Facility: **Grand Gulf Nuclear Station**		Date of Examination: **2 March 2009**
Examination Level (circle one) **RO** / SRO		Operating Test Number:
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N	Perform Daily Operations Log Surveillance for SLC Operability. GJPM-OPS-ADM04 K/A 2.1.25: 2.8
Conduct of Operations		N/A
Equipment Control	N	Prepare a Tagout Tags Sheet for a Protective Tag out Clearance. GJPM-OPS-ADM01 K/A 2.2.13: 3.6
Radiation Control	M	Identify Entry/Exit Requirements for accessing a High Radiation Area / Contamination Area. GJPM-OPS-RP01 K/A 2.3.1: 2.6; 2.3.4: 2.5
Emergency Procedures/Plan	N	Loss of Shutdown Cooling - Determine time to 200°F GJPM-OPS-ADM03 K/A 2.4.11 3.4

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

* Type Codes & Criteria:

(C) ontrol Room
(D) irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes
(N) ew or (M) odified from bank (≥ 1)
(P) revious 2 exams (≤ 1; randomly selected)
(S) imulator

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-RP01
Revision: 0
Page: 1 of 11
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

ADMINISTRATIVE JPM
RWP Review

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: NA

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

RWP Review

Setting:	Classroom
Type:	RO
Task:	Determine requirements for entry into a High Radiation Area / Contamination Area
K&A:	Generic 2.3.1 – 2.6/3.0; 2.3.4 – 2.5/3.1
Safety Function:	Determination of health physics requirements for space entry (ADHR Pump Room) [10CFR55.45a (9)]
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	EN-RP-100 (Revision 3), EN-RP-105 (Revision 4)
Handout(s):	Copy of the RWP for access to the area
# Manipulations:	N/A
# Critical Steps:	1
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):

- The reactor is operating at 100% power. An inspection of the ADHR Heat Exchanger is needed.
- You have **no** open wounds.
- A copy of the RWP for access to the area is provided.

Initiating Cue(s):

- Determine the health physics requirements for access to the area.

RWP Review

Notes:

1. None

Task Overview:

Determination of health physics requirements for space entry.

RWP Review

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

☐ REFERS to procedure EN-RP-100, Section 3.0 and 5.3 for requirements: entry into a High Radiation Area and a Contamination Area.

Standard: The operator refers to the appropriate sections of the needed procedure.
Cue:
Notes: _____

_____

☐* *DETERMINES the following requirements are needed for entry into a High Radiation Area (Step [17], Section 5.3, Procedure EN-RP-100).*

1) Be briefed and sign in RWP# 20XX-1005.
2) Wear a DLR and a self-reading dosimeter (SRD).
3) Be provided with or accompanied by one or more of the following or similar as specified in site technical specifications:

   - A radiation monitoring device which continuously indicates the radiation dose rate in the area; **OR**
   - A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them; **OR**
   - An individual qualified in Radiation Protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the RP supervision in the Radiation Work Permit

4) Ensure that after entering/exiting the High Radiation Area (HRA), the HRA barricade and posting are in place.

Standard: The operator identifies all of the entry requirements.

Cue:

Notes: _____

_____

☐* *DETERMINES the following requirements are needed for entry into a Contamination Area (Step [21], Section 5.3, Procedure EN-RP-100).*

1) Wear a DLR and a SRD.
2) Sign on RWP# 20XX-1005.
3) Use Single PCs.
4) Exit at the location of the step-off pad.
5) Remove all protective clothing prior to exiting a contaminated area.
6) Perform, as a minimum, a hand-and-foot frisk, as soon as practicable upon exiting the contamination area.
7) Perform a whole body frisk using a whole body contamination monitor or a frisker before personnel don any clothing not worn in a contaminated area.

Standard: The operator documents 6 of the 7 entry requirements.

Cue:

Notes: _____

_____

Task Standard(s):
Determine the health physics entry requirements for the area based on the RWP IAW EN-RP-100.

Name: _____Time Start: _____ Time Stop: _____

RWP Review

Follow-Up Questions & Answers:

Comments:

RWP Review

Give this page to the student

Initial Condition(s):

- The reactor is operating at 100% power. An inspection of the ADHR Heat Exchanger is needed.
- You have **no** open wounds.
- A copy of the RWP for access to the area is provided.

Initiating Cue(s):

- Determine the health physics requirements for access to the area.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-ADM03
Revision: 0
Page: 1 of 7
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

Loss of Shutdown Cooling, Time to 200°F Determination JPM

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: NA

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review++: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
+Discipline Training Supervisor Date

Approval Date:* _____

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

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Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Loss of Shutdown Cooling, Time to 200°F

Setting:	Classroom
Type:	RO
Task:	Interpret Time to 200°F Curves from Inadequate Decay Heat Removal ONEP, 05-1-02-III-1
K&A:	205000 A1.06- 3.7/3.7; A2.05- 3.5/3.7; Generic 2.4.11- 3.4/3.6
Safety Function:	Estimation of time to reach 200°F following loss of shutdown cooling [10CFR55.45a (7)]
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	05-1-02-III-1, Section 3.3 and Attachment I
Handout(s):	None
# Manipulations:	N/A
# Critical Steps:	1
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):
The reactor was in Mode 4 with the following conditions:

- Reactor coolant temperature is 120°F.
- Reactor vessel coolant level is 24 inches below the vessel flange.
- RHR A is lined up and providing shutdown cooling.
- The reactor has been refueled recently, and the reactor vessel head has been retensioned following this.
- The mode of the reactor was changed to Mode 3 fifty days ago.
- The recirculation pumps are secured.
- A large leak at RHR System valve F008 is reported.
- Neither RHR nor ADHRS is available due to the situation.
- RWCU is available.

Initiating Cue(s):

- Determine the time available before reactor coolant temperature reaches 200°F.

Loss of Shutdown Cooling Time to 200°F

Notes:

1. None

Task Overview:

Estimate time to reach 200°F following loss of shutdown cooling.

Loss of Shutdown Cooling Time to 200°F

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

☐* *DETERMINES that the approximate time to boil is 3.8-4 hours.*

Standard: The operator determines using procedure 05-1-02-III-1 Attachment I, Figure 3 that there are about 3.8-4 hours to 200°F .

Cue: End of task.

Notes: _____

_____

Task Standard(s):
Determine the time to 200°F in the reactor following the loss of shutdown cooling IAW 05-1-02-III-1.

Name: _____ Time Start: _____ Time Stop: _____

Loss of Shutdown Cooling Time to 200°F

Follow-Up Questions & Answers:

Comments:

Loss of Shutdown Cooling Time to 200°F

Give this page to the student

Initial Condition(s):
The reactor was in Mode 4 with the following conditions:

- Reactor coolant temperature is 120°F
- Reactor vessel coolant level is 24 inches below the vessel flange
- RHR A is lined up and providing shutdown cooling.
- The reactor has been refueled recently, and the reactor vessel head has been retensioned following this.
- The mode of the reactor was changed to Mode 3 fifty days ago
- The recirculation pumps are secured.
- A large leak at RHR System valve F008 is reported.
- Neither RHR nor ADHRS is available due to the situation.
- RWCU is available

Initiating Cue(s):

- Determine the time available before reactor coolant temperature reaches 200°F.

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

ADMINISTRATIVE JPM
Daily Operations Log Surveillance for SLC Operability Requirements

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: N/A

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review[++]**:** _____
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FLEET/REGIONAL PROGRAM CONCURRENCE:
☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

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Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Daily Operations Log Surveillance for SLC Operability Requirements

Setting:	Classroom
Type:	RO
Task:	Determine SLC Boron Solution Operability Requirements
K&A:	211000 Generic 2.1.25 - 2.8/3.1; 2.2.12 – 3.0/3.4
Safety Function:	Determine operability of SLC system [10CFR55.45a (4), (13)]
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	06-OP-1000-D-0001, Daily Operations Log
Handout(s):	06-OP-1000-D-0001, Daily Operations Log, Att. I, Data Sheet I (partial for items 38,39,40)
# Manipulations:	N/A
# Critical Steps:	4
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):
The plant is operating in Mode 1, 100% power, at 0830 on March 1.

Initiating Cue(s):
Plant Chemistry has just completed sampling and analysis of the SLC Tank contents. You have been directed to complete Daily Operations Log surveillance, 06-OP-1000-D-0001 for SLC operability requirements with the information provided. Annotate any notifications that need to be made based on the results.

To support this, the following information is provided:

- Air sparging of the SLC tank started at 0730 on March 1, and was completed at 0754 on March 1.
- The Operations staff has been notified that the sample is complete.
- Control Room Instrument 1C41R601 on 1H13-P601 reads 4825 gallons.
- Local instrument 1C41R001 on 1H22-P011 reads 4700 gallons.
- Local Transmitter 1C41-TIC-R002 indicates 90^0F after the sparging evolution.
- The M&TE pyrometer used to obtain all hand held temperature readings was a Fluke model 51K, Instrument number 12345, with a calibration due date of 1 MAY 2009.
- SLC Tank temperature obtained with the hand held pyrometer was 78°F.
- SLC piping temperatures obtained with the hand held pyrometer were:
  Point A = 78°F, Point B = 80°F, Point C = 78°F, Point D = 81°F
- No level alarms are in for the SLC tank.
- SLC tank boron concentration was determined to be 13.8% by Plant Chemistry.

Task: Daily Operations Log Surveillance for SLC Operability Requirements

Notes:

1. None

Task Overview:

Complete the Daily Operations Log surveillance 06-OP-1000-D-0001 for SLC operability requirements with the information provided. Annotate any notifications that need to be made based on the results.

Task: **Daily Operations Log Surveillance for SLC Operability Requirements**

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

☐* *COMPLETE item 38 of Attachment I, Data Sheet I of procedure 06-OP-1000-D-0001 (Revision 125). The operator determines SLC Tank temperature versus boron concentration meets the Technical Specification requirement.*

Standard: The operator determines SLC Tank temperature versus boron concentration is in the "Normal Operation" region of TS Figure 3.1.7-2, given in the step.

Cue:

Notes: _____

_____

☐* *COMPLETE item 39 of Attachment I, Data Sheet I of procedure 06-OP-1000-D-0001 (Revision 125) using the level indication from 1C41-R001 on 1H22-P011. The operator determines SLC Tank boron concentration versus volume indicated by the required instrument, 1C41R001 on 1H22-P011, does NOT meet the Technical Specification requirement.*

Standard: The operator determines SLC Tank temperature versus boron concentration is in the "Unacceptable Operation" region of TS Figure 3.1.7-1, given in the step. (Even though the SLC Tank level indicator in the control room, 1C41-R601, yields an acceptable reading, it may not be used to satisfy the surveillance requirement without engineering justification.)

Cue:

Notes: _____

_____

☐* *COMPLETE item 40 of Attachment I, Data Sheet I of procedure 06-OP-1000-D-0001 (Revision 125). The operator determines SLC Piping temperatures versus boron concentration meets the Technical Specification requirement.*

Standard: The operator determines SLC Piping temperatures versus boron concentration is in the "Normal Operation" region of TS Figure 3.1.7-2, given in the step.

Cue: None

Notes: _____

_____

☐* *Immediately informs the Shift Supervisor item 39 is unacceptable.*

Standard: The operator informs the Shift Supervisor Tech Spec acceptance criteria is not met for item 39.

Cue: None

Notes: _____

_____

☐ Complete surveillance data package cover sheet.

Standard: The operator checks *Partial procedure completed*, *TechSpec Acceptance Criteria Unacceptable*, and *All other steps acceptable* and signs and dates *Test performed by* on the data package cover sheet.

Cue: End of JPM

Notes: _____

_____

Task Standard(s):
Complete the Daily Operations Log surveillance 06-OP-1000-D-0001 for SLC operability requirements.

Name: _____ Time Start: _____ Time Stop: _____

Task: **Daily Operations Log Surveillance for SLC Operability Requirements**

Follow-Up Questions & Answers:

Comments:

Daily Operations Log Surveillance for SLC Operability Requirements

Give this page to the student

Initial Condition(s):
The plant is operating in Mode 1, 100% power, at 0830 on June 1.

Initiating Cue(s):
Plant Chemistry has just completed sampling and analysis of the SLC Tank contents. You have been directed to complete Daily Operations Log surveillance, 06-OP-1000-D-0001 for SLC operability requirements with the information provided. Annotate any notifications that need to be made based on the results.

To support this, the following information is provided:

- Air sparging of the SLC tank was completed at 0754 on March 1.
- The Operations staff has been notified that the sample is complete.
- Local instrument 1C41R001 on 1H22-P011 reads 4700 gallons.
- Control Room Instrument 1C41R601 on 1H13-P601 reads 4825 gallons.
- Local Transmitter 1C41-TIC-R002 indicates 90^0F after the sparging evolution.
- The M&TE pyrometer used to obtain all hand held temperature readings was a Fluke model 51K, Instrument number 12345, with a calibration due date of 1 MAY 2009.
- SLC Tank temperature obtained with the hand held pyrometer was 78°F.
- SLC piping temperatures obtained with the hand held pyrometer were:
  Point A = 78°F, Point B = 80°F, Point C = 78°F, Point D = 81°F
- No level alarms are in for the SLC tank.
- SLC tank boron concentration was determined to be 13.8% by Plant Chemistry.

1.0 PURPOSE

1.1 To provide a method of completing surveillance requirements as required by Technical Specifications (Tech Spec), Technical Requirements Manual (TRM), or Offsite Dose Calculation Manual (ODCM) that are daily or more frequent in nature.

1.2 Changes required for implementation of 1994 TSIP were incorporated in Revision 100. For historical reference this statement should not be deleted.

2.0 PRECAUTIONS AND LIMITATIONS

2.1 A channel check shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

2.2 All panel numbers are prefixed by 1H13 unless otherwise designated.

2.3 The “Tech Spec” column on the data sheets is used to list not just Tech Spec surveillance requirements but is also used to list all surveillance requirements from other source documents such as TRM, ODCM, or other source documents.

3.0 REQUIRED MATERIAL AND TEST EQUIPMENT

3.1 Hand-held temperature measuring device (Fluke 51K or equivalent instrument with minimum ± 2.5 deg. F accuracy to meet TS SR 3.1.7.2 and SR 3.1.7.3)

3.2 Fluke 8600A or Fluke 45 (Attachment IV only)

4.0 PREREQUISITES AND PLANT CONDITIONS

4.1 This procedure will be performed in all Plant modes. Each item may indicate the specific Plant mode(s) applicable to that item.

5.0 INSTRUCTIONS

5.1 Each data sheet should be page checked before use. Shift Supervisor should sign Section 2.2 to ensure that the page check has been completed and all pages are included and Operations Tech Spec/TRM/ODCM required actions data entered on applicable data sheet for actions other than hourly or continuous fire watch.

5.2 Obtain Shift Supervisor's permission to perform this procedure. Performer to record Test Start Time on Data Package Cover Sheet.

5.3 Each shift will initiate the logs to be performed during that shift by filling in the brought forward readings from the previous shift.

NOTE

The Daily Operating Log consists of:

Attachment I	All Mode 1, 2, 3 requirements
Attachment II	All Mode 4 requirements
Attachment III	All Mode 5 requirements
Attachment IV	Steam Tunnel Temperatures (Backup Method)
Attachment V	Mode 3 Early Drain down of UCP

Attachments I, II and III contain three data sheets:

Data Sheet I	Mid-Shift	24-hr and 4-hr requirements
Data Sheet II	Day Shift	12-hr and 4-hr requirements
Data Sheet III	Evening Shift	12-hr and 4-hr requirements

Attachment IV contains one data sheet:

Data Sheet I	As Required	12-hr requirements for Steam Tunnel Temperatures (Backup Method)

Attachment V contains two data sheets

Data Sheet I	Day Shift	12-hr requirements
Data Sheet II	Evening Shift	12-hr requirements

5.4 Each data sheet lists the due and late times. Applicable readings must be taken between the due and late times to ensure continuity of compliance with Technical Specifications SR 3.0.2.

5.4.1 If it is discovered that an item was not completed by its late time, then the associated component must be declared Inoperable (Inop) per Technical Specification SR 3.0.1. Alternately, Tech Spec SR 3.0.3 may be entered to allow time to perform the Surveillance. Whenever a surveillance requirement exceeds its late date, refer to 01-S-06-5, Reportable Events or Conditions.

5.4.2 Readings should not be taken before due time to maintain proper frequency intervals.

a. An exception may be made while preparing for a plant mode change.

5.4.3 After initial performance of an attachment data sheet outside the due and late times, applicable data sheet must be performed again between the next scheduled due and late times to restore the required schedule.

NOTE

Example of Step 5.4: Evening shift, mode 4, Startup is scheduled to start at 1600. In addition to performing Attachment II, Data Sheet III, the shift performs Attachment I, Data Sheets I and III to meet the mode 1, 2 and 3 surveillance requirements for Startup. Attachment I, Data Sheet I must be re-performed on the next sequential Mid-shift.

When required to perform attachments outside their due and late times to meet surveillance requirements for mode changes, then performance of Data Sheets I and II (or III) of any attachment satisfies all daily surveillance requirements for that mode.

5.5 Each data sheet contains both channel check items and Tech Spec items. Identification of channel checks and Tech Spec items will be indicated in the criteria column.

5.6 A channel check shall consist of at least the following:

5.6.1 If an indicator is available:

a. Compare with indications on similar instruments that perform and monitor the same function. (Comparison criteria will be provided in the channel check criteria block.)

b. Compare indication to existing plant condition.

c. If an indication has no similar instruments to compare with, then compare indication with previous readings. (Comparison criteria will be provided in the channel check criteria block.)

d. Indication should be checked for erratic behavior (spiking, oscillations not indicative of measured parameter, etc.).

5.6.2 Trip units for the same function should be in the same state. (Either all tripped or all reset; an exception could be plant conditions in which the monitored parameter is between trip and reset points.)

5.6.3 Reset any trip unit found in gross fail. Instrument fails channel check only if gross fail cannot be reset.

5.7 If any item fails to meet channel check requirements of Step 5.6, the following actions must be taken:

Deleted: 5

> NOTE
>
> Failure to meet the channel check requirements does not automatically make an instrument Inop, but serves only as the initiation point at which an investigation should begin to determine if there is something wrong with the instrument.

5.7.1 Notify Shift Supervisor immediately.

5.7.2 Shift Supervisor will initiate an immediate investigation to determine cause for not meeting the channel check requirements.

5.7.3 The item will be circled and a note placed in the "Comments" section explaining what form of investigation was performed and its results. (Even if no reason is found for the item not meeting the channel check requirement, a note stating "No Reason Found. Reading Returned to Normal" should be made.)

5.7.4 The investigation shall include at least the following:

a. A check of plant parameters which could cause the suspected indication

b. A determination of instrument operability

5.7.5 If at any time during the investigation an instrument is determined to be Inop, then declare that instrument Inop and take any required Tech Spec action.

5.7.6 If the investigation is continued past shift change, it shall be included in the shift turnover, and a note describing results of the item's investigation placed in the new shift log's "Comments" section.

5.7.7 If two sequential channel checks for an item fail to meet the channel check requirements and the investigation has not revealed the reason by the late time of the second channel check, then initiate a CR on the affected instrument per Reference 6.2 and describe the channel check criteria and that the instrument has failed two successive channel checks.

