST-to-CST mode, with the following parameters:
  - 800 gpm flow
  - 300 psig discharge pressure
- This task is not time critical.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

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TRAINING PROGRAM:

NRC Operating Exam

JPM-CR3

☐ Time Critical ☒ Alternate Path Validation Time: 10 min

TITLE:

Rotate EHC Pumps – Pump A to Pump C

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: New Material
THIS DOCUMENT REPLACES: NA

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Kyle Grillis **Preparer	11/30/09 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	10/3/11 Date
Validated By:	Chris Laird Training Representative	10/3/11 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/3/11 Date

Approval Date:* 10/3/11

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☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Rotate EHC Pumps – Pump A to Pump C

Setting:	Simulator
Type:	RO
Task:	CRO-N32-006
K&A:	241000: A2.06 – 3.1/3.2 Generic 2.1.30: 4.4/4.0
Safety Function:	3 - Reactor Pressure Control
Time Required:	10 minutes
Time Critical:	No
Alternate Path:	**Yes**
Performance:	Actual
Reference(s):	04-1-01-N32-1 section 5.1
Handout(s):	None
# Manipulations:	6
# Critical Steps:	5
Group:	2

Simulator Setup/Required Plant Conditions:

- IC-31
    - Reduce power to 95% using FCV's.
    - Ensure the lead TCV is <65% open.
- Verify EHC pumps A and B are operating and EHC pump C is in standby.
- Open and play schedule file GJPM-OPS-2011CR3
  - OR -
- On TRIGGER 10 insert the following instrument overrides:
    - ior ao_1n32r612 time delay 0, ramp 30 seconds, final value 410
    - ior ao_1n32r627 time delay 0, ramp 30 seconds, final value 150

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The plant is at rated power.
- EHC pumps A and B are in operation.

Initiating Cue(s):

- The CRS has directed you to rotate from EHC pump A to EHC pump C, such that EHC pumps B and C are left in operation, in accordance with 04-1-01-N32-1 section 5.1.
- An operator is at the EHC pumps standing by for instructions.

Task: **Rotate EHC Pumps – Pump A to Pump C**

Notes: (Notes to Evaluator)

1. All controls and indications for this task are on panel 1H13-P680.

Task Overview: (Detailed description of task)

- This task is to rotate from EHC pump A in operation to EHC pump C in operation, placing EHC pump A into standby.
- The fault in this task is the failure EHC pump C to maintain normal control fluid pressures.
- The operator will then be redirected return EHC pump A to operation and place EHC pump C into standby.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-N32-1 step 5.1.1 Prerequisites
☐ Verifies prerequisites for rotating EHC pumps are met. ☐ EHC FLUID PUMP C handswitch is in AUTO on 1H13-P680-10C ☐ Annunciator "CF PMP SWITCH TO AUTO", 1H13-P680-10A (C-5), is not in Alarm. ☐ Lead turbine control valve N11-F026D to be <65% open.
Standard: Verifies prerequisites are met.
Cue:
Notes: SAT / UNSAT

Step 2: 04-1-01-N32-1 step 5.1.2a
☐* ***PLACE*** *STANDBY EHC Fluid pump into operation by first* ***DEPRESSING*** *CF PMP A/B/C START pushbutton*, (1) **THEN** DEPRESS respective Auto pushbutton.
Standard: Starts EHC pump C.
Cue:
Notes: SAT / UNSAT

Step 3: 04-1-01-N32-1 step 5.1.2b
☐ **OBSERVE** that discharge pressure on EHC Fluid pump just started is approximately the same as the other running pumps by **MONITORING** applicable local pressure indicators: • CF PMP A, 1N32-PI-R006A (low pressure) 1N32-PI-R018A (high pressure) • CF PMP B, 1N32-PI-R006B (low pressure) 1N32-PI-R018B (high pressure) • CF PMP C, 1N32-PI-R006C (low pressure) 1N32-PI-R018C (high pressure)
Standard: Directs the local operator to observe EHC pump discharge pressures.
Cue: **As the local operator, report the low and high discharge pressures are normal for EHC pump C and are approximately the same as discharge pressures of EHC pumps A and B.**
Notes: SAT / UNSAT

Step 4: 04-1-01-N32-1 step 5.1.2c

☐* ***SHUT DOWN*** *one of the running EHC Fluid pumps by* ***DEPRESSING*** *CF PMP A/B/C STOP pushbutton on 1H13-P680-10C.*

☐ **WAIT** approximately 30 seconds, **THEN DEPRESS** applicable CF PMP A/B/C AUTO pushbutton.

☐* ***OBSERVE*** *that CF PRESS HP SIDE* ***AND*** *CF PRESS LP SIDE remain at greater than 445 psig* ***AND*** *175 psig respectively on 1H13-P680-10B.*

☐ Clear annunciator "CF PMP SWITCH TO AUTO," 1H13-P680-10A (C-5).

Standard: Stops EHC pump A.

Cue: **When the operator reports abnormal control fluid pressures as a result of the pump shift, direct the operator as the CRS to shift EHC pumps to EHC pumps A and B running with EHC pump C in standby.**

Notes: **A malfunction will be inserted when EHC Pump A is stopped. This will cause pump discharge pressure to drop to 410 psig and 150 psig.**

Simulator Operator Trigger **Event 10** when the operator stops EHC pump A.

SAT / UNSAT

Step 5: 04-1-01-N32-1 step 5.1.2a

☐* ***PLACE*** *STANDBY EHC Fluid pump into operation by first* ***DEPRESSING*** *CF PMP A/B/C START pushbutton*,

(1) **THEN** DEPRESS respective Auto pushbutton.

Standard: Starts EHC pump A.

Cue:

Notes: **EHC pressures will return to normal.**

Simulator Operator Trigger **Event 11** when the operator starts EHC pump A.
- OR -
manually adjust AO_1N32R612 to 577 in 30 seconds
manually adjust AO_1N32R627 to 198 in 30 seconds

SAT / UNSAT

Step 6: 04-1-01-N32-1 step 5.1.2b	
☐ **OBSERVE** that discharge pressure on EHC Fluid pump just started is approximately the same as the other running pumps by **MONITORING** applicable local pressure indicators: • CF PMP A, 1N32-PI-R006A (low pressure) 1N32-PI-R018A (high pressure) • CF PMP B, 1N32-PI-R006B (low pressure) 1N32-PI-R018B (high pressure) • CF PMP C, 1N32-PI-R006C (low pressure) 1N32-PI-R018C (high pressure)	
Standard:	Directs the local operator to observe EHC pump discharge pressures.
Cue:	**As the local operator, report the low and high discharge pressures are normal for EHC pump A and are approximately the same as discharge pressures of EHC pumps A and C.**
Notes:	
	SAT / UNSAT

Step 7: 04-1-01-N32-1 step 5.1.2c

☐* ***SHUT DOWN*** *one of the running EHC Fluid pumps by* ***DEPRESSING*** *CF PMP A/B/C STOP pushbutton on 1H13-P680-10C.*

☐ **WAIT** approximately 30 seconds, **THEN DEPRESS** applicable CF PMP A/B/C AUTO pushbutton.

☐ **OBSERVE** that CF PRESS HP SIDE **AND** CF PRESS LP SIDE remain at greater than 445 psig **AND** 175 psig respectively on 1H13-P680-10B.

☐ Clear annunciator "CF PMP SWITCH TO AUTO," 1H13-P680-10A (C-5).

Standard: Stops EHC pump C.

Cue: **As the CRS, prompt the operator to secure EHC pump C.**

Notes: **This ends the JPM.**

SAT / UNSAT

Task Standard(s):

EHC Pump A has been placed back into operation and EHC Pump C has been returned to standby in accordance with 04-1-01-N32-1 section 5.1 after it was determined EHC Pump C would not maintain normal control fluid pressures.

SAT / UNSAT

Task: **Rotate EHC Pumps – Pump A to Pump C**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The plant is at rated power.
- EHC pumps A and B are in operation.

Initiating Cue(s):

- The CRS has directed you to rotate from EHC pump A to EHC pump C, such that EHC pumps B and C are left in operation, in accordance with 04-1-01-N32-1 section 5.1.
- An operator is at the EHC pumps standing by for instructions.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-E1201
Revision: 3
Page: 1 of 9
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-CR4

☐ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

Startup Shutdown Cooling B

☐ New Material ☐ Minor Revision ☒ Major Revision ☐ Cancellation

REASON FOR REVISION: Revised JPM to include new procedure steps added by procedure revision.

THIS DOCUMENT REPLACES: GJPM-OPS-E1201 Rev 2

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Jonathan W. Sparks	3/17/10
	**Preparer	Date
Ops Review++:	Keith Huff	9/28/2011
	Technical Reviewer (e.g., SME, line management)	Date
Validated By:	Chris Laird	9/28/2011
	Training Representative	Date
Approved By:	Kane Ryder	9/28/2011
	+Discipline Training Supervisor	Date

Approval Date:* 9/28/2011

* Indexing Information
** The requirements of the Training Material Checklist have been met.
+ Indicates that the LP has been reviewed by the Training Supervisor for inclusion of Management Expectations and items referenced on TQJA-201- DD06, Training Material Checklist.
++ Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Startup Shutdown Cooling B

Setting:	Simulator
Type:	RO
Task:	CRO-E12-008
K&A:	205000 A4.01 – 3.7/3.7; A4.02 – 3.6/3.5; A4.03 – 3.6/3.5
Safety Function:	4
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	04-1-01-E12-2 sect 4.2.2c
Handout(s):	None
# Manipulations:	6
# Critical Steps:	6
Group:	1

Simulator Setup/Required Plant Conditions:

- Initialize the simulator to IC 3 Reactor in Mode 4 < 200 degrees F
- Verify/start SSW B in operation to the RHR B heat exchangers.
- Secure the RHR Shutdown Cooling lineup.
  - Stop the B RHR pump.
  - Close/Verify Closed:
    - B21-F065A and F065B; E12- F004B; F008; F064B; F009; F053B and F006B
  - Shutdown the B RHR Jockey Pump.
- Verify/start RHR Room B Fan Coil Unit.
- Place the RHR B MOV TEST switch in TEST.

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- RHR B was previously in service for Shutdown Cooling but was secured.
- Radiation Protection and Chemistry personnel have been notified of the startup of RHR 'B' Shutdown Cooling.
- RHR B has been flushed, warmed up and is ready to be placed in Shutdown Cooling.
- SSW B is in operation.
- ADHR is not in operation.
- RHR Room B Fan Coil Unit is running.
- The B RHR Jockey Pump has been secured.
- The RHR B MOV TEST switch in TEST.

Initiating Cue(s):

- You have been directed to place RHR B in Shutdown Cooling through E12-F053B, starting at Step 4.2.2c(12) of SOI 04-1-01-E12-2.
- Establish RHR flow with E12-F003B closed and E12-F048B open.

Task: **Startup Shutdown Cooling B**

Notes: (Notes to Evaluator)

1. All controls will be from panels P601 and P680 in the Main Control Room.
2. Unless otherwise indicated, all valves are in the “E12” system.

Task Overview: (Detailed description of task)

This task places the RHR system in service for Shutdown Cooling using the normal (E12-F053B) flow path. This is a Tech Spec Decay Heat Removal method. Throttling of RHR Shutdown Cooling flow caused damage to RHR Instrumentation piping during RF12.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-E12-2 step 4.2.2c(12)	
☐* ***OPEN OR CHECK OPEN*** *the following valves:* ☐ F010 (Concurrent Verification Required) ☐* *F008* ☐* *F009* ☐* *F006B* ☐ F047B ☐ F048B	
Standard:	Open or Check open valves, observing red lights on and green lights off. For E12-F048B observe valve position indication is at 100%.
Cue:	**If asked, concurrent verification of E12-F010 was performed.**
Notes:	**E12-F008, E12-F009 and E12-F006B need to be operated. The remaining valves are already open and need only observe indication as such.** SAT / UNSAT

Step 2: 04-1-01-E12-2 step 4.2.2c(13)
☐* ***CLOSE*** *F003B, RHR HX B OUTL VLV*.
Standard: Close valve, observing valve position indication moves to 0%.
Cue:
Notes: SAT / UNSAT

Step 3: 04-1-01-E12-2 step 4.2.2c(14)
☐ **CLOSE OR CHECK CLOSED** B21-F065B, FW INL SHUTOFF VLV.
Standard: See Cue and Notes below. Check valve closed, observing red light off and green light on.
Cue: **Inform the operator as the ACRO that B21-F065B is closed.**
Notes: **Be mindful of other JPMs occurring in the simulator not to compromise exam security.** SAT / UNSAT

Step 4: 04-1-01-E12-2 step 4.2.2c(17)	
☐* ***START*** *RHR PMP B* ***AND IMMEDIATELY FULLY OPEN*** *one of the following valves:* ☐* *E12-F053B, RHR B SHUTDN CLNG RTN TO FW.*	
Standard:	Starts RHR pump and opens E12-F053B, observing red lights on and green lights off.
Cue:	**This completes the JPM.**
Notes:	**This step offers three valves to open. E12-F037B and E12-F042B are the wrong valves and should not be operated. Steps 4.2.2c(15-16) are NA since the operator will be using option 1 from the note prior to 4.2.2c(15).** SAT / UNSAT

Task Standard(s):
Shutdown Cooling B is started IAW SOI 04-1-01-E12-2. SAT / UNSAT

Task: **Startup Shutdown Cooling B**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- RHR B was previously in service for Shutdown Cooling but was secured.
- Radiation Protection and Chemistry personnel have been notified of the startup of RHR 'B' Shutdown Cooling.
- RHR B has been flushed, warmed up and is ready to be placed in Shutdown Cooling.
- SSW B is in operation.
- ADHR is not in operation.
- RHR Room B Fan Coil Unit is running.
- The B RHR Jockey Pump has been secured.
- The RHR B MOV TEST switch in TEST.

Initiating Cue(s):

- You have been directed to place RHR B in Shutdown Cooling through E12-F053B, starting at Step 4.2.2c(12) of SOI 04-1-01-E12-2.
- Establish RHR flow with E12-F003B closed and E12-F048B open.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-E3013
Revision: 1
Page: 1 of 9
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-CR5

☐ Time Critical ☐ Alternate Path Validation Time: 5 min

TITLE:

Manually Initiate Suppression Pool Make Up

☐ New Material ☒ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: Remove Generic Instructions Sheet. This was removed from 14-S-2-18

THIS DOCUMENT REPLACES: GJPM-OPS-E3013 Rev 0

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Jonathan W. Sparks **Preparer	11/24/09 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	9/28/2011 Date
Validated By:	Chris Laird Training Representative	9/28/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	9/28/2011 Date

Approval Date:* 9/28/2011

* Indexing Information
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[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Manually Initiate Suppression Pool Make Up

Setting:	Simulator
Type:	RO
Task:	CRO-E30-003
K&A:	223001 A2.11: 3.6/3.8
	295030 EA1.04: 4.0/4.0
Safety Function:	5
Time Required:	5 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	04-1-01-E30-1 Attachment V
Handout(s):	None
# Manipulations:	4
# Critical Steps:	4
Group #:	1

Simulator Setup/Required Plant Conditions:

- Reset to any IC other than Refuel (IC 3)
- Lower Suppression Pool Level to 18.1 feet.
- Set the following annunciators to card pulled:
  - P680-4A2-A-6
  - P680-4A2-C-7
  - P680-4A2-D-6
  - P601-16A-C-5
  - P601-21A-C-5

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- Suppression Pool Level has dropped to 18.13 feet and is continuing to lower due to a leak in the RHR A Pump Room.
- Repairs to the leaking pipe are in progress.
- Emergency Procedure EP-3 has been entered.

Initiating Cue(s):

- You have been directed to manually initiate both divisions of Suppression Pool Make Up to raise Suppression Pool Water Level.

Task: **Manually Initiate Suppression Pool Make Up**

Notes: (Notes to Evaluator)

1. All Control Room operations will be on panel P870.

Task Overview: (Detailed description of task)

This task is to manually initiate Suppression Pool Make Up per directions from EOP-2 Containment Control. This is done per 04-1-01-E30-1 Attachment V from the Control Room to raise Suppression Pool Water Level.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-E30-1 Att. V Division 1
☐ Place the SPMU MODE SEL handswitch to AUTO
Standard: Verifies that the mode switch is in AUTO.
Cue:
Notes:
SAT / UNSAT

Step 2: 04-1-01-E30-1 Att. V Division 1
☐* *Place the SPMU DUMP TEST handswitch to TEST.*
Standard: Place switch in test, observing amber light above switch on.
Cue:
Notes:
SAT / UNSAT

Step 3: 04-1-01-E30-1 Att. V Division 1
☐* *Simultaneously depress both SPMU MAN INIT pushbuttons.*
Standard: Place switch in test, observing amber light above switch on.
Cue:
Notes:
SAT / UNSAT

Step 1: 04-1-01-E30-1 Att. V Division 2
☐ Place the SPMU MODE SEL handswitch to AUTO
Standard: Verifies that the mode switch is in AUTO.
Cue:
Notes:
SAT / UNSAT

Step 2: 04-1-01-E30-1 Att. V Division 2
☐* *Place the SPMU DUMP TEST handswitch to TEST.*
Standard: Place switch in test, observing amber light above switch on.
Cue:
Notes:
SAT / UNSAT

Step 3: 04-1-01-E30-1 Att. V Division 2
☐* *Simultaneously depress both SPMU MAN INIT pushbuttons.*
Standard: Place switch in test, observing amber light above switch on.
Cue: This ends the task.
Notes: SAT / UNSAT

Task Standard(s):
Suppression Pool Make Up Valves E30-F001A & B and E30-F002A & B are open in accordance with 04-1-01-E12-2 attachment V. SAT / UNSAT

Task: **Manually Initiate Suppression Pool Make Up**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- Suppression Pool Level has dropped to 18.13 feet and is continuing to lower due to a leak in the RHR A Pump Room.
- Repairs to the leaking pipe are in progress.
- Emergency Procedure EP-3 has been entered.

Initiating Cue(s):

- You have been directed to manually initiate both divisions of Suppression Pool Make Up to raise Suppression Pool Water Level.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-C7105
Revision: 0
Page: 1 of 10
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-CR6

☐ Time Critical ☒ Alternate Path Validation Time: 15 min

TITLE:

Reactor Manual Scram Switch Test

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	5/24/2011 Date
Ops Review[++]**:**	Chris Laird Technical Reviewer (e.g., SME, line management)	9/26/2011 Date
Validated By:	Keith Huff Training Representative	9/27/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	9/28/2011 Date

Approval Date:* 9/28/2011

* Indexing Information
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[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Reactor Manual Scram Switch Test

Setting:	Simulator
Type:	RO
Task:	CRO-C71-OFFNORM-005
K&A:	212000: A2.03 – 3.3/3.5
Safety Function:	7, Instrumentation
Time Required:	15 minutes
Time Critical:	No
Faulted:	Yes
Performance:	Actual
Reference(s):	06-OP-1C71-W-0001
Handout(s):	Copy of 06-OP-1C71-W-0001
# Manipulations:	5
# Critical Steps:	4
Group:	1

Simulator Setup/Required Plant Conditions:

- Load any 100% IC (prefer IC 31)
- Open and Run schedule file GJPM-OPS-2011CR7

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The plant is operating at rated power.

Initiating Cue(s):

- The CRS has directed you to perform 06-OP-1C71-W-0001.
- All prerequisites are verified met.
- Start with Data Sheet 1 and go in order through Data Sheet 4.
- This task is not time critical.

Task: **Reactor Manual Scram Switch Test**

Notes: (Notes to Evaluator)

- The task is complete when: Reactor core flow is lowered to 67 mlbm/hr and the operator determines the reactor is operating in the Monitored Region of the Power to Flow Map.

Task Overview: (Detailed description of task)

- The operator will perform 06-OP-1C71-W-0001 (Reactor Manual Scram Switch Test).
- When the operator depresses the first manual scram switch, two control rods (08-41 and 24-49) will scram due to a blown pilot solenoid fuse on the individual HCU units.
- The operator should recognize two scramed rods and lower core flow to 67 mlbm/hr and plot reactor power and core flow on the Power to Flow Map.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 06-OP-1C71-W-0001 step 5.1
☐ **OBTAIN** Shift Supervision's permission to start. Performer to **RECORD** Test Start Time on Data Package Cover Sheet.
Standard: Records the start time on the Surveillance Cover Sheet.
Cue: **If the operator asks permission to begin the surveillance, inform the operator that the CRS has given permission to begin.**
Notes:
SAT / UNSAT

Step 2: 06-OP-1C71-W-0001 Data Sheet 1 step 5.2

☐ **VERIFY** the following lights are ON to ensure that **NO** RPS trip signals are present:

- ☐ RPS DIV 1 SCRAM SOL VLV 1A **AND** 1B lights ON (5C1)
- ☐ RPS DIV 2 SCRAM SOL VLV 2A **AND** 2B lights ON (7C1)
- ☐ RPS DIV 3 SCRAM SOL VLV 3A **AND** 3B lights ON (5C1)
- ☐ RPS DIV 4 SCRAM SOL VLV 4A **AND** 4B lights ON (7C1)

Standard: Observes white scram solenoid valve lights lit.

Cue:

Notes:

SAT / UNSAT

Step 3: 06-OP-1C71-W-0001 Data Sheet 1 step 5.3

☐* ***ARM** the **Div 1** MAN SCRAM Switch (5C1) by rotating the collar clockwise*.

- ☐ VERIFY alarm RPS MAN SWITCH PERM is received (5A-B3) RPS MAN SWITCH SCRAM PERM alarm is ON

Standard: Rotates switch collar.

Cue:

Notes:

SAT / UNSAT

Step 4: 06-OP-1C71-W-0001 Data Sheet 1 step 5.4

☐* *Depress the MAN SCRAM Switch which was previously Armed.*

Standard: Depress MAN SCRAM Switch.

Cue:

Notes: **When the manual scram switch is depressed, two control rods will scram.**

SAT / UNSAT

Step 5: 06-OP-1C71-W-0001 Data Sheet 1 step 5.5

☐ **VERIFY** the following:

- ☐ RPS SCRAM SOL VLVs lights 1A, 3A, on (5C1) **AND** 2A, 4A on (7C1) are OFF
- ☐ RPS SCRAM SOL VLVs lights 1B, 3B, on (5C1) **AND** 2B, 4B on (7C1) are ON
- ☐ RX SCRAM TRIP alarm is received (7A-A2)
- ☐ RX MAN SCRAM TRIP alarm is received (7A-A3)

Standard: Observes indications listed.

Cue:

Notes:

SAT / UNSAT

Step 6: 06-OP-1C71-W-0001 Data Sheet 1 step 5.5.4	
☐* *Depress pushbutton SCRAM VLV (6C) **AND VERIFY** that **NO** scram valves are Open, as indicated by a green LED being OFF for all CRD/HCUs on the rod display map (6D) that are **NOT** tagged out.*	
Standard:	Determines that two Control have scramed.
Cue:	
Notes:	**Control Rods 08-41 and 24-49 have scramed. Once the operator determines that rods have scramed the operator should enter the Control Rod/Drive Malfunctions ONEP.**
	SAT / UNSAT

Step 7: Control Rod/Drive Malfunctions ONEP step 2.4	
☐* ***Reduce** Reactor core flow to 67 mlbm/hr.*	
Standard:	Lowers core flow using both Recirc flow control valves in fast detent to 67 mlbm/hr (02-S-01-27 6.5.6).
Cue:	
Notes:	
	SAT / UNSAT

Step 8: Operation's Philosophy step 6.6.7
☐ Plot reactor power and core flow on the Power to Flow Map.
Standard: Plots power and flow.
Cue: This completes the task.
Notes: SAT / UNSAT

Task Standard(s):
Reactor core flow is lowered to 67 mlbm/hr and the operator determines the reactor is operating in the Monitored Region of the Power to Flow Map per 05-1-02-IV-1. SAT / UNSAT

Task: **Reactor Manual Scram Switch Test**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The plant is operating at rated power.

Initiating Cue(s):

- The CRS has directed you to perform 06-OP-1C71-W-0001.
- All prerequisites are verified met.
- Start with Data Sheet 1 and go in order through Data Sheet 4.
- This task is not time critical.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-P4271
Revision: 2
Page: 1 of 10
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-CR7

☐ Time Critical ☒ Alternate Path Validation Time: 10 min

TITLE:

Rotate CCW Pumps

☐ New Material ☒ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: Remove Generic Instructions Sheet. This was removed from 14-S-2-18.

THIS DOCUMENT REPLACES: GJPM-OPS-P4271 Rev. 1

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Jonathan W. Sparks **Preparer	12/7/09 Date
Ops Review[++]**:**	Chris Laird Technical Reviewer (e.g., SME, line management)	10/4/11 Date
Validated By:	Keith Huff Training Representative	10/4/11 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/4/11 Date

Approval Date:* 10/4/11

* Indexing Information
** The requirements of the Training Material Checklist have been met.
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[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Rotate CCW Pumps

Setting:	Simulator
Type:	RO
Task:	CRO-P42-007; CRO-P42-004
K&A:	400000 2.1.30: 3.9/3.4; 2.1.31: 4.2/3.9; A4.01: 3.1/3.0; A2.01: 3.3/3.4 295018 AK3.04: 3.3/3.3; AA1.01: 3.3/3.4
Safety Function:	Plant Service Systems (8)
Time Required:	10 minutes
Time Critical:	No
Faulted:	**YES**
Performance:	Perform
Reference(s):	SOI 04-1-01-P42-1 section 5.2; ONEP 05-1-02-V-1 section 3.1.1
Handout(s):	SOI 04-1-01-P42-1; ONEP 05-1-02-V-1
# Manipulations:	4
# Critical Steps:	4
Group #:	2

Simulator Setup/Required Plant Conditions:

- Initialize the simulator to any IC (IC-43).
- Insert Malfunction **p42151c** CCW Pump C Trip on a unique trigger number (event 1).
- Ensure CCW Pumps ‘A’ and ‘C’ are operating with CCW Pump ‘B’ in Standby.

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- Electrical Maintenance has requested Component Cooling Water (CCW) Pump A be secured in preparation for preventive maintenance.
- CCW Pumps A and C are currently in operation.

Initiating Cue(s):

- The CRS directs you to rotate CCW pumps to have CCW Pumps B and C operating, with CCW Pump A secured, per SOI 04-1-01-P42-1 section 5.2.
- An operator is standing by at the CCW pumps ready to rotate pumps.

Task: **Rotate CCW Pumps**

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

This task is to rotate CCW Pumps per SOI. During the evolution, a trip will occur on one of the operating CCW pumps requiring the restart of the non-operating CCW pump per the Loss of CCW ONEP. This is an Alternate Path JPM. This is a task that is coordinated from the control room.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-P42-1 step 5.2.2a	
☐ **REMOVE** Standby pump from STANDBY by PLACING respective pump handswitch listed below to STOP.	
Standard: Places CCW pump B HS to STOP.	
Cue:	
Notes: **Step 5.2.1 prerequisites are met.**	
SAT / UNSAT	

Step 2: 04-1-01-P42-1 step 5.2.2b	
☐* **AFTER** white STANDBY light for pump goes out, *START CCW pump using its respective handswitch listed in Step 5.2.2a.*	
Standard: Starts CCW pump B.	
Cue: **If asked to perform pre-start pump checks, report that pre-start pump check is performed sat.**	
Notes:	
SAT / UNSAT	

Step 3: 04-1-01-P42-1 step 5.2.2c	
☐ **CLOSE** discharge valve for pump to be shut down.	
Standard:	Contacts local operator to close P42-F016A CCW pump A discharge valve.
Cue:	**Report as local operator P42-F016A is closed.**
Notes:	SAT / UNSAT

Step 4: 04-1-01-P42-1 step 5.2.2d	
☐* ***STOP*** *CCW pump to be placed in STANDBY using its respective handswitch listed in Step 5.2.2a.*	
Standard:	Stops CCW pump A.
Cue:	**After the trip annunciator comes into alarm, inform the operator as the local operator that a small amount of water is spraying from the CCW C pump seal. CCW pump B and C are getting wet.** **The CRS directs you to take Immediate and Subsequent actions per the loss of CCW ONEP.** **If the operator attempts to go to the P680, inform the operator that another operator will perform actions at the P680.**
Notes:	**When the operator stops CCW pump A, CCW pump C will trip causing a partial loss of CCW flow.** **Simulator Operator, Trip CCW pump C when the CCW pump A has been secured.** SAT / UNSAT

Step 5: 05-1-02-V-1 Loss of CCW ONEP step 3.1.1

☐* *Contact the local operator to open P42-F016A CCW Pump 'A' discharge valve.*

Standard: Contacts local operator to open P42-F016A.

Cue: **CCW Pump 'A' discharge valve P42-F016A is open.**

Notes: **There are no required immediate actions for the Loss of CCW ONEP. Do NOT allow the operator to scram the reactor!**

This task is not critical if P42-F016A was not previously closed. Step 5 &6 can be done in either order.

SAT / UNSAT

Step 6: 05-1-02-V-1 Loss of CCW ONEP step 3.1.1

☐* ***START** CCW pump A.*

Standard: Start CCW pump A.

Cue: **Terminate the JPM**

Notes: **Once the operator moves beyond step 3.1.1 "Verify standby CCW pump starts or start manually" end the JPM.**

SAT / UNSAT

Task Standard(s):

CCW Pumps 'A' and 'B' are operating with discharge valves open per 05-1-02-V-1.

SAT / UNSAT

Task: **Rotate CCW Pumps**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- Electrical Maintenance has requested Component Cooling Water (CCW) Pump A be secured in preparation for preventive maintenance.
- CCW Pumps A and C are currently in operation.