5.8 All Tech Spec items will have their Acceptance Criteria provided in the Tech Spec Criteria block.

5.9 If any item fails to meet its Tech Spec Acceptance Criteria, the following actions must be taken:

5.9.1 Refer to the referenced Tech Spec for any required action.

5.9.2 Circle the reading and place a note in the "Comments" section to indicate LCO number or why an LCO was not written.

5.9.3 If any area temperature exceeds Tech Spec limits, initiate a CR, in addition to other deficiency documents, to investigate equipment qualification.

5.10 The Mid-shift will route the previous day's logs to the Operations Surveillance Coordinator after recording the brought forward readings.

Deleted: ¶

5.11 If the plant unexpectedly changes modes during a shift before all the surveillances have been completed, note in the "Comments" section why the readings are incomplete and list the applicable attachment data sheet performed for the new mode.

5.12 A licensed operator must review and sign the applicable data sheet each shift.

5.13 If temporary M&TE is required to obtain a reading, such as room temperature, CTMT pool temperature, etc., record M&TE number and Cal Due Date on respective page in "Comments" section.

5.14 Perform Attachment IV when the computer is unavailable to obtain Containment and/or Auxiliary Building Steam Tunnel Temperatures. Once temperature is determined per Attachment IV, then record temperature(s) on applicable data sheets.

5.15 Notify Shift Supervisor upon completion of applicable data sheet. Shift Supervisor's signature is required on Data Package Cover Sheet.

6.0 REFERENCES

6.1 GGNS Technical Specifications

6.2 NMM EN-LI-102, Corrective Action Process

6.3 IPC 90/1324

6.4 MNCR 0298-89

6.5 MNCR 0072-91

6.6 IR 91-01-01 (01-S-06-5 Attachment II Corrective Action)

6.7 QDR 0203-92

6.8 MNCR 0048-93

6.9 QDR 0062-93

6.10 GGNS Technical Requirements Manual

6.11 Administrative Procedure 01-S-06-5, Reportable Events or Conditions.

6.12 GIN 96-02158 D/G Room Temp ≤ 120° F

6.13 GIN 96-01203 RPV Flange ≤ 50 psig

6.14 MNCR 0291-95, CTMT/DW Exh Vent Rad Monitor Channel A Criteria Extension

6.15 DCP 91/0113

6.16 DCP 88/0249

6.17 GGCR 1998-0850-00

6.18 ER 98/0550

6.19 CR 1999-1957

6.20 ER 99/0545

6.21 CR 2001-1951

6.22 CR 2001-1952

6.23 ER 1996-0086

6.24 ER 2001-0259

6.25 ER 1996-0086

6.26 CR 2002-2321

6.27 CR 2003-3725

6.28 CR 2003-3225

6.29 ER 2001-0190

6.30 ER 1999-0217

6.31 CR 2006-1662

6.32 LDC 2003-037

6.33 LDC 2005-022

6.34 GGNS Offsite Dose Calculation Manual

6.35 EC-0433

6.36 CR 2007-04123

X	QA RECORD
	NON-QA RECORD
	INITIALS
NUMBER OF PAGES	
DATE	
RELATED DOCUMENT	
NUMBER =	

06-OP-1000-D-0001	Revision: 125
Attachment I	Page 1 of 84

Model WO # 50290153
XRef

SURVEILLANCE PROCEDURE DATA PACKAGE COVER SHEET
SAFETY RELATED

Title: Daily Operating Logs Data Sheet I (Mid-shift) Modes 1, 2, and 3
Technical Specifications: As listed on data sheets

1.0 IMPACT STATEMENT

1.1 There should be no impact on plant operations during the performance of this test. The procedure gathers data and verifies instrument operability as required by various Tech Specs.

2.0 PROCEDURE

2.1 Plant Mode is (circle one): 1 2 3

2.2 Procedure page checked _____
Performer (Effective Pages 1-21)

2.3 Test Start Time _____ / _____ / _____
Performer Date / Time

2.4 Radiation Protection Review N/A RWP # N/A

3.0 TEST RESULTS

3.1 Test Completion: (Check one in each category)

Entire procedure completed		[ ] Partial procedure completed	[ ]
Tech Spec Acceptance Criteria Acceptable	[ ]	Unacceptable	[ ]
All other steps/data Acceptable	[ ]	Unacceptable	[ ]

3.2 Comments: _____

_____

3.3 Test performed by: _____ Date/Time _____ / _____

3.4 Reviewed by Licensed Operator _____

4.0 DEFICIENCIES
CR Issued # _____

LCO Entered # _____ WR Issued # _____

5.0 APPROVAL
All appropriate deficiency documents are initiated for any Unacceptable Item. Yes [ ] N/A [ ]

Shift Supv/Manager _____ Date _____

Comments: _____

_____

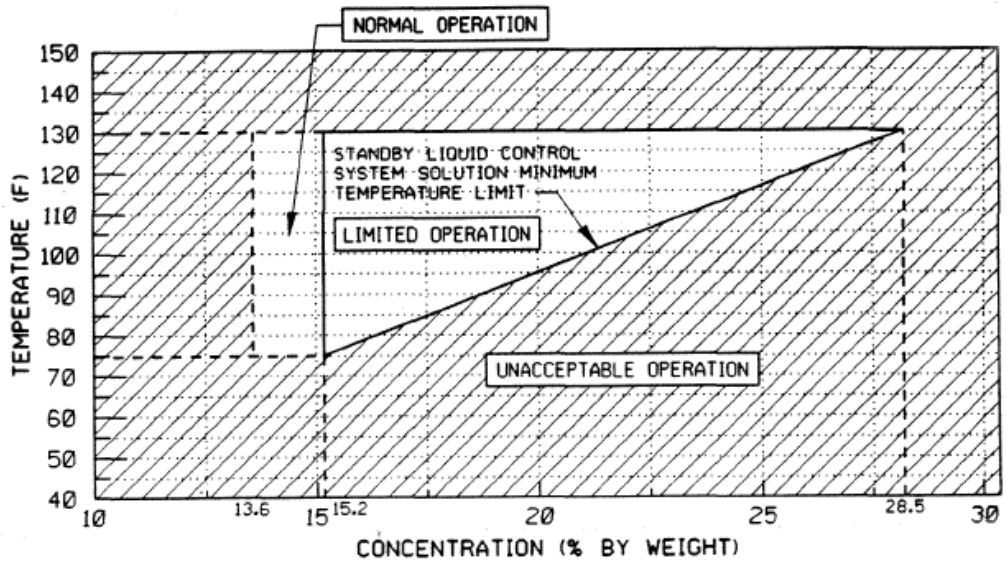
CONCURRENCE

Operations Management _____ Date _____

Page _____
XRef _____

DATA SHEET I (Continued)
DAILY OPERATING LOGS
24-HR REQUIREMENTS
DUE 2000 LATE 0200
SAFETY RELATED

	INST/PARAMETER	TECH SPEC	INDICATION	CRITERIA
38.	HAND HELD TEMP MEASURING DEVICE	SR 3.1.7.2	INST # _____ (Fluke 51K or equivalent with accuracy of ± 2.5 deg. F) CAL DUE DATE _____	TECH SPEC MIN: 75°F MAX: 125°F
	SLC TANK TEMPERATURE	TECH SPEC TRIGGER SR 3.1.7.5	TEMP _____°F SAT _____ UNSAT _____ CONCENTRATION _____ % (From Chemistry Dept) _____ / _____ _____ WHO NOTIFIED TIME NOTIFIED BY	IF < 75°F ENTER LCO 3.1.7 IN MODES 1 & 2. WHEN TEMPERATURE IS RESTORED TO ≥ 75°F, NOTIFY CHEMISTRY TO PERFORM TS SR 3.1.7.5 WITHIN 24 HOURS.

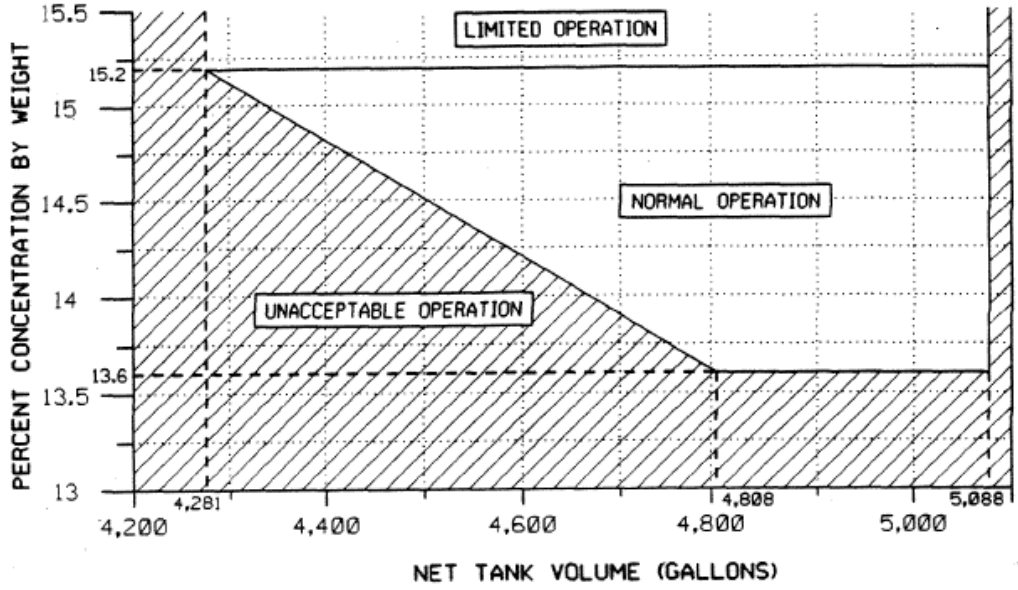


Comments:

Page _____
XRef _____

DATA SHEET I (Continued)
DAILY OPERATING LOGS
24-HR REQUIREMENTS
DUE 2000 LATE 0200
SAFETY RELATED

	INST/PARAMETER	TECH SPEC	INDICATION	CRITERIA
39.	C41-LI-R001	SR 3.1.7.1	H22-P011	TECH SPEC
	SLC VOLUME Plot Volume		IND VOL _____ GAL CONCENTRATION _____ % (From Chemistry Dept)	AVAILABLE VOLUME WITHIN THE LIMITS OF FIGURE 3.1.7-1. IF CONC > 15.2% BY WEIGHT, ENTER TS 3.1.7. IND VOL < 5088 GAL

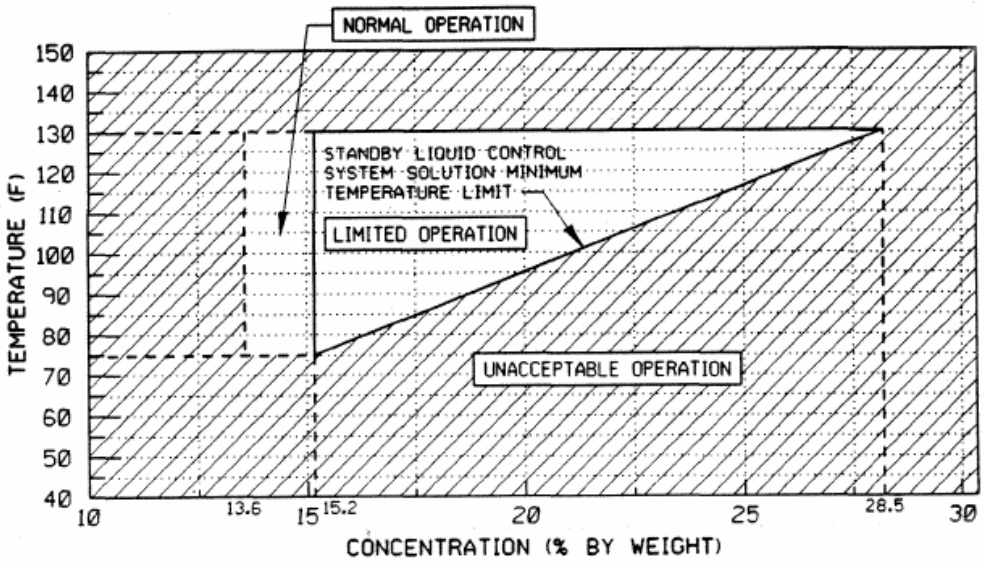


Comments:

Page _____
XRef _____

DATA SHEET I (Continued)
DAILY OPERATING LOGS
24-HR REQUIREMENTS
DUE 2000 LATE 0200
SAFETY RELATED

	INST/PARAMETER	TECH SPEC	INDICATION	CRITERIA
40.	HAND HELD TEMP MEASURING DEVICE PIPE HEAT TRACE	SR 3.1.7.3 TECH SPEC TRIGGER SR 3.1.7.9	TEMP (all in °F) A_____ B_____ C_____ D_____ INST # _____ (Fluke 51K or equivalent with accuracy of ± 2.5 deg. F) CAL DUE DATE _____ CONCENTRATION _____% (From Chemistry Dept)	TECH SPEC MIN: 75°F MAX: 125°F IF TEMP < 75°F ENTER LCO 3.1.7 IN MODES 1 & 2. PERFORM SR 3.1.7.9 WITHIN 24 HRS AFTER TEMPERATURE IS RESTORED TO ≥ 75°F.
	HEAT TRACE POWER	AECM 90/0012	"POWER AVAILABLE" LIGHT LIT P110A: YES / NO P110B: YES / NO	POWER AVAIL TO ONE DIVISION OF HEAT TRACE



Comments:

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-ADM01
Revision: 0
Page: 1 of 15
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

ADMINISTRATIVE JPM
Standby Diesel Generator Starting Air System Desiccant Changeout Tagout

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: N/A

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review++: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
+Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Standby Diesel Generator Starting Air System Desiccant Changeout Tagout

Setting:	Classroom
Type:	RO
Task:	Perform Preparer responsibilities for Protective Clearance Preparation
K&A:	264000 Generic 2.2.13 – 3.6/3.8
Safety Function:	6
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	EN-OP-102, EN-OP-102-1, Drawings M1070A; E1110-25,26,33; E0658-13
Handout(s):	Completed Work Impact Statement, partially completed Tagout Request Form, completed Tagout Cover Sheet, Blank copy of Tagout Tags Sheet, Dwgs M1070A; E1110-25,26,33; E0658-13
# Manipulations:	N/A
# Critical Steps:	1
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):
The plant is operating in Mode 1, 100% power.

The next sequential tag serial number is “01”.

Initiating Cue(s):
You have been directed to prepare a tag out in preparation for the changeout of desiccant in the Standby Diesel Generator 11 backup Starting Air Dryer. Use the drawings and forms provided.

Task: Standby Diesel Generator Starting Air System Desiccant Changeout Tagout

Notes:

1. None

Task Overview:

Prepare a tag out in preparation for the changeout of desiccant in the Standby Diesel Generator 11 backup Starting Air Dryer.

Task: Standby Diesel Generator Starting Air System Desiccant Changeout Tagout

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

☐* *COMPLETE Attachment 9.3 of procedure EN-OP-102-01, documenting the required components and their required positions for the tagout.* ***(Tagging sequence and tag type are not critical.)***

Standard: The operator prepares the Attachment as indicated on the attached key by an asterisk (*) in the tag serial number field.

Cue:

Notes: See attached Evaluator Key

Task Standard(s):
Correctly prepare a Tagout Tags Sheet (EN-OP-102 Attachment 9.3) in preparation for the changeout of desiccant in the Standby Diesel Generator 11 IAW EN-OP-102.

Name: _____Time Start: _____ Time Stop: _____

Task: **Standby Diesel Generator Starting Air System Desiccant Changeout Tagout**

Follow-Up Questions & Answers:

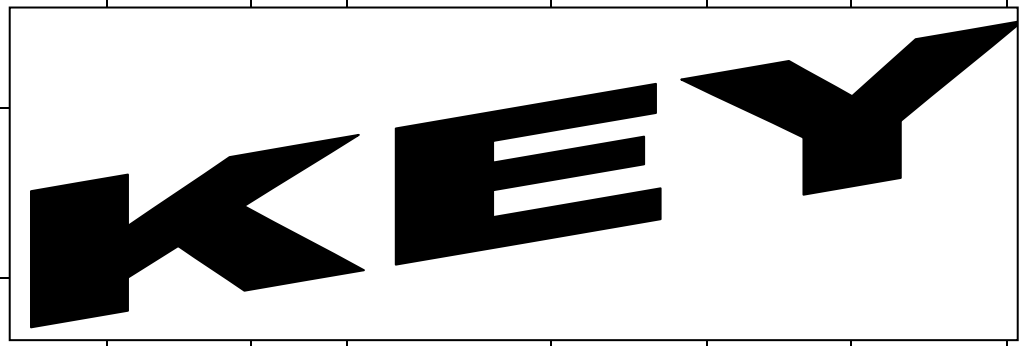
Comments:

DO NOT GIVE THIS PAGE TO THE STUDENT

ATTACHMENT 9.3 TAGOUT TAGS SHEET

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

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
XXX1	Danger	52-1L113-7 Lighting Panel Breaker to Battery Charger for DG11 Diesel Driven Air Compressor 1P75C013A DSL-133	1	OFF							
XXX2	Danger	1P75M026A Handswitch for Starting Air Dryer #2 and Aftercooler D012A B013A DSL-133	1	OFF							
XXX3 *	Danger	Battery Positive (+) Lead DG11 Diesel Driven Air Compressor 1P75C013A Battery DSL-133	2	Lifted							
XXX4 *	Danger	Battery Negative (-) Lead DG11 Diesel Driven Air Compressor 1P75C013A Battery DSL-133	2	Lifted							
XXX5 *	Danger	1P75F177A Starting Air Storage Tank 1P75A001A Inlet Valve DSL-133	3	Closed							

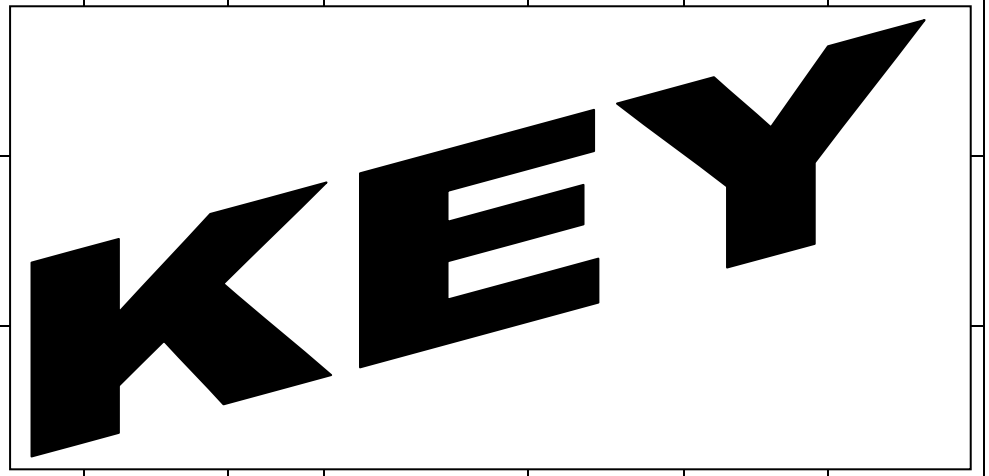


DO NOT GIVE THIS PAGE TO THE STUDENT

ATTACHMENT 9.3 TAGOUT TAGS SHEET

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

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
XXX6	Danger	1P75F176A Unloader Isolation Valve for 1P75C013A DSL-133	3	Closed							
XXX7 *	Danger	52-111342 Breaker to DG11 Diesel Driven Air Compressor Aftercooler 1P75B013A DSL-133	4	Off							
XXX8 *	Danger	52-1P11314 Power Panel Breaker to DG11 Starting Air Dryer #2 1P75D012A DSL-133	4	Off							
XXX9 *	Danger	1P75FX252A Starting Air Dryer D012A Test Connection DSL-133	4	Open							
XX10	Danger	1P75C013A Starter switch for DG11 Diesel Driven Air Compressor 1P75C013A DSL-133	1	Position 0							



Standby Diesel Generator Starting Air System Desiccant Changeout Tagout

Give this page to the student

Initial Condition(s):
The plant is operating in Mode 1, 100% power.