Initiating Cue(s):

- The CRS directs you to rotate CCW pumps to have CCW Pumps B and C operating, with CCW Pump A secured, per SOI 04-1-01-P42-1 section 5.2.
- An operator is standing by at the CCW pumps ready to rotate pumps.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-T4803
Revision: 0
Page: 1 of 12
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-CR8

☐ Time Critical ☐ Alternate Path Validation Time: 20 min

TITLE:

Secure SGTS with One Train in Standby Mode following Automatic Initiation

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Kyle Grillis **Preparer	12/7/09 Date
Ops Review[++]**:**	Mark Goodwin Technical Reviewer (e.g., SME, line management)	10/4/11 Date
Validated By:	Keith Huff Training Representative	10/4/11 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/4/11 Date

Approval Date:* 10/4/11

* Indexing Information
** The requirements of the Training Material Checklist have been met.
[+] Indicates that the LP has been reviewed by the Training Supervisor for inclusion of Management Expectations and items referenced on TQJA-201- DD06, Training Material Checklist.
[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Security SGTS with One Train in Standby Mode following Automatic Initiation

Setting:	Simulator
Type:	RO
Task:	CRO-T48-004
K&A:	261000 A4.03: 3.0/3.0; Generic 2.1.30: 4.4/4.0
Safety Function:	9 – Radioactivity Release
Time Required:	20 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	04-1-01-T48-1 section 5.3
Handout(s):	None
# Manipulations:	18
# Critical Steps:	16
Group:	1

Simulator Setup/Required Plant Conditions:

- Reset to any IC with **no** SGTS initiation signal
- Insert Malfunction **rm157o** and **rm157n**, once actions have gone to completion delete the malfunctions.
- Perform the following on P870-2B, 2C to place SGTS A in Standby Mode:
  - **PLACE** SGTS DIV 1 MODE SEL handswitch on (P870-2B) to STBY position.
  - **TURN** SGTS DIV 1 MAN INIT RESET key-locked handswitch to RESET position and back to NORM, to reset automatic or manual initiation signal.
  - **PLACE** handswitch for ENCL BLDG RECIRC FAN A(B) to STOP.
  - **PLACE** handswitch for SGTS FLTR TR A(B) EXH FAN to STOP.
- Silence and acknowledge alarms after annunciator SGTS DIV 2 OPER (P870-8A-A3) has alarmed.

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The plant is at rated power.
- Standby Gas Treatment Systems A and B automatically initiated due to a momentary spike of Fuel Pool Sweep Exhaust Radiation monitors during movement of spent LPRMs on the refuel floor.
- The initiating condition is now clear, Fuel Pool Sweep Exhaust Radiation levels are normal.
- SGTS A has been placed in Standby Mode using its mode selector switch in accordance with 04-1-01-T48-1 step 5.2.2e.
- SGTS B is operating.
- Jumpers have **not** been installed to enable restarting Auxiliary Building fan coil units.

Initiating Cue(s):

- The SRO with the Command Function has directed you to shutdown the system, returning SGTS A and B to normal alignment, in accordance with 04-1-01-T48-1 section 5.3.
- Another operator will pick up at step 5.3.2p and restart normal ventilation system fans.

Task: Security SGTS with One Train in Standby Mode following Automatic Initiation

Notes: (Notes to Evaluator)

1. All controls will be from panel P870.

Task Overview: (Detailed description of task)

- This task secures SGTS B following automatic initiation and reopens ventilation system isolation valves. SGTS A has already been secured to Standby Mode as an initial condition.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-T48-1 step 5.3.2b
☐ **PLACE** SGTS DIV 1(2) MOV TEST switch (P870-2B) in TEST. ☐ **VERIFY** annunciator "SGTS DIV 1(2) MOVS IN TEST MODE" is Alarmed. ☐ **VERIFY** SGTS D1(D2) MOV IN TEST STATUS light is on.
Standard: Place SGTS Div 2 MOV TEST switch in TEST.
Cue:
Notes: **Step 5.3.1 prerequisites are met and 5.3.2a is NA.** SAT / UNSAT

Step 2: 04-1-01-T48-1 step 5.3.2c
☐ **PLACE** the following handswitches to STOP on 1H13P842:
Standard:
Cue: **Another operator has placed the handswitches in STOP.**
Notes: **The P842 is not modeled in the simulator.**
SAT / UNSAT

Step 3: 04-1-01-T48-1 step 5.3.2d
☐* ***IF*** *one SGTS train is in standby,* ***THEN PERFORM*** *the follow:* ☐* ***PLACE*** *SGTS DIV 1(2) MODE SEL key locked handswitch for Standby filter train to AUTO position.* ☐ **VERIFY** SGTS DIV 1(2) MODE SEL handswitch white light is lit. ☐ **VERIFY** SGTS DIV 1(2) IN STBY MODE annunciator clears.
Standard: Place SSTS Div 2 MODE SEL switch in AUTO.
Cue:
Notes:
SAT / UNSAT

Step 4: 04-1-01-T48-1 step 5.3.2e-f
☐* ***Turn*** *SGTS DIV 1(2) MAN INIT RESET key locked handswitch to RESET position and back to NORM, to reset automatic or manual initiation signal.* ☐ **VERIFY** annunciator "SGTS DIV 1(2) OPER" clears.
Standard: Resets SGTS Div 2 initiation logic.
Cue:
Notes: SAT / UNSAT

Step 5: 04-1-01-T48-1 step 5.3.2g
☐* ***Place*** *handswitch for SGTS FLTR TR A(B) EXH FAN to STOP.*
Standard: Stops SGTS B filter train exhaust fan.
Cue:
Notes: SAT / UNSAT

Step 6: 04-1-01-T48-1 step 5.3.2h

☐* ***Place*** *handswitch for ENCL BLDG RECIRC FAN A(B) to STOP.*

Standard: Stops SGTS B enclosure building recirc fan.

Cue:

Notes:

SAT / UNSAT

Step 7: 04-1-01-T48-1 step 5.3.2i

☐ **OBSERVE** filter train chart recorders deenergize and Enclosure Building pressure chart recorders transfer to slow speed.

Standard: Verify chart recorders operate correctly.

Cue:

Notes:

SAT / UNSAT

Step 8: 04-1-01-T48-1 step 5.3.2j

☐ **VERIFY** that all SGTS A(B) dampers on 1H13-P870-2C(8C), are CLOSED.

Standard: Verify SGTS Div 2 dampers close.

Cue:

Notes: **Damper numbers: T48-F002,3,5,8,10,12,14,16,18,20, and 22.**

SAT / UNSAT

Step 9: 04-1-01-T48-1 step 5.3.2k
☐ **VERIFY** "FLTR TR A(B) EXH FAN INL VANE" on 1H13-P870-2C(8C) is OPEN.
Standard: Verify SGTS Div 2 exhaust fan inlet vane opens.
Cue:
Notes: SAT / UNSAT

Step 10: 04-1-01-T48-1 step 5.3.2l	
☐ **RECORD** stop time(s) in the Accumulative Log Book.	
Standard:	
Cue:	**Another operator will complete log book entry.**
Notes:	**Accumulative Log Book is kept at SM desk in the control room and is not modeled in the simulator.** SAT / UNSAT

Step 11: 04-1-01-T48-1 step 5.3.2m

☐ **PLACE** SGTS DIV 1(2) MOV TEST switch in NORM.

☐ **VERIFY** annunciator "SGTS DIV 1(2) MOVS IN TEST MODE" is clear.

☐ **VERIFY** SGTS D1(D2) MOV IN TEST STATUS light is off.

Standard: Place MOV TEST switch to NORM.

Cue:

Notes:

SAT / UNSAT

Step 12: 04-1-01-T48-1 step 5.3.2n

☐* ***IF*** *SGTS A was secured,* ***THEN OPEN*** *the following dampers:*

☐* *1T42F011* ☐* *1T42F019* ☐* *1T42F004*

☐* *1M41F008* ☐* *1M41F036* ☐* *1T42F007*

Standard: Open dampers.

Cue:

Notes: **Dampers located on P870-2C**

SAT / UNSAT

Step 13: 04-1-01-T48-1 step 5.3.2o

☐* ***IF*** *SGTS B was secured,* ***THEN OPEN*** *the following dampers:*

☐* *1T42F012* ☐* *1T42F020* ☐* *1T42F003*

☐* *1M41F007* ☐* *1M41F037* ☐* *1T42F006*

Standard: Open dampers.

Cue: When complete, End of JPM.

Notes: Dampers located on P870-8C

SAT / UNSAT

Task Standard(s):

Standby Gas Treatment Systems A and B are shutdown and have been placed in normal standby alignment and normal ventilation isolation dampers have been reopened IAW 04-1-01-T48-1 section 5.3.

SAT / UNSAT

Task: **Security SGTS with One Train in Standby Mode following Automatic Initiation**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The plant is at rated power.
- Standby Gas Treatment Systems A and B automatically initiated due to a momentary spike of Fuel Pool Sweep Exhaust Radiation monitors during movement of spent LPRMs on the refuel floor.
- The initiating condition is now clear, Fuel Pool Sweep Exhaust Radiation levels are normal.
- SGTS A has been placed in Standby Mode using its mode selector switch in accordance with 04-1-01-T48-1 step 5.2.2e.
- SGTS B is operating.
- Jumpers have **not** been installed to enable restarting Auxiliary Building fan coil units.

Initiating Cue(s):

- The SRO with the Command Function has directed you to shutdown the system, returning SGTS A and B to normal alignment, in accordance with 04-1-01-T48-1 section 5.3.
- Another operator will pick up at step 5.3.2p and restart normal ventilation system fans.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-EOP23
Revision: 1
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Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-PS1

☐ Time Critical ☐ Alternate Path Validation Time: 20 min

TITLE:

Manually Vent the SCRAM Air Header

☐ New Material ☒ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: Remove Generic Instructions Sheet. This was removed from 14-S-2-18.

THIS DOCUMENT REPLACES: GJPM-OPS-EOP023 Rev 0

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Jonathan W. Sparks **Preparer	11/25/09 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	9/26/2011 Date
Validated By:	Chris Laird Training Representative	9/26/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	9/28/2011 Date

Approval Date:* 9/28/2011

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[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Manually Vent the SCRAM Air Header

Setting:	Plant (Inside CAA)
Type:	NLO
Task:	AON-EP-004
K&A:	295015 AA1.01: 3.8/3.9
Safety Function:	1 – Reactivity Control
Time Required:	20 minutes
Time Critical:	No
Faulted:	No
Performance:	Simulate
Reference(s):	05-S-01-EP-1/Att. 23
Handout(s):	Copy of EOP Att. 23
# Manipulations:	5
# Critical Steps:	6
Group #:	1

Simulator Setup/Required Plant Conditions:

- Containment HCU floor at Area 11, 135' is accessible

Safety Concerns:

- Wear appropriate personal protective equipment.
- Don't forget ALARA
- No climbing. Point up or down while you explain what you are going to do.

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- EOP's have been entered.

Initiating Cue(s):

- The CRS directs you to perform steps 2.1 through 2.4 of EP Attachment 23.
- Another operator will complete the remaining steps of this attachment when directed.

Task: Manually Vent the SCRAM Air Header

Notes: (Notes to Evaluator)

1. This task is performed on the HCU floor in Containment, El. 135'.
2. The valves and pipe plugs are located just south and west of the Hydraulic Control Station, near the Backup Scram Valves.

Task Overview: (Detailed description of task)

- This task provides an alternate method of venting the scram air header to allow control rod insertion. The task consists of physically removing of pipe plugs located on the scram air header using a hack saw, allowing the scram air header to depressurize. The scram pilot valves would fail open due to a loss of air pressure, allowing the control rods to insert into the reactor.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: EOP Att. 23 step 2.1	
☐* ***OBTAIN*** *tools from the Control Room emergency locker.*	
Standard:	Verbalizes that the EP kit for Att. 23 is in the Control Room.
Cue:	**You have the hacksaw from the EP Att. 23 kit.**
Notes:	**In order to meet the critical task, the operator need only verbalize that he has/would obtain a hack saw.**
	SAT / UNSAT

Step 2: EOP Att. 23 step 2.2
☐* ***CLOSE*** *1C11-F095, SCRAM VLV PILOT AIR HDR ISOL (Containment Elev 135 ft, to right of Backup Scram valves).*
Standard: Simulate turning CW to close.
Cue: Resistance is felt in the CW direction.
Notes:
SAT / UNSAT

Step 3: EOP Att. 23 step 2.3
☐* ***CUT OFF*** *test connection cap downstream of 1C11-F307, PI-R013 test connection (above AND to left of Backup Scram valves).*
Standard: Simulate cutting off test connection.
Cue: Test connection cap is cut off.
Notes:
SAT / UNSAT

Step 4: EOP Att. 23 step 2.3.1
☐* ***OPEN*** *1C11-F307*
Standard: Simulate turning CCW to open.
Cue: Resistance is felt in the CCW direction.
Notes:
SAT / UNSAT

Step 5: EOP Att. 23 step 2.4	
☐* ***CUT OFF*** *test connection cap downstream of 1C11-F309, PT-N052 test connection (above AND to left of Backup Scram valves).*	
Standard:	Simulate cutting off test connection.
Cue:	**Test connection cap is cut off.**
Notes:	
	SAT / UNSAT

Step 6: EOP Att. 23 step 2.4.1	
☐* ***OPEN*** *1C11-F309*	
Standard:	Simulate turning CCW to open.
Cue:	**Resistance is felt in the CCW direction.**
Notes:	
	SAT / UNSAT

Task Standard(s):

Steps 2.1 through 2.4 of EOP Att. 23 are completed in accordance with the procedure.

SAT / UNSAT

Task: **Manually Vent the SCRAM Air Header**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- EOP's have been entered.

Initiating Cue(s):

- The CRS directs you to perform steps 2.1 through 2.4 of EP Attachment 23.
- Another operator will complete the remaining steps of this attachment when directed.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-C6101
Revision: 2
Page: 1 of 10
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-PS2

☐ Time Critical ☐ Alternate Path Validation Time: 20 min

TITLE:

Startup RHR in Suppression Pool Cooling From the Remote Shutdown Panel

☐ New Material ☒ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: Remove Generic Instructions Sheet. This was removed from 14-S-2-18.

THIS DOCUMENT REPLACES: GJPM-OPS-C6101 Rev 1

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Jonathan W. Sparks **Preparer	11/16/09 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	9/26/2011 Date
Validated By:	Chris Laird Training Representative	9/26/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	9/28/2011 Date

Approval Date:* 9/28/2011

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Startup RHR in Suppression Pool Cooling from the Remote Shutdown Panels

Setting:	Plant (Outside CAA)
Type:	RO
Task:	CRO-C61-001; CRO-C61-009; CRO-E12-019; CRO-P41-001
K&A:	295016 2.1.30: 3.9/3.4; AA1.07: 4.2/4.3; AK2.01: 4.4/4.5; AK3.03: 3.5/3.7; 295013 AA1.01: 3.9/3.9; 295026 EA1.01: 4.1/4.1 219000 A4.01: 3.8/3.7; A4.02: 3.7/3.5; A4.05: 3.4/3.4
Safety Function:	Instrumentation (7) & Containment (5)
Time Required:	15 minutes
Time Critical:	No
Alternate Path:	No
Performance:	Simulate
Reference(s):	ONEP 05-1-02-II-1 Attachment VIII or IX
Handout(s):	ONEP 05-1-02-II-1 Attachment VIII or IX
# Manipulations:	10
# Critical Steps:	3
Group #:	2

Simulator Setup/Required Plant Conditions:

- Area is accessible.

Safety Concerns:

- **Do NOT operate plant equipment**.
- For Protected Train concerns, use either RHR A or B using Attachment VIII or IX.
- **Write in on the Initial Conditions Page which RHR and Attachment is to be used.**

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The Control Room has been evacuated due to noxious fumes.
- Control of the plant has been established at the Remote Shutdown Panels.
- An SRO is controlling operations at the remote shutdown panel.
- Another operator is assigned for radio communications and is monitoring reactor level and pressure.
- A Plant Shutdown Operator is stationed in the Auxiliary Building if needed.
- The RSD room cabinet at the remote shutdown panel is unlocked.
- The reactor is shutdown
- RPV water level is within band of +30 to -30" on wide range level.
- RPV pressure is within band of 900 to 1000 psig.
- RHR Transfer switches have been placed in EMERG position per step 3.6 of the Shutdown from the Remote Shutdown Panel ONEP.
- Standby Service Water A and B are not running and are in Standby lineup per the P41 SOI.
- RCIC will be started after RHR A or B is placed in suppression pool cooling mode.

Initiating Cue(s):

- You have been directed to place RHR ____ in Suppression Pool Cooling per Attachment ____ of the Shutdown from the Remote Shutdown Panel ONEP.
- Establish maximum cooling.

Task: Startup RHR in Suppression Pool Cooling from the Remote Shutdown Panels

Notes: (Notes to Evaluator)

1. Remote Shutdown Panels are located on the 111' elevation of the Control Building.
2. Division 1 Remote Shutdown Panel is H22-P150.
3. Division 2 Remote Shutdown Panel is H22-P151.
4. This JPM may be performed using RHR A or B for protected train concerns.
5. Be sure a non-protected train ESF inverter is selected and recorded on the initiating cues page.

Task Overview: (Detailed description of task)

This task is to startup RHR A or B in Suppression Pool Cooling from the Remote Shutdown Panels per the ONEP. This includes starting up SSW A or B.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 05-1-02-II1 3.9.1(2)a1	
☐ **ENSURE** SSW System A(B) in operation, supplying RHR A heat exchangers. **IF** SSW A is **NOT** supplying RHR A heat exchangers, **THEN START** SSW A [SSD] as follows: ☐ **CHECK OPEN/OPEN** P41-F068A(B) SSW OUTL FM RHR HX A(B) VLV.	
Standard:	Checks or opens P41-F068A(B)
Cue:	**Red light on, green light off.**
Notes:	**If step 3.9.1(2)a is not performed, the SSW system will automatically startup and lineup when the RHR pump is started.**
	SAT / UNSAT

Step 2: 05-1-02-II1 3.9.1(2)a2
☐ **START** P41-C001A(B), SSW PMP A(B).
Standard: Starts SSW pump
Cue: Red light on, green light off.
Notes:
SAT / UNSAT

Step 3: 05-1-02-II1 3.9.1(2)a3
☐ **OPEN** P41-F001A(B) SSW PMP A(B) DISCH VLV.
Standard: Open valve.
Cue: Red light on, green light off.
Notes:
SAT / UNSAT

Step 4: 05-1-02-II1 3.9.1(2)a4
☐ **OPEN** P41-F014A(B) SSW INL TO RHR HX A(B) VLV.
Standard: Open valve.
Cue: Red light on, green light off.
Notes:
SAT / UNSAT

Step 5: 05-1-02-II1 3.9.1(2)a5
☐ **OPEN** P41-F005A(B) SSW Loop A(B) RTN TO CLG TWR A(B).
Standard: Open valve.
Cue: Red light on, green light off.
Notes:
SAT / UNSAT

Step 6: 05-1-02-II1 3.9.1(2)a6
☐ **VERIFY CLOSED/CLOSE** P41-F006A(B) SSW Loop A(B) RECIRC VLV.
Standard: Verify closed valve.
Cue: Green light on, red light off.
Notes:
SAT / UNSAT

Step 7: 05-1-02-II1 3.9.1(2)a7
☐ **START** P41-C003A(C), SSW CLG TWR FAN A(C) **AND** P41-C003B(D) SSW CLG TWR FAN B(D)
Standard: Start Fans.
Cue: Red light on, green light off.
Notes:
SAT / UNSAT

Step 8: 05-1-02-II1 3.9.1(2)b
☐ **OPEN <u>OR</u> CHECK OPEN** the following valves: ☐ E12-F004A(B) RHR PUMP A(B) SUCT FM SUPP POOL ☐ E12-F047A(B) RHR HX A(B) INL VLV ☐ E12-F003A(B) RHR HX A(B) OUTL VLV
<u>Standard</u>: Checks valves open.
<u>Cue</u>: For all valves, Red light on, green light off.
<u>Notes:</u> SAT / UNSAT

Step 9: 05-1-02-II1 3.9.1(2)c
☐* ***<u>CLOSE</u>*** *<u>E12-F048A(B) RHR HX A(B) BYP VLV</u>*
<u>Standard</u>: Close valve.
<u>Cue</u>: Green light on, red light off.
<u>Notes:</u> Throttle valve, takes 1-2 minutes to stroke. To maintain maximum cooling (as discussed in initiating cues) this valve must remain shut; therefore, 3.9.1(2)f and 3.9.1(2)g are NA. SAT / UNSAT

Step 10: 05-1-02-II1 3.9.1(2)d
☐* ***START*** *E12-C002A(B), RHR PMP A(B)*
Standard: Start pump.
Cue: Red light on, Green light off.
Notes:
SAT / UNSAT

Step 11: 05-1-02-II1 3.9.1(2)e
☐* ***OPEN*** *E12-F024A(B) RHR A(B) TEST RTN TO SUPP POOL*
Standard: Open valve.
Cue: Red light on, Green light off. This completes the task.
Notes:
SAT / UNSAT

Task Standard(s):

RHR A(B)is operating in Suppression Pool Cooling with E12-F048 A(B) full closed and E12-F003 A(B) full open and SSW A(B) in service to the RHR A(B) Heat Exchangers.

SAT / UNSAT

Task: **Startup RHR in Suppression Pool Cooling from the Remote Shutdown Panels**

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The Control Room has been evacuated due to noxious fumes.
- Control of the plant has been established at the Remote Shutdown Panels.
- An SRO is controlling operations at the remote shutdown panel.
- Another operator is assigned for radio communications and is monitoring reactor level and pressure.
- A Plant Shutdown Operator is stationed in the Auxiliary Building if needed.
- The RSD room cabinet at the remote shutdown panel is unlocked.
- The reactor is shutdown
- RPV water level is within band of +30 to -30” on wide range level.
- RPV pressure is within band of 900 to 1000 psig.
- RHR Transfer switches have been placed in EMERG position per step 3.6 of the Shutdown from the Remote Shutdown Panel ONEP.
- Standby Service Water A and B are not running and are in Standby lineup per the P41 SOI.
- RCIC will be started after RHR A or B is placed in suppression pool cooling mode.

Initiating Cue(s):

- You have been directed to place RHR ____ in Suppression Pool Cooling per Attachment ____ of the Shutdown from the Remote Shutdown Panel ONEP.
- Establish maximum cooling.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-L62-3
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QA Record
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Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-PS3

☐ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

Startup an ESF Static Inverter (1Y87, 1Y88, 1Y95, 1Y96)

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	6/13/11 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	9/26/2011 Date
Validated By:	Chris Laird Training Representative	9/26/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	9/28/2011 Date

Approval Date:* 9/28/2011

* Indexing Information
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[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Task: Startup an ESF Static Inverter

Setting:	Plant (Outside CAA)
Type:	NLO
Task:	AON-L62-002
K&A:	262002 A4.01 (2.8/3.1)
Safety Function:	6 - Electrical
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Simulate
Reference(s):	04-1-01-L62-1, Static Inverter SOI
Handout(s):	04-1-01-L62-1, Static Inverter SOI including Attachment III
# Manipulations:	4
# Critical Steps:	4
Group #:	1

Simulator Setup/Required Plant Conditions:

- Area 25A, elevation 111' is accessible
- Shift Manager/CRS permission to conduct JPM's.
- **Write in on the Initial Conditions Page which INVERTER is to be started.**

Safety Concerns:

- Wear appropriate personal protective equipment.
- Do NOT operate plant equipment.
- This JPM can be performed on any of 4 ESF inverters, ensure the inverter chosen for this JPM is not part of the protected train.

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

All of the following conditions apply to inverter 1Y_____

- Inverter is shutdown with both Battery Input Breaker CB1 and Inverter Output Breaker CB2 Open.
- The Heater breaker is off.
- The Alternate Source is supplying loads (Alternate Source Breaker Closed).
- DC Bus is energized with the inverter battery feeder breaker closed.
- The Manual Bypass Switch is selected to Alternate Source to Load.

Initiating Cue(s):

- The CRS directs you to startup Inverter 1Y_____ and transfer the loads to the normal source per SOI 04-1-01-L62-1 section 4.2.

Task: Startup an ESF Static Inverter

Notes: (Notes to Evaluator)

1. Be sure a non-protected train ESF inverter is selected and recorded on the initiating cues page.

Task Overview: (Detailed description of task)

This task is to startup an ESF Static Inverter and transfer loads to the inverter per the SOI.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 04-1-01-L62-1 Step 4.2.2d

☐* ***CLOSE*** *BATTERY INPUT circuit breaker on 1Y87 (1Y88, 1Y95, 1Y96)* **AND CHECK** the following:

- ☐ DC input voltmeter reads approximately 105 to 140 volts.
- ☐ Inverter AC output frequency is reading 60 hertz ± 0.1 hertz.
- ☐ INVERTER OUTPUT UNDERVOLTAGE Red indicating light is Off.
- ☐ INVERTER CURRENT LIMIT Red indicating light is Off.
- ☐ INVERTER OVERHEATING Red indicating light is Off.
- ☐ IN SYNC Amber indicating light is On (delayed).
- ☐ FAN FAILURE Red indicating light is On.

Standard: Close CB1, Battery input breaker.

Cue: **DC input voltage and AC frequency are as indicated on the inverter, all other indications are as indicated by the procedure.**

Notes: **Step 4.2.2a instructs the operator to move to step 4.2.2d. The inverter will remain in Alternate Supplying Load until the last step where the Inverter to Load pushbutton is depressed.**

SAT / UNSAT

Step 2: 04-1-01-L62-1 Step 4.2.2e	
☐* ***CLOSE*** *Inverter Output circuit breaker on 1Y87 (1Y88, 1Y95, 1Y96).*	
Standard:	Close CB2, Inverter output breaker.
Cue:	
Notes:	**Closing this breaker does not change indications on the inverter.**
	SAT / UNSAT

Step 3: 04-1-01-L62-1 Step 4.2.2f	
☐	**CHECK** IN SYNC light is On; **IF** OUT OF SYNC light is On, **THEN CONTACT** Electrical and **DO NOT** proceed until IN SYNC light is On. There is some time delay to achieve the IN SYNC light.
Standard:	Checks IN SYNC light lit.
Cue:	**IN SYNC light is on.**
Notes:	
	SAT / UNSAT

Step 4: 04-1-01-L62-1 Step 4.2.2g	
☐* ***IF*** *IN SYNC light is On, Perform the following:* ☐* ***TRANSFER*** *Manual Bypass switch to NORMAL OPERATION position* ☐ ALTERNATE SOURCE AVAILABLE (Amber) - On ☐ ALTERNATE SOURCE POWERING LOAD (Red) - On	
Standard: Places Manual Bypass switch to NORMAL OPERATION	
Cue: **Alternate source available and powering load lights are on.**	
Notes:	SAT / UNSAT

Step 5: 04-1-01-L62-1 Step 4.2.2h

☐* ***DEPRESS*** *INVERTER TO LOAD pushbutton* **AND CHECK** following indications:

- ☐ INVERTER POWERING LOAD Amber light is On.
- ☐ BATTERY NEAR EXHAUSTION light - Off
- ☐ INVERTER CURRENT LIMIT light – Off
- ☐ FAN FAILURE - Off
- ☐ INVERTER OVERHEATING light - Off
- ☐ INVERTER OUTPUT UNDERVOLTAGE light – Off
- ☐ INVERTER POWERING LOAD light - On
- ☐ In SYNC light - On
- ☐ System AC output (volts) - approximately 120 Vac ± 5 volts
- ☐ Inverter AC output (hertz) - 60 hertz ± 0.1 hertz

Standard: Depress inverter to load pushbutton.

Cue: **If the inverter is already supplying the load, then indications are as seen on the inverter.**

Otherwise, system AC output is 120 VAC/60 Hz with all other indications as indicated by the procedure.

This completes the JPM.

Notes:

SAT / UNSAT

Task Standard(s):

Inverter is started and supplying the load per 04-1-01-L62-1 section 4.2.

SAT / UNSAT

Task: Startup an ESF Static Inverter

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

All of the following conditions apply to inverter 1Y_____

- Inverter is shutdown with both Battery Input Breaker CB1 and Inverter Output Breaker CB2 Open.
- The Heater breaker is off.
- The Alternate Source is supplying loads (Alternate Source Breaker Closed).
- DC Bus is energized with the inverter battery feeder breaker closed.
- The Manual Bypass Switch is selected to Alternate Source to Load.

Initiating Cue(s):

- The CRS directs you to startup Inverter 1Y_____ and transfer the loads to the normal source per SOI 04-1-01-L62-1 section 4.2.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AR1
Revision: 0
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Rtype: _____
QA Record
Number of pages _____
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TRAINING PROGRAM:

NRC Operating Exam

JPM-AR1

☐ Time Critical ☐ Alternate Path Validation Time: 20 min

TITLE:

Fire Door Surveillance

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait	5/24/2011
	**Preparer	Date
Ops Review++:	Keith Huff	10/5/2011
	Technical Reviewer (e.g., SME, line management)	Date
Validated By:	Chris Laird	10/5/2011
	Training Representative	Date
Approved By:	Kane Ryder	10/5/2011
	+Discipline Training Supervisor	Date

Approval Date:* 10/5/2011

* Indexing Information
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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Fire Doors Surveillance

Setting:	Classroom
Type:	RO
Task:	CRO-P64-NORM-7
K&A:	2.1.20 (4.6/4.6) 2.2.12 (3.7/4.1)
Safety Function:	NA
Time Required:	20 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	06-OP-SP64-M-0043, Fire Doors Alarm Check
Handout(s):	06-OP-SP64-M-0043, Fire Doors Alarm Check (Attachment 1 prepared)
# Manipulations:	NA
# Critical Steps:	2
Group:	NA

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The Plant is operating at rated power.
- 06-OP-SP64-M-0043 step 5.2.1 and 5.2.2 are performed as required by another operator.
- The CRS directs you to perform a <u>partial</u> 06-OP-SP64-M-0043, Fire Doors Alarm Check on the following doors: (1) Elect Pen Rm 1A221 door number 1A212, (2) Emerg S/D Rm OC208A door number OC208, and (3) Sec Ctmt Door 1A604.
- You note the following items during your inspection:
  - Elect Pen Rm 1A221 door 1A212:
    - Door <u>does not</u> latch after being fully opened and allowing the closure mechanism to pull the door shut; however, when you pull the door it latches.
    - Alarms after 1 second upon opening.
  - Emerg S/D Rm OC208A door OC208:
    - Has a deep gouge/dent 10” long on one side on the bottom right quadrant but does not penetrate the door skin.
    - Seam has separated next to the 10” gouge.
    - Alarms after 30 seconds upon opening.
  - Sec Ctmt Door 1A604:
    - Has a rust patch on the Aux Building Roof side that has left a 3 in^2 hole in the skin of the door (the inside door skin is not damaged).
    - Has not alarmed 4 minutes after opening.