The next sequential tag serial number is “01”.

Initiating Cue(s):
You have been directed to prepare a tag out in preparation for the changeout of desiccant in the Standby Diesel Generator 11 backup Starting Air Dryer. Use the drawings and forms provided.

ATTACHMENT 9.2 TAGOUT COVER SHEET

Clearance: __MANUAL_____ **Tagout: _____**

Component to be worked: P75-AIRDRY-1P75D012A
STANDBY DIESEL START AIR DRYER
DSL-133 -1D310

Description:
ISOLATE 1P75D012A IN ORDER TO REPLACE DESSICANT

Placement Inst:
This tagout will isolate and de-ernergize Div 1 Diesel Driven Air Compressor 1P75C013A.
References: M1070A; E1110-25,26,33; E0658-13

Hazards: NONE

Restoration Inst:
Post-maintenance testing and recovery method required; maintenance leak test requires running the diesel driven air compressor to pressurize the air dryer.

Attribute Description	Attribute Value
High Energy System Concerns	NO
Tech Spec Impact? Enter EOS# or None	N/A
Compensatory Actions Req?	NO
Locked Components?	NO
Fire Protection Impairment?	NO
Equip Drain / Vent rig required?	NO
Scaffold Required?	NO
Is an LCO start time required?	NO
Tech Spec Impact on System Restoration?	NO
Component Deviation Required?	NO
50.59 Screening Attached	N/A
Crew Assigned Walk down	Yes
Walk down complete?	
Reason this tag was created?	Scheduled work
Tagout prepare issues:	No issues

Work Order Number	Description
XXXXXX	REPLACE DESSICANT IN 1P75D012A

Status	Description	User	Verification Date
Prepared	Prepared		
Technical Reviewed	Reviewed		
Approved	Approved		
Tags Verified Hung	Tags Verified Hung		
Removal Approved	Removal Approved		
Tags Verified Removed	Tags Verified Removed		

Give this page to the student

ATTACHMENT 9.3 TAGOUT TAGS SHEET

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

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

Give this page to the student

ATTACHMENT 9.3 TAGOUT TAGS SHEET

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

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

Give this page to the student

ATTACHMENT 9.2 **IMPACT TEMPLATE**

Sheet 1 of 1

_____/_____ _____/_____

PLANNER **DATE** **REVIEWER** **DATE**

WORK SCOPE:

Replace desiccant in Div I DG Diesel Driven Air Compressor Starting Air Dryer 1P75D012A.

COMPONENT MODE: **( ) INSV** **(X)OOSV** **( ) AVAILABLE**

PLANT MODES & CONDITIONS:

Plant may be in any condition. Starting Air Dryer and associated Diesel Driven Air Compressor must be secured and isolated. Starting Air Dryer 1P75D012A must be depressurized.

EFFECTS ON ASSOCIATED SYSTEM AND COMPONENTS:

DG11 Diesel Driven Air Compressor will be out of service. The Motor Driven Air Compressor will be available to maintain DG11 Starting Air Storage Tanks pressurized.

PRE-MAINTENANCE ACTIVITIES:

None

POST-MAINTENANCE ACTIVITIES:

None

DOES THE ACTIVITY HAVE THE POTENTIAL TO SCRAM/TRIP THE PLANT: **( ) YES (X) NO**

SECURITY/FIRE/CONTROL ROOM ENVELOPE BARRIER BREACH: **( ) YES (X) NO**

RPS AFFECTED: **( ) YES (X) NO**

ESF/EFSAS AFFECTED: **( ) YES (X) NO**

ALARMS/COMPUTER POINTS AFFECTED (IF YES, LIST ON ATTACHED SHEET) **( ) YES (X) NO**

Give this page to the student

ATTACHMENT 9.3 **OPERATIONAL IMPACT TEMPLATE**

Sheet 1 of 1

OPERATIONAL IMPACT

_____/_____ _____/_____

SRO **DATE** **REVIEWER** **DATE**

TECHNICAL SPECIFICATIONS:

NONE

LIMITING CONDITIONS FOR OPERATIONS:

NONE

REACTIVITY IMPACT (REQUIRED):

NONE

POTENTIAL SYSTEM/COMPONENT EFFECTS:

This work only affects DG11 Diesel Driven Air Compressor subsystem. The Motor Driven Air Compressor will be available to maintain DG11 Starting Air Storage Tanks pressurized.

ACTUAL OR POTENTIAL MEASURE OR CONTINGENCY ACTION REQUIRED:

If the DG11 Motor Driven Air Compressor fails to function, a low starting air pressure will result in a DG11 Trouble alarm in the main control room. The associated ARIs contain the necessary contingencies for that condition.

Give this page to the student

ATTACHMENT 9.10 TAGOUT REQUEST

Tagout Request Instructions

The Tagging Requestor is responsible for providing detailed information on the work scope/condition and should recommend boundaries to provide for equipment and personnel safety.

Work Order #	Task #	Mark #	Requester	Ext. / Pager
999999	1		Smith	555

1. Provide a detailed description of the maintenance activity and the reference drawing numbers:

Replace desiccant in Div I DG Diesel Driven Air Compressor Starting Air Dryer 1P75D012A.
P&ID M1070A

2. If known, provide a previous Clearance/Tagout number which provides the required protection:

Fluid systems:

	Yes	No
Air-	☒	☐
Water-	☐	☐
Steam-	☐	☐
Oil-	☐	☐

Valve Work		
Back Seat	☐ Yes	☐ No
MOV	☐ Open	☐ Closed

☐ Test & Maintenance Tag

3. Fluid Components To Be Tagged and Required Position:

Isolation Valves (Any Gags, Brakes, or Flanges required):

Drain/Vent Valves:

Special Instructions:

Need system depressurized to change the desiccant

4. Electrical Components To Be Tagged and Required Position:

	Yes	No
Control Switches:	☐	☐
Breakers:	☐	☐

☐ Tag on Breaker ☐ Tag to be moved to Door

Fuses/Leads to Pulled/Lifted:

Grounds/Ground Locations:

Special Instructions:

Maintenance leak test required after desiccant is replaced.

Facility: **Grand Gulf Nuclear Station**		Date of Examination: **2 March 2009**
Examination Level (circle one) RO / **SRO**		Operating Test Number:
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N	Perform SRO review of the Daily Jet Pump Surveillance. GJPM-SRO-ADM01 K/A 2.1.33: 4.0
Conduct of Operations	M	Review the Plant Chemistry Report and determine any required actions GJPM-SRO-ADM03 K/A 2.1.25: 3.1; 2.1.34: 2.9
Equipment Control	N	Perform Tag Reviewer review of Protective Tag out Clearance. GJPM-OPS-ADM02 K/A 2.2.13: 3.8
Radiation Control	M	Review Liquid Radwaste Discharge Permit. GJPM-SRO-ADM02 K/A 2.3.6: 3.1
Emergency Procedures/Plan	M	Given plant conditions, determine entry into the Site Emergency Plan and complete the initial notification form. ATWS GJPM-OPS-EAL25 K/A 2.4.41: 4.1; 2.4.38: 4.0; 2.4.40: 4.0

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

* Type Codes & Criteria:

(C) ontrol Room
(D) irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes
(N) ew or (M) odified from bank (≥ 1)
(P) revious 2 exams (≤ 1; randomly selected)
(S) imulator

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-EAL25
Revision: 0
Page: 1 of 9
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

EMERGENCY EVENT CLASSIFICATION JPM
ATWS

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: NA

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task : EMERGENCY EVENT CLASSIFICATION

Setting:	Simulator
Type:	SRO
Task:	SRO-A&E-015
K&A:	2.4.41 – 2.3/4.1; 2.4.38: 2.2/4.0; 2.4.40: 2.3/4.0
Safety Function:	Emergency event classification for SROs [10CFR55.45a (11)]
Time Required:	15 minutes
Time Critical:	**YES**
Faulted:	No
Performance:	Actual
Reference(s):	10-S-01-1, Activation of the Emergency Plan; 10-S-01-6, Notification of offsite Agencies and Plant On-Call Emergency Personnel
Handout(s):	None
# Manipulations:	N/A
# Critical Steps:	2
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):
All the initial conditions for this JPM are identical to the scenario you just participated in.

Initiating Cue(s):
Based on the scenario you just participated in:

- Seal Steam Pressure Controller failure.
- RPS MG Set B trip.
- Reactor Recirc Flow Control Valve A failing open.
- Bus 16AB lockout.
- ATWS

Classify the event and complete section 3, 4, and 6 of the attached Emergency Plan Notification Form, EPP-06-01.

This is a time critical JPM.

Task : EMERGENCY EVENT CLASSIFICATION

Notes:

1. None

Task Overview:

Event classification JPM in accordance with the Emergency Preparedness Plan.

Task : EMERGENCY EVENT CLASSIFICATION

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

☐* *Classify the event as a **SITE AREA EMERGENCY***

Standard: Candidate reviews 10-S-01-1 Att. I and classifies the event as EAL SS3.

Cue:

Notes:

☐* *Complete an Emergency Notification Form as the SRO for the event.*

Standard: Candidate correctly completes sections 3, 4, and 6 of an Emergency Notification Form per 10-S-01-6.

Cue:

Notes: See attached evaluator key.

Task Standard(s):
Within 15 minutes, classifies the event as an ***SITE AREA EMERGENCY*** in accordance with ***EAL SS3***. Then, correctly completes the attached Emergency Plan Notification Form, EPP-06-01.

Name: _____Time Start: _____ Time Stop: _____

Task : **EMERGENCY EVENT CLASSIFICATION**

Follow-Up Questions & Answers:

Comments:

EMERGENCY NOTIFICATION FORM

KEY – Do NOT Give to Student

1. THIS IS GRAND GULF NUCLEAR STATION WITH MESSAGE NUMBER _____

2. A. TIME ____DATE_____ B. COMMUNICATOR:_____ C. TEL NO. 601-437-____

3. **EMERGENCY CLASSIFICATION:**

A. ❑ NOTIFICATION OF UNUSUAL EVENT C. ☒ SITE AREA EMERGENCY E. ❑ TERMINATED
B. ❑ ALERT D. ❑ GENERAL EMERGENCY

Student enters current time and date

4. **CURRENT EMERGENCY CLASSIFICATION** ☒ DECLARATION TIME:_____ DATE:_____
❑ TERMINATION TIME:_____ DATE:_____

5. RECOMMENDED PROTECTIVE ACTIONS:

A. ❑ No Protective Actions Recommended At This Time (Go to item 6).

B. ❑ EVACUATE ALL sectors to 2 miles. EVACUATE sectors _____ to 5 miles.
SHELTER the remainder of the 10 mile EPZ with the exception of areas previously recommended for evacuation.

OR

❑ EVACUATE ALL sectors to 2 miles. EVACUATE sectors _____ to 10 miles.
SHELTER the remainder of the 10 mile EPZ with the exception of areas previously recommended for evacuation.
OR
❑ Shelter _____

C. ❑ Consider prophylactic use of Potassium Iodide in accordance with State Plans.

6. **INCIDENT DESCRIPTION/UPDATE/COMMENTS/EAL#**:_____

Failure of the reactor protection system to shut down the reactor and manual reactor shutdown was not successful. Reactor power > 4%. / SS3

7. **REACTOR SHUTDOWN?** ❑ NO ❑ YES TIME:_____DATE: _____

8. **METEROLOGICAL DATA**: ❑ NOT AVAILABLE AT THIS TIME (Go to item 9)

A. WIND DIRECTION **FROM** _____Degrees at _____ MPH

B. SECTORS AFFECTED (A-R)_____ C. STABILITY CLASS (A-G)_____

D. PRECIPITATION: ☐ None ☐ Rain ☐ Sleet ☐ Snow ☐ Hail ☐ Other_____

9. **RELEASE INFORMATION**:

A. ❑ NO RELEASE (Go to item 13)

B. ❑ A RELEASE is occurring BELOW federally approved operating limits. *(Go to item 9E)*

C. ❑ A RELEASE is occurring ABOVE federally approved operating limits. *(Go to item 9E)*

D. ❑ A RELEASE OCCURRED BUT STOPPED *(Go to item Go to item 9E)*

E. Release started at _____ (time) Release stopped at _____ (time) Release Duration _____hrs (Actual or Expected)

10. **TYPE OF RELEASE:**

A. ❑ Radioactive Gases B. ❑ Radioactive Airborne Particulates C. ❑ Radioactive Liquids (Go to item 13)

11. **RELEASE RATE:** A. NOBLE GASES_____ Ci/s B. IODINES _____ Ci/s

12. **ESTIMATE OF PROJECTED OFF-SITE DOSE**:

A. Projections for _____hours based on: ❑ Field Data ❑ Plant Data

B. TEDE – WB DOSE COMMITMENT(mRem)	C. CDE – THYROID DOSE COMMITMENT (mRem)
Site Boundary _____ 5 miles_____	Site Boundary _____ 5 miles_____
2 miles _____ 10 miles_____	2 miles _____ 10 miles_____

13. **MESSAGE APPROVED BY**: _____ TITLE: ❑ EMERGENCY DIRECTOR
❑ OFFSITE EMERGENCY COORDINATOR

Return to communicator instructions line J

Reviewed				
Sections (3,4,6)		Sections(5,7,8,9,10,11,12)		
TSC Coord/ EOF Admin Dir	Init	RPM/REM	Init	PAR Change Time

Give this page to the student

Initial Condition(s):
All the initial conditions for this JPM are identical to the scenario you just participated in.

Initiating Cue(s):
Based on the scenario you just participated in:

- Seal Steam Pressure Controller failure.
- RPS MG Set B trip.
- Reactor Recirc Flow Control Valve A failing open.
- Bus 16AB lockout.
- ATWS

Classify the event and complete section 3, 4, and 6 of the attached Emergency Plan Notification Form, EPP-06-01.

This is a time critical JPM.

EMERGENCY NOTIFICATION FORM

4. THIS IS GRAND GULF NUCLEAR STATION WITH MESSAGE NUMBER _____

5. A. TIME ____DATE_____ B. COMMUNICATOR:_____ C. TEL NO. 601-437-____

6. **EMERGENCY CLASSIFICATION:**

A. ❑ NOTIFICATION OF UNUSUAL EVENT C. ❑ SITE AREA EMERGENCY E. ❑ TERMINATED
B. ❑ ALERT D. ❑ GENERAL EMERGENCY

4. **CURRENT EMERGENCY CLASSIFICATION** ❑ DECLARATION TIME:_____ DATE:_____
❑ TERMINATION TIME:_____ DATE:_____

6. RECOMMENDED PROTECTIVE ACTIONS:

D. ❑ No Protective Actions Recommended At This Time (Go to item 6).

E. ❑ EVACUATE ALL sectors to 2 miles. EVACUATE sectors _____ to 5 miles.
SHELTER the remainder of the 10 mile EPZ with the exception of areas previously recommended for evacuation.

OR

❑ EVACUATE ALL sectors to 2 miles. EVACUATE sectors _____ to 10 miles.
SHELTER the remainder of the 10 mile EPZ with the exception of areas previously recommended for evacuation.
OR
☐ Shelter _____

F. ❑ Consider prophylactic use of Potassium Iodide in accordance with State Plans.

6. **INCIDENT DESCRIPTION/UPDATE/COMMENTS/EAL#**:_____

_____

_____

_____

7. **REACTOR SHUTDOWN?** ❑ NO ❑ YES TIME:_____DATE: _____

8. **METEROLOGICAL DATA**: ❑ NOT AVAILABLE AT THIS TIME (Go to item 9)

A. WIND DIRECTION **FROM** _____Degrees at _____ MPH

B. SECTORS AFFECTED (A-R)_____ C. STABILITY CLASS (A-G)_____

D. PRECIPITATION: ☐ None ☐ Rain ☐ Sleet ☐ Snow ☐ Hail ☐ Other_____

9. **RELEASE INFORMATION**:

A. ❑ NO RELEASE (Go to item 13)

B. ❑ A RELEASE is occurring BELOW federally approved operating limits. *(Go to item 9E)*

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D. ❑ A RELEASE OCCURRED BUT STOPPED *(Go to item Go to item 9E)*

E. Release started at _____ (time) Release stopped at _____ (time) Release Duration _____hrs (Actual or Expected)

10. **TYPE OF RELEASE:**

A. ❑ Radioactive Gases B. ❑ Radioactive Airborne Particulates C. ❑ Radioactive Liquids (Go to item 13)

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A. Projections for _____hours based on: ❑ Field Data ❑ Plant Data

B. TEDE – WB DOSE COMMITMENT(mRem)	C. CDE – THYROID DOSE COMMITMENT (mRem)
Site Boundary _____ 5 miles_____	Site Boundary _____ 5 miles_____
2 miles _____ 10 miles_____	2 miles _____ 10 miles_____

13. **MESSAGE APPROVED BY**: _____ TITLE: ❑ EMERGENCY DIRECTOR
❑ OFFSITE EMERGENCY COORDINATOR

Return to communicator instructions line J

Reviewed				
Sections (3,4,6)		Sections(5,7,8,9,10,11,12)		
TSC Coord/	Init		Init	PAR Change Time
EOF Admin Dir		RPM/REM		

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-SRO-ADM01
Revision: 0
Page: 1 of 12
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

ADMINISTRATIVE JPM
Daily Jet Pump Surveillance Review

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: N/A

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

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Training Representative Date

Approved By:
+Discipline Training Supervisor Date

Approval Date:* _____

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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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
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7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Daily Jet Pump Surveillance Review

Setting: Classroom
Type: SRO
Task: Perform SRO responsibilities for a Daily Jet Pump Surveillance review
K&A: 202001 Generic 2.2.12 – 3.0/3.4; 2.1.33 – 3.4/4.0
Safety Function: 1
Time Required: 15 minutes
Time Critical: No
Faulted: No
Performance: Actual
Reference(s): 06-RE-1B33-D-0001
Handout(s): Copy of Data Sheet I and II from procedure 06-RE-1B33-D-0001 documenting the results of the surveillance
Manipulations: N/A
Critical Steps: 4
Group : N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):
The plant is operating in Mode 1, 100% power.

Initiating Cue(s):
Reactor engineering has just completed the attached jet pump surveillance, 06-RE-1B33-D-0001. You are to review the surveillance and determine if any operability criteria is not met and complete section 5.0 of the attached surveillance.

Note: You can assume all mathematical calculations have been performed correctly.

Task: Jet Pump Surveillance Review

Notes:

1. None

Task Overview:

Review the results from the daily jet pump surveillance. Annotate any changes needed on the form itself. Document if any notifications need to be made based on the results at the end of the forms.

Task: **Jet Pump Surveillance Review**

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

☐ FINDS that "Flow" is not circled for Step 5.1.2a, although it is initialed and is indicated by the information provided elsewhere in the form.

Standard: The applicant marks that "Flow" should be circled for Step 5.1.2a on Data Sheet I.

Cue:

Notes: _____

_____

☐* *Determines Jet Pump 5 does not meet the criterion for individual jet pump flow being within 10% of its normal.*

Standard: The applicant finds Jet Pump 5 Flow deviation recorded in step 5.1.3c is greater than 10% of its normal and therefore does not meet the criteria of step 5.1.4a(1).

Cue:

Notes: _____

_____

☐* *Determines the Core Flow criteria are not met for not being within 10% of its normal.*

Standard: The applicant finds core flow percent deviation recorded in step 5.1.3 l is greater than 10% of its normal and therefore does not meet the criteria of step 5.1.4a(3).

Cue:

Notes: _____

_____

☐* *Determines the jet pumps are not operable.*

Standard: The applicant determines 2 of the 3 criterion listed in step 5.1.4a are not met; therfore, the jet pump operability criterion of step 5.1.4b is not met.

Cue:

Notes: _____

_____

☐* *Corrects marking of the TEST RESULTS section and correctly marks the APPROVAL section of the surveillance data package cover sheet.*

Standard: The applicant corrects section 3.0 TEST RESULTS to indicate "Tech Spec Acceptance Criteria" and "All other steps/data" are Unacceptable and checks the "Tech Spec Operability Requirements Unacceptable" block of section 5.0.

Cue:

Notes: _____

_____

Task Standard(s):
Complete the review of the daily jet pump surveillance IAW 06-RE-1B33-D-0001.

Name: _____ Time Start: _____ Time Stop: _____

Task: **Daily Jet Pump Surveillance Review**

Follow-Up Questions & Answers:

Comments:

Daily Jet Pump Surveillance Review

Give this page to the student

Initial Condition(s):
The plant is operating in Mode 1, 100% power.

Initiating Cue(s):
Reactor engineering has just completed the attached jet pump surveillance, 06-RE-1B33-D-0001. You are to review the surveillance and determine if any operability criteria is not met and complete section 5.0 of the attached surveillance.

Note: You can assume all mathematical calculations have been performed correctly.

X	QA RECORD
	RT = B6.61
	NON-QA RECORD
	INITIALS
NUMBER OF PAGES	
DATE	
RELATED DOCUMENT NUMBER =	

06-RE-1B33-D-0001	Revision 111
Attachment I	Page 1 of 4

Page
RTYPE B6.61
XRef 002202

SURVEILLANCE PROCEDURE DATA PACKAGE COVER SHEET
SAFETY RELATED

Title: Jetpump Functional Test

Technical Specifications: SR 3.4.3.1 and TRM SR TR3.4.1.1

1.0 IMPACT STATEMENT

1.1 Performance of this procedure may have no impact on plant operations.

2.0 REFERENCES

2.1 Plant MODE is (circle one): (1) 2 3 4 5

2.2 Permission to begin the test John Smith / 3/02/09
Shift Supervisor Date

2.3 Test Start Time: Bilbo Baggins / 3/02/09 / 0845
Performer's signature Date Time

3.0 TEST RESULTS

3.1 Test Completion: (Check one in each category.)
Entire procedure completed [X] Partial procedure completed [ ]
Tech Spec Acceptance Criteria Acceptable [X] Unacceptable [ ]
All other steps/data Acceptable [X] Unacceptable [ ]

3.2 TCNs in effect during performance (list): None

3.3 Comments: None .

3.4 Test performed by Bilbo Baggins Date/Time 3/02/09 / 0945

4.0 DEFICIENCIES

CR Issued # _____ MAI Issued # _____
LCO Entered # _____

5.0 APPROVAL

Tech Spec Operability Requirements Acceptable [ ] Unacceptable [ ]

Shift Supv/Mgr _____ Date _____
(MUST NOT BE SAME AS PERFORMER)

Comments: _____

CONCURRENCE
Reactor Engineering Superintendent _____ Date _____

DATA SHEET I
JETPUMP FUNCTIONAL TEST
SAFETY RELATED

Step 4.1 Attachment I prerequisite met: (Yes) No (Circle as appropriate) BB Initial

Step 5.1.2a Data recorded using: %ΔP Flow (Circle as appropriate) BB Initial

(Note: If %ΔP used then Attachment II must be included.)

JETPUMP	Recirculation Loop A (Step 5.1.2a)	Jetpump Normal Percentage (Step 5.1.3a)	Percent Deviation From Normal (Step 5.1.3c)
JP1	4.95	8.360	5.263
JP2	5.01	8.464	5.230
JP3	4.88	8.515	1.886
JP4	4.85	8.431	2.268
JP5	4.90	7.900	10.267
JP6	4.89	8.293	4.827
JP7	4.90	8.163	6.715
JP8	4.74	8.139	3.534
JP9	4.90	8.609	1.186
JP10	4.66	8.078	2.556
JP11	4.66	8.690	-4.667
JP12	4.55	8.359	-3.231

Step 5.1.3b Loop A Total: 56.25 Mlb/hr

DATA SHEET I (Continued)
JETPUMP FUNCTIONAL TEST
SAFETY RELATED

JETPUMP	Recirculation Loop A (Step 5.1.2a)	Jetpump Normal Percentage (Step 5.1.3a)	Percent Deviation From Normal (Step 5.1.3c)
JP13	4.95	8.426	4.438
JP14	4.83	8.271	3.816
JP15	4.85	8.365	3.075
JP16	4.90	8.595	1.351
JP17	4.40	8.155	-4.081
JP18	4.52	8.379	-4.099
JP19	4.68	8.235	1.032
JP20	4.57	8.091	0.413
JP21	4.61	8.298	-1.235
JP22	4.55	8.575	-5.669
JP23	4.78	8.360	1.648
JP24	4.82	8.249	3.878

Step 5.1.3b Loop B Total: 56.25 Mlb/hr

Step 5.1.4a(1) Flow Acceptance Criteria met for both Loop A and B: (Yes) No (Circle as appropriate) BB Initial

(%DEV Flow ≤ ± 10%)

DATA SHEET II
JETPUMP FUNCTIONAL TEST
LOOP/CORE FLOW CHECKS
SAFETY RELATED

		Loop A	Loop B
	LOOP FLOWS		
Step 5.1.2b	Measured Loop Drive Flow	43000 gpm	43000 gpm
Step 5.1.2c	FCV Position/Recirc Pump Speed	80% / Fast	80% / Fast
Step 5.1.2e	Reactor CTP	100%	
Step 5.1.3d	Loop Drive Flow Criterion	44000 gpm	43000 gpm
Step 5.1.3e	Loop Flow Multiplier	1.000	1.000
Step 5.1.3f	Established Loop Drive Flow	44000 gpm	43000 gpm
Step 5.1.3g	Percent Deviation (%DEV)	2	0
Step 5.1.4a(2)	Flow Acceptance Criteria met: (Yes) No (Circle as appropriate)		BB Initial
	(%DEV ≤ ± 10%)		
	CORE FLOWS		
Step 5.1.2d	Measured Total Core Flow	97 Mlb/hr	
Step 5.1.3h	Measured Total Drive Flow	88000 gpm	
Step 5.1.3i	Core Flow Criterion	108 Mlb/hr	
Step 5.1.3j	Core Flow Multiplier	1.000	
Step 5.1.3k	Established Total Core Flow	108 Mlb/hr	
Step 5.1.3l	Percent Deviation (%DEV)	10.2%	
Step 5.1.4a(3)	Flow Acceptance Criteria met: **Yes** No (Circle as appropriate)		BB Initial
	(%DEV ≤ ± 10%)		
$ Step 5.1.4b	Tech Spec Acceptance Criteria met: (Yes) No (Circle as appropriate)		BB Initial
	(At least 2 out of 3 Flow Acceptance Criteria met)		
	Volumetric Loop Flow		
$ Step 5.1.5a	Tech Spec Acceptance Criteria met: Yes No (Circle as appropriate)		N/A Initial
	(Flow < 44,600 gpm, for single loop operation)		

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-SRO-ADM03
Revision: 0
Page: 1 of 9
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

ADMINISTRATIVE JPM
Plant Chemistry Report Review

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: N/A

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

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[+]Discipline Training Supervisor Date

Approval Date:* _____

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   a. MOVs:
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3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Plant Chemistry Report Review

Setting:	Classroom
Type:	SRO
Task:	Identify required actions for plant chemistry levels in excess of administrative limits
K&A:	256000 Generic 2.1.25 - 2.8/3.1; 2.1.34 – 2.3/2.9; 2.4.4 – 4.0/4.3; 2.4.11 – 3.4/3.6
Safety Function:	2
Time Required:	20 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	Condensate High Conductivity, 05-1-02-V-12; EPRI Water Chemistry Guidelines, 01-S-08-29
Handout(s):	Completed copy of 01-S-08-29 Att. VI
# Manipulations:	N/A
# Critical Steps:	1
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):

- A plant startup is in progress in Operational Mode 2.
- Reactor Power is 9% at 950 psig. Preparations are being made for Main Turbine/Generator roll up.
- There is no inoperable equipment.

Initiating Cue(s):

- Plant Chemistry has just completed the required sampling of Condensate, Feedwater and Reactor Water in preparation for entry into Mode 1 and for exceeding 10% power.

- You are the SRO. Review the Chemistry data and determine the course of action for plant operations. Include any required Tech Spec/TRM actions.

SEE THE CHEMISTRY VALUES ON 01-S-08-29 ATT. IV, PROVIDED.

Task: Plant Chemistry Report Review

Notes:

1. None

Task Overview:

Review the results from the Plant Chemistry Report. Identify any actions required by plant procedures, including any Tech Spec/TRM requirements.

Task: Plant Chemistry Report Review

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

☐ Compares data from 01-S-08-29 Att. VI to Technical Requirements Manual 6.4.1 Chemistry requirements of TRM Table 6.4.1-1 for Mode 2.

Standard: The applicant identifies Reactor Coolant Chemistry requirements of TRM 6.4.1 are met.

Cue:

Notes: _____

_____

☐* *Compares data from 01-S-08-29 Att. VI to the limits of ONEP 05-1-02-V-12 and identifies the required actions.*

Standard: The applicant determines the conductivity of Condensate Pump Discharge (CPD) exceeds the limit of 05-1-02-V-12 step 3.6 and identifies the following actions are required (steps 3.6.1 through 3.6.6):

- ☐ MANUALLY **SCRAM** the reactor.
- ☐ **CLOSE** E51-F010, RCIC PMP SUCT FM CST.
- ☐ **OPEN** E51-F031, RCIC PMP SUCT FM SUPP POOL.
- ☐ **INITIATE** RCIC for Reactor level control.
- ☐ **WHEN** RCIC and CRD can maintain Reactor water level, THEN **TRIP** running Reactor Feedwater pumps.
- ☐ **CLOSE** 1B21-F065A and B to isolate feedwater to reactor vessel.
- ☐ **CLOSE** MSIV's and MSL drain valves and **OPERATE** SRV's for Reactor pressure control.
- ☐ **PLACE** hotwell level controller N19-R004 on 1H22-P171 in Manual at 50% to isolate hotwell from CST and CRD.
- ☐ **CLOSE/CHECK CLOSED** N19-F008, CNDS MU BYP VLV and
- ☐ N19-F013, CNDS REJECT BYP valve to reduce CST contamination

Cue:

Notes: RCIC is available as given in the initial condition of no inoperable equipment.

Task Standard(s):
Candidate has determined the actions for out of limits Chemistry in accordance with 05-1-02-V-12.

Name: _____ Time Start: _____ Time Stop: _____

Task: **Plant Chemistry Report Review**

Follow-Up Questions & Answers:

Comments:

Plant Chemistry Report Review

Give this page to the student

Initial Condition(s):

- A plant startup is in progress in Operational Mode 2.
- Reactor Power is 9% at 950 psig. Preparations are being made for Main Turbine/Generator roll up.
- There is no inoperable equipment.

Initiating Cue(s):

- Plant Chemistry has just completed the required sampling of Condensate, Feedwater and Reactor Water in preparation for entry into Mode 1 and for exceeding 10% power.

- You are the SRO. Review the Chemistry data and determine the course of action for plant operations. Include any required Tech Spec/TRM actions.

SEE THE CHEMISTRY VALUES ON 01-S-08-29 ATT. IV, PROVIDED.

CHEMISTRY VALUES FOR ENTERING POWER OPERATIONS
(> 10 % POWER)

EPRI GUIDELINES

	CONDUCTIVITY µmho/cm	CHLORIDE ppb	SULFATE ppb	OXYGEN ppb	REACTOR POWER	DATE/TIME/INITIAL
REACTOR WATER	0.9 (≤0.30)	4.4 (≤5)	(2) 13 (≤ 5)	N/A	9%	3-2-09/0711
FEEDWATER	0.239 (≤0.065)	N/A	N/A	102 (≥30 - ≤200)	NA	3-2-09/0711
CPD	(3) 15.2 ≤0.10)	N/A	N/A	N/A	NA	3-2-09/0711
CDE	N/A	N/A	N/A	47 (1) (≥30 - ≤200)	NA	3-2-09/07

TCN#4

1) CPD may be used as a sample point for oxygen if CDE is out of service.
2) The Normal Limit of 5 ppb Sulfate may be exceeded during Startup. A sulfate reading of < 15 ppb demonstrates control of Reactor Water Chemistry before exceeding 10% Power. Sample Reactor Water sulfate at least every 24 hours until sulfate value is ≤ 5 ppb.
3) Startup may continue if out-of-Spec but trending down and this condition is due to dissolved oxygen and not to other ionic impurities. If feedwater conductivity is within Specification and CPD conductivity is high because of dissolved O2, power ascension may continue.

TCN#4

Reviewed/Date [signature] / 3-2-09

TCN#4

Operations Shift Manager/Date _____

Chemistry Coordinator/Supervisor/Date _____

Comments: _____

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-SRO-ADM02
Revision: 0
Page: 1 of 24
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

ADMINISTRATIVE JPM
LIQUID RADWASTE DISCHARGE PERMIT REVIEW

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: N/A

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review[++]**:** _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Liquid Radwaste Discharge Permit Review

Setting:	Classroom
Type:	SRO
Task:	Perform SRO review of a Batch Liquid Radwaste Discharge Permit
K&A:	2.3.6: 3.1
Safety Function:	9
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	01-S-08-11, Radioactive Discharge Controls; 06-CH-SG17-P-0041, Radwaste Release Pre-Relealease Analysis
Handout(s):	LRW Discharge Permit with 06-CH-SG17-P-0041 Att. I completed and 01-S-08-11 Att. I with Parts 1, 2, and 3 completed with errors
# Manipulations:	N/A
# Critical Steps:	1
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):

The Radwaste Specialist has presented a Batch Liquid Radwaste Discharge Permit to you for Shift Manager approval.

Initiating Cue(s):

You are the Shift Manager. Review the Batch Liquid Radwaste Discharge Permit and identify 5 critical deficiencies.

The discharge does not exceed any TRM/Standing Order limits.

REFER TO THE LRW DISCHARGE PERMIT, PROVIDED.

Task: Liquid Radwaste Discharge Permit Review

Notes:

1. None

Task Overview:

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. Five errors have been introduced on the Discharge Permit.

Task: Liquid Radwaste Discharge Permit Review

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

☐* *Reviews the Batch Liquid Radwaste Discharge Permit package provided per the requirements of 01-S-08-11 to determine if the discharge is allowable.*

Standard: Reviews the data recorded in Parts 1, 2, and 3 of the LRW Discharge Permit provided using 01-S-08-11 and identifies at least 4 of the 5 following errors:

☐ In Part 1, the "Radwaste monitor background reading" is above the limit

☐ In Part 2, the "Effluent Monitor Alarm Setpoint" is incorrect

☐ In Part 2, the "Effluent Monitor Alarm Setpoint" is incorrect

☐ In Part 3, the "Minimum Blowdown Flow Rate Setpoint" is incorrect

☐ In Part 3, the "Maximum Tank Discharge Flow Rate Setpoint" is incorrect

Cue:

Notes: all values recorded in Parts 1, 2, and 3 derive from pages 1 and 2 of the computer generated Liquid Pre-Release Permit Report in 06-CH-SG17-P-0041 Att I

Task Standard(s):
Candidate has identified at least 4 of the 5 errors in the Liquid Radwaste Discharge Permit parts 1, 2, and 3.

Name: _____ Time Start: _____ Time Stop: _____

Task: **Liquid Radwaste Discharge Permit Review**

Follow-Up Questions & Answers:

Comments:

TCN#6

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EVALUATOR COPY

ADMINISTRATIVE PROCEDURE

01-S-08-11	Revision: 112
Attachment I	Page 1 of 4

BATCH LIQUID RADWASTE DISCHARGE PERMIT

09-03-02-01
Release Number

Part 1 Pre-Release Processing

Date 3-2-09 Time 1954

Tank to be released FDST-B Volume 28750 gal

Tank is isolated. Recirculation started 3-2-09 1600
Date/Time

Dilution flow 6000 gpm Radwaste monitor background reading 25000 cpm

Must be less than 10.800

Monitor reading is less than 10,800 cpm J. Johs
Operator

Radwaste monitor background reading verified M Machuda 3-2-9/2010
Radwaste Specialist or Control Room Supervisor /Date/Time

Part 2 Pre-Release Analysis 2009022
Batch Number

Sample Date 3-2-09 Time 2200

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

Yes ✓ Initials M

No NA TSS NA mg/l (≤ 30mg/l)

Minimum dilution factor 5.08E-1

Minimum dilution flow rate setpoint 2.25E3 gpm

Maximum tank discharge flow rate setpoint 100 gpm

Effluent Monitor Alarm Setpoint 625 cpm (Hi)

Effluent Monitor Trip Setpoint 2590 cpm (Hi-Hi)

Scientific notation conversion errors, should be a factor of 10 higher

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. J M Eschenbach
Radiochemist

Independent Verification if Effluent Radiation Monitor Inoperable.

NA
Radiochemist

Comments: none

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EVALUATOR COPY

BATCH LIQUID RADWASTE DISCHARGE PERMIT

Part 3 Monitor Setpoint Calibration

Batch Number (from Part 2) 2009022

Setpoints Adjusted to:

Minimum Blowdown Flow Rate Setpoint (Circ Water Blowdown Flow Setpoint) 1.720E+00 gpm

Maximum Tank Discharge Flow Rate Setpoint (Liquid Radwaste Effluent Flow Setpoint) 1.737E+00 gpm

Values listed are voltage settings for the respective setpoints

Effluent Monitor Alarm Setpoint 6.25E+03 cpm (Hi)

Effluent Monitor Trip Setpoint 2.59E+04 cpm (Hi-Hi)

M May / 3-2-09
I&C Technician / Date

Sony Mooney / 3-2-2009
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.

M May / 3-2-09
I&C Technician / Date

Sony Mooney / 3-2-2009
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

Liquid Radwaste Discharge Permit Review

Give this page to the student

Initial Condition(s):

The Radwaste Specialist has presented a Batch Liquid Radwaste Discharge Permit to you for Shift Manager approval.

Initiating Cue(s):

You are the Shift Manager. Review the Batch Liquid Radwaste Discharge Permit and identify 5 critical deficiencies.

The discharge does not exceed any TRM/Standing Order limits.