Initiating Cue(s):

- Complete the attached 06-OP-SP64-M0043, Fire Doors Alarm Check surveillance, including all portions of Attachment 1 Cover Sheet sections 2.0 and 3.0. Only mark Tech Spec Acceptance Criteria as Acceptable if <u>REQUIRED</u> by 06-OP-SP64-M-0043 surveillance procedure.
- Note reasons for marking Tech Spec Acceptance Criteria or other steps/data in the test results section as “Acceptable” or “Unacceptable” on the back of the surveillance coversheet.
- All prerequisites are verified met.

Admin Task: Fire Doors Surveillance

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- The operator will perform a Fire Door Alarm Check using the information provided in the initiating ques. The operator will discover tech spec door OC208 is INOP, tech spec door 1A212 is OPERABLE but requires a WR to fix the closing mechanism, and non-tech spec door 1A604 also requires a WR to fix the security alarm timing and a rust patch.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 06-OP-SP64-M-0043

☐* *The operator evaluates the given conditions for each fire door given in the initiating cues and determines the following:*

☐* *Tech Spec Door 1A212 Tech Spec Acceptance Criteria is "Acceptable," but step 5.2.6 other steps/data is "Unacceptable" because the closing mechanism will not shut the door without assistance (see note for step 5.2.6).*

☐* *Tech Spec Door OC208 fails step 5.2.5c; however, the Tech Spec Acceptance Criteria for this surveillance is "Acceptable" (see note for step 5.2.5). The other steps/data is "Unacceptable".*

☐ Tech Spec Door OC208 is INOP since it fails step 5.2.5c.

☐* *Door 1A604 is not a Tech Spec door; therefore, Tech Spec Acceptance Criteria is NA. Step 5.2.5a data is "Unacceptable" because the outside door skin is visibly damaged with a hole > 3/16".*

Standard: The deficiencies noted above are recorded on the surveillance cover sheet.

Cue:

Notes: **This meets the requirement for step 3.2 on the surveillance coversheet. Any words that demonstrate an equivalent understanding is acceptable.**

SAT / UNSAT

Step 2: 06-OP-SP64-M-0043
☐* *Complete the surveillance coversheet section 3.1 by checking boxes for:* (1) Partial procedure complete, *(2)* Tech Spec Acceptance Criteria **Acceptable**, and* *(3)* All other steps/data **Unacceptable**.*
Standard: Checks appropriate boxes.
Cue:
Notes: SAT / UNSAT

Step 3: 06-OP-SP64-M-0043
☐ Complete the surveillance coversheet sections 2.1, 2.2 and 3.3
Standard: Circle for the plant being in Mode 1 and record themselves as performer with the date and time.
Cue:
Notes: JPM is completed when the operator completes the surveillance package coversheet. SAT / UNSAT

Task Standard(s):

The operator determines that the Tech Spec Acceptance Criteria is “Acceptable” and that All other steps/data is “Unacceptable” per 06-OP-SP64-M-0043.

SAT / UNSAT

Admin Task: Fire Doors Surveillance

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The Plant is operating at rated power.
- 06-OP-SP64-M-0043 step 5.2.1 and 5.2.2 are performed as required by another operator.
- The CRS directs you to perform a partial 06-OP-SP64-M-0043, Fire Doors Alarm Check on the following doors: (1) Elect Pen Rm 1A221 door number 1A212, (2) Emerg S/D Rm OC208A door number OC208, and (3) Sec Ctmt Door 1A604.
- You note the following items during your inspection:
  - Elect Pen Rm 1A221 door 1A212:
    - Door does not latch after being fully opened and allowing the closure mechanism to pull the door shut; however, when you pull the door it latches.
    - Alarms after 1 second upon opening.
  - Emerg S/D Rm OC208A door OC208:
    - Has a deep gouge/dent 10" long on one side on the bottom right quadrant but does not penetrate the door skin.
    - Seam has separated next to the 10" gouge.
    - Alarms after 30 seconds upon opening.
  - Sec Ctmt Door 1A604:
    - Has a rust patch on the Aux Building Roof side that has left a 3 in^2 hole in the skin of the door (the inside door skin is not damaged).
    - Has not alarmed 4 minutes after opening.

Initiating Cue(s):

- Complete the attached 06-OP-SP64-M0043, Fire Doors Alarm Check surveillance, including all portions of Attachment 1 Cover Sheet sections 2.0 and 3.0. Only mark Tech Spec Acceptance Criteria as Acceptable if REQUIRED by 06-OP-SP64-M-0043 surveillance procedure.
- Note reasons for marking Tech Spec Acceptance Criteria or other steps/data in the test results section as "Acceptable" or "Unacceptable" on the back of the surveillance coversheet.
- All prerequisites are verified met.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AR2
Revision: 0
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Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AR2

☐ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

Operator Qualification Verification

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	6/1/2011 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	10/5/2011 Date
Validated By:	Chris Laird Training Representative	10/5/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/5/2011 Date

Approval Date:* 10/5/2011

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Operator Qualification Verification

Setting:	Classroom
Type:	RO
Task:	CRO-ADMIN-003, AON-ADMIN-002
K&A:	2.1.4 (3.3/3.8)
Safety Function:	NA
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	Operations Section Guideline OPG-35
Handout(s):	None
# Manipulations:	NA
# Critical Steps:	1
Group:	NA

Simulator Setup/Required Plant Conditions:

- Requires Entergy Network Access

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- You are returning from three days off to stand shift as Reactor Operator.

Initiating Cue(s):

- Demonstrate your ability to check your qualification to stand shift as Reactor Operator in accordance with Operations Section Guideline OPG-35.

Admin Task: Operator Qualification Verification

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- Using computer program Plateau LMS in accordance with Operations Section Guideline OPG-35, the operator will demonstrate the ability to verify his qualifications are current to stand shift as Reactor Operator.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1:
☐ Obtain a copy of OPG-35
Standard: OPG-35 is accessed via the GGNS Operations Department internet homepage by mousing over “Reference Info” and selecting “Ops Section Guidelines”. Once on the OPG page, select OPG-35 to open the document.
Cue:
Notes: SAT / UNSAT

Step 2: OPG-35 sections 1.1 and 1.2
☐* *Access computer program Plateau LMS and Login.*
Standard: Logs in to the Plateau LMS program.
Cue: If asked, direct the operator to use his own user name and password.
Notes: **Three ways to access:** **(1) Select START – All Programs – Nuclear Corporate Applications – Plateau LMS.** **(2) Operation Dept website homepage by selecting GGNS Homepage – Departments – Operations – On the left menu under Plateau LMS select User Access.** **(3) Training website homepage by selecting GGNS Homepage – Departments – Training – Plateau LMS.** SAT / UNSAT

Step 3: OPG-35 sections 1.3 and 1.4	
☐* *Access the Curriculum Status Screen and verify required curriculum on OPG-35 Table 1 is current in Plateau.*	
Standard:	Looks for matching curriculum (G-OPS-RO-RO Active/Proficient, G-HAZ-DOT HAZMAT Ops) in plateau with a green check by it and the Next Action Date has not passed.
Cue:	
Notes:	JPM complete when the operator demonstrates the ability to determine if personal watchstanding requirements are met.
	SAT / UNSAT

Task Standard(s):

Demonstrate the ability to determine individual qualifications to meet watchstanding requirements for Reactor Operator in accordance with OPG-35.

SAT / UNSAT

Admin Task: Operator Qualification Verification

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- You are returning from three days off to stand shift as Reactor Operator.

Initiating Cue(s):

- Demonstrate your ability to check your qualification to stand shift as Reactor Operator in accordance with Operations Section Guideline OPG-35.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AR3
Revision: 0
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Rtype: _____
QA Record
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Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AR3

☐ Time Critical ☐ Alternate Path Validation Time: 25 min

TITLE:

Determine Tagging Requirements

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait	5/24/2011
	**Preparer	Date
Ops Review++:	Keith Huff	10/5/2011
	Technical Reviewer (e.g., SME, line management)	Date
Validated By:	Chris Laird	10/5/2011
	Training Representative	Date
Approved By:	Kane Ryder	10/5/2011
	+Discipline Training Supervisor	Date

Approval Date:* 10/5/2011

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Determine Tagging Requirements

Setting:	Classroom
Type:	RO
Task:	CRO-ADMIN-005
K&A:	2.2.13 (4.1/4.3) 2.2.41 (3.5/3.9)
Safety Function:	NA
Time Required:	25 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	EN-OP-102, Protective and Caution Tagging EN-OP-102-01, Protective and Caution Tagging Forms and Checklist 04-S-01-P64-1, Fire Protection Water System SOI M-0035A, E-0231-02
Handout(s):	EN-OP-102, Protective and Caution Tagging 04-S-01-P64-1, Fire Protection Water System SOI M-0035A, E-0231-02 Blank Tagout Tags Sheets
# Manipulations:	NA
# Critical Steps:	2
Group:	NA

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The Plant is operating at rated power.
- The Motor Driven Fire Pump C002-N needs a new impeller.
- The pump motor will need to be removed for access.

Initiating Cue(s):

- The CRS directs you to prepare a Tagout Tags Sheet using EN-OP-102-01 Attachment 9.3 (Provided) to De-energize and mechanically isolate the Motor Driven Fire Pump C002-N.
- Restoration Configuration is not required.
- The next sequential tag serial number is “01.”
- Use the closest available mechanical isolations to the component to be isolated.

Admin Task: Determine Tagging Requirements

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- The operator will determine the proper isolations for the Motor Driven Fire Pump.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: EN-OP-102 5.3 [2] (e) / Att. 9.2
☐* *The operator must determine minimum Tagout boundaries to include:* ☐* *NSP64-F160 (Mtr Driven Fw Pmp Casing Dr)* ☐* *NSP64-F108 (Mtr Driven Fw Pmp Suct)* ☐* *NSP64-F177 (Mtr Driven Fw Pmp Test Loop Isol)* ☐* *NSP64-F016 (Mtr Driven Fw Pmp Disch)* ☐* *52-11305 (MD Fire Pump Breaker)* ☐* *52-1P13229 (STRIP HEATER MOTOR DRIVEN FIRE PUMP)* ☐ HS M602 (Control Room Manual Start Pushbutton) ☐ NSP64-F093D (Mtr Driven Fw Pump Suct Hdr Vent)
Standard: Determines appropriate boundaries.
Cue:
Notes: **The components listed are the minimum required to perform work. Any combination of valves that adequately isolates the MDFP will meet the requirements of this step. Additional components are allowed.** **See the attached KEY for details.** SAT / UNSAT

Step 2: EN-OP-102 5.3 [4]	
☐* *Complete the Tagout Tags Sheet of EN-OP-102-01 Attachment 9.3* See attached Tagout Tags Sheet KEY	
Standard:	Completes the Tagout Tags Sheet with required components from Step 1.
Cue:	
Notes:	**EN-OP-102 Attachment 9.2 section 7.0 contains the Tagging Sequence guidance.** JPM complete when the operator completes the Tagout Tags Sheet. SAT / UNSAT

Task Standard(s):

All required isolations and vent paths are identified and correctly documented on the Tagout Tags Sheet in accordance with EN-OP-102.

SAT / UNSAT

Admin Task: Determine Tagging Requirements

Follow-Up Questions & Answers:

Comments:

ATTACHMENT 9.3 TAGOUT TAGS SHEET

CLEARANCE: ___**MANUAL**_____ TAGOUT: ___XXXX_____

Tag Serial No.	Tag Type	Equipment Equipment Description Equipment Location	Place. Seq.	Placement Configuration	Place. 1st Verif Date/Time	Place. 2nd Verif Date/Time	Rest. Seq.	Restoration Configuration	Rest. 1st Verif Date/Time	Rest. 2nd Verif Date/Time	Placement/Removal Tag Notes
1	*D	* NSP64-F160 Mtr Driven Fw Pmp Casing Dr BLDG FW PUMP HOUSE ELEV 132'	6	*OPEN							
2	*D	* NSP64-F108 Mtr Driven Fw Pmp Suction BLDG FW PUMP HOUSE ELEV 132'	5	*CLOSE							
3	*D	* NSP64-F177 Mtr Driven Fw Pmp Test Loop Isol BLDG FW PUMP HOUSE ELEV 132'	4	*CLOSE							
4	*D	* NSP64-F016 Mtr Driven Fw Pmp Disch BLDG FW PUMP HOUSE ELEV 132'	4	*CLOSE							
5	*D	* 52-11305 MD Fire Pump 11BD3	2	*OPEN							
6	*D	* 52-1P13229 STRIP HEATER MOTOR DRIVEN FIRE PUMP 11P32	3	*OPEN							
7	D	HS M602 MD Fire Pump Remote Start PB SH13-P862	1	Not Depressed							
7	D	NSP64-F093D Mtr Driven Fw Pmp Suct Hdr Vent BLDG FW PUMP HOUSE ELEV 132'	6	OPEN							

Give this page to the student

Initial Condition(s):

- The Plant is operating at rated power.
- The Motor Driven Fire Pump C002-N needs a new impeller.
- The pump motor will need to be removed for access.

Initiating Cue(s):

- The CRS directs you to prepare a Tagout Tags Sheet using EN-OP-102-01 Attachment 9.3 (Provided) to De-energize and mechanically isolate the Motor Driven Fire Pump C002-N.
- Restoration Configuration is not required.
- The next sequential tag serial number is “01.”
- Use the closest available mechanical isolations to the component to be isolated.

ATTACHMENT 9.3 TAGOUT TAGS SHEET

CLEARANCE: ___**MANUAL**_____ TAGOUT: ___XXXX_____

Tag Serial No.	Tag Type	Equipment Equipment Description Equipment Location	Place. Seq.	Placement Configuration	Place. 1st Verif Date/Time	Place. 2nd Verif Date/Time	Rest. Seq.	Restoration Configuration	Rest. 1st Verif Date/Time	Rest. 2nd Verif Date/Time	Placement/Removal Tag Notes

ATTACHMENT 9.3 TAGOUT TAGS SHEET

CLEARANCE: ___**MANUAL**_____ TAGOUT: ___XXXX_____

Tag Serial No.	Tag Type	Equipment Equipment Description Equipment Location	Place. Seq.	Placement Configuration	Place. 1st Verif Date/Time	Place. 2nd Verif Date/Time	Rest. Seq.	Restoration Configuration	Rest. 1st Verif Date/Time	Rest. 2nd Verif Date/Time	Placement/Removal Tag Notes

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AR4
Revision: 0
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Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AR4

☐ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

Primary Containment Water Level Determination EOP Attachment 29

☐ New Material ☒ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: Original electronic copy was lost.
THIS DOCUMENT REPLACES: GJPM-OPS-ADMR94

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	6/1/2011 Date
Ops Review[++]**:**	Keith Huff Technical Reviewer (e.g., SME, line management)	10/5/2011 Date
Validated By:	Chris Laird Training Representative	10/5/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/5/2011 Date

Approval Date:* 10/5/2011

* Indexing Information
** The requirements of the Training Material Checklist have been met.
[+] Indicates that the LP has been reviewed by the Training Supervisor for inclusion of Management Expectations and items referenced on TQJA-201- DD06, Training Material Checklist.
[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Primary Containment Water Level Determination

Setting:	Classroom
Type:	RO
Task:	CRO-EP-29
K&A:	295029 EA2.01 (3.9/3.9) EA2.03 (3.4/3.5) 2.4.21 (4.0/4.6) 2.1.25 (3.9/4.2) 2.1.20 (4.6/4.6)
Safety Function:	5 – Containment Integrity
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	05-S-01-EP-1 Attachment 29
Handout(s):	05-S-01-EP-1 Attachment 29 SPDS Screen shot, Panel photo for E51-R604
# Manipulations:	N/A
# Critical Steps:	1
Group:	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- A LOCA has occurred.
- Suppression Pool water level indication is off scale high.
- RCIC is shut down with suction aligned to the suppression pool.

Initiating Cue(s):

- The CRS directs you to determine Primary Containment water level IAW EP Attachment 29.
- Use the attached images for current plant conditions.

Admin Task: Primary Containment Water Level Determination

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- Using EP Attachment 29 and the attached images to obtain RCIC Suction Pressure and Containment Pressure, determine Primary Containment Water Level from the Delta Pressure to Ctmt Level Conversion Table, EP Attachment 29 Table 1.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: EP-1 Att. 29 step 2.4
☐* *Determine RCIC Pump Suction Pressure indicated on E51-R604 is 15 psig.*
Standard: Determine from attached photo RCIC Pump Suction Pressure.
Cue:
Notes: **Steps 2.1 – 2.3 are NA since RCIC is already secured and aligned for suction from the suppression pool.**
SAT / UNSAT

Step 2: EP-1 Att. 29 step 2.5
☐* *Determine Containment Pressure indicated on SPDS is 2.2 psig.*
Standard: Determine from attached screen shot Containment Pressure.
Cue:
Notes:
SAT / UNSAT

Step 2: EP-1 Att. 29 step 2.6
☐* *Determine delta pressure to be 12.8 psig by subtracting Containment Pressure from RCIC Pump Suction Pressure.*
Standard: Determines delta pressure to be 12.8 psig.
Cue:
Notes:
SAT / UNSAT

Step 2: EP-1 Att. 29 step 2.7
☐* *Determine Primary Containment water level to be 35.5 ft.*
Standard: Determines Primary Containment water level using EP Attachment 29 Table 1.
Cue:
Notes:
SAT / UNSAT

Task Standard(s):
Determine Containment Water level using Containment pressure and RCIC Suction pressure and 05-S-01-EP-1 Attachment 29.
SAT / UNSAT

Admin Task: Primary Containment Water Level Determination

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- A LOCA has occurred.
- Suppression Pool water level indication is off scale high.
- RCIC is shut down with suction aligned to the suppression pool.

Initiating Cue(s):

- The CRS directs you to determine Primary Containment water level IAW EP Attachment 29.
- Use the attached images for current plant conditions.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AS1
Revision: 0
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Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AS1

☐ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

Determine Fire Watch Requirements

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	5/24/2011 Date
Ops Review[++]**:**	Mark Goodwin Technical Reviewer (e.g., SME, line management)	10/4/2011 Date
Validated By:	Keith Huff Training Representative	10/4/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/5/2011 Date

Approval Date:* 10/5/2011

* Indexing Information
** The requirements of the Training Material Checklist have been met.
[+] Indicates that the LP has been reviewed by the Training Supervisor for inclusion of Management Expectations and items referenced on TQJA-201- DD06, Training Material Checklist.
[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Determine Fire Watch Requirements

Setting:	Classroom
Type:	RO
Task:	CRO-P64-NORM-7
K&A:	2.1.2 (4.1/4.0) 2.1.8 (3.4/4.1) 2.1.20 (4.6/4.6) 2.2.12 (3.7/4.1) 2.2.22 (4.0/4.7) 2.4.25 (3.3/3.7)
Safety Function:	NA
Time Required:	20 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	06-OP-SP64-M-0043, Fire Doors Alarm Check TRM 6.2.8, Fire Maps
Handout(s):	06-OP-SP64-M-0043, Fire Doors Alarm Check Copy of Tech Specs/TRM Fire Watch Maps for Auxiliary Building elevations 119’ and 245’ and control building elevation 111’
# Manipulations:	NA
# Critical Steps:	2
Group:	NA

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The Plant is operating at rated power.
- All fire detection devices are functioning properly.
- A partial 06-OP-SP64-M-0043, Fire Doors Alarm Check was just performed on the following doors: (1) Elect Pen Rm 1A221 door number 1A212, (2) Emerg S/D Rm OC208A door number OC208, and (3) Sec Ctmt Door 1A604.
- An operator reports the following after completing the 06-OP-SP64-M-0043:
  - Elect Pen Rm 1A221 door 1A212:
    - Door does not latch after being fully opened and allowing the closure mechanism to pull the door shut; however, when you pull the door it latches.
    - Alarms after 1 second upon opening.
  - Emerg S/D Rm OC208A door OC208:
    - Has a deep gouge/dent 10” long on one side on the bottom right quadrant but does not penetrate the door skin.
    - Seam has separated next to the 10” gouge.
    - Alarms after 30 seconds upon opening.
  - Sec Ctmt Door 1A604:
    - Has a rust patch on the Aux Building Roof side that has left a 3 in^2 hole in the skin of the door (the inside door skin is not damaged).
    - Has not alarmed 4 minutes after opening.

Initiating Cue(s):

- The Shift Manager asks you to determine the fire watch requirements associated with the indications given.
- Use the provided references.

Admin Task: Determine Fire Watch Requirements

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- The operator will determine that tech spec fire door OC208 is INOP and set a fire watch in accordance with TR 6.2.8 for the Division 1 ESF Switchgear Room (Control Building Elevation 111').

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 06-OP-SP64-M-0043

☐* *The operator evaluates the given conditions for each fire door given in the initiating cues and determines the following:*

☐ Tech Spec Door 1A212 is OPERABLE.

☐* *Tech Spec Door OC208 is INOP because it fails step 5.2.5c.*

☐ Door 1A604 is not a Tech Spec door; therefore, Tech Spec Acceptance Criteria is NA.

Standard: Determine Door OC208 is INOP

Cue:

Notes:

SAT / UNSAT

Step 2: TR 6.2.8	
☐* *Enter LCO for TR 6.2.8 Condition A and establish a continuous fire watch for action A.1 or hourly fire watch for action A.2.2 on at least one side of door OC208.*	
Standard:	Establishes Fire Watch
Cue:	
Notes:	**Door OC208 is the door from the Division 1 ESF Switchgear Room to the Remote Shutdown Panels Room.** JPM is complete when Fire Watch requirements are determined. SAT / UNSAT

Task Standard(s):

The operator establishes a fire watch at least hourly for the Division 1 ESF Switchgear Room due to declaring tech spec door OC208 INOP in accordance with 06-OP-SP64-M-0043and TR 6.2.8 Condition A.

SAT / UNSAT

Admin Task: Determine Fire Watch Requirements

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The Plant is operating at rated power.
- All fire detection devices are functioning properly.
- A partial 06-OP-SP64-M-0043, Fire Doors Alarm Check was just performed on the following doors: (1) Elect Pen Rm 1A221 door number 1A212, (2) Emerg S/D Rm OC208A door number OC208, and (3) Sec Ctmt Door 1A604.
- An operator reports the following after completing the 06-OP-SP64-M-0043:
    - Elect Pen Rm 1A221 door 1A212:
        - Door does not latch after being fully opened and allowing the closure mechanism to pull the door shut; however, when you pull the door it latches.
        - Alarms after 1 second upon opening.
    - Emerg S/D Rm OC208A door OC208:
        - Has a deep gouge/dent 10" long on one side on the bottom right quadrant but does not penetrate the door skin.
        - Seam has separated next to the 10" gouge.
        - Alarms after 30 seconds upon opening.
    - Sec Ctmt Door 1A604:
        - Has a rust patch on the Aux Building Roof side that has left a 3 in^2 hole in the skin of the door (the inside door skin is not damaged).
        - Has not alarmed 4 minutes after opening.

Initiating Cue(s):

- Determine the fire watch requirements associated with the indications given.
- Use the provided references.

CONTROL BUILDING
ELEVATION 93'-0"

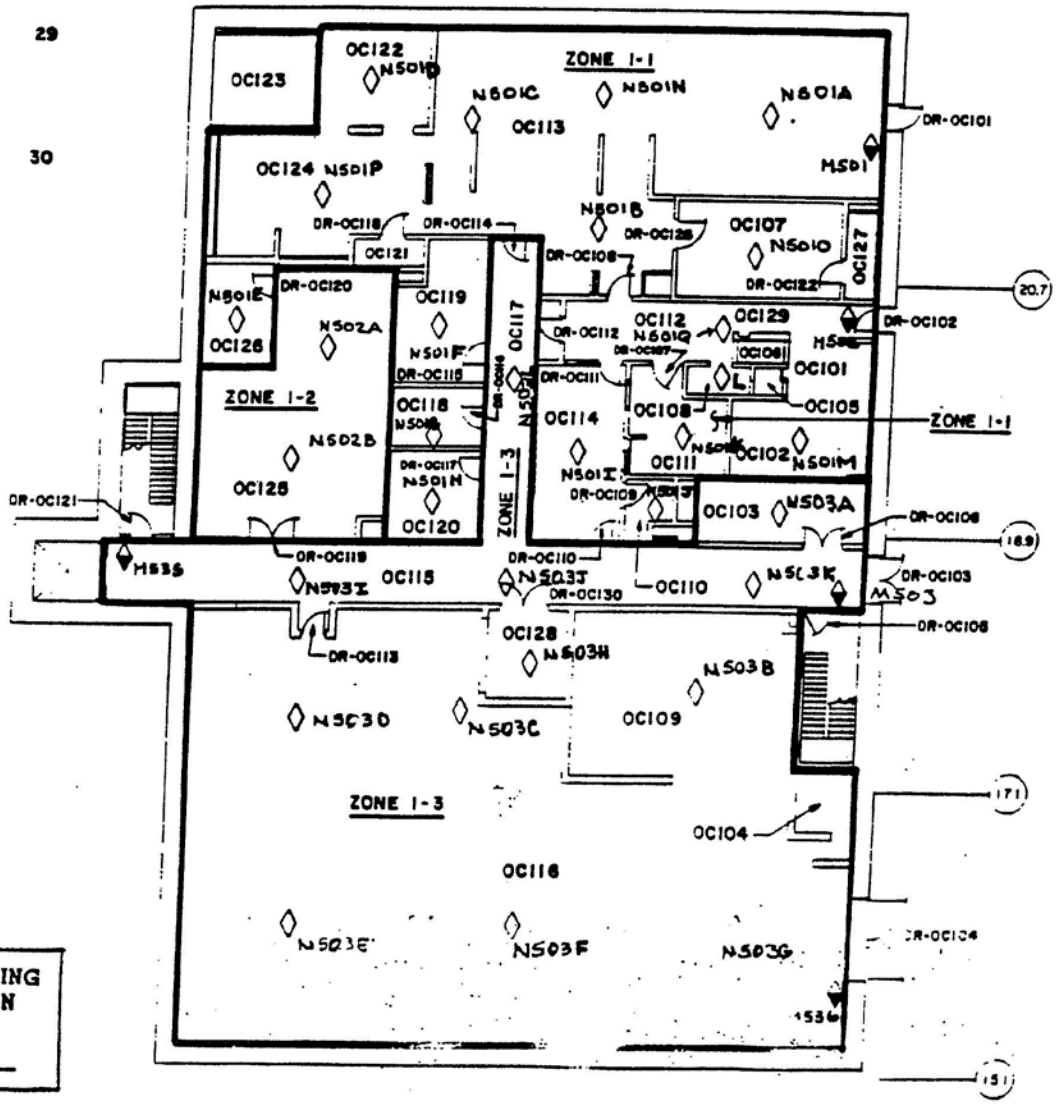
ZONE #	SFPC #
1-1	1513
1-2	1514
1-3	1515

NOTES

◇ IONIZATION DETECTOR

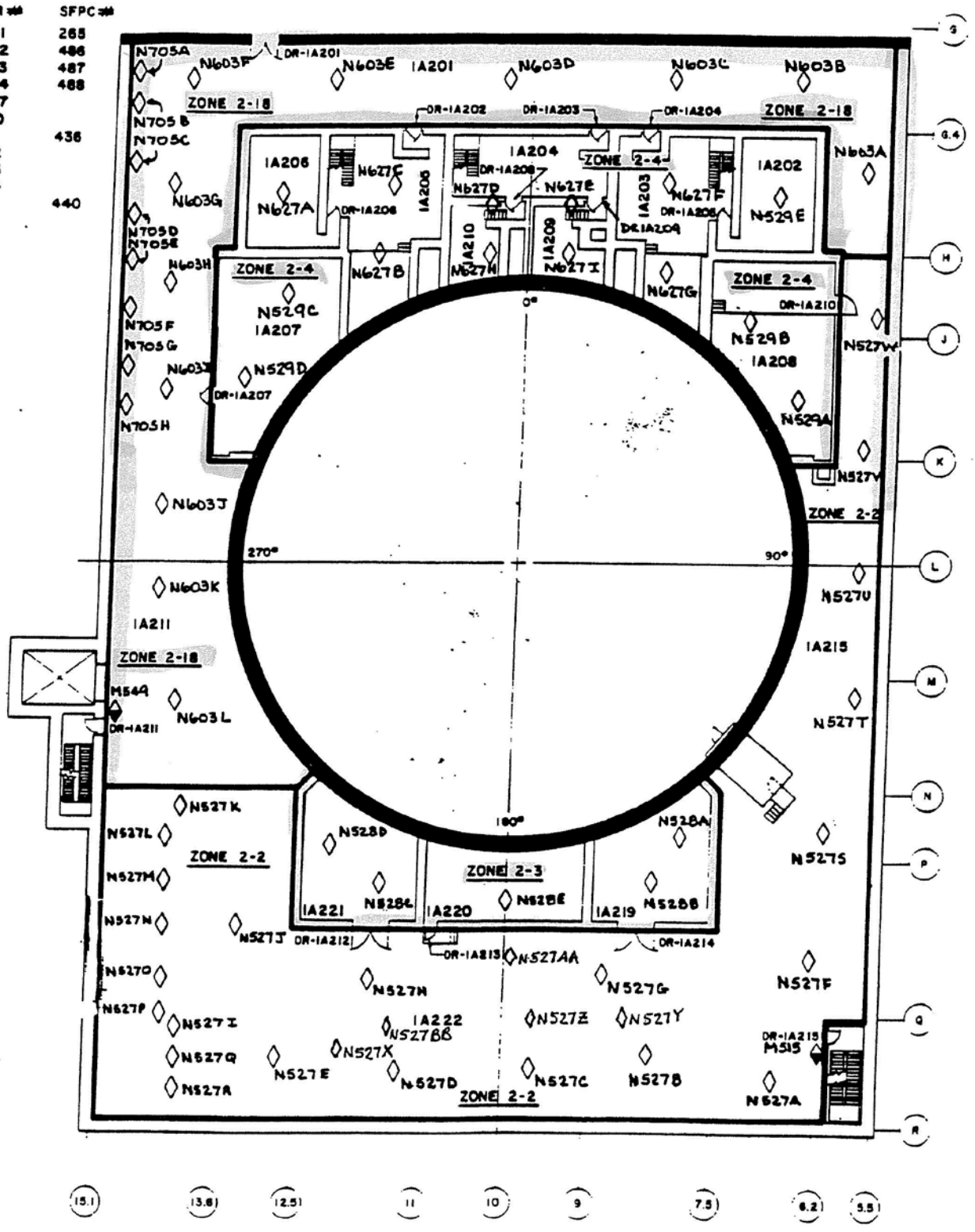
▼ MANUAL PULL STATION

DOOR #	SFPC #
OC101	18
OC102	20
OC103	21
OC104	22
OC105	
OC106	
OC109	
OC110	
OC112	
OC113	29
OC114	
OC115	
OC116	
OC117	
OC119	
OC121	30
OC124	
OC125	
OC127	
OC130	