REFER TO THE LRW DISCHARGE PERMIT PACKAGE, PROVIDED.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-ADM02
Revision: 00
Page: 1 of 13
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

ADMINISTRATIVE JPM
Standby Diesel Generator Starting Air System Desiccant Changeout Tagout Review

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: N/A

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review++:
Technical Reviewer (e.g., SME, line management) Date

Validated By:
Training Representative Date

Approved By:
+Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. These activities are not required for JPMs conducted in the Simulator.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

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8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Standby Diesel Generator Starting Air System Desiccant Changeout TagoutReview

Setting:	Classroom
Type:	SRO
Task:	Perform Reviewer responsibilities for Protective Clearance preparation
K&A:	264000 Generic 2.2.13 – 3.6/3.8
Safety Function:	6
Time Required:	15 minutes
Time Critical:	No
Faulted:	No
Performance:	Actual
Reference(s):	EN-OP-102, EN-OP-102-1, Drawings M1070A; E1110-25,26,33; E0658-13
Handout(s):	Completed Work Impact Statement, partially completed Tagout Request Form, completed Tagout Cover Sheet, completed Tagout Tags Sheet, Dwgs M1070A; E1110-25,26,33; E0658-13
# Manipulations:	N/A
# Critical Steps:	1
Group :	N/A

Simulator Setup/Required Plant Conditions:

- None

Safety Concerns:

- None

Initial Condition(s):
The plant is operating in Mode 1, 100% power.

Initiating Cue(s):
You have been been provided the tagout package for the changeout of desiccant in the Standby Diesel Generator 11 backup Starting Air Dryer. Use the procedure, forms, and drawings provided to determine if it is adequate.

Task: Standby Diesel Generator Starting Air System Desiccant Changeout Tagout Review

Notes:

1. None

Task Overview:

Review the provided tagout package for the changeout of desiccant in the Standby Diesel Generator 11 backup Starting Air Dryer. Use the procedure, forms, and drawings provided to determine if it is adequate.

Task: **Standby Diesel Generator Starting Air System Desiccant Changeout TagoutReview**

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

☐* *Identify the following three errors:*

1) Electrical error (Attachment 9.3, tag XXX3 breaker should be 52-111342, not 52-111432)
2) Mechanical valve error (Attachment 9.3, placement sequence for tag XXX7,which vents the piping, should be after tags XXX5 and XXX6, which isolate the piping.)
3) Tag omission (Battery leads for Diesel Driven Compressor 1P75C013A should be lifted)

Standard: The operator marks and corrects the errors as needed.

Cue:

Notes: _____

_____

Task Standard(s):
Review the tag out in preparation for the changeout of desiccant in the Standby Diesel Generator 11 IAW EN-OP-102.

Name: _____Time Start: _____ Time Stop: _____

Task: **Standby Diesel Generator Starting Air System Desiccant Changeout TagoutReview**

Follow-Up Questions & Answers:

Comments:

Standby Diesel Generator Starting Air System Desiccant Changeout Tagout Review

Give this page to the student

Initial Condition(s):
The plant is operating in Mode 1, 100% power.

Initiating Cue(s):
Find attached the tagout package for the changeout of desiccant in the Standby Diesel Generator 11 backup Starting Air Dryer. eSOMS is out of service. You are to review the tagout package to ensure it is adequate for the desicant changeout. Note any discrepancies you find on the tagout sheet.

Give this page to the student

ATTACHMENT 9.2 TAGOUT COVER SHEET

Clearance: __MANUAL_____ **Tagout: _____**

Component to be worked: P75-AIRDRY-1P75D012A
STANDBY DIESEL START AIR DRYER
DSL-133 -1D310

Description:
ISOLATE 1P75D012A IN ORDER TO REPLACE DESSICANT

Placement Inst:
This tagout will isolate and de-ernergize Div 1 Diesel Driven Air Compressor 1P75C013A.
References: M1070A; E1110-25,26,33; E0658-13

Hazards: NONE

Restoration Inst:
Post-maintenance testing and recovery method required; maintenance leak test requires running the diesel driven air compressor to pressurize the air dryer.

Attribute Description	Attribute Value
High Energy System Concerns	NO
Tech Spec Impact? Enter EOS# or None	N/A
Compensatory Actions Req?	NO
Locked Components?	NO
Fire Protection Impairment?	NO
Equip Drain / Vent rig required?	NO
Scaffold Required?	NO
Is an LCO start time required?	NO
Tech Spec Impact on System Restoration?	NO
Component Deviation Required?	NO
50.59 Screening Attached	N/A
Crew Assigned Walk down	Yes
Walk down complete?	
Reason this tag was created?	Scheduled work
Tagout prepare issues:	No issues

Work Order Number	Description
XXXXXX	REPLACE DESSICANT IN 1P75D012A

Status	Description	User	Verification Date
Prepared	Prepared	*Bilbo Baggins*	*3-3-09*
Technical Reviewed	Reviewed		
Approved	Approved		
Tags Verified Hung	Tags Verified Hung		
Removal Approved	Removal Approved		
Tags Verified Removed	Tags Verified Removed		

Give this page to the student

ATTACHMENT 9.3 TAGOUT TAGS SHEET

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

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
XXX1	Danger	52-1L113-7 Lighting Panel Breaker to Battery Charger for DG11 Diesel Driven Air Compressor 1P75C013A DSL-133	1	Off							
XXX2	Danger	1P75M026A Handswitch for Starting Air Dryer #2 and Aftercooler D012A B013A DSL-133	1	Off							
XXX3	Danger	52-111432 Breaker to DG11 Diesel Driven Air Compressor Aftercooler 1P75B013A DSL-133	4	Off							
XXX4	Danger	52-1P11314 Power Panel Breaker to DG11 Starting Air Dryer #2 1P75D012A DSL-133	4	Off							
XXX5	Danger	1P75F177A Starting Air Storage Tank 1P75A001A Inlet Valve DSL-133	3	Closed							

Give this page to the student

ATTACHMENT 9.3 TAGOUT TAGS SHEET

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

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
XXX6	Danger	1P75F176A Unloader Isolation Valve for 1P75C013A DSL-133	3	Closed							
XXX7	Danger	1P75FX252A Starting Air Dryer D012A Test Connection DSL-133	2	Open							
XXX8	Danger	1P75C013A Starter switch for DG11 Diesel Driven Air Compressor 1P75C013A DSL-133	1	Position 0							

Give this page to the student

ATTACHMENT 9.2 **IMPACT TEMPLATE**

Sheet 1 of 1

_____/_____ _____/_____

PLANNER **DATE** **REVIEWER** **DATE**

WORK SCOPE:

Replace desiccant in Div I DG Diesel Driven Air Compressor Starting Air Dryer 1P75D012A.

COMPONENT MODE: **( ) INSV** **(X)OOSV** **( ) AVAILABLE**

PLANT MODES & CONDITIONS:

Plant may be in any condition. Starting Air Dryer and associated Diesel Driven Air Compressor must be secured and isolated. Starting Air Dryer 1P75D012A must be depressurized.

EFFECTS ON ASSOCIATED SYSTEM AND COMPONENTS:

DG11 Diesel Driven Air Compressor will be out of service. The Motor Driven Air Compressor will be available to maintain DG11 Starting Air Storage Tanks pressurized.

PRE-MAINTENANCE ACTIVITIES:

None

POST-MAINTENANCE ACTIVITIES:

None

DOES THE ACTIVITY HAVE THE POTENTIAL TO SCRAM/TRIP THE PLANT: **( ) YES (X) NO**

SECURITY/FIRE/CONTROL ROOM ENVELOPE BARRIER BREACH: **( ) YES (X) NO**

RPS AFFECTED: **( ) YES (X) NO**

ESF/EFSAS AFFECTED: **( ) YES (X) NO**

ALARMS/COMPUTER POINTS AFFECTED (IF YES, LIST ON ATTACHED SHEET) **( ) YES (X) NO**

Give this page to the student

ATTACHMENT 9.3 **OPERATIONAL IMPACT TEMPLATE**

Sheet 1 of 1

OPERATIONAL IMPACT

_____/_____ _____/_____

SRO **DATE** **REVIEWER** **DATE**

TECHNICAL SPECIFICATIONS:

NONE

LIMITING CONDITIONS FOR OPERATIONS:

NONE

REACTIVITY IMPACT (REQUIRED):

NONE

POTENTIAL SYSTEM/COMPONENT EFFECTS:

This work only affects DG11 Diesel Driven Air Compressor subsystem. The Motor Driven Air Compressor will be available to maintain DG11 Starting Air Storage Tanks pressurized.

ACTUAL OR POTENTIAL MEASURE OR CONTINGENCY ACTION REQUIRED:

If the DG11 Motor Driven Air Compressor fails to function, a low starting air pressure will result in a DG11 Trouble alarm in the main control room. The associated ARIs contain the necessary contingencies for that condition.

Give this page to the student

ATTACHMENT 9.10 TAGOUT REQUEST

Tagout Request Instructions

The Tagging Requestor is responsible for providing detailed information on the work scope/condition and should recommend boundaries to provide for equipment and personnel safety.

Work Order #	Task #	Mark #	Requester	Ext. / Pager
999999	1		Smith	555

1. Provide a detailed description of the maintenance activity and the reference drawing numbers:

Replace desiccant in Div I DG Diesel Driven Air Compressor Starting Air Dryer 1P75D012A.
P&ID M1070A

2. If known, provide a previous Clearance/Tagout number which provides the required protection:

undetermined

Fluid systems:

	Yes	No
Air-	☒	☐
Water-	☐	☐
Steam-	☐	☐
Oil-	☐	☐

Valve Work		
Back Seat	☐ Yes	☐ No
MOV	☐ Open	☐ Closed

☐ Test & Maintenance Tag

3. Fluid Components To Be Tagged and Required Position:

Isolation Valves (Any Gags, Brakes, or Flanges required):

undetermined

Drain/Vent Valves:

undetermined

Special Instructions:

Need system depressurized to change the desiccant and need to run the DD compressor to do a maintenance leak test when work is complete

4. Electrical Components To Be Tagged and Required Position:

	Yes	No
Control Switches:	☐	☐
Breakers:	☐	☐

☐ Tag on Breaker ☐ Tag to be moved to Door

Fuses/Leads to Pulled/Lifted:

undetermined

Grounds/Ground Locations:

Special Instructions:

Facility: **Grand Gulf Nuclear Station** Date of Examination: **2 March 2009**
Exam Level (circle one): **RO** / SRO-I / SRO-U Operating Test Number:

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

System / JPM Title	Type Code*	Safety Function
a. 202001 Recirculation System - Startup idle Recirculation Pump w/ High Vibration requiring manual pump trip.	S; N; A; L	1
b. 209002 High Pressure Core Spray System – Operate HPCS in CST-to-CST mode w/failure of HPCS minimum flow valve	S; D; A	2 ESF
c. 264000 Emergency Generators – Parallel of Emergency Generator (with load) to the grid	S; N	6 ESF
d. 400000 Component Cooling Water System – Rotate CCW pumps w/CCW pump trip	S; B; A	8
e. 217000 Reactor Core Isolation Cooling System – Operate RCIC for RPV pressure control w/failure of RCIC turbine speed controller	S; N; A	3
f. 219000 RHR/LPCI: Suppression Pool Cooling Mode – Secure RHR from Containment Spray mode to Suppression Pool Cooling mode w/trip of ECCS pump requiring manual RHR alignment to LPCI mode	S; N; A	5 ESF
g. 201005 Rod Control and Information System – Bypass a Control Rod in the RACS	C; D	7
h. 239003 Main Steam Isolation Valve Leakage Control System – Start the Outboard MSIV LCS w/ blower failure requiring start of the Inboard MSIV LCS	C; N; A	9 ESF
In-Plant Systems[@] (3 for RO; 3 for SRO-I; 3or2 for SRO-U)		
i. 211000 Standby Liquid Control System – Perform SLC Pump A Monthly Surveillance	R; N	1
j. 262002 Uninterruptible Power Supply (A.C./D.C.) – Start up Static Inverter 1Y81	D	6
k. 286000 Fire Protection System – Align Fire Water for injection to the reactor via LPCS and RHR C per EP Attachment 26	R; E; L; D	8

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol Room	
(D)irect from bank	≤9 / ≤8 / ≤4
(E)mergency or abnormal in-plant	≥1 / ≥1 / ≥1
(L)ow-Power	≥1 / ≥1 / ≥1
(N)ew or (M)odified from bank including 1(A)	≥2 / ≥2 / ≥1
(P)revious 2 exams	≤3 / ≤3 / ≤2 (randomly selected)
(R)CA	≥1 / ≥1 / ≥1
(S)imulator	

Facility: **Grand Gulf Nuclear Station** Date of Examination: **2 March 2009**
Exam Level (circle one) RO / **SRO-I** / SRO-U Operating Test Number:

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

System / JPM Title	Type Code*	Safety Function
a. 202001 Recirculation System - Startup idle Recirculation Pump w/ High Vibration requiring manual pump trip.	S; N; A; L	1
b. 209002 High Pressure Core Spray System – Operate HPCS in CST-to-CST mode w/failure of HPCS minimum flow valve	S; D; A	2 ESF
c. 264000 Emergency Generators – Parallel of Emergency Generator (with load) to the grid	S; N	6 ESF
d. 400000 Component Cooling Water System – Rotate CCW pumps w/CCW pump trip	S; B; A	8
e. 217000 Reactor Core Isolation Cooling System – Operate RCIC for RPV pressure control w/failure of RCIC turbine speed controller	S; N; A	3
f. 219000 RHR/LPCI: Suppression Pool Cooling Mode – Secure RHR from Containment Spray mode to Suppression Pool Cooling mode w/trip of ECCS pump requiring manual RHR alignment to LPCI mode	S; N; A	5 ESF
g. 201005 Rod Control and Information System – Bypass a Control Rod in the RACS	C; D	7
h. N/A		

In-Plant Systems[@] (3 for RO; 3 for SRO-I; 3or2 for SRO-U)

i. 211000 Standby Liquid Control System – Perform SLC Pump A Monthly Surveillance	R; N	1
j. 262002 Uninterruptible Power Supply (A.C./D.C.) – Start up Static Inverter 1Y81	D	6
k. 286000 Fire Protection System – Align Fire Water for injection to the reactor via LPCS and RHR C per EP Attachment 26	R; E; L; D	8

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol Room	
(D)irect from bank	≤9 / ≤8 / ≤4
(E)mergency or abnormal in-plant	≥1 / ≥1 / ≥1
(L)ow-Power	≥1 / ≥1 / ≥1
(N)ew or (M)odified from bank including 1(A)	≥2 / ≥2 / ≥1
(P)revious 2 exams	≤3 / ≤3 / ≤2 (randomly selected)
(R)CA	≥1 / ≥1 / ≥1
(S)imulator	

Facility: **Grand Gulf Nuclear Station**	Date of Examination: **2 March 2009**
Exam Level (circle one) RO / SRO-I / **SRO-U**	Operating Test Number:

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

System / JPM Title	Type Code*	Safety Function
a. N/A		
b. N/A		
c. N/A		
d. N/A		
e. 217000 Reactor Core Isolation Cooling System – Operate RCIC for RPV pressure control w/failure of RCIC turbine speed controller	S; N; A	3
f. 219000 RHR/LPCI: Suppression Pool Cooling Mode – Secure RHR from Containment Spray mode to Suppression Pool Cooling mode w/trip of ECCS pump requiring manual RHR alignment to LPCI mode	S; N; A	5 ESF
g. N/A		
h. N/A		
In-Plant Systems[@] (3 for RO; 3 for SRO-I; 3or2 for SRO-U)		
i. 211000 Standby Liquid Control System – Perform SLC Pump A Monthly Surveillance	R; N	1
j. 262002 Uninterruptible Power Supply (A.C./D.C.) – Start up Static Inverter 1Y81	D	6
k. 286000 Fire Protection System – Align Fire Water for injection to the reactor via LPCS and RHR C per EP Attachment 26	R; E; L; D	8

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol Room	
(D)irect from bank	≤9 / ≤8 / ≤4
(E)mergency or abnormal in-plant	≥1 / ≥1 / ≥1
(L)ow-Power	≥1 / ≥1 / ≥1
(N)ew or (M)odified from bank including 1(A)	≥2 / ≥2 / ≥1
(P)revious 2 exams	≤3 / ≤3 / ≤2 (randomly selected)
(R)CA	≥1 / ≥1 / ≥1
(S)imulator	

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-B3314
Revision: 0
Page: 1 of 10
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

B33 JOB PERFORMANCE MEASURES
Reactor Recirc System Startup

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: NA

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

Prepared By: Kyle Grillis 2/11/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standards and cues for valve operation:
   a. MOVs:
      1) "Turn the valve's handswitch on (panel #)(section#, as applicable) in the (clockwise or counter-clockwise) direction and observe that the valve's red light is (energized or de-energized) and its green light is (energized or de-energized)".
   b. Manual valves
      1) "Turn the valve's handwheel (or other manual operating device) in the (clockwise or counter-clockwise) direction until resistance is felt."

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

B33 Task 14: Reactor Recirc System Startup (Alternate Path)

Setting:	Simulator
Type:	RO
Task:	CRO-B33(1)-002
K&A:	202001: A4.01 – 3.7/3.7
Safety Function:	Recirculation System
Time Required:	25 minutes
Time Critical:	No
Faulted:	**YES**
Performance:	Actual
Reference(s):	04-1-01-B33-1 section 4.1, ARI 04-1-02-1H13-P680-3A-E4
Handout(s):	Copy of 04-1-01-B33-1 section 4.1 marked up to show all steps are complete up to the step 4.1.2b(15) for starting Recirc Pump A
# Manipulations:	9
# Critical Steps:	2
Group:	2

Simulator Setup/Required Plant Conditions:

- Reset to any Mode 4 IC with Recirc Pumps A and B shut down and in standby.
- Start Unit 1 Instrument Air Compressor
- Place Recirc FCV "A" in the MIN-ED (20%) position
- Align RWCU blowdown to Radwaste.
- Raise tap setting for bus 11HD to 7.2 kV
- Insert malfunction **rr014a** at **100**
- Insert remote function **C86009X** at **20**

Safety Concerns:

- None

Initial Condition(s):

- The plant is in Mode 4.
- The pump seal for Recirc Pump A was replaced during the plant shutdown, and Recirc Pump A is ready to be returned to operation.
- All steps within Sections 4.1.1 and 4.1.2a of 04-1-01-B33-1 are complete, and steps of Section 4.1.2b are complete up to step 4.1.2b(15). Recirc Pump A is ready to start.

Initiating Cue(s):

- The CRS has directed you to start Recirc Pump A per the SOI.
- The vibration engineer is monitoring the pump start on Control Building, 148' elev.
- The CRS will notify RE and I&C to evaluate if venting of the jet pump flow transmitters is required after the pump is started.

B33 Task 14: Reactor Recirc System Startup (Alternate Path)

Notes

1. Unless otherwise indicated, all controls and indications for this task are on panel 1H13-P680-3A - C.
2. This task begins at Step 4.1.2b(15) of 04-1-01-B33-1.

Task Overview

- This task begins the process of placing the Reactor Recirculation System in service during plant startup by starting the "A" Recirc pump in slow speed.
- The fault in this task is that Recirc Pump A vibration will increase immediately after pump start. The range for vibration indication available to the operator is limited to 20 mils maximum. The operator will request an extended reading taken from remote equipment used by the vibration monitoring engineer. The vibration engineer will report vibration levels in excess of the limit of 25 mils listed in the ARI and will recommend pump shutdown.
- The operator will trip Recirc Pump A in accordance with ARI 04-1-02-1H13-P680-3A-E4 step 4.1b(2).

B33 Task 14: Reactor Recirc System Startup (Alternate Path)

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

Added: Depress STOP pushbutton

☐ *Starts Recirc Pump A*

Standard: Depresses the START pushbutton on the TRANS TO LFMG/START handswitch for Recirc Pump A

Cue: As Indicated

Notes:

☐ Observes the proper low speed start sequence for Recirc Pump A.

Standard: Monitors the following on P680:

- CB-5A, RECIRC PMP A FDR 252-1103, closes.
- CB1-A LFMG A FDR, 152-1308, closes.
- RECIRC PMP A AMPS and RECIRC PMP RPM rise.
- Checks that CB-5A RECIRC PUMP A FDR 252-1103, opens at approximately ≈1700 rpm and pump starts coasting down.
- Checks that CB-2A, LFMG A GEN FDR 252-1103A, closes between 360-470 rpm and pump speed stabilizes.

Cue:

Notes:

☐ Responds to RECIRC PMP A VIBR HI alarm.

Standard: Silences and acknowledges alarm and refers to ARI P680-3A-E4. Calls up PDS computer display for Recirc Pump A vibration and observes some readings are pegged high at 20 mils.

Cue:

Notes: The P846 indicator in the computer room and its respective PDS indications are pegged high upscale during the alarming condition of 20 mils. To monitor vibration levels above 20 mils, the Vibration Engineer or Computer Engineering uses the RMSS computer or 0-scope in the lower Computer Room.

☐ Requests vibration engineer to monitor Recirc Pump A vibration.

Standard: Requests assistance per step 3.1 of ARI P680-3A-E4 to detrmine the actual amplitude of the vibration.

Cue: As the vibration engineer, report vibration indications from multiple probes are reading above 25 mils and you recommend securing Recirc Pump A.

Notes:

☐* *Trips Recirc Pump A*

Standard: Depresses TRIP pushbutton on CB-2A LFMG A MTR FDR 2A, 252-1103A, handswitch on 1H13-P680.

Cue:

Notes: The operator may trip CB-1A after CB-2A is tripped, but this is not required for the JPM.

When Recirc Pump A is tripped by the operator, the evaluator will end the JPM.

Task Standard(s):

Recirc Pump A has been secured.

Name: _____Time Start: _____Time Stop: _____

B33 Task 14: Reactor Recirc System Startup (Alternate Path)

Follow-Up Questions & Answers:

Comments:

Reactor Recirc System Startup

Give this page to the student

Initial Condition(s):

- The plant is in Mode 4.
- The pump seal for Recirc Pump A was replaced during the plant shutdown, and Recirc Pump A is ready to be returned to operation.
- All steps within Sections 4.1.1 and 4.1.2a of 04-1-01-B33-1 are complete, and steps of Section 4.1.2b are complete up to step 4.1.2b(15). Recirc Pump A is ready to start.

Initiating Cue(s):

- The CRS has directed you to start Recirc Pump A per the SOI.
- The vibration engineer is monitoring the pump start on Control Building, 148' elev.
- The CRS will notify RE and I&C to evaluate if venting of the jet pump flow transmitters is required after the pump is started.

GRAND GULF NUCLEAR STATION

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-E22102
Revision: 01
Page: 1 of 10
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATIONS TRAINING

TITLE:

Operating HPCS in the Test Return Mode

☐ New Material ☐ Minor Revision ☒ Major Revision

REASON FOR REVISION: change setup to have SSW C running; editorial changes.
THIS DOCUMENT REPLACES: GJPM-OPS-E22102 Rev. 0

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

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. Obtain Shift Management's permission before opening any control panel door or instrument cover.

5 It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

6. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

E22-1 Task 2: Operating HPCS in the Test Return Mode (Alternate Path)

Setting:	Simulator
Type:	RO
Task:	CRO-E22-008, 010
K&A:	209002: A1.01-3.6/3.7; A4.01 - 3.7/3.7
Safety Function:	High Pressure Core Spray System
Time Required:	19 minutes
Time Critical:	No
Faulted:	Yes
Performance:	Actual
Reference(s):	04-1-01-E22-1/5.2 and 5.3; 04-1-01-P41-1/4.5
Handout(s):	None
# Manipulations:	9
# Critical Steps:	5
Group:	1

Simulator Setup:

- Reset to any IC
- Insert Malf e22186d (E22-F012 breaker trip upon valve opening)
- Start SSW C pump and open P41F011

Safety Concerns:

- None

Initial Condition(s):

- HPCS is in Standby
- SSW C is operating

Initiating Cue(s):

- You have been directed to start the HPCS pump in CST-to-CST mode per 04-1-01-E22-1 section 5.2.
- The Shift Manager has authorized this evolution per Precaution and Limitation 3.28

E22-1 Task 2: Operating HPCS in the Test Return Mode (Alternate Path)

Notes

1. All operations and verifications take place on panels P601 and P870 in the Simulator.

Task Overview

- This task requires the ability to manually start the only ECCS-qualified high pressure injection system.
- The system auto-starts during LOCA conditions. Under certain conditions, however, the EOPs direct the operator to override the system off. If and when it is needed later in the event, the operator must manually re-start HPCS and align it for injection into the RPV, controlling its flowrate to maintain RPV level within a certain band.
- This task demonstrates the ability to operate HPCS in the "test return" mode, which puts HPCS flow in a loop from and to the Condensate Storage Tank, one of its two suction sources. HPCS is operated in this mode for surveillance and post-maintenance testing.
- HPCS minimum flow valve E22-F012 will fail in the closed position when it tries to auto-open.
    - Upon recognition of failure, the candidate should shut down HPCS pump.

Tasks : critical steps are underlined, italicized and denoted by (*)

☐ Place the HPCS MOV TEST switch in the TEST position.

Standard: Places the HPCS MOV TEST switch on P601 in the TEST position by turning the switch clockwise until it snaps into position.

Cue: None

Notes: Precaution and Limitation 3.17

Added Note:
Applicant may or may not perform this since it is not required until MOVs are operated.

☐ Open HPCS/RCIC TEST RTN TO CST isolation valves.

Standard: Checks open P11-F064 and P11-F065 by observing the valves' position indicating lamps on P870 (red light on, green light off).

Cue: None

Notes: _____

_____

☐ Directs local operator to close F305, Injection Valve Equalization.

Standard: Directs local operator to close F305 and awaits report of status.

Cue: The local operator reports that valve E22-F305 is full closed.
Notes: _____

_____

☐* *Start the HPCS pump.*

Standard: Starts the HPCS pump by turning its handswitch on P601 in the clockwise direction until the switch clicks and displays a red target.

Cue: None

Notes: _____

_____

☐ Check HPCS pump running.

Standard: Checks the status lamps above the pump's handswitch on P601: red light on, green light off.

Cue: None
Notes: _____

_____

☐ Check HPCS motor current.

Standard: Observes HPCS motor current on meter E22-R616 on P601. Verifies current < 434 amps.

Cue: None

Notes: _____

_____

☐ Check HPCS minimum flow valve opens.

Standard: Checks HPCS min flow valve E22-F012 auto-opens when HPCS discharge pressure increases above 130 psig as observed on indicator HPCS PMP DISCH PRESS E22-PI-R601 on panel P601.

Cue: None

Notes: _____

_____

☐* *Observes minimum flow valve loses power and fails to open.*

Standard: When HPCS discharge pressure is observed to be greater than 130 psig as indicated by E22-PI-R601 with system flow less than 1200 gpm as indicated by E22-R603 on panel P601, observes E22-F012 fails to open as indicated by de-energized red and green lights, HPCS SYS OOSVC alarm (1H13-P601-16A-H5), and status light HPCS MOV OVRLD/PWR LOSS.

Cue: The CRS directs a controlled shutdown of HPCS, using 04-1-01-E22-1 section 5.3, and SSW C using 04-1-01-P41-1 section 4.5.

Notes: _____

_____

☐ * *Stop the HPCS pump.*
Standard: Stops the HPCS pump by turning its handswitch on P601 in the counter-clockwise direction until the switch clicks and displays a green target.

Cue: **If asked, another operator will generate a CR and WR.**

Notes: _____

_____

☐ Directs the local operator to open HPCS discharge valve disc equalizing valve E22-F305.

Standard: Directs the local operator to open E22-F305.

Cue: The local operator reports that valve E22-F305 is full open.

Notes: _____

_____

☐ Verify HPCS jockey pump is running.

Standard: Verifies that the HPCS jockey pump is operating by observing its energized red status light and de-energized green status light on panel P601.

Cue: None

Notes: _____

_____

Added Step [Not Critical]:
Place the SSW C MOV Test Switch to Test

☐ * *Close SSW C return valve.*

Standard: Closes P41-F011 by rotating its handswitch on panel P870-5C in the counter-clockwise position and observing its red status light de-energizes and its green status light energizes.

Cue: None

Notes: _____

_____

☐ * *Stop SSW Pump C.*

Standard: Stops HPCS Service Water Pump P41-C002 by rotating its handswitch on panel P870-5C in the counter-clockwise position and observing its red status light de-energizes and its green status light energizes.

Cue: None

Notes: _____

_____

When SSW C Pump is stopped, the evaluator will end the JPM

Task Standard(s):

The HPCS pump is started for full test return flow, CST-to-CST, then, when E22F012 loses power, HPCS is shut down IAW SOI 04-1-01-E22-1 and SSW C is shut down IAW SOI 04-1-01-P41-1.

Name: _____Time Start: _____Time Stop: _____

E22-1 Task 2: Operating HPCS in the Test Return Mode (Alternate Path)

Follow-Up Questions & Answers:

Comments:

Operating HPCS in the Test Return Mode

Give this page to the student

Initial Condition(s):

- HPCS is in Standby
- SSW C is operating

Initiating Cue(s):

- You have been directed to start the HPCS pump in CST-to-CST mode per 04-1-01-E22-1 section 5.2.
- The Shift Manager has authorized this evolution per Precaution and Limitation 3.28.

TRAINING PROGRAM:

OPERATIONS TRAINING

TITLE:

Parallel Offsite Power via ESF-21 to Bus 15AA

☒ New Material ☐ Minor Revision ☐ Major Revision

REASON FOR REVISION: N/A
THIS DOCUMENT REPLACES: N/A
REVIEW / APPROVAL (Print Name): ☐ TEAR Approval (TEAR #)

Prepared By: _____
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. Obtain Shift Management's permission before opening any control panel door or instrument cover.

5 It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

6. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Transfer Vital Bus Loads from Standby Diesel Generator to Offsite Power

Setting:	Simulator
Type:	RO
Task:	Restore offsite power to bus 15AA following a LOSP
K&A:	264000 A4.05 – 3.6/3.7
Safety Function:	6 Electrical – AC Electrical Distribution and Emergency Generators
Time Required:	15 minutes
Time Critical:	No
Alternate Path:	No
Performance:	Actual
Reference(s):	05-1-02-I-4, Section 3.1 (Step 3.1.12) 04-1-01-R21-1, Section 4.1 04-1-01-P75-1, Sections 4.3 and 4.4
Handout(s):	none
# Manipulations:	6
# Critical Steps:	4
Group:	1

Simulator Setups:

- Reset to any IC
- Open the feeder from ESF 11 to bus 15AA
- Restore the auxiliary building and restore other plant systems, as desired to minimize distractions

Safety Concerns:

- None

Initial Condition(s):

- A loss of ESF-11 supplying bus 15AA occurred.
- Standby Diesel Generator 11 started and is supplying loads on the 15AA Bus.
- ESF-11 is unavailable.

Initiating Cue(s):

- You have been directed to parallel ESF-21 to bus 15AA per Section 4.3 of procedure 04-1-01-P75-1.
- All precautions and limitations of 04-1-01-P75-1 for this evolution have been verified to be met.

Task: Parallel Offsite Power via ESF-21 to Bus 15AA

Notes

1. All controls will be from panel 1H13-P864 in the Main Control Room.

Task Overview: This JPM begins with DG11 carrying ESF bus 15AA following a loss of power to the bus. The operator will establish the proper conditions for the diesel generator and reconnect offsite power to bus 15AA from ESF Transformer 21.

Tasks : critical steps are underlined, italicized and denoted by (*)

☐ VERIFY that Standby Diesel Generator 11 is running with Diesel Output breaker 152-1508 Closed carrying ESF Bus 15AA load.

Standard: The operator verifies the parameters available to confirm that the diesel generator is running, carrying load, and that the breaker is closed.

Cue:

Notes: _____

_____

NOTE: The following operations are performed on 1H13-P864, unless otherwise noted.

☐ SELECT phase of Bus 15AA voltage to be monitored with BUS 15AA VOLT SEL handswitch as indicated on voltmeter R21-R615A.

Standard: The operator selects the correct handswitch and moves it to any position other than OFF.

Cue:

Notes: _____

_____

☐* *PLACE Offsite Power Source ESF-21 Breaker SYNCH FEEDER 152-1501 handswitch in the ON position.*

Standard: The operator selects the correct handswitch and moves it to the correct position.

Cue:
Notes: _____

_____

☐* *DEFEAT Standby Diesel Generator 11 Output breaker parallel interlock by placing keylocked DG 11 PRL CONT handswitch in the PRL position (spring return to OFF).*

Standard: The operator places the correct handswitch in the correct position.

Cue:
Notes: _____

_____

☐ ADJUST Standby Diesel Generator 11 RUNNING VOLTS DIV 1 about 50 volts above INCOMING VOLTS DIV 1 with AUTO VOLT SETPOINT CONT DG 11 handswitch.

Standard: The operator adjusts the diesel generator voltage 50 volts above the incoming voltage with the correct handswitch.

Cue:
Notes: _____

_____

☐* *ADJUST Standby Diesel Generator 11 speed to bring frequency within range of Offsite System frequency by using MAN GOV CONT DG 11 handswitch so that synchroscope indicator is rotating slowly in the SLOW direction (counterclockwise).*

Standard: The operator adjusts the diesel generator frequency as described using the correct handswitch.

Cue:
Notes: _____

_____

NOTE: Diesel Generator Output voltage is being maintained in AUTO control, but a check should be kept on Diesel Generator Output voltage and frequency.

☐ ALLOW the synchroscope indicator to make a few revolutions to ensure frequency stability (once in the correct direction – counterclockwise) (There may be a need to adjust diesel generator speed to obtain proper rotation of synchroscope indicator.).

Standard: The operator observes the synchroscope indicator for at least three revolutions to assess frequency stability.

Cue:
Notes: _____

_____

NOTE: Adjusting diesel generator speed in the lower direction can cause the parallel circuitry to reset due to low frequency. This may cause the generator output breaker to trip on closure of the offsite feeder breaker. If generator under frequency alarm annunciates or ready-to-load light extinguishes or if it is uncertain as to how low generator frequency became, place the DG 11 PRL CONT handswitch back to PRL position after generator frequency has stabilized at approximately 60 Hz.

CAUTION: Do not close an Offsite Power Source breaker with synchroscope indicator standing still if bus is powered from diesel generator.

☐* *CLOSE Offsite Power Source ESF-21 Breaker 152-1501 WHEN Standby Diesel Generator 11 speed is such that synchroscope indicator is moving slowly in the SLOW direction (counterclockwise) and is approximately five minutes before the 12 o' clock position.*

Standard: The operator closes breaker 152-1501 by rotating BUS 15AA FDR FM ESF XFMR 21 handswitch clockwise to CLOSE at the appointed synchroscope position. This action may be repeated, if necessary, if the closing attempt is unsuccessful.

Cue:

Notes: The next step is the verification of breaker 152-1501 closing.

_____

☐ OBSERVE BREAKER CLOSING lights immediately after closing Offsite Power Source ESF-21 breaker 152-1501 to ensure breaker is closed.

Standard: The operator observes the red light illuminates on 152-1501 handswitch BUS 15AA FDR FM ESF XFMR 21. If the breaker does not close, the operator releases the handswitch.

Cue:

Notes: _____

_____

☐ PLACE Offsite Power Source ESF-21 Breaker SYNCH FEEDER 152-1501 handswitch in the OFF position as soon as Standby Diesel Generator 11 load has stabilized.

Standard: The operator rotates the handswitch to the OFF position after diesel generator load has stabilized.

Cue:

Notes: _____

_____

When the SYNCH handswitch for breaker 152-1501 is placed in OFF, the evaluator will end the JPM

Task Standard(s):

Offsite Power has been paralleled to bus 15AA IAW SOI 04-1-01-P75-1 section 4.3.

Name: _____Time Start: _____Time Stop: _____

Task: Parallel Offsite Power via ESF-21 to Bus 15AA

Follow-Up Questions & Answers:

Comments:

Parallel Offsite Power via ESF-21 to Bus 15AA

Give this page to the student

Initial Condition(s):

- A loss of ESF-11 supplying bus 15AA occurred.
- Standby Diesel Generator 11 started and is supplying loads on the 15AA Bus.
- ESF-11 is unavailable.

Initiating Cue(s):

- You have been directed to parallel ESF-21 to bus 15AA per Section 4.3 of procedure 04-1-01-P75-1.
- All precautions and limitations of 04-1-01-P75-1 for this evolution have been verified to be met.

TRAINING PROGRAM:

OPERATIONS TRAINING

***LESSON PLAN TITLE:**

ROTATE CCW PUMPS

APPROXIMATE TIME REQUIRED: 10 Minutes

PREREQUISITES: NONE

SUPPORTING LESSONS: NONE

☐ New Material ☒ Minor Revision ☐ Major Revision

THIS DOCUMENT REPLACES: GJPM-OPS-P4271 Rev. 0

REASON FOR REVISION: Editorial enhancements

REVIEW / APPROVAL (Print Name): ☐ Electronic Approval (TEAR # _____)

Prepared By:	Kyle Grillis Preparer	2/14/09 Date
Reviewed By:	Technical Reviewer (e.g., SME, line management)	Date
Instructional Adequacy Determined By:	ITPL (Rev 0); Qualified Instructor (All other revisions)	Date
Approved By:	++Discipline Training Supervisor	Date
Effective Date:	*Date	

++Indicates that the LP has been reviewed by the Training Supervisor for inclusion of Management Expectations and items referenced on the Training Development Review Worksheet

FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

ANO		PNPS	
CNPS		RBS	
ECH		VY	
GGNS		WF3	
IPEC		WPO	
JAF			

* Indexing Information

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. Obtain Shift Management's permission before opening any control panel door or instrument cover.

5 It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

6. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

P42 Task 71: Rotate CCW Pumps (Alternate Path)

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.
- Insert Malfunction p42151c CCW Pump C Trip on **TRIGGER 1.**
- Ensure CCW Pumps 'A' and 'C' are operating with CCW Pump 'B' in Standby.

Safety Concerns: None

Equipment Needed: None.

Initial Condition(s):

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

Initiating Cue(s):

- You have been directed 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.

P42 Task 71: Rotate CCW Pumps (Alternate Path)

Notes

1. **None.**

Task Overview: 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 steps are underlined, italicized, and denoted by (*).

☐ Remove Standby pump (CCW Pump 'B') from STANDBY by placing its handswitch to STOP.
Standard: Candidate places CCW Pump 'B' handswitch to STOP.
Cue:
Notes: Switch on H13-P870 section 8C.

☐ Observes White Standby light for CCW Pump 'B' go off.
Standard: Candidate observes White Standby light for CCW Pump 'B' turns off.
Cue:
Notes: Indication is on H13-P870 section 8C.