ANCE ENGINEERING
SE INSTRUCTION

MWO #


AUXILIARY BLDG.
ELEVATION 119'-0"
ZONE ##
2-02
2-03
2-04
2-18
SFPC ##
998
999
1001
988
NOTES
IONIZATION DETECTOR
MANUAL PULL STATION
DOOR ##
SFPC ##
1A201 265
1A202 486
1A203 487
1A204 488
1A207
1A210
1A211 436
1A212
1A213
1A214
1A215 440
ZONE 2-18
ZONE 2-4
ZONE 2-2
ZONE 2-3
1A201
1A202
1A203
1A204
1A205
1A206
1A207
1A208
1A209
1A210
1A211
1A212
1A213
1A214
1A215
1A219
1A220
1A221
1A222
0°
90°
180°
270°
(15.1)
(13.8)
(12.5)
11
10
9
7.5
6.2
5.5
G.4
H
J
K
L
M
N
P
Q
R
S

AUXILIARY BLDG.
ELEVATION 248'-0"

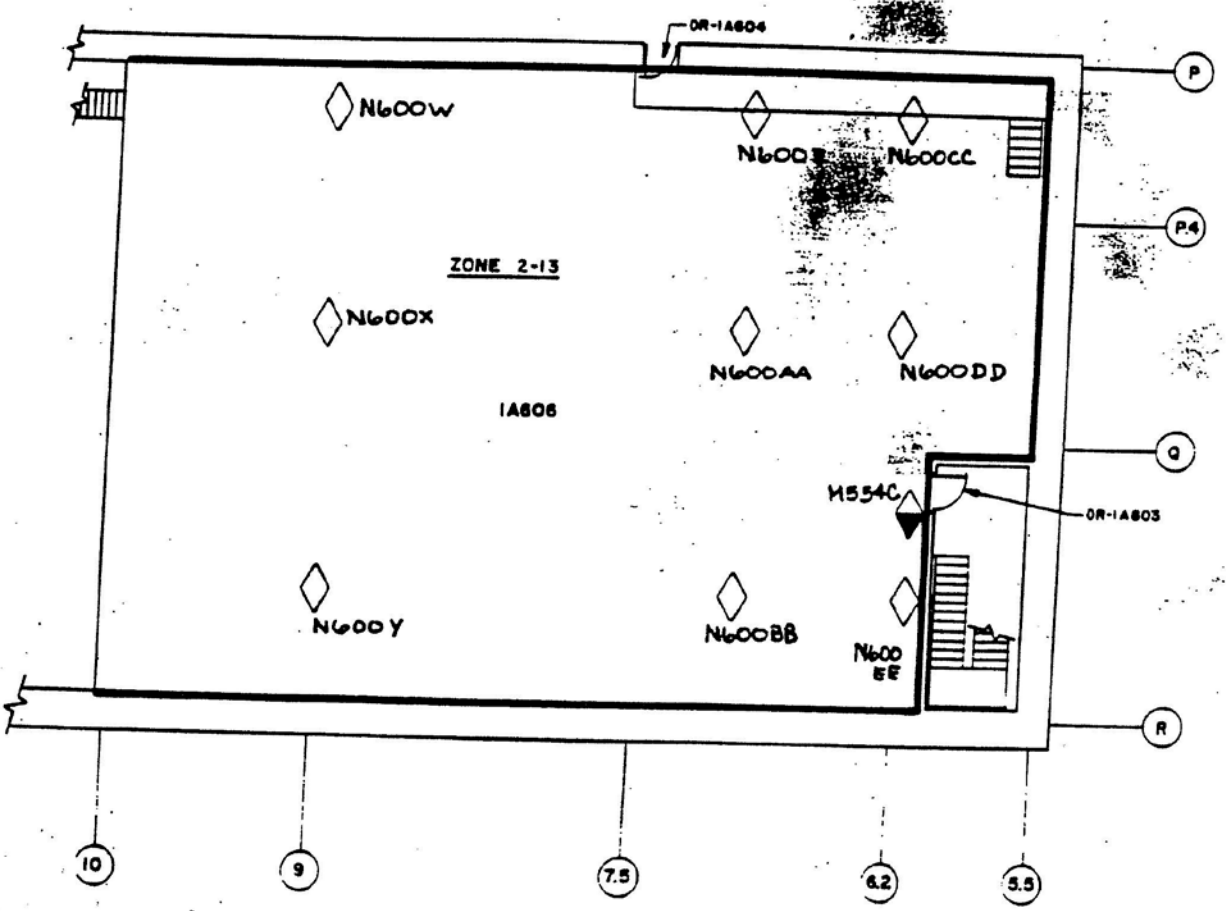
ZONE #	SFPC #
2-13	983

NOTES

◇ IONIZATION DETECTOR

◆ MANUAL PULL STATION

DOOR #	SFPC #
1A603, 1A604	



MAINTENANCE ENGINEERING
SPECIAL INSTRUCTION

MWO # _____

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AS2
Revision: 0
Page: 1 of 7
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AS2

☐ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

Determine the plant EOOS Factor

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	6/2/2011 Date
Ops Review[++]**:**	Mark Goodwin Technical Reviewer (e.g., SME, line management)	10/4/2011 Date
Validated By:	Steve Reeves Training Representative	10/5/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/5/2011 Date

Approval Date:* 10/5/2011

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Determine the plant EOOS Factor

Setting:	Classroom
Type:	SRO
Task:	SRO-ADMIN-15
K&A:	2.1.19 (3.9/3.8)
Safety Function:	NA
Time Required:	10 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	GGNS EOOS Risk Monitor User's Guide
Handout(s):	GGNS EOOS Risk Monitor User's Guide
# Manipulations:	NA
# Critical Steps:	1
Group:	NA

Simulator Setup/Required Plant Conditions:

- Computer with the Training EOOS program (SM desk in the Simulator).

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The Plant is operating at rated power.
- Service Transformer 11 is out of service.
- SLC A is out of service.
- Division 3 Diesel Generator is out of service.

Initiating Cue(s):

- The Shift Manager directs you to determine the EOOS Risk Factor and Plant Safety Index.

Admin Task: Determine the plant EOOS Factor

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- This task is to use the EOOS Computer to assess the Plant Safety Index and Risk Factor for out of service equipment and plant work.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: EDP-045
☐ Using EDP-045, log into the EOOS program and enter out of service information from the initial conditions
Standard: Enter the correct data.
Cue:
Notes: SAT / UNSAT

Step 2: EDP-045
☐* *Determine Plant Safety Index is 9.0 YELLOW.*
Standard: Determines the correct Plant Safety Index.
Cue:
Notes: SAT / UNSAT

Task Standard(s):
The operator determines the correct Plant Safety Index using the EOOS computer program.

SAT / UNSAT

Admin Task: Determine the plant EOOS Factor

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The Plant is operating at rated power.
- Service Transformer 11 is out of service.
- SLC A is out of service.
- Division 3 Diesel Generator is out of service.

Initiating Cue(s):

- The Shift Manager directs you to determine the EOOS Risk Factor and Plant Safety Index.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AS3
Revision: 0
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Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AS3

☐ Time Critical ☐ Alternate Path Validation Time: 25 min

TITLE:

Review Adequacy of a Tagout

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	5/24/2011 Date
Ops Review[++]**:**	Mark Goodwin Technical Reviewer (e.g., SME, line management)	10/6/2011 Date
Validated By:	Keith Huff Training Representative	10/6/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/6/2011 Date
Approval Date:*	10/6/2011	

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[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Review Adequacy of a Tagout

Setting:	Classroom
Type:	SRO
Task:	SRO-ADMIN-ADMIN-48
K&A:	2.2.13 (4.1/4.3) 2.2.41 (3.5/3.9)
Safety Function:	NA
Time Required:	25 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	EN-OP-102, Protective and Caution Tagging EN-OP-102-01, Protective and Caution Tagging Forms and Checklist 04-S-01-P64-1, Fire Protection Water System SOI M-0035A, E-0231-02, J-0204-2
Handout(s):	EN-OP-102, Protective and Caution Tagging 04-S-01-P64-1, Fire Protection Water System SOI M-0035A, E-0231-02, J-0204-2 Tagout Tags Sheet (Attached)
# Manipulations:	NA
# Critical Steps:	1
Group:	NA

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The Plant is operating at rated power.
- The Motor Driven Fire Pump C002-N needs a new impeller.
- The pump motor will need to be removed for access.

Initiating Cue(s):

- As CRS you are tasked to verify the adequacy of the proposed tagout for work on the Motor Driven Fire Pump C002-N.
- Document errors or inadequate boundaries.

Admin Task: Review Adequacy of a Tagout

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- The operator will determine the proper isolations work on the MDFP.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: EN-OP-102 5.3 [2] (e) / Att. 9.2
☐ The operator must determine minimum Tagout boundaries to include: ☐ NSP64-F160 (Mtr Driven Fw Pmp Casing Dr) ☐ NSP64-F108 (Mtr Driven Fw Pmp Suct) ☐ NSP64-F177 (Mtr Driven Fw Pmp Test Loop Isol) ☐ NSP64-F016 (Mtr Driven Fw Pmp Disch) ☐ 52-11305 (MD Fire Pump Breaker) ☐ 52-1P13229 (STRIP HEATER MOTOR DRIVEN FIRE PUMP) ☐ HS M602 (Control Room Manual Start Pushbutton)
Standard: Determines appropriate boundaries.
Cue:
Notes: **The valves listed are the minimum required valves required to perform work. Any combination of valves that adequately isolates the MDFP and provides a drain or vent path will meet the requirements of this step.** SAT / UNSAT

Step 2:

☐* *The Operator documents the following:*

☐* *NSP64-F177 is required to isolate the test loop from the MDFP.*

☐* *52-1P13229 is required to isolate the strip heater power.*

☐ HS-M602 is required by EN-OP-102 Att 9.2 section 1.1 (this tag is not required for safety of personnel).

☐ HS-M002 is not necessary (or practical since it is a pushbutton).

Standard: Documents deficiencies.

Cue:

Notes: **These requirements can be specifically found in EN-OP-102 Attachment 9.2 sections 1.1 and 2.1 and Attachment 9.3 sections 1.1 and 1.4. Any words that demonstrate an equivalent understanding is acceptable.**

The task is complete when the operator determines the adequacy for this Tagout.

SAT / UNSAT

Task Standard(s):

The operator indentifies the tagout lacks the required isolations per EN-OP-102.

SAT / UNSAT

Admin Task: Review Adequacy of a Tagout

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The Plant is operating at rated power.
- The Motor Driven Fire Pump C002-N needs a new impeller.
- The pump motor will need to be removed for access.

Initiating Cue(s):

- As CRS you are tasked to verify the adequacy of the proposed tagout for work on the Motor Driven Fire Pump C002-N.
- Document errors or inadequate boundaries.

ATTACHMENT 9.3 TAGOUT TAGS SHEET

CLEARANCE: ___**MANUAL**_____ TAGOUT: ___XXXX_____

Tag Serial No.	Tag Type	Equipment Equipment Description Equipment Location	Place. Seq.	Placement Configuration	Place. 1st Verif Date/Time	Place. 2nd Verif Date/Time	Rest. Seq.	Restoration Configuration	Rest. 1st Verif Date/Time	Rest. 2nd Verif Date/Time	Placement/Removal Tag Notes
1	D	NSP64-F160 Mtr Driven Fw Pmp Casing Dr BLDG FW PUMP HOUSE ELEV 132'	5	OPEN							
2	D	NSP64-F108 Mtr Driven Fw Pmp Suction BLDG FW PUMP HOUSE ELEV 132'	4	CLOSE							
4	D	NSP64-F016 Mtr Driven Fw Pmp Disch BLDG FW PUMP HOUSE ELEV 132'	3	CLOSE							
5	D	52-11305 MD Fire Pump 11BD3	2	OPEN							
6	D	HS M002 MD Fire Pump Local Stop PB SH22-P134	1	Depressed							

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AS4
Revision: 0
Page: 1 of 6
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AS4

☐ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

Review Radwaste Discharge Permit

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	6/2/2011 Date
Ops Review[++]**:**	Mark Goodwin Technical Reviewer (e.g., SME, line management)	10/6/2011 Date
Validated By:	Keith Huff Training Representative	10/6/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/6/2011 Date
Approval Date:*	10/6/2011	

* Indexing Information
** The requirements of the Training Material Checklist have been met.
[+] Indicates that the LP has been reviewed by the Training Supervisor for inclusion of Management Expectations and items referenced on TQJA-201- DD06, Training Material Checklist.
[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: Review Radwaste Discharge Permit

Setting:	Classroom
Type:	SRO
Task:	SRO-ADMIN-ADMIN-22
K&A:	2.3.6 (2.0/3.8)
Safety Function:	NA
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	ODCM, 01-S-08-11 Radioactive Discharge Controls
Handout(s):	01-S-08-11 including a prepared Attachment 1 (attached) ODCM (Available)
# Manipulations:	NA
# Critical Steps:	1
Group:	NA

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- Radwaste is preparing for a Batch Liquid Discharge of the Floor Drain Sample Tank "B" A009B.

Initiating Cue(s):

- Radwaste has asked you to review the Batch Liquid Radwaste Discharge Permit.
- Record 4 errors on provided discharge permit.
- All ODCM calculations were performed correctly.

Admin Task: Review Radwaste Discharge Permit

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- This task is to perform the SRO review of the Batch Liquid Radwaste Discharge Permit performed by the Shift Manager to authorize a controlled release of liquid radwaste.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: EN-OP-102 5.3 [2] (e) / Att. 9.2

☐* *The operator must identify four of the following errors:*

☐* *The current dilution flow in Part 1 is less than the minimum required dilution flow in Part 2.*

☐* *The Pre-Release Analysis sample time of Part 2 should be after the Radwaste monitor background reading verified time of Part 1.*

☐* *The minimum Blowdown Flow Rate Setpoint of Part 3 is 100 gpm vice 6800 gpm.*

☐* *The maximum Tank Discharge Flow Rate Setpoint is 6800 gpm vice 100 gpm.*

☐* *The Effluent Monitor Alarm Setpoint is 45,200 cpm vice 4,520 cpm.*

☐* *The Effluent Monitor Trip Setpoint is 116,000 cpm vice 11,600 cpm.*

Standard: Identifies at least 4 listed errors.

Cue:

Notes: Task is complete when the operator identifies errors

SAT / UNSAT

Task Standard(s):

The operator indentifies 4 of the 5 errors in the Batch Liquid Radwaste Discharge Permit.

SAT / UNSAT

Admin Task: Review Radwaste Discharge Permit

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- Radwaste is preparing for a Batch Liquid Discharge of the Floor Drain Sample Tank "B" A009B.

Initiating Cue(s):

- Radwaste has asked you to review the Batch Liquid Radwaste Discharge Permit.
- Record 4 errors on provided discharge permit.
- All ODCM calculations were performed correctly.

BATCH LIQUID RADWASTE DISCHARGE PERMIT

Part 1 Pre-Release Processing

YY-MM-DD-01
Release Number

Date Today Time 0300

Tank to be released Floor Drain A009B Volume 28,560 gal

Tank is isolated. Recirculation started Yesterday/1500
Date/Time

Dilution flow 6,200 gpm Radwaste monitor background reading 1,700 cpm

Monitor reading is less than 10,800 cpm Mark Pait
Operator

Radwaste monitor background reading verified Kane Ryder Today/0417
Radwaste Specialist or /Date/Time
Control Room Supervisor

Part 2 Pre-Release Analysis

20YY-XXX
Batch Number

Sample Date Today Time 0345

One Total Suspended Solids (TSS) sample has been collected and analyzed for the month:

Yes X Initials MR

No ___ TSS _____ mg/l (≤ 30mg/l)

Minimum dilution factor 3.2

Minimum dilution flow rate setpoint 6,800 gpm

Maximum tank discharge flow rate setpoint 100 gpm

Effluent Monitor Alarm Setpoint $4.52\,E^{+3}$ cpm (Hi)

Effluent Monitor Trip Setpoint $1.16\,E^{+4}$ cpm (Hi-Hi)

The radioactive liquid from the tank designated above is within the ALARA criteria of 10CFR50 App I as defined by surveillance 06-CH-SG17-P-0041 and 06-CH-SP41-P-0035 and may be released.

All significant peaks were identified.

Michael Rash
Radiochemist

Independent Verification if Effluent Radiation Monitor Inoperable.

NA
Radiochemist

Comments: _____

BATCH LIQUID RADWASTE DISCHARGE PERMIT

Part 3 Monitor Setpoint Calibration

Batch Number (from Part 2) 20YY-XXX

Setpoints Adjusted to:

Minimum Blowdown Flow Rate Setpoint
(Circ Water Blowdown Flow Setpoint) 100 gpm

Maximum Tank Discharge Flow Rate Setpoint
(Liquid Radwaste Effluent Flow Setpoint) 6,800 gpm

Effluent Monitor Alarm Setpoint 45,200 cpm (Hi)

Effluent Monitor Trip Setpoint 116,000 cpm (Hi-Hi)

David A Cooper / Today
I&C Technician Date

Carlos Dawson / Today
Verified Date

- Copies of Pages 1 and 2 of this permit have been placed in the Control Room Setpoint Logbook, and
- The previous Pages 1 and 2 have been removed.

David A Cooper / Today
I&C Technician Date

Carlos Dawson / Today
Verified Date

Part 4 Release Authorization

The designated tank may be released provided the discharge and dilution flows meet the criteria of Part 2.

_____ /_____
Shift Manager Date

Part 5 Release

Valve lineup Verified _____ /_____
Independent Verification
if Radiation Monitor Inop

From Step 6.4.2e(2): **On the date of release**, prior to opening SG17-F355 DRAIN BASIN ISOL VLV, have chemistry verify the Total Suspended Solids analysis for this tank has been completed or is not required.
The Total Suspended Solids analysis for this tank has been completed.

☐ YES ☐ Not Required_ _____ /_____
Radiochemist Date

Radiation Monitor Reading

Before release _____cpm

Maximum during release _____cpm

Average during release _____cpm

BATCH LIQUID RADWASTE DISCHARGE PERMIT

Part 5 (Cont.) Release

Tank Level

Before _____

After _____

Gallons Released _____

Average Release Rate (Tank Discharge Rate GPM) _____

Flow Rate Indication During Discharge

a) Maximum Radwaste Tank Effluent Flow _____gpm

b) Average Dilution Flow _____ gpm

1) Circulation Water Blowdown Flow _____, _____, _____ gpm

2)* Discharge Canal Flow _____, _____, _____ gpm

* Flow must be estimated at intervals not to exceed every four hours during discharge; N/A if normal indication is operable.

c) If either a) or b) is inop, flow must be estimated at intervals not to exceed every four hours (N/A if normal indication/monitor is operable)

_____/_____ Start

_____/_____ Approx. Middle

_____/_____ End

Flow Time

LCO No. ___

DATE AND TIME		ELAPSED TIME
VALVES OPEN	VALVES SHUT	
TOTAL		

Monitor flushed _____

Initials

_____ Operator

_____ Radwaste Specialist or Control Room Supervisor

BATCH LIQUID RADWASTE DISCHARGE PERMIT

Part 6 Post-Release Analysis

The post-release analysis is based on actual data recorded during the release

Comments: _____

_____ / _____
Radiochemist Date

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-2011AS5
Revision: 0
Page: 1 of 6
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

NRC Operating Exam

JPM-AS5

☒ Time Critical ☐ Alternate Path Validation Time: 15 min

TITLE:

DC Electrical Failures – EAL Determination

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

REVIEW / APPROVAL (Print Name): ☐ TEAR Approval ( )

Prepared By:	Mark Pait **Preparer	6/2/2011 Date
Ops Review[++]**:**	Mark Goodwin Technical Reviewer (e.g., SME, line management)	10/4/2011 Date
Validated By:	Keith Huff Training Representative	10/5/2011 Date
Approved By:	Kane Ryder [+]Discipline Training Supervisor	10/5/2011 Date
Approval Date:*	10/5/2011	

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[++] Indicates that Operations has reviewed and approved this material for exam use.

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

DATE TRANSMITTED TO RM	INITIAL RECEIPT BY RM (DATE/INITIAL)	RETURNED FOR CORRECTIONS (DATE/INITIAL)	RETURN RECEIPT (DATE/INITIAL)	FINAL ACCEPTANCE BY RM (DATE/INITIALS)

Admin Task: DC Electrical Failures – EAL Determination

Setting:	Classroom
Type:	SRO
Task:	SRO-A&E-015
K&A:	2.4.41 (2.9/4.6)
Safety Function:	NA
Time Required:	15 minutes
Time Critical:	Yes
Faulted:	No
Performance:	Actual
Reference(s):	10-S-01-1, Activation of the Emergency Plan
Handout(s):	10-S-01-1 Flow Charts
# Manipulations:	NA
# Critical Steps:	1
Group:	NA

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Name: _____ Time Start: _____ Time Stop: _____

Initial Condition(s):

- The Plant is operating in Mode 3 with a plant shutdown in progress due to loss of DC bus 11DA.
- A bus fault occurred on ESF bus 16AB. Electrical estimates that the bus may be re-energized in approximately 45 minutes.
- An operator reported 20 minutes ago that 11DB bus voltage is 104 VDC and trending down.
- A fire that began 18 minutes ago continues to burn in the Division 3 battery room. The fire has caused damage to the 11DC bus and the bus was de-energized.

Initiating Cue(s):

- Classify the event.
- This is a time critical task.

Admin Task: DC Electrical Failures – EAL Determination

Notes: (Notes to Evaluator)

Task Overview: (Detailed description of task)

- Event classification JPM in accordance with Emergency Preparedness Plan.

Tasks: Critical tasks are underlined, italicized, and denoted by an (*)

Step 1: 10-S-01-1
☐* *Classify the event as a* ***SITE AREA EMERGENCY***
Standard: EAL SS4, Site Area Emergency
Cue:
Notes: **Requirements to satisfy HA4, Alert are also met.**   SAT / UNSAT

Task Standard(s):
Within 15 minutes, classify the event as a Site Area Emergency in accordance with EAL SS4.   SAT / UNSAT

Admin Task: DC Electrical Failures – EAL Determination

Follow-Up Questions & Answers:

Comments:

Give this page to the student

Initial Condition(s):

- The Plant is operating in Mode 3 with a plant shutdown in progress due to loss of DC bus 11DA.
- A bus fault occurred on ESF bus 16AB. Electrical estimates that the bus may be re-energized in approximately 45 minutes.
- An operator reported 20 minutes ago that 11DB bus voltage is 104 VDC and trending down.
- A fire that began 18 minutes ago continues to burn in the Division 3 battery room. The fire has caused damage to the 11DC bus and the bus was de-energized.

Initiating Cue(s):

- Classify the event.
- This is a time critical task.

Facility: Grand Gulf Nuclear Station Scenario No.: 1 Op-Test No.: 12/11

Examiners: _____ Operators: _____

_____ _____

_____ _____

Objectives: To evaluate the candidates' ability to operate the facility in response to the following evolutions:

1. Inoperable Primary Containment Air Lock
2. Rotate CRD Pumps.
3. Respond to a CRD Pump Trip.
4. Lower reactor power using Recirc Flow Control.
5. Respond to a Recirc Pump Trip.
6. Respond to ST-11 and 15AA lockout.
7. Take actions for RPS fails to scram.
8. Take actions for an ATWS.
9. Respond to a FW Line A Break in the Drywell.

Initial Conditions: Operating at 100% power.

Inoperable Equipment: None

Turnover:

The plant is at rated power. Rotate CRD pumps in accordance with the C11-1 SOI in preparation for CRD pump "A" maintenance. There is no out of service equipment and EOOS is GREEN. It is a division 1 work week.

Scenario Notes:

This scenario was written from lesson plan GSMS-RO-EP033 revision 6. Attributes have been altered in order to meet the requirements of NUREG 1021 ES-301 section D.5.b, and is considered significantly modified.

Validation Time: 60 minutes

Event No.	Malf. No.	Event Type †	Event Description
1		TS (CRS)	Primary Containment Air Lock seal fails to inflate (TS 3.6.1.2)
2		N (BOP)	Rotate CRD pumps (SOI 04-1-01-C11-1 section 5.5)
3	C11028b	C (BOP) A (CREW)	CRD pump Trip (CRD Malfunctions (05-1-02-IV-1) ONEP section 2.1.2)
4		N (BOP) R (ACRO)	Lower generator load by 200 MWe using FCV's (IOI 03-1-01-2 Attachment VIII)
5	rr012a	C (ACRO) R (BOP) A (CREW)	Recirc Pump Trip (Reduction in Recirc Flow (05-1-02-III-3) ONEP)
6	r21133a r21139e	M (CRS, BOP)	Service Transformer 11 and ESF 15AA bus lockout (Loss of AC Power (05-1-02-I-4) ONEP)
7	c71076	I (ACRO)	RPS fails to scram the reactor when the second Recirc pump trips and the Exclusion Region of the power to flow map is entered (Reduction in Recirc Flow (05-1-02-III-3) ONEP) * **Second Recirculation pump trips. Crew inserts manual reactor scram as observed by control rods inserted and scram annunciators received. Criterion is to give the highest priority to insert a manual scram.**

8	c11164 e51044	M (All)	ATWS <4% power with reduced feed capability (EP-2A) * **When EP-2A requires Emergency Depressurization, Crew terminates and prevents all injection except boron, CRD, and RCIC per 02-S-01-27 Operations Philosophy. Feedwater and ECCS system alignments prevent injection into the RPV as evidenced by available instrumentation. Criterion is to give the highest priority to prevent all injection except boron, CRD, and RCIC until reaching MSCP.** * **Reactor pressure decreases to MSCP. Crew commences and slowly raises injection utilizing available EP-2A Table 4 and/or Table 5 systems with RPV level restored and maintained to greater than -191". Criterion is to give the highest priority to restore RPV level greater than -191".**
9	fw171a rr063a	M (ACRO)	Feedwater Line A rupture inside the Drywell.

† (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (A)bnormal (TS) Tech Spec

* **Critical Task** (As defined in NUREG 1021 Appendix D)

Quantitative Attributes Table

Normal Events	2	Abnormal Events	2
Reactivity Manipulations	2	Total Malfunctions	7
Instrument/Component Failures	3	EP Entries (Requiring substantive action)	1
Major Transients	3	EP Contingencies	1
Tech Spec Calls	1	Critical Tasks	4

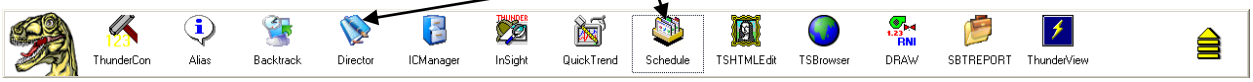
Simulator Setup:

A. Initialization

1. Startup the simulator using Simulator Instructor's Job Aid section 6.3.

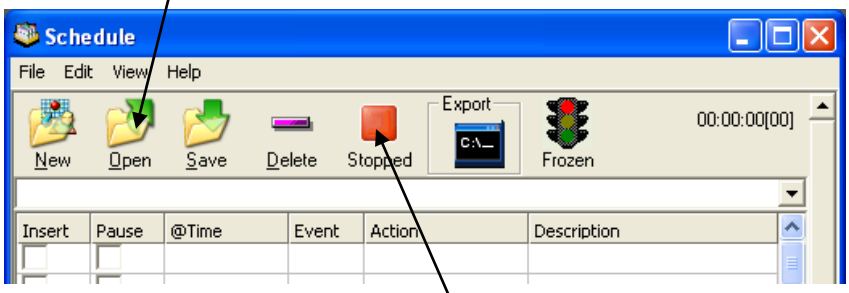
> *Note:*
> ***Prior to running the Schedule File, ensure no Event Files are Open.*** *If an existing Event File is Open prior to running the Schedule File, then any associated Event Files will not automatically load.*

2. Open Schedule.exe and Director.exe by clicking on the Icon in the Thunder Bar.



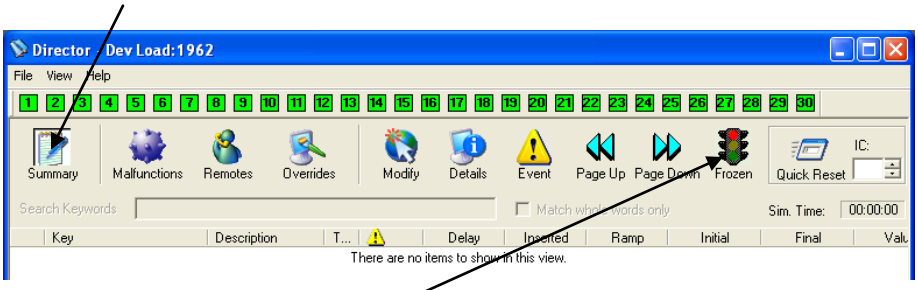
3. Set the Simulator to IC-31 and perform switch check (Using Quick Reset in Director).