☐* *Start CCW Pump 'B'.*
Standard: Candidate starts CCW Pump 'B'.
Cue:
Notes: Switch on H13-P870 section 8C.

☐ Contact the local operator to close P42-F016A CCW Pump 'A' discharge valve.
Standard: Candidate contacts the local operator to close P42-F016A CCW Pump 'A' discharge valve.
Cue: CCW Pump 'A' discharge valve P42-F016A is closed.
Notes:

☐* *Stop CCW Pump 'A'.*
Standard: Candidate stops CCW Pump 'A'.
Cue:
Notes: Switch is on H13-P870 section 5C.

SIMULATOR OPERATOR: When CCW Pump 'A' is stopped, ensure TRIGGER 1 is activated, CCW Pump 'C' Trip.

Cue: Evaluator: after the trip annunciator comes into alarm, inform the candidate as the local operator that a small amount of water is spraying from CCW Pump 'B' pump seal on CCW Pump 'C', No water is spraying on pump 'A'.

Cue: The Control Room Supervisor directs you to take actions per the Loss of CCW ONEP.

The next two items may be performed in either order.

☐* *Contact the local operator to open P42-F016A CCW Pump 'A' discharge valve.*
Standard: Candidate contacts the local operator to open P42-F016A CCW Pump 'A' discharge valve.
Cue: CCW Pump 'A' discharge valve P42-F016A is open.
Notes:

□* *Start CCW Pump 'A'.*
Standard: Candidate starts CCW Pump 'A'.
Cue:
Notes: Switch on H13-P870 section 5C.

Once CCW Pump A has been started, the evaluator will terminate the JPM.

Task Standard(s):

CCW Pumps 'A' and 'B' are operating with discharge valves open.

Name: _____ Time Start: _____ Time Stop: _____

P42 Task 71: Rotate CCW Pumps (Alternate Path)

Follow-Up Questions & Answers:

Comments:

Rotate CCW Pumps

Give this page to the student

Initial Condition(s):

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

Initiating Cue(s):

- You have been directed 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.

GRAND GULF NUCLEAR STATION

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-E5105
Revision: 0
Page: 1 of 9
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATIONS TRAINING

TITLE:

Start RCIC for RPV Pressure Control

☒ New Material ☐ Minor Revision ☐ Major Revision

REASON FOR REVISION: new JPM
THIS DOCUMENT REPLACES: N/A
REVIEW / APPROVAL (Print Name): ☐ TEAR Approval (TEAR #)

Prepared By: Kyle Grillis 2/14/09
**Preparer Date

Ops Review++: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
+Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. Obtain Shift Management's permission before opening any control panel door or instrument cover.

5 It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

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Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Start RCIC for RPV Pressure Control (Alternate Path)

Setting:	Simulator
Type:	RO
Task:	Operate RCIC in recirc mode to control decay heat
K&A:	217000 A4.01 – 3.7/3.7; A2.10 – 3.1/3.1
Safety Function:	4
Time Required:	15 minutes
Time Critical:	No
Alternate Path:	Yes
Performance:	Actual
Reference(s):	04-1-01-E51-1, Section 5.2 04-1-01-P41-1, Section 4.2
Handout(s):	
# Manipulations:	11
# Critical Steps:	6
Group:	1

Simulator Setups:

- Reset to any IC at rated pressure
- Insert a scram and ensure level is maintained between Level 2 and Level 8 by other systems
- Insert malfunction e51044 at 0
- Insert overrides **ao_1e51r605** at **1567** and **ao_1e51r601** at **23.72** on an auto trigger
- On PhD Expert, assign the auto trigger to trigger file **e51f045**

Safety Concerns:

- None

Initial Condition(s):

- A scram occurred from rated power approximately 30 minutes ago.
- SSW Subsystem A has been placed in operation per procedure 04-1-01-P41-1.
- The plant is being controlled per EP-2.

Initiating Cue(s):

- You have been directed to perform a controlled start RCIC to place it in CST to CST mode for RPV Pressure Control, and attempt to stabilize RPV pressure. Use procedure 04-1-01-E51-1, Section 5.2.2. Section 5.2.1 has been completed.
- Other operators are responsible for RPV water level control and for monitoring Suppression Pool temperature.

Start RCIC for RPV Pressure Control (Alternate Path)

Task Overview: This task is to start and operate RCIC iin the CST-to-CST mode to aid in decay heat removal/pressure control. When RCIC is started, a speed controller failure will occur, causing RCIC to be unable to maintain speed above 200 rpm, the minimum for proper lubrication by the shaft driven oil pump. The operator will be required to trip RCIC to prevent turbine damage. This is an Alternate Path JPM.

Notes

1. All controls will be from panel 1H13-P601 and 1H13-P870 in the Main Control Room.

Tasks : critical steps are underlined, italicized and denoted by (*)

☐ START RCIC RM FAN COIL UNIT using RCIC RM FAN COIL UNIT handswitch on 1H13-P870-1C.

Standard: The operator selects the correct handswitch, starts the fan coil unit, and receives appropriate indication.

Cue:

Notes: _____

_____

☐ Verify SSW Subsystem A is in operation in accordance with SOI 04-1-01-P41-1 on P870.

Standard: The operator checks that SSW Subsystem A is started.

Cue: If asked, SSW Subsystem A is in operation per SOI 04-1-01-P41-1.

Notes: _____

_____

NOTE: The operator should not perform steps a or e in Section 5.2.2.

☐ Directs local operator to close F268, PRESS LOCK ISOL FOR F013

Standard: Directs local operator to close F268 and awaits report of RCIC status.

Cue: E51F268, PRESS LOCK ISOL FOR F013, is closed

Notes: _____

_____

☐* *SHIFT RCIC FLO CONT to MANUAL.*

Standard: Shifts RCIC FLO CONT E51-R600 to manual control on P601.

Cue:

Notes: _____

_____

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

Standard: Reduces RCIC flow controller output to minimum by depressing the CLOSE pushbutton on RCIC FLO CONT E51-R600 until the red output needle is all the way to the left.

Cue:

Notes: _____

_____

☐* *OPEN valve F046 using RCIC WTR TO TURB LUBE OIL CLR handswitch.*

Standard: Opens valve F046 using it handswitch on P601.

Cue:

Notes: _____

_____

☐ START Turbine Gland Seal compressor.

Standard: Starts RCIC Turbine Gland Seal compressor using RCIC GL SEAL COMPR handswitch on P601.

Cue:

Notes: _____

_____

☐* *OPEN valve F095 using RCIC STM SPLY BYP VLV handswitch.*

Standard: Opens F095 using its handswitch on P601.

Cue:

Notes: _____

_____

NOTE: Valve FO95 will close 15 seconds after valve F045 begins to OPEN.

☐* *After 6 seconds, OPEN valve F045 using RCIC STM SPLY TO RCIC TURB handswitch.*

Standard: The operator waits approximately 6 seconds after opening F095, then opens F045 using its handswitch on P601.

Cue:

Notes: It is acceptable for the operator to mentally count to six instead of mechanically measuring six seconds.

☐ INCREASE turbine speed to develop greater than 2000 rpm using RCIC FLO CONT in MANUAL.

Standard: Attempts to adjust turbine speed as needed by depressing the OPEN / CLOSE pushbuttons on RCIC FLO CONT E51-R600 and notices speed cannot be maintained above 2000 rpm even with maximum controller output demanded, indicated by the red output needle being fully to the right.

Cue: If asked as the SRO, direct the operator to trip RCIC.

Notes: _____

_____

☐* *Secures steam to the RCIC turbine by depressing the RCIC TURB TRIP pushbutton or by RCIC TURB TRIP/THROT VLV handswitch to Close on P601.*

Standard: Depresses the RCIC TURB TRIP pushbutton or rotates RCIC TURB TRIP/THROT VLV handswitch to Close on P601.

Cue:

Notes: _____

_____

When the operator closes the Turbine Trip/Throttle Valve, the evaluator will end the JPM

Task Standard(s):

RCIC was manually started, but when speed above 2000 rpm could not be maintained, RCIC Turbine Trip/Throttle Valve was closed.

Name: _____Time Start: _____Time Stop: _____

Start RCIC for RPV Pressure Control

Follow-Up Questions & Answers:

Comments:

Start RCIC for RPV Pressure Control

Give this page to the student

Initial Condition(s):

- A scram occurred from rated power approximately 30 minutes ago.
- SSW Subsystem A has been placed in operation per procedure 04-1-01-P41-1.
- The plant is being controlled per EP-2.

Initiating Cue(s):

Initiating Cue(s):

- You have been directed to perform a controlled start RCIC to place it in CST to CST mode for RPV Pressure Control, and attempt to stabilize RPV pressure. Use procedure 04-1-01-E51-1, Section 5.2.2. Section 5.2.1 has been completed.
- Other operators are responsible for RPV water level control and for monitoring Suppression Pool temperature.

GRAND GULF NUCLEAR STATION

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-E1225
Revision: 0
Page: 1 of 9
Rtype: _____
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Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATIONS TRAINING

TITLE:

Shift Residual Heat Removal (RHR) A System from Containment Spray to Suppression Pool Cooling Mode

☒ New Material ☐ Minor Revision ☐ Major Revision

REASON FOR REVISION: N/A
THIS DOCUMENT REPLACES: N/A
REVIEW / APPROVAL (Print Name): ☐ TEAR Approval (TEAR #)

Prepared By: Kyle Grillis 02/14/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. Obtain Shift Management's permission before opening any control panel door or instrument cover.

5 It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

6. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Shift RHR System from Containment Spray to Suppression Pool Cooling Mode

Setting:	Simulator
Type:	RO
Task:	Shift RHR from Containment Spray mode to Suppression Pool Cooling mode
K&A:	226000 A4.03 – 3.5/3.4; A4.18 – 3.8/3.8
Safety Function:	5, Containment Integrity – RHR: Containment Spray and Suppression Pool Cooling Modes
Time Required:	20 minutes
Time Critical:	No
Alternate Path:	Yes
Performance:	Actual
Reference(s):	04-1-01-E12-1, Att. VI
Handout(s):	NA
# Manipulations:	4
# Critical Steps:	5
Group:	1

Simulator Setups:

- Reset to an IC 164 (password protected)
- Inset malfunction e21050 LPCS Pump Trip on a manual trigger

Safety Concerns:

- None

Initial Condition(s):

- A LOCA in the drywell is in progress.
- Emergency Depressurization has been performed.
- RHR is in Containment Spray Mode.
- LPCS, LPCI B, and LPCI C injecting for RPV level control.

Initiating Cue(s):

- You have been directed to realign RHR Loop A from Containment Spray to Suppression Pool Cooling mode, with cooling maximized, using 04-1-01-E12-1 Att. VI (hard card for Suppression Pool Cooling).

TASK: Shift RHR A System from Containment Spray to Suppression Pool Cooling Mode

Notes

1. All controls will be from panels 1H13-P601 in the Main Control Room.

Task Overview:

RHR A is operating in Containment Spray Mode under Post-LOCA conditions. The other three low pressure ECCS systems are maintaining reactor water level. The candidate will realign RHR A valves to place Suppression Pool Cooling A in service, without securing RHR A pump. When Suppression Pool Cooling A has been maximized, LPCS pump will trip, and the candidate will realign RHR A to LPCI mode for RPV level control.

Tasks : critical steps are underlined, italicized and denoted by (*)

☐ Verify SSW A is in service to RHR A Heat Exchanger.

Standard: Checks SSW is in service by observing the following on H13-P870:

- ☐ SSW A Pump running
- ☐ P41-F001A, SSW PMP A DISCH VLV is Open
- ☐ P41-F005A, SSW LOOP A RTN TO CLG TWR A is Open
- ☐ P41-F014A, SSW INL TO RHR HX A is Open
- ☐ P41-F006A, SSW PMP A RECIRC VLV is Closed

.

Cue:

Notes: _____

_____

☐ Verify open E12-F003A, RHR HX A OUTL VLV.

Standard: The operator verifies E12-F003A is open by observing its position indicating meter on H13-P601.

Cue:

Notes: _____

_____

☐* *Resets Containment Spray A logic.*

Standard: Depresses the CTMT SPR A RESET pushbutton on P601, and observes the logic white light extinguish and verifies E12-F028A, CTMT SPRAY A SPARGER INJ VLV on P601, closes

Cue:

Notes: _____

_____

☐* ***Opens*** *E12-F024A, RHR A TEST RTN TO SUPP POOL*.

Standard: The operator opens E12-F024A using its handswitch on P601.

Cue:

Notes: Opening of F024A causes LPCI A Mode of RHR to be inoperable, but this is not required to be communicated to the SRO under these Post-LOCA conditions

_____

NOTE: When the evaluator is ready, activate malfunction e21050, LPCS Pump Trip. Reactor water level will begin to fall.

☐* *Recognizes and reports LPCS Pump Trip*.

Standard: Acknowledges and reports alarm 1H13-P601-21A-A7, LPCS PMP TRIP.

Cue: As the SRO direct the operator to align RHR A for LPCI mode and inject to the RPV to stabilize reactor water level

Notes: _____

_____

NOTE: Sequence of the next two steps is not critical.

☐* *Closes E12-F024A, RHR A TEST RTN TO SUPP POOL*.

Standard: Closes E12-F024Ausing its handswitch on P601.

Cue:

Notes: _____

_____

☐* *Opens E12-F042A, RHR A INJ SHUTOFF VLV.*

Standard: The operator opens E12-F042A, receiving feedback that it is open.

Cue:

Notes: _____

_____

When E12-F042A is open with E12-F024A is fully closed, the evaluator will end the JPM.

Task Standard(s):

RHR Loop A was placed in Suppression Pool Cooling mode per SOI 04-1-01-E12-1 Att VI and then realigned to LPCI mode.

Name: _____Time Start: _____Time Stop: _____

TASK: **Shift RHR A System from Containment Spray to Suppression Pool Cooling Mode**

Follow-Up Questions & Answers:

Comments:

Shift RHR A System from Containment Spray to Suppression Pool Cooling Mode

Give this page to the student

Initial Condition(s):

- A LOCA in the drywell is in progress.
- Emergency Depressurization has been performed.
- RHR is in Containment Spray Mode.
- LPCS, LPCI B, and LPCI C injecting for RPV level control.

Initiating Cue(s):

- You have been directed to realign RHR Loop A from Containment Spray to Suppression Pool Cooling mode, with cooling maximized, using 04-1-01-E12-1 Att. VI (hard card for Suppression Pool Cooling).

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-C11216
Revision: 00
Page: 1 of 9
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

Bypass a Control Rod in RACS

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: NEW JPM
THIS DOCUMENT REPLACES: N/A

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

Prepared By: Kyle Grillis 2/13/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

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Generic Instructions

1. Standards and cues for valve operation:
   a. MOVs:
      1) "Turn the valve's handswitch on (panel #)(section#, as applicable) in the (clockwise or counter-clockwise) direction and observe that the valve's red light is (energized or de-energized) and its green light is (energized or de-energized)".
   b. Manual valves
      1) "Turn the valve's handwheel (or other manual operating device) in the (clockwise or counter-clockwise) direction until resistance is felt."

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).

7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).

8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

C11(2) Task 14: Bypass a Control Rod in RACS

Setting:	Control Room
Type:	RO
Task:	CRO-C11(2)-014
K&A:	201005 A2.033.2/3.2; A2.04: 3.2/3.2; A2.06: 3.2/3.2; A2.07: 3.2/3.2
Safety Function:	1/7
Time Required:	20 minutes
Time Critical:	No
Faulted:	No
Performance:	SIMULATE
Reference(s):	04-1-01-C11-2
Handout(s):	04-1-01-C11-2
# Manipulations:	2
# Critical Steps:	4
Group #:	2

Simulator Setup/Required Plant Conditions:

- Permission to open Control Room Back Panel Cabinets from the Control Room Supervisor or Shift Manager

Safety Concerns:

- Do NOT allow candidate to manipulate Control Room controls. Only point and discuss.

Initial Condition(s):

- Reactor startup is in progress.
- Rod Pattern Controller is in effect.
- Control Rod 20-09 has caused a control rod block due to the rod position out of pattern.
- Reactor Engineering has been consulted and concurs with bypassing the control rod.
- Requirements of Engineering Procedure 17-S-02-400 have been met.

Initiating Cue(s):

- The Control Room Supervisor gives you the key to the RACS cabinets.
- You have been directed to bypass control rod 20-09 in both Rod Action Control Cabinets per 04-1-01-C11-2 section 5.1.
- Anaother operator will complete Attachment V of 04-1-01-C11-2 in parallel with your performing the rod bypass.

C11(2) Task 14: Bypass a Control Rod in RACS

Notes

1. All Control Room operations will be on panels P651 and 652.

Task Overview

This task is to bypass control rod positions in RACS 1 and 2 to allow Control Rod Movement to place the control rod in a specific position regardless of the Rod Pattern Controller. This is done when a control rod is out of position with regard to the Rod Pattern Controller to allow the rod to be put in pattern allowing Control Rod Blocks to be cleared.

C11(2) Task 14: Bypass a Control Rod in RACS

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

Sequence within a division is critical. Performance of RACS 1 or 2 first is NOT critical. If the candidate bypasses the rod in RACS 1 first, he then needs only to identify RACS 2, and vice versa.

☐* *Determine the binary address of control rod 20-09 is 00110 00011*

Standard: Using Figure 1b of 04-1-01-C11-2 determines the binary address of control rod 20-09 is 00110 00011.

Cue: Acknowledge the binary address given by the candidate.

Notes: Candidate may also use chart in panel RACS 1 P651 (RACS 2 P652).

RACS 1

☐ Unlock the cover to the binary switches on RACS 1 panel H13-P651 (RACS 2 P652)

Standard: Unlocks the cover to the binary switches on panel H13-P651 (RACS 2 P652)

Cue: cover is unlocked

Notes: DO NOT OPEN THE COVER!

☐* *On a Bypass Card selects binary code 00110 00011*

Standard: On a Bypass Card selects binary code 00110 00011 by placing address switches (from top to bottom) 3, 4, 9, and 10 to the right. Switches 1, 2, 5, 6, and 7 should be to the left.

Cue: The switches are in the positions you indicated.

Notes: See attached drawing

☐* *Place the bypass card bypass switch to BYPASS*

Standard: Place the bypass card bypass switch to the right BYPASS and observes the red LED illuminate on the top of the card.

Cue: Red LED on

Notes: Bypass switch is the top switch. The rod is now bypassed in RACS 1 (2) when this step is complete.

.

RACS 2

☐* *Identifies RACS 2 at panel H13-P652 (RACS 1 at panel H13-P652)*

Standard: Candidate indicates the rod bypass performed in RACS 1 (2) will be repeated in RACS 2 (1) by identifying H13-P652 (P651) as housing RACS 2 (1).