4. Click on "**Open"** in the Schedule window and Open Schedule File "**2011 NRC Scenario 1.sch"** (in the Schedule Directory)



5. In Schedule window, click on the **"Stopped"** red block. The red block will change to a green arrow and indicate the scenario is active ("**Running**").

6. Click the Summary tab in the Director window. Verify the schedule files are loaded and opened per Section B below. (Note: Any actions in the schedule file without a specific time will not load into the director until triggered.)



7. Take the simulator out of freeze.

8. Clear any graphs and trends off of SPDS.

9. Ensure the correct rod movement sequence available at the P680.

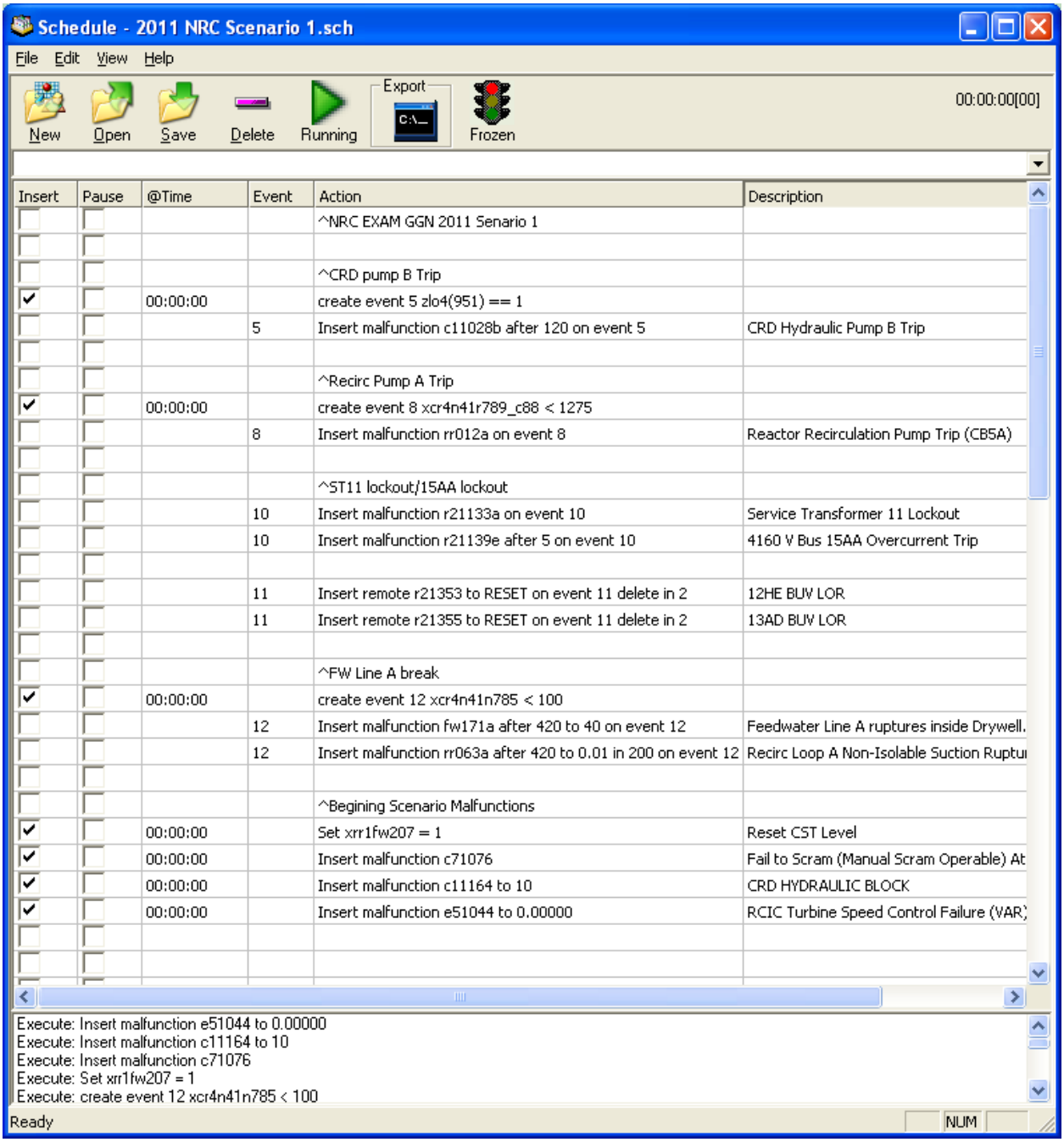
10. Advance all chart recorders and ensure all pens inking properly.

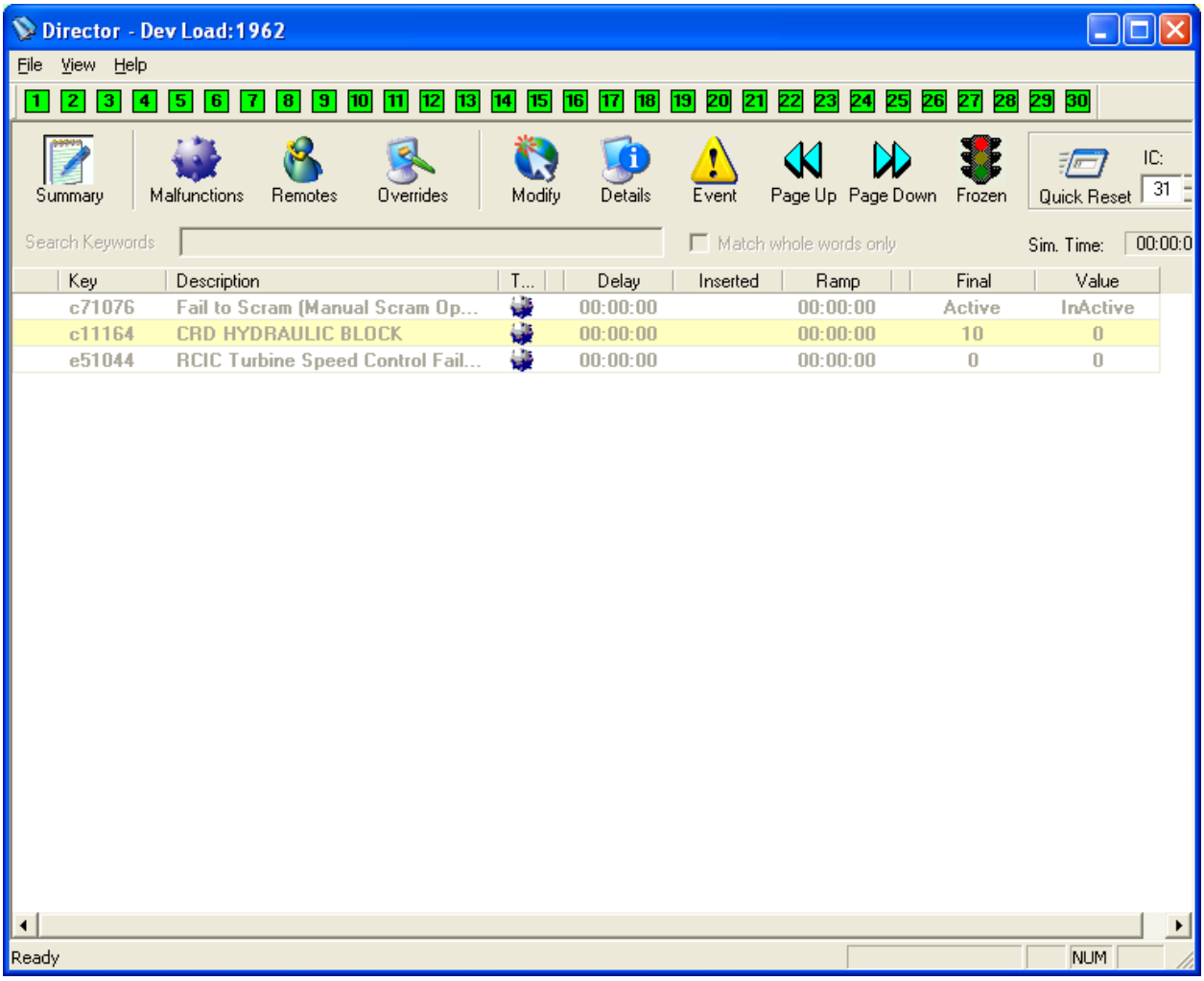
11. Verify or perform the following: IC-31

12. Run through any alarms and ensure alarms are on. **(Note: On T-Rex, to verify alarms are ON, the indicator will indicate "Alarms On").**

13. Place the simulator in Freeze.

B. File loaded verification:


Schedule - 2011 NRC Scenario 1.sch
File Edit View Help
New Open Save Delete Running Export Frozen
00:00:00[00]
Insert | Pause | @Time | Event | Action | Description
^NRC EXAM GGN 2011 Senario 1
^CRD pump B Trip
00:00:00 create event 5 zlo4(951) == 1
5 Insert malfunction c11028b after 120 on event 5 CRD Hydraulic Pump B Trip
^Recirc Pump A Trip
00:00:00 create event 8 xcr4n41r789_c88 < 1275
8 Insert malfunction rr012a on event 8 Reactor Recirculation Pump Trip (CB5A)
^ST11 lockout/15AA lockout
10 Insert malfunction r21133a on event 10 Service Transformer 11 Lockout
10 Insert malfunction r21139e after 5 on event 10 4160 V Bus 15AA Overcurrent Trip
11 Insert remote r21353 to RESET on event 11 delete in 2 12HE BUV LOR
11 Insert remote r21355 to RESET on event 11 delete in 2 13AD BUV LOR
^FW Line A break
00:00:00 create event 12 xcr4n41n785 < 100
12 Insert malfunction fw171a after 420 to 40 on event 12 Feedwater Line A ruptures inside Drywell.
12 Insert malfunction rr063a after 420 to 0.01 in 200 on event 12 Recirc Loop A Non-Isolable Suction Ruptu
^Begining Scenario Malfunctions
00:00:00 Set xrr1fw207 = 1 Reset CST Level
00:00:00 Insert malfunction c71076 Fail to Scram (Manual Scram Operable) At
00:00:00 Insert malfunction c11164 to 10 CRD HYDRAULIC BLOCK
00:00:00 Insert malfunction e51044 to 0.00000 RCIC Turbine Speed Control Failure (VAR)
Execute: Insert malfunction e51044 to 0.00000
Execute: Insert malfunction c11164 to 10
Execute: Insert malfunction c71076
Execute: Set xrr1fw207 = 1
Execute: create event 12 xcr4n41n785 < 100
Ready
NUM


Director - Dev Load:1962
File View Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Summary
Malfunctions
Remotes
Overrides
Modify
Details
Event
Page Up
Page Down
Frozen
Quick Reset
IC:
31
Search Keywords
Match whole words only
Sim. Time:
00:00:0
Key
Description
T...
Delay
Inserted
Ramp
Final
Value
c71076
Fail to Scram (Manual Scram Op...
00:00:00
00:00:00
Active
InActive
c11164
CRD HYDRAULIC BLOCK
00:00:00
00:00:00
10
0
e51044
RCIC Turbine Speed Control Fail...
00:00:00
00:00:00
0
0
Ready
NUM

Crew Turnover:

A. Assign the candidates crew positions.

B. Turnover the following conditions:

Power	100%
Pressure	1025 psig
BOC	
EOOS	GREEN

Planned Evolutions this shift:

- Mechanical will be performing maintenance on CRD pump "A" later this shift. Rotate CRD pumps per the C11-1 SOI when you take the shift.
- Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1 will not be provided for this scenario.

C. Allow the crew to perform pre-shift brief and review procedures for planned evolutions.

D. Bring the crew into the Simulator, place the simulator is in RUN.

E. Allow the crew to walk down panels.

F. When the crew assumes the shift begin Scenario Activities.

SCENARIO ACTIVITIES:

Rotate CRD Pumps (Normal)/Containment door seal failure(tech spec call only):

A. The crew will start CRD pump B and stop CRD pump A using 04-1-01-C11-1, Control Rod Drive Hydraulic System SOI.

1. When directed by the Control Room to perform pre-pump start checks:
   a. Report that CRD pump "B" oil sump, motor and gearbox oil levels are normal and pre-pump start check is complete.
2. When directed by the Control Room to CLOSE C11-F217B:
   a. Wait 30 seconds then report to the Control Room "C11-F217B is closed."
3. When directed to vent CRD pump "B" by opening then closing C11-F109B:
   a. Wait 30 seconds then report "C11-F109B was cycled open then shut. CRD pump B is vented."
4. When directed by the Control Room to OPEN C11-F217B:
   a. Wait 45 seconds then report to the Control Room "C11-F217B is open."
   b. Call the Control Room and report as the Aux Building Rover that you were unable to get the seal to inflate for the Aux Building door Air Lock on 119' elevation.
   c. The CRS will enter TS 3.6.1.2 condition A.
   d. If directed by the CRS, report that Containment door in the 119' elevation Air Lock is closed with the seal inflated.
5. When directed by the Control Room to CLOSE C11-F217A:
   a. Wait 30 seconds then report to the Control Room "C11-F217A is closed."
6. When directed by the Control Room to OPEN C11-F217A:
   a. Wait 45 seconds then report to the Control Room "C11-F217A is open."
7. When directed by the Control Room to Check CRD purge flows are 1.5 to 2.5 gpm on C11-FI-R020A & B:
   a. Report to the Control Room that CRD purge flows are 2 gpm on both CRD pumps.

CRD Pump Trip (Control Rod/Drive Malfunctions ONEP):

B. CRD pump "B" will trip 2 minutes after CRD pump "A" is stopped (Auto Event 5).

C. The crew will take Immediate Operator Action per CRD malfunctions ONEP to restart CRD pump A.

D. If asked as the local operator to investigate the pump trip, wait 3 minutes and report back to the Control Room that CRD pump "B" breaker 152-1605 tripped on over current. If sent to the pump to investigate, report that CRD pump "B" is hotter than normal and is not running.

E. Give the crew time to allow them to perform a transient brief before moving to the next step.

Reduce reactor power using FCVs (Normal/Reactivity):

F. Call the control room as the Shift Manager and direct the CRS to lower generator output by 200 MWe for a temporary down power requested by the Load Dispatcher. All notifications have been made.

1. The crew will lower power using 03-1-01-2, Power Operations IOI, Attachment VIII.

Recirc Pump Trip (Reduction in Recirc ONEP):

G. When generator output is below 1275 MWe, Auto Event 8 will cause Recirc Pump "A" to trip.

1. The crew will take actions for Reduction in Recirc Flow Rate ONEP (THI watch, one Recirc pump stopped, and Exit Restricted Region).

SCRAM/FW Line Rupture/ATWS:

H. When the Restricted Region is exited and the lead evaluator is ready to move on, trigger **Event 10** to insert malfunctions r2133a and r21139e to cause a lockout on Service Transformer 11 and 15AA. **(Install EP Attachments as directed).**

1. With no Recirc Pumps running, the reactor will enter the Exclusion Region of the power to flow map. An automatic scrams are disabled; therefore, the ACRO must manually insert a scram.
2. The BOP will reenergize 12HE and 13AD with the Alternate Feeder Breakers.
3. When directed by the control room, trigger **EVENT 11** to reset Under Voltage Lockouts on 12HE and 13AD. Wait 3 minutes to report that the lockouts were reset.
4. When the ACRO inserts a scram, the leak on the "A" FW line (fw171a) will be inserted after a 7 minute delay. This will prevent using Feed and Condensate to feed the reactor.
5. When the CRS directs Attachment 12 to be installed, install attachment 12 as "Done." Wait until reactor level is below -160" and then take the attachment paperwork to the CRS and report that attachment 12 is installed with the exception of B21-F065A being closed.

Termination:

I. Once emergency depressurization has been conducted and reactor water level is stabilized above TAF, using RHR B E12-F053B, or as directed by Lead Evaluator, take the simulator to Freeze and turn horns off.

Critical Tasks:

- Second Recirculation pump trips. Crew inserts manual reactor scram as observed by control rods inserted and scram annunciators received. Criterion is to give the highest priority to insert a manual scram.
- When EP-2A requires Emergency Depressurization, Crew terminates and prevents all injection except boron, CRD, and RCIC per 02-S-01-27 Operations Philosophy. Feedwater and ECCS system alignments prevent injection into the RPV as evidenced by available instrumentation. Criterion is to give the highest priority to prevent all injection except boron, CRD, and RCIC until reaching MSCP.
- Reactor pressure decreases to MSCP. Crew commences and slowly raises injection utilizing available EP-2A Table 4 and/or Table 5 systems with RPV level restored and maintained to greater than -191". Criterion is to give the highest priority to restore RPV level greater than -191".

Emergency Classification:

Site Area Emergency on SS3 and FS1

Op-Test No: 12/11 Scenario No: 1 Event No: 1

Event Description: **Inoperable Primary Containment Air Lock**

TIME	Position	Applicant's Actions or Behavior
	CRS	When the Auxiliary Building Rover reports that the Containment air lock on the 119' elevation fails to inflate: Declares Primary Containment Air Lock on 199' elevation INOPERABLE and enters TS 3.6.1.2 Condition A.

Op-Test No: 12/11 Scenario No: 1 Event No: 2

Event Description: **Rotate CRD Pumps**

TIME	Position	Applicant's Actions or Behavior
	CRS	Directs the BOP to Rotate CRD pumps in accordance with SOI 04-1-01-C11-1.
	BOP	Rotates CRD pumps using SOI 04-1-01-C11-1 section 5.5: • Notifies the local operator to perform pump pre-start checks. • Notifies the local operator to CLOSE C11-F217B. • Notifies the local operator to cycle OPEN and SHUT C11-F109B to vent CRD pump B. • Starts CRD pump B. (The BOP should alert the ACRO that he is starting the CRD B pump) • Notifies the local operator to SLOWLY OPEN C11-F217B. • Check CRD system flow has stabilized between 54 to 66 gpm. • Notifies the local operator to CLOSE C11-F217A. • Stops CRD pump A. • Notifies the local operator to OPEN C11-F217A. • Check CRD system flow is between 54 to 66 gpm. • Notifies the local operator to check CRD purge flows are 1.5 to 2.5 gpm on C11-FI-R020A & B. • Check that Reactor Recirculation Seal pressure has not changed.

Op-Test No: 12/11 Scenario No: 1 Event No: 3

Event Description: **CRD Pump Trip**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports that CRD Pump B has tripped off. ❖ As indicated by annunciator P601-22A-C-3, CRD PMP A/B AUTO TRIP.
	CRS	Enters the CRD Malfunctions ONEP. Ensures immediate actions for CRD pump trip are performed.
	ACRO	Monitor for HCU faults.
	BOP	Take immediate operator actions per CRD malfunctions ONEP (from memory). • Place CRD SYS FLO CONT (C11-R600 on P601-22B) in MANUAL and REDUCE output to zero. • Start CRD pump A. • Slowly adjust CRD SYS FLO CONT to 54-66 gpm after charging pressure returns to normal. (~1700 psig) • Return CRD SYS FLO CONT to AUTO with tapeset at 54-66 gpm. THERE ARE NO REQUIRED SUBSEQUENT ACTIONS FOR THIS EVENT
	CREW	Ensure that an operator or electrician is sent to investigate the cause of the pump trip.

Op-Test No: 12/11 Scenario No: 1 Event No: 4

Event Description: **Lower Generator Output 200 MWe**

TIME	Position	Applicant's Actions or Behavior
	CRS	Conducts reactivity brief for the planned power reduction. Power Reduction is per IOI-2 attachment VIII. Directs the ACRO to lower reactor power using the Recirc FCV's in slow detent. Directs the BOP to maintain Load Demand +/- 25 MW of Load Demand Limited.
	ACRO	Lowers power by closing the Recirc FCVs A & B using loop flow controllers B33K603A & B in slow detent on P680-3B (IOI-2 attachment VIII step 12.3).
	BOP	Lowers Load Demand as power is reduced by depressing EHC LOAD REF DEMAND LOWER pushbutton (P680-9C) to maintain generator actual load within +/- 25 MW of the load demand limited value during power reduction (IOI-2 attachment VIII step 12.2).

Op-Test No: 12/11 Scenario No: 1 Event No: 5

Event Description: **Recirc Pump Trip**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports that Recirc Pump A has tripped off. ❖ As indicated by annunciator P680-3A-B-4, RECIRC PMP A OVERLD/TRIP
	CRS	Enters the Reduction in Recirculation ONEP.
	ACRO	Reports Entry into the Restricted Region of the power to flow map. Establishes THI watch without concurrent duties.
	CRS	Directs the BOP to Close the B33-F067A (Recirc Pump A discharge valve).
	BOP	Shuts B33-F067A (P680-3C).
	CRS	Initiate actions to exit the Restricted Region by either opening Recirc FCV B or inserting CRAM rods. Conducts reactivity brief for unplanned power change.
	BOP	Exits the Restricted Region by either opening Recirc FCV B or inserting CRAM rods as directed by the CRS.
	ACRO	Peer checks the BOP if CRAM rods are inserted.
	CRS	Once the Restricted Region is exited, direct the following actions (per the Reduction in Recirc ONEP subsequent actions): • Ensure the operating Recirc Loop flow is <44,600gpm. • Re-open B33-F067A after it is closed for 5 minutes. • Open the Recirc "A" FCV to the maximum position. • Inform the Reactor Engineer that Single Loop set points need to be established and surveillance 06-RE-1J11-V-001 must be performed. The CRS will not have time to address each of these actions since the scenario will move forward once the Restricted Region is exited.

Op-Test No: 12/11 Scenario No: 1 Event No: 7

Event Description: **Lockout on ST11 and 15AA**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports to the CRS a lockout on ST11. ❖ As indicated by annunciators P807-2A-A-4/5, SVC XFMR 11 PRI/SEC LOCKOUT TRIP. ❖ The ST11 lockout will cause a loss of the remaining Recirc pump Takes Immediate Actions for Loss of AC Power. • Re-energizes the 12HE and 13AD busses using the Alternate Feeders (P807-1C/2C). • Directs the local operator to RESET under voltage lockouts on 13AD and 12HE busses.
	CRS / BOP	Ensure that Electrical Maintenance is dispatched to recover the 15AA bus.
	CRS	Enters the Loss of AC Power ONEP. Ensures immediate actions for Loss of AC Power ONEP are performed. • Ensure 12HE and 13AD are reenergized.

Op-Test No: 12/11 Scenario No: 1 Event No: 8

Event Description: **Failure of RPS to Scram**

TIME	Position	Applicant's Actions or Behavior
	ACRO	*** Second Recirculation pump trips. Crew inserts manual reactor scram as observed by control rods inserted and scram annunciators received. Criterion is to give the highest priority to insert a manual scram.** (The RPS automatic scram has been disabled) Report to CRS that he is placing the Mode SW in SHUTDOWN. Place the Mode SW to SHUTDOWN. Provides a scram report: • Reactor Mode SW in SHUTDOWN. • All Rods are NOT Inserted (Hyd Block ATWS). • Reactor power is below 4%. • Reactor water level and trend. • Reactor pressure and trend. • Feedwater is recoverable (but will be lost when the MSIV's close on loss of air to containment). • Bypass valves are available.

Op-Test No: 12/11 Scenario No: 1 Event No: 9

Event Description: **ATWS**

TIME	Position	Applicant's Actions or Behavior
	CRS	Enter the SCRAM ONEP and the Turbine and Generator Trips ONEP. Enter EP-2, when ATWS is discovered Enter EP-2A.
	CRS	Direct actions of EP-2A steps 1 - 4: • Directs ACRO to Verify Recirc Pumps transferred to LFMG. • Directs ACRO to Verify ARI/RPT initiation. • Directs BOP to inhibit ADS. • Directs BOP to Override HPCS injection.
	ACRO	Verify Recirc Pumps transferred to LFMG. Verify/Initiate ARI/RPT.
	BOP	Inhibits ADS. • Place ADS "A" and ADS "B" keylock switches to "INHIBIT" Override HPCS injection. • Place the HPCS pump handswitch to the "STOP" position. • Place the E22-F004, HPCS injection valve, handswitch to the "CLOSE" position.
	CRS	Direct the ACRO or BOP to verify Division 3 generator running with cooling water and that Isolations for Reactor Level 2 are completed.
	ACRO / BOP	Verify Division 3 Diesel Generator is running with cooling water. Isolations for Reactor Level 2 are completed.
	CRS	Enter EP-2A step L-6 or L-7 and direct the ACRO to establish level band -70 to -130" (The CRS may initially establish a band of 11.4 to 53.5", but since the ATWS is producing significant heat, he should opt to lower level to lower power). Enter EP-2A step P-4 and direct the BOP to establish a pressure band 800 – 1060 psig using IPC and BCV Manual Jack (The CRS may establish a pressure band of 450 – 600 psig when the MSIV's close and the Feed pumps subsequently trip). Call for EP Attachments 8, 12, 18, 19, 20, and 28 (only attachment 12b and 28 will be useful, the CRS may opt to only call for these attachments).

Op-Test No: 12/11 Scenario No: 1 Event No: 9

Event Description: **ATWS**

	BOP	If directed by the CRS, Reduce reactor pressure using IPC (by depressing the "PRESS REF LOWER" PB) and BCV Manual Jack (by depressing the "MAN BYP ON/OFF" PB and then the "MAN BYP CONT LOWER" PB) to pressure band 450 – 600 psig.
	ACRO	Line up Feed and Condensate systems for Startup Level Control using hard card. • If two Feed pumps are running, trip one. • Close N21-F009A and N21-F009B. • Open N21-F001, N21-F010A and N21-F010B. • Verify Closed N21-F513, N21-F510, N21-F040. • If no Feed pumps are in operation, start one. o Ensure RFPT A(B) controls "Manual" pushbutton is backlit. o Verify AC lube oil pump is running o Open N21-F014A(B) o Depress the TRIP RESET pushbutton o Depress the RAISE pushbutton to establish Feed pump discharge pressure above reactor pressure by approx. 250 psig. • Open/Verify Open N21-F014A or N21-F014B • Maintain reactor level in Auto or Manual using the Startup level controller or Manually using N21-F040 or N21-F009A(B). Feed the reactor using the Startup Level Controller to maintain reactor level within the set level band (11.4 to 53.5" or -70 to -130").

Op-Test No: 12/11 Scenario No: 1 Event No: 10

Event Description: **Feedwater Line A rupture in the Drywell**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Recognize symptoms of a FW Line A rupture in the Drywell. ❖ As indicated by uneven feed flow to the reactor between the "A" and "B" feed water lines. ❖ Also indicated by rising DW pressure and temperature. Report the Feed water leak to the CRS. Trip all condensate pumps. (This is necessary to stop the leak in the drywell since the feed water line isolations to the reactor have lost power, N21-F065A and N21-F065B.)

Op-Test No: 12/11 Scenario No: 1 Event No: 9 cont.

Event Description: **ATWS**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Keep CRS updated with reactor level as it trends down (following the loss of feed).
	CRS	When EP Attachment 12 is installed or reactor level reaches -191", Exit Level and Pressure Legs of EP-2A and Enter Emergency Depressurization. * **When EP-2A requires Emergency Depressurization, Crew terminates and prevents all injection except boron, CRD, and RCIC per 02-S-01-27 Operations Philosophy. Feedwater and ECCS system alignments prevent injection into the RPV as evidenced by available instrumentation. Criterion is to give the highest priority to prevent all injection except boron, CRD, and RCIC until reaching MSCP.**
	CRS	Verify SP level is above 10.5 ft. Direct the BOP or ACRO operator to verify/perform Terminate and Prevent injection into the RPV by overriding low pressure systems (LPCS/LPCI) Direct BOP to Open 8 ADS valves.
	ACRO / BOP	When directed, Terminate and Prevent injection into the RPV. • Verify HPCS is initiated with annunciators P601-16A-B-5, HPCS MTR CONT MAN OVERRD, and P601-16A-D-5, HPCS INJ VLV F004 MAN OVERRD in. • Verify/perform low pressure ECCS systems overridden by ensuring division 2 ECCS initiation signal is present and placing the LPCI B and C pump hand switches to off and placing the E12-F042B and C handswitches to CLOSE. o This is verified by annunciators P601-17A-B-1, RHR INJ VLV F042B MAN OVERRD, P601-17A-C-2, RHR PMP B MAN OVERRD, P601-17A-B-4, RHR INJ VLV F042C MAN OVERRD, and P601-17A-C-5, RHR PMP C MAN OVERRD in.
	BOP	Opens at least 7 ADS valves.

Op-Test No: 12/11 Scenario No: 1 Event No: 9 cont.

Event Description: **ATWS**

	CRS	Enter EP-2A step L-10 (following the Emergency Depressurization). Establish reactor pressure as critical parameter for the ACRO.
	ACRO	Keep CRS updated with reactor pressure as it trends down.
	CRS	When reactor pressure is below MSCP (219 psig) direct ACRO to feed the reactor using RHR B via the E12-F053B with 4000 gpm and then at intervals of 1000 gpm until reactor level begins to trend up. *** Reactor pressure decreases to MSCP. Crew commences and slowly raises injection utilizing available EP-2A Table 4 and/or Table 5 systems with RPV level restored and maintained to greater than -191". Criterion is to give the highest priority to restore RPV level greater than -191".** Enter EP-2A step L-6 or L-7 and establish level band -70 to -130".
	CRS	Enter EP-3 on Suppression Pool Temperature and Drywell pressure; however, no substantial operator actions are expected for this entry during the scenario.

Give this page to the CRS

Turnover the following conditions:

Power	100%
Pressure	1025 psig
BOC	
EOOS	GREEN

Planned Evolutions this shift:

- Mechanical will be performing maintenance on CRD pump "A" later this shift. Rotate CRD pumps per the C11-1 SOI when you take the shift.
- Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1 will not be provided for this scenario.

Facility: Grand Gulf Nuclear Station Scenario No.: 2 Op-Test No.: 12/11

Examiners: _____ Operators: _____

_____ _____

_____ _____

Objectives: To evaluate the candidates' ability to operate the facility in response to the following evolutions:

1. Place SSW "A" in STANDBY.
2. Raise reactor power using Recirc Flow Control.
3. RPS "A" MG failure.
4. Electric Power Monitoring Assembly INOPERABLE.
5. Two APRM channel failures.
6. Fuel cladding leak.
7. RCIC fails to start on initiation.
8. RCIC room unisolable steam leak.

Initial Conditions: Operating at 85% power.

Inoperable Equipment: APRM "F" is failed downscale and bypassed.

Turnover:

A plant startup is in progress with all steps complete up to step 6.8 of Attachment II in 03-1-01-2 (Power Ascension From 60% to Full Power). The crew will place SSW "A" in STANDBY upon assuming the shift. When SSW "A" is in STANDBY, raise reactor power to 100% of rated.

Scenario Notes:

This scenario was written from lesson plan GSMS-RO-EP015 rev. 8. Attributes have been altered in order to meet the requirements of NUREG 1021 ES-301 section D.5.b, but is not considered significantly modified.

Validation Time: 50 minutes

Event No.	Malf. No.	Event Type †	Event Description
1		N (BOP)	Place SSW "A" in Standby (SOI 04-1-01-P41-1 section 4.6)
2		N (BOP) R (ACRO)	Raise Reactor power using FCV's (IOI 03-1-01-2 Att. 2 step 6.8)
3	c71077a	C (BOP) A (CREW)	RPS "A" MG failure (Loss of One or Both RPS Buses (05-1-02-III-2) ONEP)
4		TS (CRS)	Electric Power Monitoring Assembly INOPERABLE (TS 3.3.8.2)
5	c51010f c51010d	I (ACRO) TS (CRS) A (CREW)	Two APRM channel failures (ARI/TS 3.3.1.1)
6	rr071 rm157a rrd21k648a_d rrd21k648b_d rrd21k648c_d rrd21k648d_d	M (CREW) R (ACRO)	Fuel cladding leak (Off-Gas Activity High (05-1-02-II-2) and SCRAM (05-1-02-I-1) ONEP) * **Fuel failure is occurring and main steam line radiation is greater than 3 times normal full power background as indicated by MSL B / MSL C RAD HI-HI or MSL A / MSL D RAD HI-Hi alarms, the crew closes MSIVs and MSL drains per EP-4. The crew closes the MSIVs and MSL drains and observes valve position indications and lowering pressure trend downstream of the MSIVs. Criterion is to give the highest priority to close the four inboard MSIVs or the four outboard MSIVs and MSL drains when MSL radiation is greater than 3 times normal full power background.**
7	e51043 DI_1E51M625D	I (ACRO / BOP)	RCIC fails to start on initiation (SOI 04-1-01-E51-1)

8	e51187a e51187b rrd21k603 rrd21k613	M (CREW) I/C (ACRO / BOP)	RCIC room unisolable steam leak (EP-4) * **A primary system is discharging outside primary containment and area temperatures, radiation levels, or water levels are above their max safe values in two or more areas. The crew opens 8 ADS/SRVs and observes lowering pressure trend and valve position indications (tailpipe pressure indication lamps or solenoid valve energized). Criterion is to give the highest priority to open at least seven SRVs when area temperatures, radiation levels, or water levels are above their maximum safe values in two or more areas.**

† (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (A)bnormal (TS) Tech Spec

* **Critical Task** (As defined in NUREG 1021 Appendix D)

Quantitative Attributes Table

Normal Events	2	Abnormal Events	2
Reactivity Manipulations	2	Total Malfunctions	5
Instrument/Component Failures	4	EP Entries (Requiring substantive action)	2
Major Transients	2	EP Contingencies	1
Tech Spec Calls	2	Critical Tasks	2

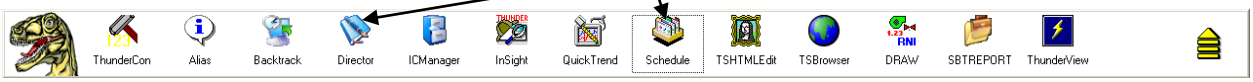
Simulator Setup:

A. Initialization

1. Startup the simulator using Simulator Instructor's Job Aid section 6.3.

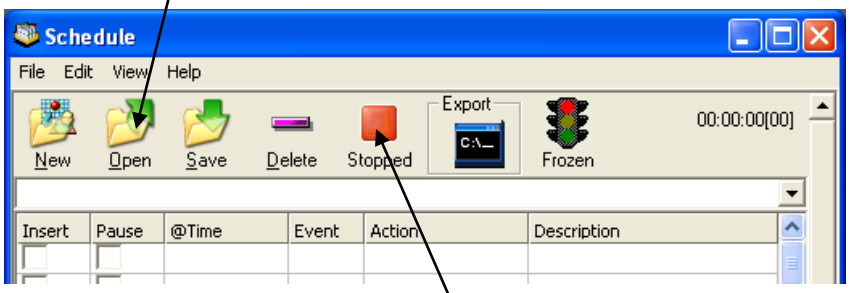
> *Note:*
> ***Prior to running the Schedule File, ensure no Event Files are Open.*** *If an existing Event File is Open prior to running the Schedule File, then any associated Event Files will not automatically load.*

2. Open Schedule.exe and Director.exe by clicking on the Icon in the Thunder Bar.



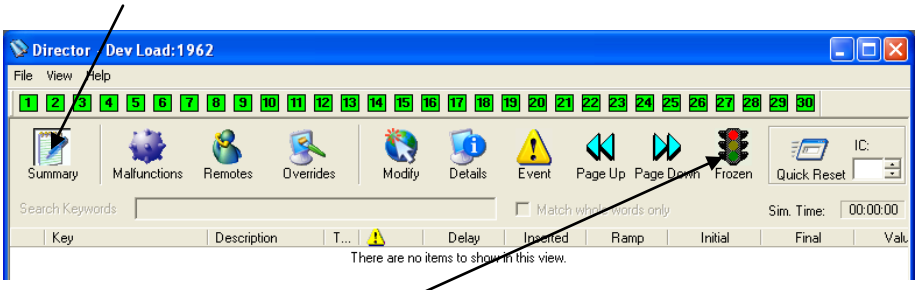
3. Set the Simulator to IC-33 and perform switch check (Using Quick Reset in Director).

4. Click on "**Open**" in the Schedule window and Open Schedule File "**2011 NRC Scenario 2.sch**" (in the Schedule Directory)



5. In Schedule window, click on the **"Stopped**" red block. The red block will change to a green arrow and indicate the scenario is active ("**Running**").

6. Click the Summary tab in the Director window. Verify the schedule files are loaded and opened per Section B below. (Note: Any actions in the schedule file without a specific time will not load into the director until triggered.)



7. Take the simulator out of freeze.

8. Clear any graphs and trends off of SPDS.

9. Ensure the correct rod movement sequence available at the P680.

10. Advance all chart recorders and ensure all pens inking properly.

11. Verify or perform the following:
    - IC-33
    - SSW “A” started
    - APRM “F” is bypassed and caution tagged

12. Run through any alarms and ensure alarms are on. **(Note: On T-Rex, to verify alarms are ON, the indicator will indicate “Alarms On”).**

13. Place the simulator in Freeze.

B. File loaded verification:

Schedule - 2011 NRC Scenario 2.sch

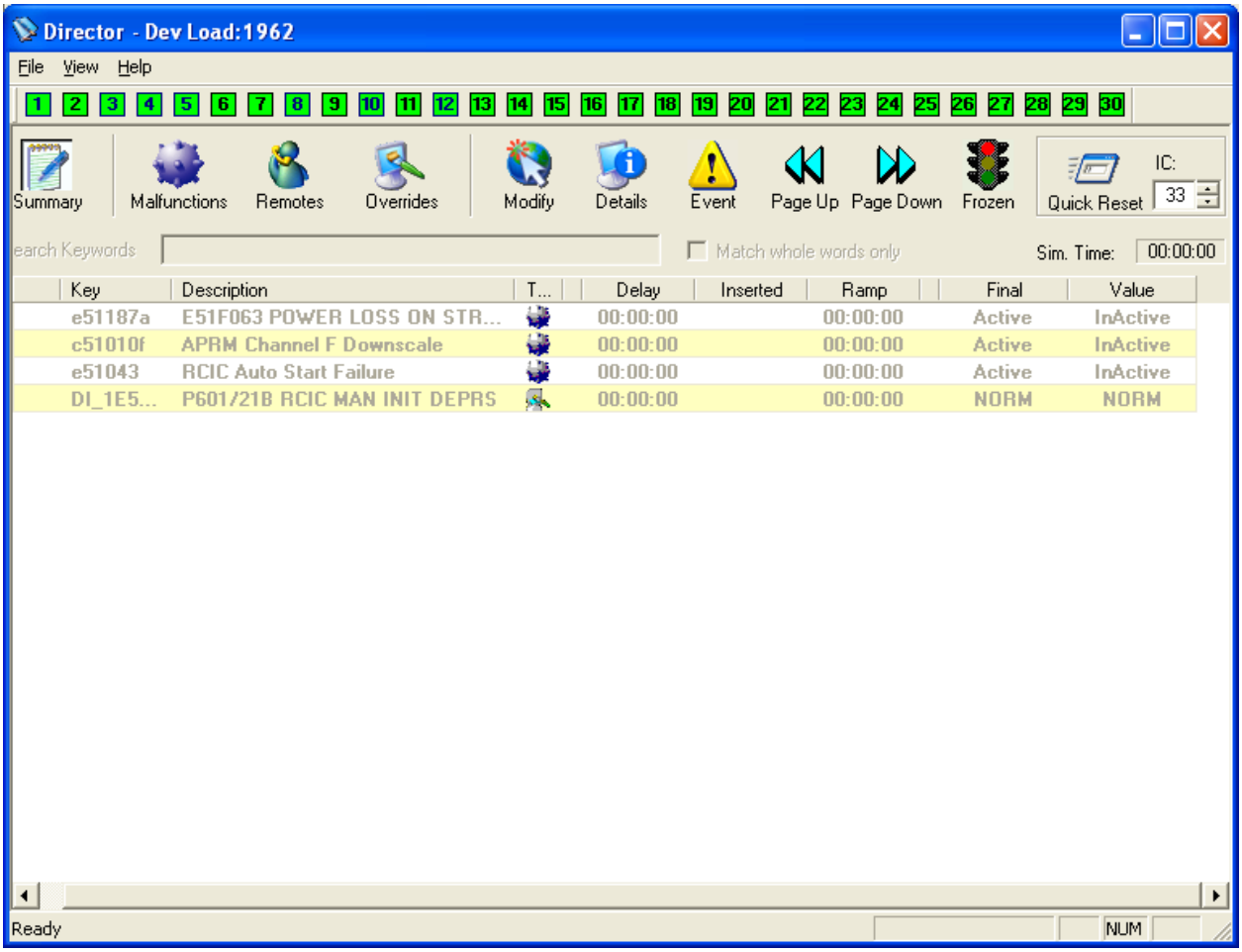
File Edit View Help

New Open Save Delete Running Export Frozen 00:00:00[00]

Insert	Pause	@Time	Event	Action	Description
				^NRC EXAM GGN 2011 Senario 2	
				^RPS A MG EPA breaker S003A Trip	
✔		00:00:00		Create event 1 xcr4c51na051 > 90.0	RPS MG Set A Failure
			1	Insert malfunction c71077a on event 1	RPS MG Set A Failure
				^APRM D fails upscale	
			2	Insert malfunction c51009d on event 2	APRM Channel D Full-scale
				^Fuel cladding leak	
			3	Insert malfunction rr071 to 0.1000 on event 3	Fuel Cladding Leak
✔		00:00:00		create event 4 xcr4b33k612 < 68.5	
			4	Insert malfunction rr071 to 2.00000 in 430 on event 4	Fuel Cladding Leak
				^Scram Actions	
✔		00:00:00		create event 5 zdi1(645) = 1	Mode Sw to SD
			5	Insert malfunction p680_2a_e_9 after 15 to ON on eve	CNDSR HTWL LVL LO
			5	Insert malfunction fw115a after 15 on event 5	Condensate Pump A Trip
			5	Insert malfunction fw115b after 15 on event 5	Condensate Pump B Trip
			5	Insert malfunction fw115c after 15 on event 5	Condensate Pump C Trip
			5	Insert malfunction rrd21k648a_d to 55.00000 in 330 or	override (variable failure) drywell hi-range
			5	Insert malfunction rrd21k648b_d to 5.30000 in 300 on	override (variable failure) cntmt hi-range
			5	Insert malfunction rrd21k648c_d to 5.20000 in 300 on	override (variable failure) cntmt hi-range
			5	Insert malfunction rrd21k648d_d to 55.00000 in 330 or	override (variable failure) drywell hi-range
				^RCIC, CTMT, DW and SBGT Rad Hi	
✔		00:00:00		create event 6 e51vf045 > 0.75	E51-F045 open
			6	Insert malfunction rrd21k603_d in 240 on event 6	override (variable failure) rcic room acty
			6	Insert malfunction rrd21k613_d after 30 in 500 on ever	override (variable failure) sgts filter train
				^RCIC steam leak	
			6	Insert malfunction e51050 to 40.00000 on event 6	RCIC Steam Leak (VAR) Upstream of E51-F045
				^E51F064 Failure to look like motor pinion key failure	
✔		00:00:00		create event 7 zlo4(643) < 1	E51-F063 red light off
			7	Insert override LO_1E51M610_G to TRUE on event 7	P601/21C STM SPLY OUTBD ISOLATION:E51-F064 - DF
			7	Insert override LO_1E51M610_R to TRUE on event 7	P601/21C RCIC STM SPLY OUTBD ISOLATION:E51-F064 - DF
			7	Insert override LO_1E51F064_G to TRUE on event 7	P858 SE) F064 - GREEN
			7	Insert override LO_1E51F064_R to TRUE on event 7	P858 N) F064 - RED
			7	Insert malfunction e51187b on event 7	E51F064 POWER LOSS ON STROKE SIGNAL
			7	Set e51vf064 = 0.5 on event 7	
				^MSL Rad Monitor Alarms	
			5	Insert malfunction rm157a to 40.00000 in 300 on event	PRM Main Steam Line D17K610A-D High Radiation
				^Clear MSL Rad Monitors after MSL Isolation	
✔		00:00:00		create event 8 zlo4(836) == 0	
			8	Insert malfunction rm157a after 30 to 15.00000 in 120	PRM Main Steam Line D17K610A-D High Radiation
				^Begining Scenario Malfunctions	
✔		00:00:00		Insert malfunction e51187a	E51F063 POWER LOSS ON STROKE SIGNAL
✔		00:00:00		Insert malfunction c51010f	APRM Channel F Downscale
✔		00:00:00		Insert malfunction e51043	RCIC Auto Start Failure
✔		00:00:00		Insert override DI_1E51M625D to NORM	P601/21B RCIC MAN INIT DEPRS

Execute: Insert override DI_1E51M625D to NORM
Execute: Insert malfunction e51043
Execute: Insert malfunction c51010f
Execute: Insert malfunction e51187a
Execute: create event 8 zlo4(836) == 0

Ready NUM


Director - Dev Load:1962
File View Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Summary
Malfunctions
Remotes
Overrides
Modify
Details
Event
Page Up
Page Down
Frozen
Quick Reset
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earch Keywords
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Sim. Time:
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Key
Description
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Delay
Inserted
Ramp
Final
Value
e51187a
E51F063 POWER LOSS ON STR...
00:00:00
00:00:00
Active
InActive
c51010f
APRM Channel F Downscale
00:00:00
00:00:00
Active
InActive
e51043
RCIC Auto Start Failure
00:00:00
00:00:00
Active
InActive
DI_1E5...
P601/21B RCIC MAN INIT DEPRS
00:00:00
00:00:00
NORM
NORM
Ready
NUM

Crew Turnover:

A. Assign the candidates crew positions.

B. Turnover the following conditions:

Power	85%
Pressure	1010 psig
BOC	
EOOS	GREEN

- A reactor startup is in progress with all steps complete up to step 6.8, Attachment II of 03-1-01-2 (Power Ascension from 60% to full power)
- SSW "A" is in service.
- APRM "F" has failed downscale and is in BYPASS (a tracking LCO was written).
- Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1.b will not be provided for this scenario.

Planned Evolutions this shift:

- Place SSW "A" in STANDBY using 04-1-01-P41-1 SSW SOI.
- Once SSW "A" is in STANDBY, continue with plant startup and raise reactor power to 100%. Ramp rates are not required until reactor power reaches 95%.

C. Allow the crew to perform pre-shift brief and review procedures for planned evolutions.

D. Bring the crew into the Simulator, place the simulator is in RUN.

E. Allow the crew to walk down panels.

F. When the crew assumes the shift begin Scenario Activities.

SCENARIO ACTIVITIES:

Place SSW "A" in STANDBY

A. The crew will place SSW "A" in STANDBY.
   1. No operations outside the control room are required.

Raise reactor power to 100%:

B. The crew will raise reactor power to 100% using FCVs.
   1. No operations outside the control room are required.
   2. When APRM "A" reaches 90% power, RPS "A" MG will Trip (Auto Event 1).

RPS "A" MG set failure

C. The crew will enter the Loss of One or Both RPS Buses ONEP and:
   1. Re-energize RPS "A" by placing the MG Set "A" transfer switch to Alternate "A".
   2. Reset the Half-Scram
   3. Ensure MSIVs are open.
      a. When the BOP comes to the booth and asks the status of the pilot solenoids amperage on the back panels, reply that all MSIVs indicate normally.

D. When asked to investigate the cause of the bus trip, when the half-scram is reset, inform the control room that:
   1. the RPS "A" MG EPA breaker C71S003A (located on the Control Building, 189' el.) is tripped and the undervoltage flag is tripped.
   2. you have also noted that the alternate feeder EPA breaker C71S003G underfrequency flag is tripped, but the breaker is still closed **(ensure that the CRS understands that this is the breaker currently powering the RPS "A" Bus).**

APRM "D" fails upscale

E. When the CRS enters LCO 3.3.8.2 Condition "A," insert malfunction c51009d by triggering **Event 2** to cause APRM "D" to fail full scale.
   1. Since APRM "F" is already in bypass, no operator action is required for this situation; however, the CRS may opt to place APRM "F" in service and bypass APRM "D" in order to clear the Half-Scram.

2. When the CRS enters LCO 3.3.1.1 Condition "A," insert malfunction rr071 by triggering **Event 3** to insert a Fuel Cladding Leak.

Fuel Cladding Leak

F. When the OG PRE-TREAT RAD HI annunciator alarms, the crew will enter the Off-Gas Activity High ONEP.
   1. If asked as RP to report local Pre-treat rad levels, report them as above normal and trending up.
   2. Prior to Pre-treat radiation levels reaching 1,400 mR/hr, the CRS will direct the ACRO to lower core flow to 67 mlbm/hr.
   3. When core flow is below 68.5 mlbm/hr, Auto Event 4 will trigger causing the Fuel Cladding Leak to worsen.
      a. The crew will enter the Reduction in Recirc Flow ONEP and the ACRO will become the THI watch with concurrent duties.
   4. When the crew determines that Pre-treat radiation levels cannot be maintained below 14,000 mR/hr, the crew will manually scram the reactor and enter the Reactor Scram and Turbine Trip ONEPs and EP-2. **Insert EP Attachments as directed** by the Control Room.
   5. 15 seconds after the scram Auto Event 5 will trigger causing Condensate Pumps to trip on low condenser level (due to failed trip unit, this is unrecoverable)
   6. 2 minutes after the scram, MSL RAD HI annunciator will alarm and the CRS will enter EP-4.
   7. 4 ½ minutes after the scram, MSL A-D HI-HI annunciators will alarm. The CRS will direct the BOP operator to close all MSIVs per EP-4 step 1.

Unisolable steam leak RCIC room/RCIC fail to start on initiation

G. After all MSIVs are closed the CRS will direct the ACRO/BOP operator to control reactor level using RCIC and HPCS.
   1. The CRS should establish a reactor pressure band of 800-1060 psig using ADS/SRV valves and a reactor level band of +30" to -30".
   2. Once the operating feed pump trips, RCIC will fail to initiate (when started by the operator or on low level). The operator must manually line up RCIC.

H. When E51-F045 opens, an unisolable steam leak will occur in the RCIC room.
   1. The crew will receive RCIC room high temperature and radiation alarms. The E51-F063 and E51-F064 will fail to close (loss of power, motor pinion key failed respectively).

2. The crew should enter the reduced pressure band 450-600 psig to reduce driving head of the steam leak.
3. Five minutes after RCIC is started, report to the control room as Security that there is a plume of steam coming from the Auxiliary Building Roof.
4. When 2 max safe values (Rad levels) from EP-4 Table 10 are reached, the crew will enter the emergency depressurization procedure of EP-2.

Termination:

I. Once emergency depressurization has been conducted and reactor water level is stabilized above TAF, or as directed by Lead Evaluator, take the simulator to Freeze and turn horns off.

Critical Tasks:

- Fuel failure is occurring and main steam line radiation is greater than 3 times normal full power background as indicated by MSL B / MSL C RAD HI-HI or MSL A / MSL D RAD HI-Hi alarms, the crew closes MSIVs and MSL drains per EP-4. The crew closes the MSIVs and MSL drains and observes valve position indications and lowering pressure trend downstream of the MSIVs. Criterion is to give the highest priority to close the four inboard MSIVs or the four outboard MSIVs and MSL drains when MSL radiation is greater than 3 times normal full power background.
- A primary system is discharging outside primary containment and area temperatures, radiation levels, or water levels are above their max safe values in two or more areas. The crew opens 8 ADS/SRVs and observes lowering pressure trend and valve position indications (tailpipe pressure indication lamps or solenoid valve energized). Criterion is to give the highest priority to open at least seven SRVs when area temperatures, radiation levels, or water levels are above their maximum safe values in two or more areas.

Emergency Classification:

Site Area Emergency FS1

Op-Test No: 12/11 Scenario No: 2 Event No: 1

Event Description: **Place SSW "A" in Standby**

TIME	Position	Applicant's Actions or Behavior
	CRS	Directs the BOP operator to place SSW "A" in standby.
	BOP	Places SSW "A" in Standby using SOI 04-1-01-P41-1 section 4.6: • Verifies all prerequisites are met • N/A's steps 4.6.2a – 4.6.2h. • Places the SSW "A" MOV test switch to TEST • Open/check open P41-F006A. • Close P41-F005A • Ensure open P41-F068A. • Close/check close P41-F014A. • Close P41-F001A. • Stop SSW Pump A. • Stop cooling tower fans A and B if running. • Stop O/A Fan Y47-C001A.

Op-Test No: 12/11 Scenario No: 2 Event No: 2

Event Description: **Raise reactor power using Recirc Flow Control**

TIME	Position	Applicant's Actions or Behavior
	CRS	Conducts reactivity brief for the planned power change. (May be performed prior to taking the shift) Directs the ACRO to raise reactor power to 100% using Recirc FCV's.
	ACRO	Raises power by opening the Recirc FCVs A & B using loop flow controllers B33K603A & B in slow detent on P680-3B (IOI-2 attachment VIII step 12.3).
	BOP	Raises Load Demand as power is raised by depressing EHC LOAD REF DEMAND RAISE pushbutton (P680-9C) to maintain generator actual load within +/- 25 MW of the load demand limited value during power ascension (IOI-2 attachment VIII step 12.2).

Op-Test No: 12/11 Scenario No: 2 Event No: 3

Event Description: **RPS "A" MG failure**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports a half-scram with no additional annunciators and a trip of the RPS bus has occurred. • As indicated by annunciator P680-7A-A-2, RX SCRAM TRIP coupled with a ½ scram and no other indications for why the ½ scram occurred. • The GENERATOR A NORMAL FEED AVAILABLE light is out on the back panel.
	CRS	Enters the Loss of One or Both RPS Buses ONEP. Direct the BOP to re-energize the A RPS bus using the alternate power source. Direct the ACRO to reset the half-scram. Send a local operator to investigate the cause of the RPS A MG failure.
	BOP	When directed, Re-energize the A RPS Bus using the Alternate power source. • Place the MG SET A TRANSFER switch on P610 to ALT "A"
	ACRO	When directed, reset the half-scram. • Place the division 1 scram RESET switches to RESET on the P680.
	CRS	Direct the BOP to ensure all MSIVs are energized.
	BOP	When directed, ensure all MSIV solenoid lights are on and all MSIV pilot solenoids indicate amperage on the P622 and P623 panels. (This is not modeled in the simulator. The operator should go to the instructor booth behind the P807 and simulate performance by stating to the instructor his intentions to perform the step. The instructor will provide the operator with a verbal cue concerning indications the operator observes).

Op-Test No: 12/11 Scenario No: 2 Event No: 4

Event Description: **Electric Power Monitoring Assembly INOPERABLE**

TIME	Position	Applicant's Actions or Behavior
	CRS	Recognizes entry conditions and enters TS 3.3.8.2 Condition A.

Op-Test No: 12/11 Scenario No: 2 Event No: 5

Event Description: **Two APRM channel failures**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports APRM D has failed upscale. ❖ As indicated by annunciators P680-7A-A-2, RX SCRAM TRIP, and P680-7A-B-3, NEUTRON MON SYS TRIP ❖ APRM Ch-D will be "pegged" high and will have the UPSC ALM light on. ❖ This will also cause a ½ scram.
	CRS	Recognizes entry conditions and enters TS 3.3.1.1 Condition A and TRM 3.1.5 Conditions A & B.

Op-Test No: 12/11 Scenario No: 2 Event No: 6

Event Description: **Fuel Cladding Leak**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports to the CRS when the OG PRE-TREAT RAD HI annunciator alarms. Directs the CRS to the Off-Gas Activity High ONEP per the OG PRE-TREAT RAD HI ARI.
	CRS	Enters the Off-Gas Activity High ONEP. Establish Off-Gas Pre-Treat Radiation Level as a critical parameter.
	ACRO / BOP	Monitor Off-Gas Pre-Treat Radiation Level. Report Off-Gas Pre-Treat Radiation Levels as directed by the CRS.
	CRS	When the CRS anticipates exceeding the limits of step 3.1 Pre-Treatment Monitor Limit (700mR/hr), directs the ACRO to lower core flow to 67 mlbm/hr in fast detent.
	ACRO	Lower core flow to 67 mlbm/hr using Recirc "A" and "B" FCV flow controllers in fast detent when directed by the CRS.
	CRS	Enters the Reduction in Recirculation Flow Rate ONEP. Ensures THI watch with concurrent duties is established.
	ACRO	Plot the power to flow map. Recognize and report to the CRS entry into the Monitored Region as determined by the power to flow map plot. Establish THI watch with concurrent duties.
	CRS	Perform subsequent actions of the Off-Gas Activity High ONEP. • Consult with the Reactor Engineer or Duty Manager for further power reductions. • Activate the Emergency Plan when limits of step 3.3 are exceeded. • Notify Chemistry to monitor ventilation release points.
	CRS	When the CRS determines that Off-Gas Pre-Treat Radiation Levels cannot be maintained below 14,000 mR/hr, direct the ACRO to scram the reactor. Enter the Scram ONEP, Turbine/Generator Trip ONEP, EP-2

Op-Test No: 12/11 Scenario No: 2 Event No: 6 cont.

Event Description: **Fuel Cladding Leak**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Places the Reactor Mode Switch to SHUTDOWN when directed by the CRS. Provides a scram report: • Reactor Mode SW in SHUTDOWN. • Reactor power is 0%. • Reactor water level and trend. • Reactor pressure and trend. • Feedwater is NOT available. • Bypass valves are available.
	ACRO / BOP	Start RCIC by arming and depressing the RCIC initiation push button (RCIC will fail to start; see event 7 on page 17).
	BOP	Recognizes and reports EP-4 entry condition when MSL RAD HI annunciator alarms on P601-19A-D4.
	CRS	Enters EP-4 when any entry condition is met.

Op-Test No: 12/11 Scenario No: 2 Event No: 6 cont.

Event Description: **Fuel Cladding Leak**

	ACRO / BOP	Recognize and report when MSL A-D HI-HI radiation annunciators alarm. Close all MSIVs (per EP-4 step 1).
	CRS	When MSL A-D HI-HI radiation annunciators alarm, direct the ACRO/BOP to close all MSIVs. ***Fuel failure is occurring and main steam line radiation is greater than 3 times normal full power background as indicated by MSL B / MSL C RAD HI-HI or MSL A / MSL D RAD HI-Hi alarms, the crew closes MSIVs and MSL drains per EP-4. The crew closes the MSIVs and MSL drains and observes valve position indications and lowering pressure trend downstream of the MSIVs. Criterion is to give the highest priority to close the four inboard MSIVs or the four outboard MSIVs and MSL drains when MSL radiation is greater than 3 times normal full power background.** Establish reactor pressure band of 800 – 1060 psig using ADS/SRV valves. Establish reactor level band of +30" to -30" using Feed and Condensate system (this band is established per Ops Philosophy Level Band Strategies since reactor pressure is now being controlled with ADS/SRV's).
	BOP	Maintain pressure band of 800 – 1060 psig using ADS/SRV valves (cycle open and closed as required to stay within band).
	ACRO	Maintain level band of +30" to -30" using HPCS (May use the Startup Level Controller in Auto or Manual).

Op-Test No: 12/11 Scenario No: 2 Event No: 7

Event Description: **RCIC fails to start on initiation**

TIME	Position	Applicant's Actions or Behavior
	ACRO / BOP	Recognizes that RCIC does not start when manually initiated using Initiate push button. ❖ As indicated when nothing happens after the Initiate PB is depressed. Manually starts RCIC using SOI 04-1-01-E51-1 Attachment VI. • Shift RCIC Flo controller to manual and reduce output to minimum. • Open E51-F046. • Start Gland Seal Compressor. • Open E51-F095. • After 6 seconds, Open E51-F045. • Raise turbine speed using flow controller in manual to develop pressure greater than reactor pressure. • Open E51-F013. • Adjust flow as necessary with Flo controller. • Verify SSW A is running with adequate flow path. Establish and maintain reactor water level in the established band (11.4" to 53.5")

Op-Test No: 12/11 Scenario No: 2 Event No: 8

Event Description: **RCIC room unisolable steam leak**

TIME	Position	Applicant's Actions or Behavior
	ACRO / BOP	Recognize and report unisolable steam leak in the RCIC room after RCIC is initiated. ❖ As indicated by annunciators P601-21A-G-3, RCIC EQUIP AREA TEMP HI, P601-21A-H-2, RCIC PIPE/EQUIP AMBIENT TEMP HI, and P601-21A-H-3, RCIC EQUIP AREA dT HI. ❖ E51-F063 loss of power and E51-F064 will not close. ❖ RCIC room temperature remains high.
	CRS	Enter EP-4 at 22 (will be on step 10 until 2 max safe values are reached). Direct the BOP to monitor EP-4 parameters.
	BOP	Monitor EP-4 parameters using EP-4 table 3. • Monitor for 2 Max Safe values
	CRS	Establish a reduced pressure band of 450 – 600 psig to reduce the driving head of the steam leak in accordance with the Ops Philosophy Pressure Control Strategy. Establish a level band of +30" to -30" in accordance with Ops Philosophy Level Control Strategy.
	BOP	Control reactor pressure in the 450 – 600 psig band using ADS/SRV valves when directed.
	ACRO	Manually initiate HPCS to maintain reactor water level within the established band by arming and depressing the HPCS initiation pushbutton.

Op-Test No: 12/11 Scenario No: 2 Event No: 8 cont

Event Description: **RCIC room unisolable steam leak**

	BOP / ACRO	Recognize and report to the CRS when 2 max save values of EP-4 Table 10 are exceeded.
	CRS	When 2 max save values of EP-4 Table 10 are exceeded, enters the Emergency Depressurization procedure of EP-2. ***A primary system is discharging outside primary containment and area temperatures, radiation levels, or water levels are above their max safe values in two or more areas. The crew opens 8 ADS/SRVs and observes lowering pressure trend and valve position indications (tailpipe pressure indication lamps or solenoid valve energized). Criterion is to give the highest priority to open at least seven SRVs when area temperatures, radiation levels, or water levels are above their maximum safe values in two or more areas.** • Verify SP level is above 10.5 ft. • Direct the BOP operator to open 8 ADS valves.
	BOP	Opens at least 7 ADS valves when directed by the CRS.
	ACRO	Maintain reactor level band of +30” to -30” following Emergency Depressurization. (The CRS may establish a level band of 11.4” to 53.5”)

Give this page to the CRS

Turnover the following conditions:

Power	85%
Pressure	1010 psig
BOC	
EOOS	GREEN

- A reactor startup is in progress with all steps complete up to step 6.8, Attachment II of 03-1-01-2 (Power Ascension from 60% to full power)
- SSW "A" is in service.
- APRM "F" has failed downscale and is in BYPASS (a tracking LCO was written).
- Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1.b will not be provided for this scenario.

Planned Evolutions this shift:

- Place SSW "A" in STANDBY using 04-1-01-P41-1 SSW SOI.
- Once SSW "A" is in STANDBY, continue with plant startup and raise reactor power to 100%. Ramp rates are not required until reactor power reaches 95%.

Facility: Grand Gulf Nuclear Station Scenario No.: 3 Op-Test No.: 12/11

Examiners: _____ Operators: _____

_____ _____

_____ _____

Objectives: To evaluate the candidates' ability to operate the facility in response to the following evolutions:

1. Place the Mode Switch in Run.
2. Start a second Condensate Booster Pump.
3. Suppression Pool level transmitter failure.
4. Spurious Division 1 ECCS initiation.
5. LPCS pump trips on ECCS initiation.
6. Loss of Main Condenser Vacuum.
7. Suppression Pool leak in the RHR C Room.
8. Startup Level Controller C34-R602 automatic control fails.

Initial Conditions: Operating at 5% power.

Inoperable Equipment: None

Turnover:

A plant startup is in progress with all steps complete up to step 6.2.16.b in 03-1-01-1 (Cold Shutdown to Generator Carrying Minimum Load) and step 1.3.17 of Attachment 1 in 03-1-01-1 and step 163A of the cycle 18 BOC rod sequence movement sheet. The Crew will pull control rods to complete step 163B of the rod sequence movement sheet and then place the Mode Switch in RUN. When the Mode Switch is in Run, the Crew will give priority to starting a second Condensate Booster Pump prior to continuing with the Turbine Startup Procedure.

Scenario Notes:

This is a new scenario.

Validation Time: 60 minutes

Event No.	Malf. No.	Event Type †	Event Description
1		R (ACRO)	Place the Mode Switch to RUN (IOI 03-1-01-1 section 6.2.16.b-h)
2		N (BOP)	Start a second Condensate Booster Pump (SOI 04-1-01-N19-1 section 4.3)
3	1te30n003b_b	TS (CRS) A (CREW)	Suppression Pool Level Transmitter Failure (TS 3.3.3.1 Condition A)
4	e21_lpcs	I (BOP) A (CREW)	Spurious Division 1 ECCS initiation (SOI 04-1-01-E12-1 Attachment IX) * **When Division 1 ECCS spuriously initiates, the crew secures the Division 1 Drywell Purge Compressor prior to the Drywell reaching 1.23 psig causing a reactor scram.**
5	e21051	TS (CRS)	LPCS pump trips on ECCS initiation (TS 3.5.1 Condition A)
6	fw163c	M (Crew)	Loss of Main Condenser Vacuum (Loss of Condenser Vacuum (05-1-02-V-8) ONEP)
7	ct218e ct219b	M (Crew)	Suppression Pool Leak in RHR C Room (EP-3) * **When it is determined that Suppression Pool level cannot be maintained above 14.5', the crew opens 8 SRVs and observes lowering pressure trend and valve position indications (tailpipe pressure indication lamps or solenoid valve energized). Criterion is to open at least seven SRVs prior to Suppression Pool level reaching 14.5'.**
8	c34r602_b	I (ACRO)	Startup Level Controller C34-R602 automatic control fails (Ops Philosophy 02-S-01-27 section 6.1.1.d)

† (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (A)bnormal (TS) Tech Spec

* Critical Task

Quantitative Attributes Table

Normal Events	1	Abnormal Events	2
Reactivity Manipulations	1	Total Malfunctions	6
Instrument/Component Failures	2	EP Entries (Requiring substantive action)	2
Major Transients	2	EP Contingencies	1
Tech Spec Calls	2	Critical Tasks	2

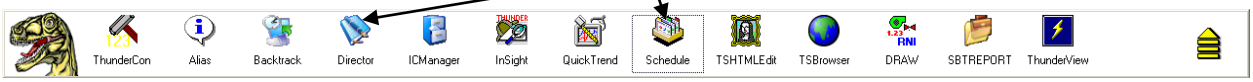
Simulator Setup:

A. Initialization

1. Startup the simulator using Simulator Instructor's Job Aid section 6.3.

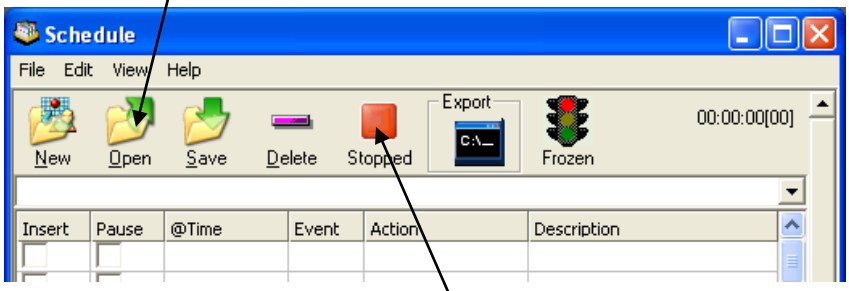
> *Note:*
> ***Prior to running the Schedule File, ensure no Event Files are Open.*** *If an existing Event File is Open prior to running the Schedule File, then any associated Event Files will not automatically load.*

2. Open Schedule.exe and Director.exe by clicking on the Icon in the Thunder Bar.



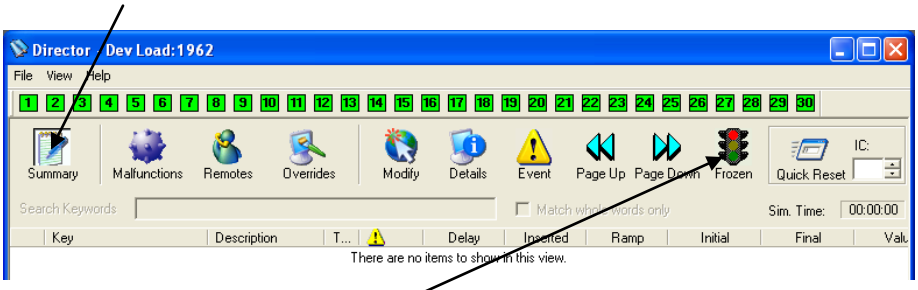
3. Set the Simulator to IC-9 and perform switch check (Using Quick Reset in Director).

4. Click on "**Open**" in the Schedule window and Open Schedule File "**2011 NRC Scenario 3.sch**" (in the Schedule Directory)



5. In Schedule window, click on the **"Stopped**" red block. The red block will change to a green arrow and indicate the scenario is active ("**Running**").

6. Click the Summary tab in the Director window. Verify the schedule files are loaded and opened per Section B below. (Note: Any actions in the schedule file without a specific time will not load into the director until triggered.)



7. Take the simulator out of freeze.

8. Clear any graphs and trends off of SPDS.

9. Ensure the correct rod movement sequence available at the P680.

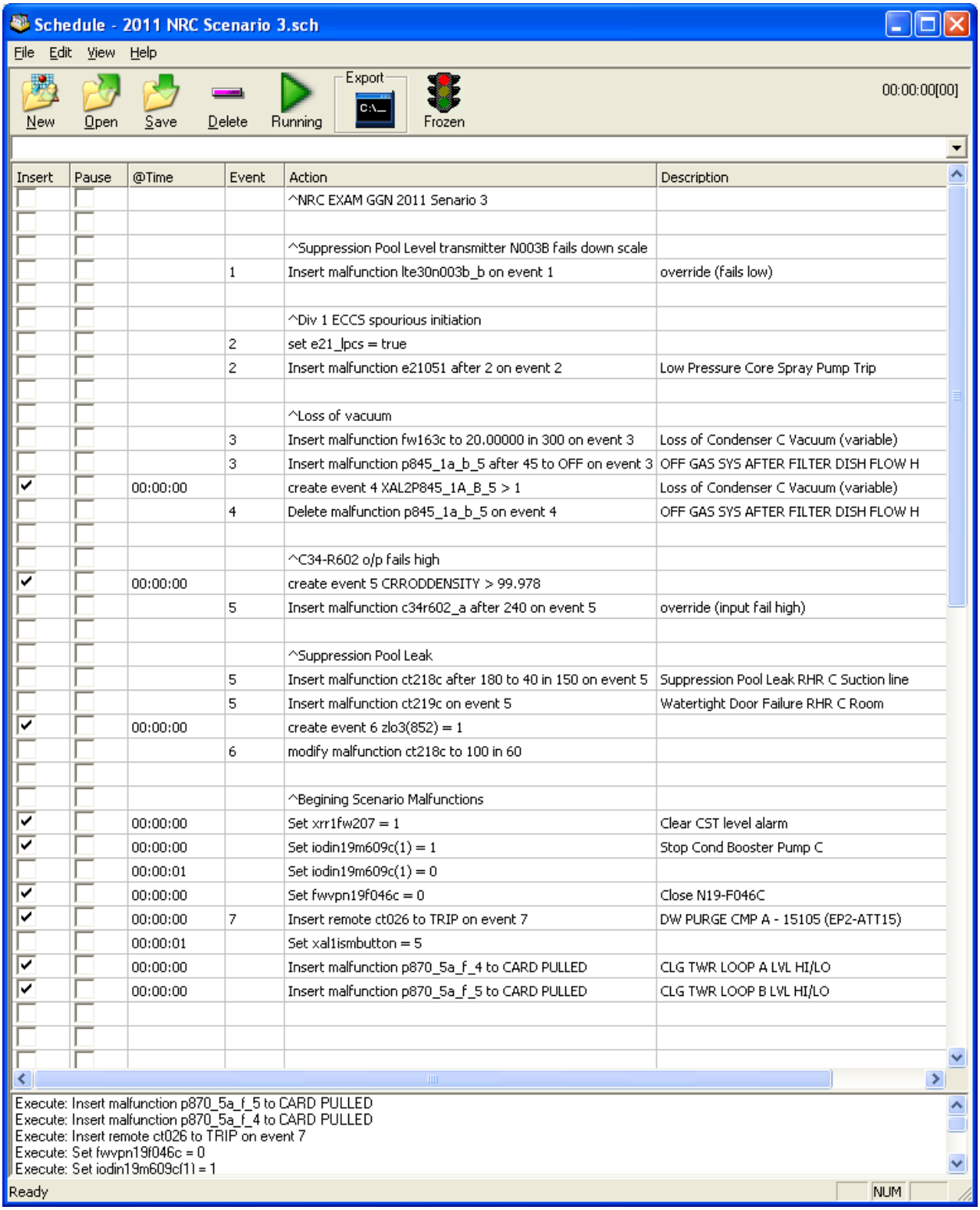
10. Advance all chart recorders and ensure all pens inking properly.

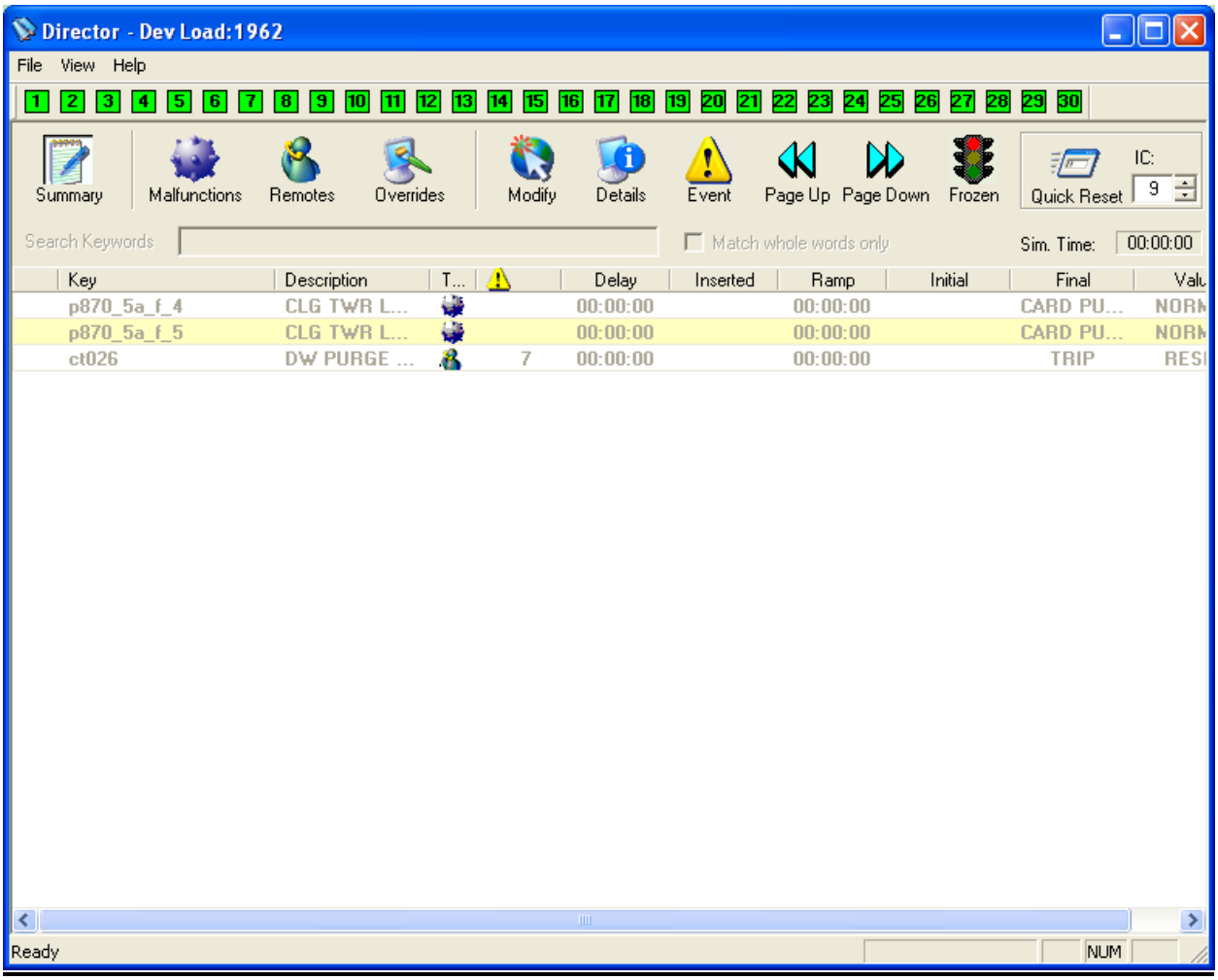
11. Verify or perform the following:
    - IC-9
    - Place RC&IS in the Individual Drive Mode
    - Ensure one RFPT is running and one is TRIPPED
    - Condensate Booster Pump C is off and discharge valve closed
    - Ensure that Cycle 18 BOC rod sequence binder is available
    - Update startup IOI and rod sequence sheets with initials
        - IOI-1 step 6.2.16 a 1-8 also IOI-1 steps 6.2.16.e and 6.2.16.f
        - IOI-1 Attachment 1 step 1.3.16
        - Rod sequence sheets step 161 and 162.

12. Run through any alarms and ensure alarms are on. **(Note: On T-Rex, to verify alarms are ON, the indicator will indicate "Alarms On").**

13. Place the simulator in Freeze.

B. File loaded verification:




Director - Dev Load:1962
File View Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Summary
Malfunctions
Remotes
Overrides
Modify
Details
Event
Page Up
Page Down
Frozen
Quick Reset
IC:
9
Search Keywords
Match whole words only
Sim. Time:
00:00:00
Key
Description
T...
Delay
Inserted
Ramp
Initial
Final
Valu
p870_5a_f_4
CLG TWR L...
00:00:00
00:00:00
CARD PU...
NORM
p870_5a_f_5
CLG TWR L...
00:00:00
00:00:00
CARD PU...
NORM
ct026
DW PURGE ...
7
00:00:00
00:00:00
TRIP
RESI
Ready
NUM

Crew Turnover:

A. Assign the candidates crew positions.

B. Turnover the following conditions:

Power	5%
Pressure	950 psig
BOC	
EOOS	GREEN

- A plant startup is in progress with all steps complete up to step 6.2.16.b in 03-1-01-1 (Cold Shutdown to Generator Carrying Minimum Load) and step 1.3.17 of Attachment 1 in 03-1-01-1 and step 163A of the cycle 18 BOC rod sequence movement sheet.

Planned Evolutions this shift:

- The Crew will pull control rods to complete step 163B of the rod sequence movement sheet and then place the Mode Switch in RUN. (Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1.b will not be provided for this scenario)
- When the Mode Switch is in RUN, the CRO will start a second Condensate Booster Pump prior to continuing with the Turbine Startup Procedure.

C. Allow the crew to perform pre-shift brief and review procedures for planned evolutions.

D. Bring the crew into the Simulator, place the simulator is in RUN.

E. Allow the crew to walk down panels.

F. When the crew assumes the shift begin Scenario Activities.

SCENARIO ACTIVITIES:

Raise Power and Place the Mode Switch to RUN

A. The crew will pull control rods using the rod sequence pull sheet and place the Mode Switch to RUN when all APRM downscale annunciators are clear.
   1. If asked for Chemistry results for continuing the startup, respond that all samples have been taken and that Chemistry is ready for Mode 1 operation.

Start a 2nd Condensate Booster Pump

B. The CRS will direct the BOP to start a second Condensate Booster Pump (Condensate Booster Pump C is preferred for redundant power supplies).
   1. When directed as the local operator by the Control Room to perform pre-start pump checks:
      a. Report that Condensate Booster Pump C002C oil reservoir is normal and pre-start pump check is complete.
   2. If asked as the Rad Waste Operator, report that 4 deep bed filters are in service.
   3. When directed as the local operator by the Control Room:
      a. Report that you have closed N19-FX225.
      b. Report that you have opened N19-FX225.

Suppression Pool Level Transmitter Failure

C. When the crew has started a second Condensate Booster pump, trigger **Event 1** to insert malfunction lte30n003b_b to fail Suppression Pool Level Transmitter N003B downscale.

D. If asked the status of the trip unit, report that 1E30-LIS-N600B is in a tripped condition.

Div 1 ECCS spurious initiation

E. When the CRS enters LCO 3.3.3.1 Condition "A," trigger **Event 2** to insert malfunctions e21_lpcs and e21051 to cause a spurious Division 1 ECCS initiation and trip the LPCS pump when it starts.
   1. The BOP will use 04-1-01-E12-1 Attachment IX (Recovery from a Division 1 ECCS Initiation Signal) to recover from the spurious imitation signal; OR

If the crew chooses to use the E61 SOI, when directed to depress the manual trip PB on breaker 52-15105 and pull the lockout tab (to stop DW purge compressor A) insert remote function ct026 by triggering **Event 7**.

2. If asked for the status of the following lights on the LLS panel, report the lights as ON:
   a. ESF Power on
   b. BOP Power on

Loss of Main Condenser Vacuum

F. When the CRS enters LCO 3.5.1 Condition "A," trigger **Event 3** to insert malfunction fw163c to cause a loss of condenser vacuum.
   1. When it becomes apparent that the main turbine low condenser vacuum trip set point will be reached, the crew will initiate a reactor scram.
   2. If sent as the local operator to investigate the reason for loss of vacuum, acknowledge the order but do not report back a reason. If the control room makes subsequent contact, tell them you are still investigating.

Suppression Pool Leak in RHR room C.

G. When the crew scrams the reactor, Auto Trigger 5 will cause an unisolable suppression pool leak in RHR C room concurrent with a failure of the water tight door to RHR C room. Also, the automatic startup level control will fail causing reactor water level to trend up.
   1. If sent as the local operator to investigate the location of the leak or to shut the RHR C room door, wait 3 minutes and report back that the leak appears to be upstream of the RHR C suction valve and/or you are unable to close the RHR C room watertight door because the closing mechanism is jammed.
   2. If necessary for time compression, lower suppression pool level using the ThunderView "Operator" screen (at the lead evaluator's discretion).

Termination:

H. Once emergency depressurization has been conducted and reactor water level is stabilized above TAF, or as directed by Lead Evaluator, take the simulator to Freeze and turn horns off.

Critical Tasks:

- When Division 1 ECCS spuriously initiates, the crew secures the Division 1 Drywell Purge Compressor prior to the Drywell reaching 1.23 psig causing a reactor scram.
- When it is determined that Suppression Pool level cannot be maintained above 14.5', the crew opens 8 SRVs and observes lowering pressure trend and valve position indications

(tailpipe pressure indication lamps or solenoid valve energized). Criterion is to open at least seven SRVs prior to Suppression Pool level reaching 14.5'.

Emergency Classification:

Op-Test No: 12/11 Scenario No: 3 Event No: 1

Event Description: **Change the plant from Mode 2 to Mode 1 operation**

TIME	Position	Applicant's Actions or Behavior
	CRS	Conducts reactivity brief for the planned power ascension. (May be performed prior to taking the shift) Directs the ACRO to withdraw control rods through step 163A of the control rod movement sheet in preparation for placing the Mode Switch to run per IOI-1 step 6.2.16.b using the control rod movement sequence sheets.
	ACRO	Withdraws control rods. • Verify/select INDIVIDUAL mode using the DRIVE MODE push button. • Select the rod to be move by depressing the corresponding rod select push buttons on the P680. • Verify the correct rod is selected on the Full Core Display. • Notch each rod by momentarily depressing the WITHDRAW push button on the P680.
	CRS	Per IOI-1 steps 6.2.16.d and h Direct the ACRO to transfer one IRM/APRM recorder in each RPS division to the APRM position. And then… Direct the ACRO to place the Mode Switch to RUN.
	ACRO	Transfer one IRM/APRM recorder in each RPS division to the APRM position. Place the Mode Switch to RUN.

Op-Test No: 12/11 Scenario No: 3 Event No: 2

Event Description: **Start a second Condensate Booster Pump**

TIME	Position	Applicant's Actions or Behavior
	CRS	Directs the BOP operator to start the B or C Condensate Booster Pump Note: The CRS should opt for starting the C Condensate Booster Pump since it is power from an alternate power source. See Note above 04-1-01-N19-1 step 4.1.2.a(2).
	BOP	Directs the local operator to perform pre-start pump checks. Ensure that at least 4 deepbed demineralizers are in service (contacts Rad Waste). Directs the local operator to close N19-FX212 or N19-FX225 (discharge pressure gauge isolation valve). Start the B or C Condensate Booster Pump (The C Condensate Booster Pump is preferred; see note above). Ensures the Condensate Booster Pump discharge valve opens. Directs the local operator to open N19-FX212 or N19-FX225.

Op-Test No: 12/11 Scenario No: 3 Event No: 3

Event Description: **Suppression Pool level transmitter failure**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports that Division 2 Suppression Pool Level Wide Range has failed downscale. ❖ As indicated by annunciator P870-10A-A-3, SUPP POOL LVL LO-LO ❖ The Wide Range SP level indicator 1E30-LR-R600B will be downscale. All other SP level indications will read normally.
	CRS	Recognizes entry conditions and enters TS 3.3.3.1 Condition A and TS 3.3.6.4 Condition C.

Op-Test No: 12/11 Scenario No: 3 Event No: 4

Event Description: **Spurious Division 1 ECCS Initiation**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports the spurious ECCS initiation to the CRS. ❖ As indicated by LPCS/RHR A initiation when no reason for the initiation present (Reactor level above -151.3" and Drywell pressure < 1.39 psig) (The BOP will use various Control Room indications to determine reactor water level is above -150.3" and drywell pressure is below 1.39 psig)
	CRS	Direct the BOP to recover from Division 1 ECCS initiation using SOI 04-1-01-E12-1 Attachment IX. OR Direct the BOP to secure the A DW purge compressor using SOI 04-1-01-E61-1 section 5.2.2 step a. (Note that if this path is taken, the CRS should enter TS 3.6.3.3) ***When Division 1 ECCS spuriously initiates, the crew secures the Division 1 Drywell Purge Compressor prior to the Drywell reaching 1.23 psig causing a reactor scram.** Enter the Control Rod/Drive Malfunctions ONEP. Direct the BOP to ensure the Division 1 diesel generator is running with cooling water.

Op-Test No: 12/11	Scenario No: 3	Event No: 4 cont.
Event Description: **Spurious Division 1 ECCS Initiation**		
	BOP	Complete actions of SOI 04-1-01-E12-1 Attachment IX. • Press the LPCS/RHR A INIT RESET pushbutton (on P601-21B). • Press the DIV 1 LSS PNL RESET pushbutton (on P864-1C). • Reset the Division 1 CGCS logic using the keylock switch (on P870-4B). • Stop the Drywell Purge Compressor "A" (on P870-4C). • Close E61-F003A (on P870-4C). OR Complete actions of SOI 04-1-01-E61-1 section 5.2 • Direct the local plant operator to manually trip the 52-15105 A DW purge compressor breaker and pull the lockout tab. Take immediate operator actions per CRD malfunctions ONEP (from memory). • Place CRD SYS FLO CONT (C11-R600 on P601-22B) in MANUAL and REDUCE output to zero. • Start CRD pump A. • Slowly adjust CRD SYS FLO CONT to 54-66 gpm after charging pressure returns to normal. (~1700 psig) • Return CRD SYS FLO CONT to AUTO with tapeset at 54-66 gpm. Ensure that the Division 1 diesel generator is running with cooling water and sends a local operator to verify proper operation.
	CRS	Develops a plan of action to restore affected systems to standby lineup. • Refers to Automatic Isolations ONEP (05-1-02-III-5) to recover from isolations. • Refers to SSW SOI (04-1-01-P41-1) to place SSW A in standby. Note: The CRS will not have time to implement these actions prior to the next event, but the CRS should pursue these actions.

Op-Test No: 12/11 Scenario No: 3 Event No: 5

Event Description: **LPCS pump trip**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports that the LPCS pump tripped when Division 1 ECCS initiated. ❖ As indicated by the amber pump trouble light above the LPCS hand switch being illuminated (indicates pump trip when an auto start signal is present). ❖ LPCS PMP AUTO TRIP status light is lit. ❖ Annunciators P601-21A-A-7, LPCS PMP OVERLD, and P601-21A-H-8, LPCS SYS OOSVC will be in also.
	CRS	Recognizes entry conditions and enters TS 3.5.1 Condition A.

Op-Test No: 12/11 Scenario No: 3 Event No: 6

Event Description: **Loss of Main Condenser Vacuum**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports lowering vacuum to the CRS. ❖ As indicated by annunciator P680-4A2-E-3, OG PNL P845 TROUBLE and lowering condenser vacuum. ❖ The BOP operator will also note increased offgas flow.
	CRS	Enters the Loss of Condenser Vacuum ONEP. Carryout steps of the ONEP to determine the cause of Loss of Condenser Vacuum. • Verify SJAE has not malfunctioned • Check that offgas flow is not obstructed (this is determined not to be the cause by the increased offgas flow rate) • Check that Seal Steam is operating properly • Send a local operator to check for condenser inleakage • Check Circ Water system for proper operation • Check Condenser Vacuum Breaker valves are closed • Send a local operator to ensure Condenser Vacuum Breaker valves have adequate seal water When it is apparent that the Condenser Low Vacuum trip set point will be reached, direct the ACRO to insert a Manual Scram (the turbine is not online; however, the RFPT will trip at 16" condenser vacuum requiring a manual reactor scram).
	ACRO	When directed: • Verify SJAE has not malfunctioned by checking the SJAE lineup on the P680-10C (the "A" SJAE valves should all be open). • Check that Seal Steam is operating properly by checking for normal indications on the P680-10B for normal SS indications. • Check Circ Water system for proper operation by checking that both Circ Water pumps are running on the P680-10C.
	BOP	When directed, check Condenser Vacuum Breaker valves are closed on the P870-6C.
	ACRO	When directed or before reactor water level is 11.4" (in the event that the CRS does not direct a scram before the RFPT trips on low vacuum; 16"), insert a manual scram.

Op-Test No: 12/11 Scenario No: 3 Event No: 6 cont.

Event Description: **Loss of Main Condenser Vacuum**

TIME	Position	Applicant's Actions or Behavior
	CRS	Enters the Scram ONEP and EP-2. Establishes reactor level band of 11.4" to 53.5".
	ACRO	Provides a scram report: • Reactor Mode SW in SHUTDOWN. • Reactor power is 0%. • Reactor water level and trend. • Reactor pressure and trend. • Feedwater is available. • Bypass valves are available. Maintains reactor water level in the normal band of 11.4" to 53.5" using the startup level controller in automatic (when the RFPT finally trips on low vacuum, the operator may reset the vacuum trip on the RFPT and continue to feed the reactor until the MSIV's go closed at 9" vacuum).

Op-Test No: 12/11 Scenario No: 3 Event No: 7

Event Description: **Suppression Pool leak in the RHR C Room.**

TIME	Position	Applicant's Actions or Behavior
	BOP / ACRO	Recognizes and reports to the CRS EP-4 entry condition RHR C Room Flooded and/or RHR C Room Sump Level Hi-Hi with the RHR C room water tight door open. ❖ As indicated by annunciators P680-8A1-C-2, RHR RM C SMP LVL HI-HI, or P870-10A-G-2, RHR C PMP RM FLOODED. ❖ Suppression Pool level will be lowering. ❖ The RHR C water tight door being open is indicated by annunciator P680-8A1-E-3, AUX BLDG N FLOOR DR SMP LVL HI-HI. Shut E12-F004C
	CRS	Enters EP-4 and EP-3. Direct the BOP operator to shut the RHR C pump suction valve E12-F004C. Establish Suppression Pool level as a critical parameter. Direct the BOP operator to manually initiate Suppression Pool Makeup.
	BOP	When directed, manually initiate SPMU (each division) per SOI 04-1-01-E30-1 Attachment V by: • Place the SPMU MODE SEL switch to AUTO • Place the SPMU DUMP TEST switch to TEST • Depress both SPMU MAN INIT pushbuttons
	CRS	Before Suppression Pool level reaches 14.5 ft, enter the Emergency Depressurization procedure of EP-2. Direct the BOP operator to open 8 ADS/SRV valves. ***When it is determined that Suppression Pool level cannot be maintained above 14.5', the crew opens 8 SRVs and observes lowering pressure trend and valve position indications (tailpipe pressure indication lamps or solenoid valve energized). Criterion is to open at least seven SRVs prior to Suppression Pool level reaching 14.5'.**
	BOP	When directed, opens at least 7 ADS/SRV valves.
	CRS	After the Emergency Depressurization, ensures reactor water level is restored to a level band of 11.4" to 53.5" (the operator should use the Condensate system for level control).
	ACRO	After the Emergency Depressurization, maintains reactor water level in the normal level band of 11.4" to 53.5".

Op-Test No: 12/11	Scenario No: 3	Event No: 8
Event Description: **Startup Level Controller C34-R602 automatic control failure**		
	ACRO	Recognizes C34-R602 automatic control fails and places the controller in manual to maintain reactor water level in the normal band of 11.4" to 53.5" or uses the startup level bypass valve N21-F040. ❖ This is indicated by rising reactor water level and the startup level controller output rising.

Give this sheet to the CRS

Turnover the following conditions:

Power	5%
Pressure	950 psig
BOC	
EOOS	GREEN

- A plant startup is in progress with all steps complete up to step 6.2.16.b in 03-1-01-1 (Cold Shutdown to Generator Carrying Minimum Load) and step 1.3.17 of Attachment 1 in 03-1-01-1 and step 163A of the cycle 18 BOC rod sequence movement sheet.

Planned Evolutions this shift:

- The Crew will pull control rods to complete step 163B of the rod sequence movement sheet and then place the Mode Switch in RUN. (Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1.b will not be provided for this scenario)
- When the Mode Switch is in RUN, the CRO will start a second Condensate Booster Pump prior to continuing with the Turbine Startup Procedure.

Facility: Grand Gulf Nuclear Station Scenario No.: 4 Op-Test No.: 12/11

Examiners: _____ Operators: _____

_____ _____

_____ _____

Objectives: To evaluate the candidates' ability to operate the facility in response to the following evolutions:

1. Place Suppression Pool Cooling in service.
2. Lower main generator output to 1280 MWe with +100 MVAR.
3. Trip of the 16BB3 electric bus.
4. Control Rod drift.
5. Unisolable LOCA with limited injection capabilities.
6. Division 3 Diesel Generator failure to start.
7. Division 2 Diesel Generator running without cooling water.
8. Loss of power to E22-F004 HPCS injection valve.

Initial Conditions: Operating at 100% power.

Inoperable Equipment: None

Turnover:

A plant is operating at rated power. Suppression Pool temperature is elevated due to a weeping SRV. The Crew will start Suppression Pool Cooling on RHR B using the 04-1-01-E12-1 RHR system SOI. When Suppression Pool Cooling is in service, the Crew will lower generator output to 1280 MWe with +100 MVAR.

Scenario Notes:

This is a new scenario.

Validation Time: Not Validated

Event No.	Malf. No.	Event Type †	Event Description
1		N (BOP) TS (CRS)	Place Suppression Pool Cooling in Service (SOI 04-1-01-E12-1 section 5.2, TS 3.5.1 Condition A)
2		R (ACRO) N (BOP / ACRO)	Lower main generator output to 1280 MWe with +100 MVAR (IOI 03-1-01-2 Attachment VIII, 04-1-01-N40-1 section 4.4)
3	r21142z	TS (CRS) A (CREW)	Trip of the 16BB3 electric bus (TS 3.6.1.3 Condition A, TS 3.5.1 Condition C, TS 3.6.4.3 Condition A, TS 3.6.3.2 Condition A)
4	z161161_24_33 z022022_24_33 z021021_28_33	R (ACRO) M (CREW)	Control Rod Drift (Control Rod/Drive Malfunctions (05-1-02-IV-1) ONEP)
5	rr063a r21139e xml1r21191 xml1r21192 e12050c	M (Crew)	Unisolable LOCA with limited injection capabilities (Scram (05-1-02-I-1) and Turbine Trip (05-1-02-I-2) ONEPs, EP-2, EP-3) * **The crew injects HPCS to the reactor before reactor water level lowers to -191".**
6	n41140c	C (BOP)	Division 3 Diesel Generator failure to start (Loss of AC Power (05-1-02-I-4) ONEP) * **When Division 3 Diesel Generator fails to start, the crew re-energizes the 17AC bus with an alternate feeder (ESF 12). HPCS is the only recoverable system and power to this bus is required to run the HPCS pump.**

7	p41f018b_i	C (BOP)	Division 2 Diesel Generator running without cooling water (02-S-01-27 Ops Philosophy section 6.1.1.c)
8	e22159a	C (ACRO)	Loss of power to E22-F004 HPCS injection valve (02-S-01-27 Ops Philosophy section 6.1.1.d) * **When E22-F004 loses power, the crew sends an operator to manually open the valve. HPCS is the only recoverable system and this valve must be manually opened in order to allow injection to the reactor. Criteria is that this valve is opened prior to reactor water level reaching -191".**

† (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (A)bnormal (TS) Tech Spec

* **Critical Task** (As defined in NUREG 1021 Appendix D)

Quantitative Attributes Table

Normal Events	2	Abnormal Events	1
Reactivity Manipulations	2	Total Malfunctions	6
Instrument/Component Failures	3	EP Entries (Requiring substantive action)	1
Major Transients	2	EP Contingencies	1
Tech Spec Calls	2	Critical Tasks	3

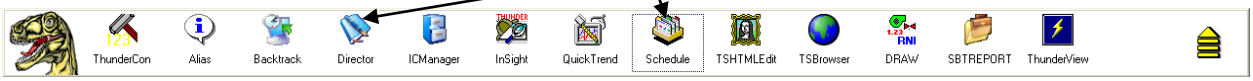
Simulator Setup:

A. Initialization

1. Startup the simulator using Simulator Instructor's Job Aid section 6.3.

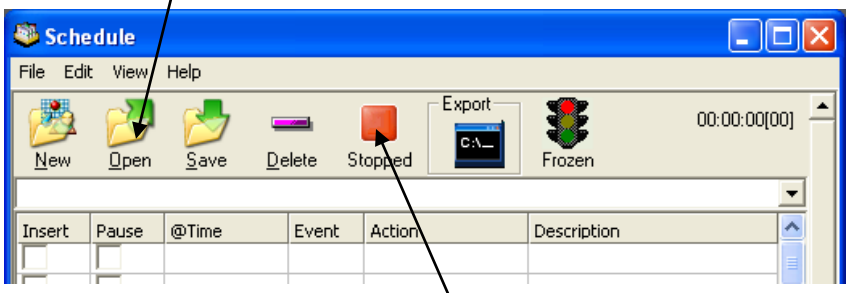
> *Note:*
> ***Prior to running the Schedule File, ensure no Event Files are Open.*** *If an existing Event File is Open prior to running the Schedule File, then any associated Event Files will not automatically load.*

2. Open Schedule.exe and Director.exe by clicking on the Icon in the Thunder Bar.



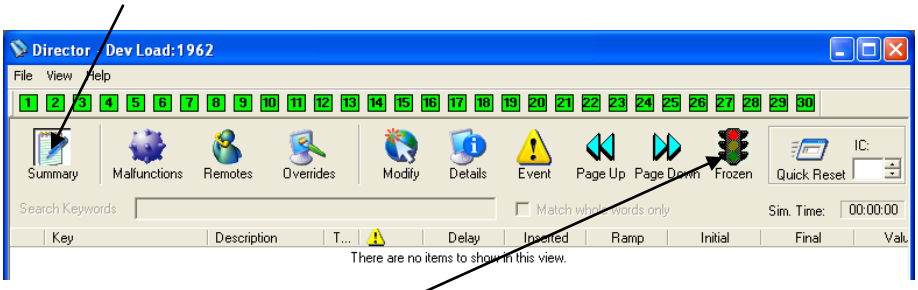
3. Set the Simulator to IC-31 and perform switch check (Using Quick Reset in Director).

4. Click on "**Open**" in the Schedule window and Open Schedule File "**2011 NRC Scenario 4.sch**" (in the Schedule Directory)



5. In Schedule window, click on the **"Stopped**" red block. The red block will change to a green arrow and indicate the scenario is active ("**Running**").

6. Click the Summary tab in the Director window. Verify the schedule files are loaded and opened per Section B below. (Note: Any actions in the schedule file without a specific time will not load into the director until triggered.)



7. Take the simulator out of freeze.

8. Clear any graphs and trends off of SPDS.

9. Ensure the correct rod movement sequence available at the P680.

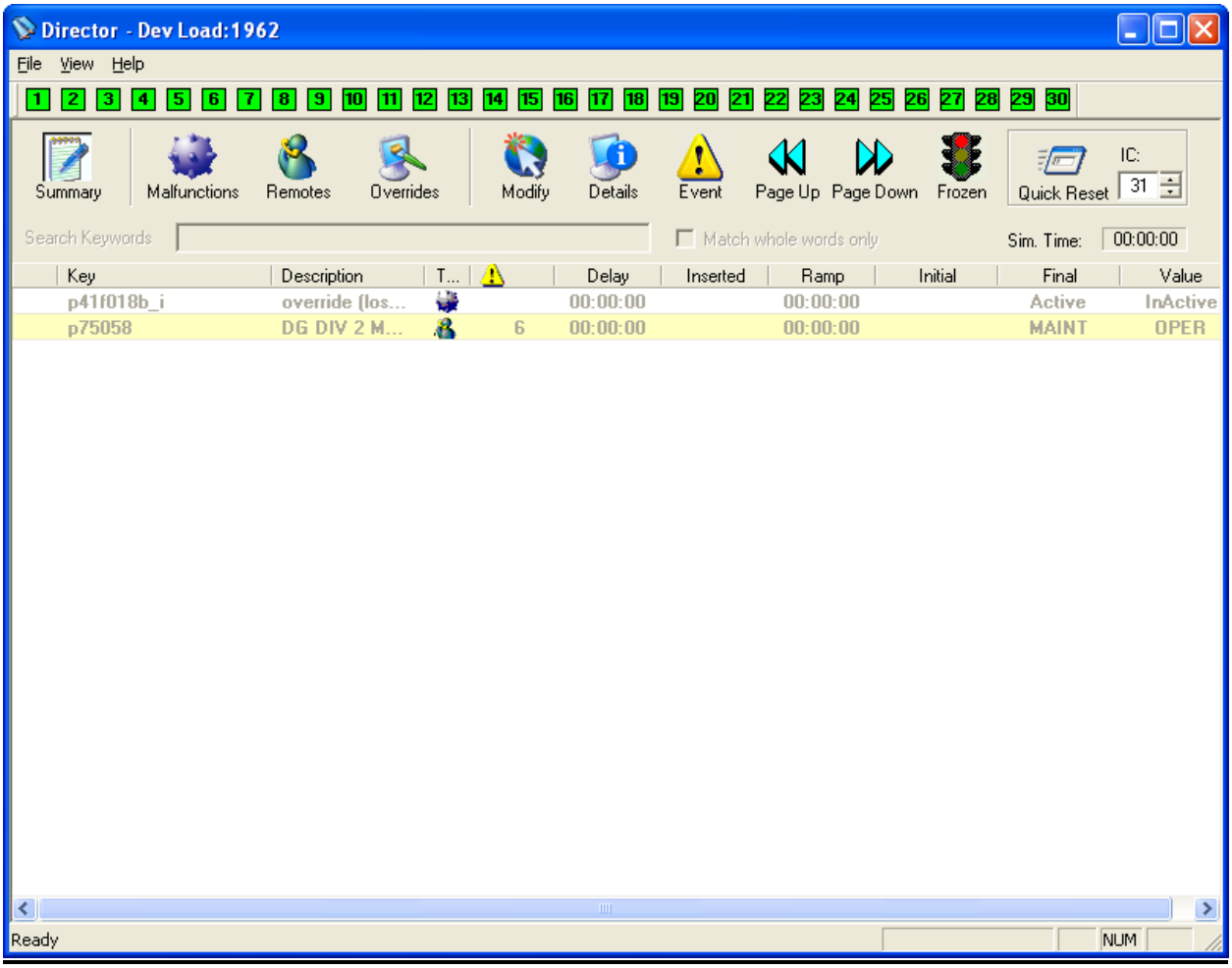
10. Advance all chart recorders and ensure all pens inking properly.

11. Verify or perform the following:
    - IC-31
    - APRM's are turned on (4,1,2,3)
    - Suppression Pool Temperature is 85.6F
    - Startup SSW B normally

12. Run through any alarms and ensure alarms are on. **(Note: On T-Rex, to verify alarms are ON, the indicator will indicate "Alarms On").**

13. Place the simulator in Freeze.

B. File loaded verification:


Director - Dev Load:1962
File View Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Summary
Malfunctions
Remotes
Overrides
Modify
Details
Event
Page Up
Page Down
Frozen
Quick Reset
IC:
31
Search Keywords
Match whole words only
Sim. Time:
00:00:00
Key
Description
T...
Delay
Inserted
Ramp
Initial
Final
Value
p41f018b_i
override (los...
00:00:00
00:00:00
Active
InActive
p75058
DG DIV 2 M...
6
00:00:00
00:00:00
MAINT
OPER
Ready
NUM

Crew Turnover:

A. Assign the candidates crew positions.

B. Turnover the following conditions:

Power	100%
Pressure	1030 psig
BOC	
EOOS	GREEN

- SSW B is in service.
- Suppression Pool temperature is elevated because of a weeping SRV.
- The Load Dispatcher has requested a temporary down power and MVAR adjustment.

Planned Evolutions this shift:

- The Crew will place Suppression Pool Cooling in service on RHR B.
- The Crew will adjust generator loading to 1280 MWe with +100 MVAR. All notifications have been made. Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1 will not be provided for this scenario.

C. Allow the crew to perform pre-shift brief and review procedures for planned evolutions.

D. Bring the crew into the Simulator, place the simulator is in RUN.

E. Allow the crew to walk down panels.

F. When the crew assumes the shift begin Scenario Activities.

SCENARIO ACTIVITIES:

Place Suppression Pool Cooling in service on RHR B

A. The crew will place Suppression Pool Cooling in service on RHR B using 04-1-01-E12-1.
   1. If asked to perform pre-start pump checks, wait 2 minutes and report back to the Control Room that pre-start pump checks are complete.
   2. No actions outside the Control Room are required for this evolution.

Lower Main Generator Output

B. The Crew will lower generator output to 1280 MWe with +100 MVARs.
   1. No actions outside the Control Room are required for this evolution.

Trip of the 16BB3 electric bus

C. When generator output has been adjusted to 1280 MWe and +100MVARs, trigger **Event 1** to insert malfunction r21142z. This will cause 16BB3 to trip on over current.
   1. When directed by the Control Room to investigate breaker 52-16301, wait 2 minutes and report that the breaker has tripped on over current.
   2. When enters TS 3.6.1.3 Condition A, TS 3.5.1 Condition C, and TS 3.6.4.3 Condition A, trigger **Event 2** to insert malfunction z161161_24_33. This will cause control rod 24-33 to drift out.

Control Rod Drift

D. The CRS will enter the Control Rod/Drive Malfunctions ONEP
   1. When control rod 24-33 FH is inserted below position 8 it will become stuck (Auto trigger 3) and core flow will be lowered to 67 mlbm/hr.
   2. If sent as the Aux Building Operator to isolate rod 24-33 FH by closing the 103 and 105 valve, wait 45 seconds and report that rod 24-33 FH is isolated.
   3. Four minutes later, control rod 28-33 GH will begin to drift inward (Auto trigger 3). The ACRO will scram the reactor.

Unisolable LOCA with limited injection capabilities

E. When the reactor is scramed, Auto trigger 4 will cause the following to occur:

1. Electric bus 15AA will trip on over current.
   a. This bus is not recoverable. When the control room sends an operator and/or an electrician to investigate, report back after 3 minutes that the bus is damaged.
   b. If directed to place the Division 1 diesel in Maintenance Mode, coordinate with the control room and trigger **Event 7** when directed to place in maintenance mode.
2. Division 3 Diesel Generator will fail to start.
3. The 500KV switchyard will be lost.
4. RHR C pump will trip.
   a. This pump is not recoverable. When the control room sends an operator and/or an electrician to investigate breaker 152-1609, wait 3 minutes and report the beaker is tripped on thermal device.
   b. If sent to the pump, report that it is very hot and that the motor casing is discolored.
5. P41-F018B (SSW to Div 2 DG) will lose power on stroke.
   a. When directed by the control room to place division 2 diesel in MAINT, coordinate with the control room and trigger **Event 6** to place the diesel in MAINT.
6. E22-F004 (HPCS injection valve) will lose power on stroke. This valve CAN be manually opened if an operator is sent to open it.
   a. When the control room sends an operator to open this valve, wait until RPV water level is -100" wide range, then trigger **Event 5** to manually open E22-F004. Do <u>not</u> report the opening of E22-F004 to the Control Room.

F. Insert EP Attachments as requested by the Control Room.

<u>Termination:</u>

G. When reactor water level is stabilized in the -30 to 30" level band using HPCS, or as directed by Lead Evaluator, take the simulator to Freeze and turn horns off.

<u>Critical Tasks:</u>

- When Division 3 Diesel Generator fails to start, the crew re-energizes the 17AC bus with an alternate feeder (ESF 12). HPCS is the only recoverable system and power to this bus is required to run the HPCS pump.
- The crew injects HPCS to the reactor before reactor water level lowers to -191".
- When E22-F004 loses power, the crew sends an operator to manually open the valve. HPCS is the only recoverable system and this valve must be manually opened in order to allow injection to the reactor. Criteria is that this valve is opened prior to reactor water level reaching -191".

Emergency Classification:

SA1 Alert

Op-Test No: 12/11 Scenario No: 4 Event No: 1

Event Description: **Place Suppression Pool Cooling in Service**

TIME	Position	Applicant's Actions or Behavior
	CRS	Directs the BOP operator to place Suppression Pool Cooling "B" in service per SOI 04-1-01-E12-1 section 5.2.2.b.
	BOP	Place Suppression Pool Cooling "B" in service using SOI 04-1-01-E12-1 section 5.2.2.b as follows: • Place the RHR B MOV TEST switch to TEST • Start RHR RM B FAN COIL UNIT on P870 • Check open E12-F003B on P601 • Start RHR B Pump • Open E12-F024B (This step INOPs RHR B, TS 3.5.1) • Inform the CRS of the time RHR B is INOP • Close E12-F048B (optional, this is to maximize cooling)
	CRS	When E12-F024B is opened, Enter TS 3.5.1 Condition A.

Op-Test No: 12/11 Scenario No: 4 Event No: 2

Event Description: **Lower Main Generator Output**

TIME	Position	Applicant's Actions or Behavior
	CRS	Conducts reactivity brief for the planned power change. (May be performed prior to taking the shift) Directs the ACRO to lower power and the BOP to adjust load demand per IOI-2 attachment VIII.
	ACRO	Lowers generator output by closing the Recirc FCVs A & B using loop flow controllers B33K603A & B in slow detent on P680-3B until generator output is 1280 MWe (IOI-2 attachment VIII step 12.3).
	BOP	Lowers Load Demand as generator output is lowered by depressing EHC LOAD REF DEMAND LOWER pushbutton (P680-9C) to maintain generator actual load within +/- 25 MW of the load demand limited (IOI-2 attachment VIII step 12.2).
	CRS	Directs the ACRO to raise reactive load per SOI 04-1-01-N40-1 section 4.4.2.
	ACRO	Adjust generator reactive load using the TVR CONT RAISE and LOWER pushbuttons on P680-9C as required to achieve +100 MVAR (SOI 04-1-01-N40-1 section 4.4.2)

Op-Test No: 12/11 Scenario No: 4 Event No: 3

Event Description: **Trip of the 16BB3 electric bus**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognize and report that 16BB3 is de-energized and that breaker 52-16301 is tripped. ❖ As indicated by annunciator P864-2A-E-3, 480V LCC 16BB3 UNDERVOLT. ❖ Various Division 2 components will be de-energized including: o E12-F028B, E12-F042B, and E12-F053B o SLC Pump B o CCW Pump B o Div 2 D/G Aux LO Pump (not required for operability) o SBGT Enclosure Building Recirc Fan o The entire load list is in 04-1-01-R21-16, ESF Bus 16AB SOI, Attachment 1 pages 15-17. Determine and report what equipment is without power (directed by the alarm response instruction for 16BB3).
	CRS	Directs the BOP to evaluate Control Room panels to determine what equipment is affected the loss of 16BB3 (this is directed by the alarm response instruction for the loss of 16BB3). Directs local operator to determine the cause for the breaker trip. Uses SOI 04-1-01-R21-16 to determine what equipment is affected by the loss of 16BB3. Enters the following Tech Specs (due to the completion time constraints and expected plant response organization to this event, only the bolded TS is required for credit in this case): • **TS 3.6.1.3 Condition A (4 hr)** • TS 3.6.5.3 Condition A (8 hr) • TS 3.8.7 Condition A (8 hr) • TS 3.1.7 Condition B (7 day) • TS 3.6.4.3 Condition A (7 day) • TS 3.6.3.2 Condition A (30 day) • TS 3.5.1 Condition A (previously entered)

Op-Test No: 12/11 Scenario No: 4 Event No: 4

Event Description: **Control Rod Drift**

TIME	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports that Control Rod 24-33 FH is drifting out. ❖ As indicated by annunciator P680-4A2-E-4, CONT ROD DRIFT. ❖ The operator will depress the ROD DRIFT RC&IS push button to determine which rod is drifting. The operator will then select that control rod for display on the full core display and determine the direction of the rod drift. (This action is described in the ARI for the above annunciator) Applies a continuous insert signal for control rod 24-33 FH per the Control Rod/Drive Malfunctions ONEP immediate operator actions.
	CRS	Enters the Control Rod/Drive Malfunctions ONEP. Ensures all immediate operator actions are carried out.
	ACRO	When Control Rod 24-33 FH becomes stuck, reduces reactor core flow to 67 mlbm/hr per the Control Rod/Drive Malfunctions ONEP immediate operator actions. Reset the rod drift annunciator by depressing the rod drift reset pushbutton on RC&IS (This action is described in the ARI for the CONT ROD DRIFT annunciator and is required in order to detect a second rod drift)
	ACRO / BOP	Plot reactor power and flow on the power to flow map after the reduction in Recirc Flow and determine entry into the Monitored Region. Set THI watch with concurrent duties. Report entry into the Monitored Region of the power to flow map to the CRS.
	CRS	Enter the Reduction in Recirc Flow ONEP. Direct the ACRO to monitor for THI (set THI watch with concurrent duties).
	ACRO	Recognize and report that a second control rod, 28-33GH, is drifting inward. ❖ This is indicated the same as the original rod drift
	CRS	Directs the ACRO to insert a manual scram (per CRD malfunctions ONEP subsequent actions). Enter Scram and Turbine Trip ONEPs.

Op-Test No: 12/11	Scenario No: 4	Event No: 4 Cont.
Event Description: **Control Rod Drift**		
		When directed, inserts a manual scram by placing the Mode Switch to SHUTDOWN. Provides a scram report: • Reactor Mode SW in SHUTDOWN. • Reactor power is 0%. • Reactor water level and trend. • Reactor pressure and trend. • Feedwater is available until the main turbine trips (this is when ST-11 goes away and both RFPT's lose lube oil and trip). • Bypass valves are not available.
	BOP / ACRO	Initiate HPCS and RCIC in anticipation of a loss of feedwater (this is part of the crew's responsibility to maintain reactor water level within the desired band and is primarily the responsibility of the ACRO).

Op-Test No: 12/11 Scenario No: 4 Event No: 5

Event Description: **Unisolable LOCA with limited injection capabilities**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognize and report 15AA bus lockout as indicated by the 4.16KV BUSS 15AA TRIP annunciator and no power to the bus. The BOP should attempt to energize the bus using the ESF 12 feeder breaker.
	CRS	Enter EP-2 and EP-3 Direct actions of EP-2: • Verify isolations for Reactor Level 2 and Drywell Pressure 1.39 psig. • Enter the Alternate Level Control procedure of EP-2. • Establish a pressure band of 800 -1060 psig. • Establish a level band of +30 to -30 in. • Inhibit ADS • Maximize CRD for flow.
	ACRO	When directed, maximize CRD for flow (only CRD B pump is available). • Re-energize 16B42 on P864 • Start the CRD B Aux Oil Pump • Start the CRD B Pump • Although there are other actions per the procedure, only these listed will accomplish anything. Update the CRS with reactor water level as it continues to lower.
	BOP	When directed, Inhibit ADS by placing both ADS inhibit switches to INHIBIT. Dispatch operators to recover out of service water injection sources. Evaluate and deliver ECCS Status Report to the CRS (hard card).
	ACRO	When E22-F004 HPCS injection valve is manually opened, control reactor water level in the established level band by starting and stopping the HPCS pump as required. ***The crew injects HPCS to the reactor before reactor water level lowers to -191".**

Op-Test No: 12/11 Scenario No: 4 Event No: 6

Event Description: **Division 3 Diesel Generator failure to start**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes that electric bus 17AC is de-energized (HPCS diesel has failed to start and take the bus) and shuts the feeder breaker from ESF 12 transformer to re-energize the 17AC bus. ***When Division 3 Diesel Generator fails to start, the crew re-energizes the 17AC bus with an alternate feeder (ESF 12). HPCS is the only recoverable system and power to this bus is required to run the HPCS pump.** ❖ This is indicated by many indications, but primarily the following annunciators ▪ P601-16A-H-3, HPCS SYS OOSVC ▪ P601-16A-H-1, HPCS SYS NOT READY FOR AUTO START ▪ P601-16A-D-3, HPCS DSL ENG TROUBLE ▪ P601-16A-F-2, HPCS SYS UNDERVOLT ❖ Many indicating lights will be de-energized on the P601-16 section of the P601. Report the status of Division 3 Diesel Generator and 17AC to the CRS.

Op-Test No: 12/11 Scenario No: 4 Event No: 7

Event Description: **Division 2 Diesel Generator running without cooling water**

TIME	Position	Applicant's Actions or Behavior
	BOP	Recognizes that Division 2 Diesel Generator is running without cooling water and places the Division 2 Diesel Generator in Maintenance Mode. ❖ As indicated by P41-F018B being de-energized and a lack of annunciator P870-7A-A-2, SSW DIV 2 OPER (this annunciator is expected when SSW auto initiates and all valves have repositioned to their required position). Re-energizes electrical bus 16AB using ESF 12 feeder breaker. Report the status of Division 2 Diesel Generator and 16AB to the CRS.

Op-Test No: 12/11 Scenario No: 4 Event No: 8

Event Description: **Loss of power to E22-F004 HPCS injection valve**

TIME	Position	Applicant's Actions or Behavior
	Crew	Ensure an operator is sent to manually open E22-F004. ***When E22-F004 loses power, the crew sends an operator to manually open the valve. HPCS is the only recoverable system and this valve must be manually opened in order to allow injection to the reactor. Criteria is that this valve is opened prior to reactor water level reaching -191".** Ensure an operator is sent to restore electrical power to E22-F004.

Give this sheet to the CRS

Turnover the following conditions:

Power	100%
Pressure	1030 psig
BOC	
EOOS	GREEN

- SSW B is in service.
- Suppression Pool temperature is elevated because of a weeping SRV.
- The Load Dispatcher has requested a temporary down power and MVAR adjustment.

Planned Evolutions this shift:

- The Crew will place Suppression Pool Cooling in service on RHR B.
- The Crew will adjust generator loading to 1280 MWe with +100 MVAR. All notifications have been made. Note that an independent Reactivity Management SRO per Operations Philosophy 6.8.1 will not be provided for this scenario.