Cue: When the candidate identifies the second RACS cabinet, the evaluator will end the JPM

Notes:

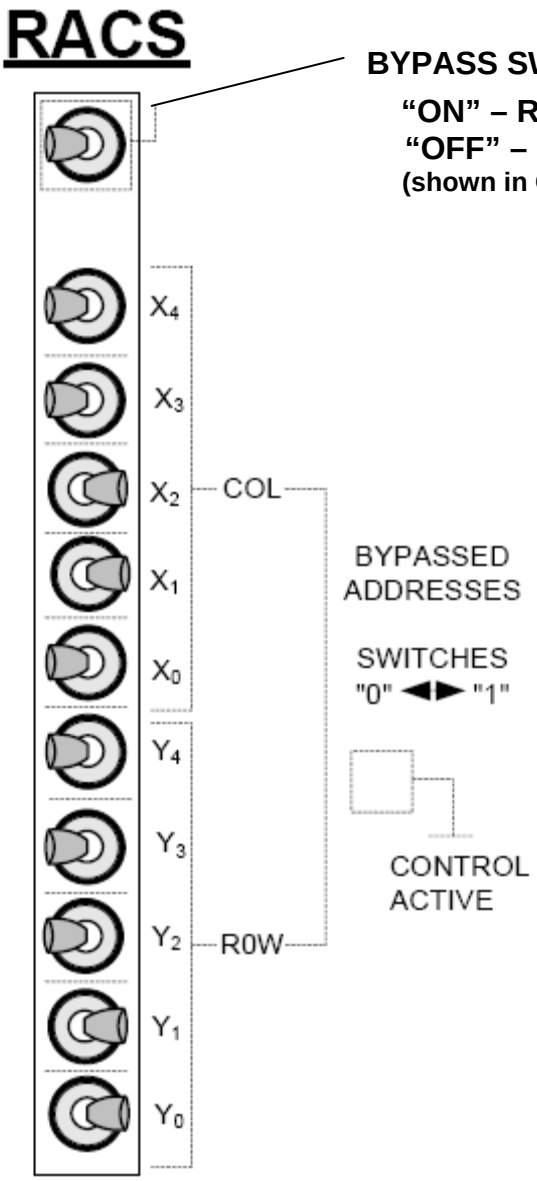
Task Standard(s):
Control Rod 20-09 has been bypassed in RACS 1, and the candidate has identified the location of RACS 2.

Name: _____ Time Start: _____ Time Stop: _____

C11(2) Task 14: Bypass a Control Rod in RACS

Follow-Up Questions & Answers:

Comments:



Binary Address Depicted for Rod 20-09

00110 00011

EVALUATOR KEY

Do NOT give this page to Candidate!

Bypass a Control Rod in RACS

Give this page to the student

Initial Condition(s):

- Reactor startup is in progress.
- Rod Pattern Controller is in effect.
- Control Rod 20-09 has caused a control rod block due to the rod position out of pattern.
- Reactor Engineering has been consulted and concurs with bypassing the control rod.
- Requirements of Engineering Procedure 17-S-02-400 have been met.

Initiating Cue(s):

- The Control Room Supervisor gives you the key to the RACS cabinets.

- You have been directed to bypass control rod 20-09 in both Rod Action Control Cabinets per 04-1-01-C11-2 section 5.1.

- Another operator will complete Attachment V of 04-1-01-C11-2 in parallel with your performing the rod bypass.

GRAND GULF NUCLEAR STATION

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-E3201
Revision: 0
Page: 1 of 14
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATIONS TRAINING

TITLE:

Place Main Steam Isolation Valve Leakage Control System (MSIVLCS) in Service

☒ New Material ☐ Minor Revision ☐ Major Revision

REASON FOR REVISION: N/A
THIS DOCUMENT REPLACES: N/A
REVIEW / APPROVAL (Print Name): ☐ TEAR Approval (TEAR #)

Prepared By: Kyle Grillis 2/16/09
**Preparer Date

Ops Review[++]: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
[+]Discipline Training Supervisor Date

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FLEET/REGIONAL PROGRAM CONCURRENCE:
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Generic Instructions

1. Standard cues for valve operation:
   a. MOVs:
      1) "Full open" = "red light on, green light off"
      2) "Full closed" = "red light off, green light on"
   b. Manual valves
      1) "Full open" = "you feel resistance in the counter-clockwise direction"
      2) "Full closed" = "you feel resistance in the clockwise direction"

2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.

3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.

4. Obtain Shift Management's permission before opening any control panel door or instrument cover.

5 It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.

6. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Place Main Steam Isolation Valve Leakage Control System (MSIVLCS) in Service

Setting: Control Room
Type: RO
Task: Place MSIV LCS in service
K&A: 239003 A4.01- 3.2/3.2

Safety Function: 9, Radioactivity Release
Time Required: 30 minutes
Time Critical: No
Alternate Path: Yes
Performance: Actual
Reference(s): 04-1-01-E32-1, Section 5.1, 5.2 and 5.4

Handout(s):
Manipulations: 12
Critical Steps: 9
Group: 2

Simulator Setup / Required Plant Condiitons:

- Main control room and backpanels are accessible

Safety Concerns:

- None

Initial Condition(s):

- A LOCA has occurred.
- It has been approximately 30 minutes since the initiation of the event.
- All MSIVs are closed.
- All MSL Drain MOVs are closed.
- SGTS has been placed in service.
- MSIVLCS Outboard and Inboard subsystems are in Standby.
- Steam line pressure is 10 psig and lowering.
- OUTBD MSIV LCS PERM annunciator 1H13-P601-17A-G6 is On.

Initiating Cue(s):

- You have been directed to start the Outboard Main Steam Isolation Valve Leakage Control System (MSIVLCS). Use procedure 04-1-01-E32-1, Section 5.2.

Place Main Steam Isolation Valve Leakage Control System (MSIVLCS) in Service

Notes

All controls will be from panels 1H13-P654, P655, and P601 in the Main Control Room.

Task Overview

This task is to start the Outboard MSIV LCS. When the Outboard system is started, air blower E32-C003F will be simulated to fail to start. The Outboard MSIV LCS will be secured, and the Inboard MSIV LCS will be started

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

NOTE: All handswitches and indicators are on 1H13-P654, unless otherwise noted.

☐ CHECK that the 120 VAC POWER AVAILABLE light is illuminated (Start Section 5.2.2).

Standard: Verifies the 120 VAC POWER AVAILABLE available lite is illuminated on P654.

Cue: White light is on.

Notes: _____

_____

☐ CLOSE MSL SHUTOFF VLV B21-F098A.

Standard: The operator closes B21-F098A using its handswitch on P601.

Cue: Green light is on, red light is off.

Notes: _____

_____

☐ CLOSE MSL SHUTOFF VLV B21-F098B.

Standard: The operator closes B21-F098B using its handswitch on P601.

Cue: Green light is on, red light is off.

Notes: _____

_____

☐ CLOSE MSL SHUTOFF VLV B21-F098C using its handswitch on P601.

Standard: The operator closes B21-F098C using its handswitch on P601.

Cue: Green light is on, red light is off.

Notes: _____

_____

☐ CLOSE MSL SHUTOFF VLV B21-F098D using its handswitch on P601.

Standard: The operator closes B21-F098D using its handswitch on P601.

Cue: Green light is on, red light is off.

Notes: _____

_____

NOTE: **E32-F008 and F009 will open if steam line pressure is initially ≥ 28.9 psia.**

CUE: When asked, Main Steam Line Pressure trip unit 1E32-PIS-N657 indicates 25 psia.

☐* *PLACE INITIATE OUTBD SYSTEM handswitch to OPER.*

Standard: The operator rotates INITIATE OUTBD SYSTEM handswitch to OPER on P654.

Cue: Handswitch is in OPER.

Notes: _____

_____

☐**VERIFIES that the following occurs (Section 5.2.2, Substeps d. and e.):*

1) 1E32-C002B, OUTBOARD AIR BLOWER starts
2) 1E32-C002F, OUTBOARD AIR BLOWER starts **(in JPM it fails to start)**
3) 1E32-F009, OUTBOARD DEPRESSURE VLV remains closed
4) 1E32-F008, OUTBOARD DEPRESSURE VLV remains closed
5) 1E32-F006, OUTBOARD BLEED VALVE is open
6) 1E32-F007, OUTBOARD BLEED VALVE is open

Standard: The operator verifies that the outboard depressure and bleed valves are closed as indicated by the Note provided (with initial conditions); 1E32-C002B starts, and 1E32-C002F fails to start.

Cue:
1) 1E32-C002B, OUTBOARD AIR BLOWER – red light on, green light off
2) 1E32-C002F, OUTBOARD AIR BLOWER - **green light on, red light off**
3) 1E32-F009, OUTBOARD DEPRESSURE VLV – green light on, red light off
4) 1E32-F008, OUTBOARD DEPRESSURE VLV – green light on, red light off
5) 1E32-F006, OUTBOARD BLEED VALVE – red light on, green light off
6) 1E32-F007, OUTBOARD BLEED VALVE – red light on, green light off

Notes: _____

_____

☐ INFORMS Control Room Supervisor that Outboard MSIVLCS is not operational.

Standard: The operator provides the information to the CRS, and acknowledges the new order.

Cue: The CRS acknowledges the information, and directs the applicant to secure the Outboard MSIVLCS per 04-1-01-E32-1 Section 5.4, THEN start the Inboard MSIVLCS per 04-1-01-E32-1 Section 5.1.

Notes: _____

_____

NOTE: All handswitches and indicators are on 1H13-P654, unless otherwise noted.

☐ * *PLACE INITIATE OUTBD SYSTEM handswitch to OFF.*

Standard: The operator places INITIATE OUTBD SYSTEM handswitch on P654 in the OFF position.

Cue: Handswitch is in OFF.

Notes: _____

_____

☐ VERIFIES that the following occurs:
1) 1E32-C002B, OUTBOARD AIR BLOWER stops
2) 1E32-C002F, OUTBOARD AIR BLOWER stops (remains stopped)
3) 1E32-F006, OUTBOARD BLEED VALVE close
4) 1E32-F007, OUTBOARD BLEED VALVE close
(Note: There is no check in the procedure for the valve position of 1E32-F006 and –F007.)

Standard: The operator verifies that the outboard bleed valves are closed and air blower fans 1E32-C002B and C002F are secured.

Cue:
1) 1E32-C002B, OUTBOARD AIR BLOWER – green light on, red light off
2) 1E32-C002F, OUTBOARD AIR BLOWER - green light on, red light off
3) 1E32-F009, OUTBOARD DEPRESSURE VLV – green light on, red light off
4) 1E32-F008, OUTBOARD DEPRESSURE VLV – green light on, red light off
5) 1E32-F006, OUTBOARD BLEED VALVE – green light on, red light off
6) 1E32-F007, OUTBOARD BLEED VALVE – green light on, red light off

Notes: There is procedure step for checking the valve positions of 1E32-F008 and F009.

☐ CHECK CLOSED B21-F147A MSL DR LINE LEAK CONT on H13-P601-19C.

Standard: The operator checks closed B21-F147A MSL DR LINE LEAK CONT on P601.

Cue: Green light on, red light off.

Notes: _____

_____

☐ CHECK CLOSED B21-F147B MSL DR LINE LEAK CONT on H13-P601-19C.

Standard: The operator checks closed B21-F147B MSL DR LINE LEAK CONT on P601.

Cue: Green light on, red light off.

Notes: _____

_____

Inboard System Start Up

NOTE: All prerequisites in section 5.1.1 are met as initial conditions.

NOTE: All handswitches and indicators are on 1H13-P655, unless otherwise noted.

☐ CHECK that the amber PERMISSIVE TO INITIATE SYS A, E, J, & N MSIV LCS lights are illuminated.

Standard: Checks the PERMISSIVE TO INITIATE SYS A, E, J, & N MSIV LCS lights are illuminated on P655.

Cue: PERMISSIVE TO INITIATE SYS A, E, J and N amber lights are all On

Notes: _____

_____

☐ CHECK "INBD MSIV LCS PERM" annunciator 1H13-P601-17A (D6) is illuminated.

Standard: The operator verifies INBD MSIV LCS PERM annunciator on P601 is on.

Cue: Annunciatior is sealed in.

Notes: _____

_____

☐ CHECK SYSTEM A, E, J, & N white POWER AVAILABLE lights are illuminated.

Standard: The operator verifies inboard system A, E, J, & N white POWER AVAILABLE lights on P655 are on.

Cue: POWER AVAILABLE lights A, E, J, and N are on.

Notes: _____

_____

☐* *PLACE SYSTEM A INITIATION handswitch to OPER.*

Standard: The operator SYSTEM A INITIATION handswitch to OPER on P655.

Cue: Handswitch is in OPER.

Notes: _____

_____

☐* *PLACE SYSTEM E INITIATION handswitch to OPER.*

Standard: The operator SYSTEM E INITIATION handswitch to OPER on P655.

Cue: Handswitch is in OPER.

Notes: _____

_____

☐* *PLACE SYSTEM J INITIATION handswitch to OPER.*

Standard: The operator SYSTEM J INITIATION handswitch to OPER on P655.

Cue: Handswitch is in OPER.

Notes: _____

_____

☐* *PLACE SYSTEM N INITIATION handswitch to OPER.*

Standard: The operator SYSTEM N INITIATION handswitch to OPER on P655.

Cue: Handswitch is in OPER.

Notes: _____

_____

☐ ENSURE the following:
1) 1E32-F001A, -E, -J, -N INBOARD VALVES Open
2) 1E32-F002A, -E, -J, -N INBOARD VALVES Open

Standard: Checks that the following valves open:

☐ E32-F001A
☐ E32-F001E
☐ E32-F001J
☐ E32-F001N
☐ E32-F002A
☐ E32-F002E
☐ E32-F002J
☐ E32-F002N

Cue: For all listed valves – red light on, green light off.

Notes: _____

_____

☐* *OPEN B21-F147A MSL DR LINE LEAK CONT.*

Standard: The operator opens B21-F147A with handswitch MSL DR LINE LEAK CONT on P601.

Cue: Red light on, green light off

Notes: _____

_____

☐* *OPEN B21-F147B MSL DR LINE LEAK CONT.*

Standard: The operator opens B21-F147B with handswitch MSL DR LINE LEAK CONT on P601.

Cue: Red light on, green light off

Notes: _____

_____

CUE: When the operator has completed the above step, the evaluator will end the JPM.

Task Standard(s):

Inboard MSIVLCS is in service IAW SOI 04-1-01-E32-1 section 5.1, and Outboard MSIV LCS is shutdown IAW 04-1-01-E32-1 section 5.4.

Name: _____Time Start: _____Time Stop: _____

Place Main Steam Isolation Valve Leakage Control System (MSIVLCS) in Service

Follow-Up Questions & Answers:

Comments:

Place Main Steam Isolation Valve Leakage Control System (MSIVLCS) in Service

Give this page to the student

Initial Condition(s):

- A LOCA has occurred.
- It has been approximately 30 minutes since the initiation of the event.
- All MSIVs are closed.
- All MSL Drain MOVs are closed.
- SGTS has been placed in service.
- MSIVLCS Outboard and Inboard subsystems are in Standby.
- Steam line pressure is 10 psig and lowering.
- OUTBD MSIV LCS PERM annunciator 1H13-P601-17A-G6 is On.

Initiating Cue(s):

- You have been directed to start the Outboard Main Steam Isolation Valve Leakage Control System (MSIVLCS). Use procedure 04-1-01-E32-1, Section 5.2.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-C4106
Revision: 0
Page: 1 of 12
Rtype: _____
QA Record
Number of pages _____
Date _____ Initials _____

TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

STANDBY LIQUID CONTROL PUMP A MONTHLY OPERABILITY SURVEILLANCE

☒ New Material ☐ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION:
THIS DOCUMENT REPLACES:

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

Prepared By: Kyle Grillis 2/13/09
**Preparer Date

Ops Review++: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
+Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standards and cues for valve operation:
    a. MOVs:
        i. "Turn the valve's handswitch on (panel #)(section#, as applicable) in the (clockwise or counter-clockwise) direction and observe that the valve's red light is (energized or de-energized) and its green light is (energized or de-energized)".
    b. Manual valves
        i. "Turn the valve's handwheel (or other manual operating device) in the (clockwise or counter-clockwise) direction until resistance is felt."
2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.
3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.
4. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.
5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)
6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).
7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).
8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

C41 Task 6: Standby Liquid Control Pump A Monthly Operability

Setting:	Plant (Inside CAA)
Type:	NLO
Task:	Perform SLC A Monthly Pump Run Surveillance
K&A:	211000 A1.09
Safety Function:	1
Time Required:	60 minutes
Time Critical:	No
Faulted:	No
Performance:	Simulated
Reference(s):	06-OP-1C41-M-0001
Handout(s):	06-OP-1C41-M-0001
# Manipulations:	14
# Critical Steps:	12
Group :	1

Simulator Setup/Required Plant Conditions:

- SLC @ Area 11/185' and 10/166' is accessible with rad levels ALARA

Safety Concerns:

- No climbing. Point up or down while you explain what you are going to do.

Initial Condition(s):

- SLC is in standby
- An operator is stationed at the SLC drain station in the Aux. Bldg. to monitor drum level. Two 55 gallon drums are stationed in the Aux Bldg.
- An operator is stationed at the local SLC control panel.
- An operator is available to monitor SLC test tank level during performance of test.
- Plant is in Mode 1
- Makeup water is available

Initiating Cue(s):

- You have been directed to perform the SLC Pump A Monthly Operability test in accordance with 06-OP-1C41-M-0001 for SLC Pump A only. All prerequisites have been met.

C41 Task 6: Standby Liquid Control Pump A Monthly Operability

Notes:

1. Evaluator should act as communications liaison with the Control Room.

Task Overview:

This task simulates the ability to perform the SLC Pump A Monthly Operability Test.

C41 Task 6: Standby Liquid Control Pump A Monthly Operability

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

☐ Closely monitor the SLC drain drums to ensure drained solution does not overflow into the Floor Drains.

Standard: None

Cue: The evaluator will act as the drain station operator

Notes:

☐ Station an operator at SLC local panel (1H22-P011) to start and stop pump.

Standard: The candidate establishes an operator at panel P011.

Cue: The evaluator will act as the operator to start and stop the pump

Notes:

☐ Station an operator at the SLC test tank level gauge to monitor and control level during the test..

Standard: The candidate establishes an operator at the SLC test tank level gauge.

Cue: The evaluator will act as the operator to maintain SLC tank level.

Notes:

☐ Notify the Auxiliary Building side operator to open P48-F007 and ~~F008~~ F009, Aux. Bldg.-side SLC drain isolation valves

Standard: Simulates contacting the Auxiliary Building side operator.

Cue: Acting as the Auxiliary Building operator the evaluator reports that P48-F007 and ~~F008~~ F009 are open.

Notes:

☐*_Open 1C41-F031._

Standard: the 1C41-F031 handwheel in the counter-clockwise direction until resistance is felt.

Cue: Resistance is felt in the counter-clockwise direction.

Notes:

☐ Notify the Shift Supervisor that both SLC A and B are inoperable.

Standard: Simulates contacting the Control Room.

Cue: Acting as the Shift Supervisor, the evaluator reports that information was received.

Notes:

☐*_To fill the test tank, open 1C41-F014, Makeup Water valve._

Standard: Simulates turning the 1C41-F014 handwheel in the counter-clockwise direction until resistance is felt.

Cue: Resistance is felt in the counter-clockwise direction. Notes:

Notes:

☐ Open 1C41-F806 to vent the suction side of SLC A pump.

Standard: Simulates turning the 1C41-F806 handwheel in the counter-clockwise direction until water flows from the vent.

Cue: Water is flowing from the vent.

Notes:

☐ Close 1C41-F806.

Standard: Simulates turning the 1C41-F806 handwheel in the clockwise direction until until resistance is felt.

Cue: Resistance is felt in the clockwise direction and test tank level is in the proper operating band.

Inform the candidate level in the test tank is 44 inches.

Notes:

☐ *_Close 1C41-F014, Test Tank Makeup Water valve._*

Standard: Simulates turning the 1C41-F014 handwheel in the clockwise direction until resistance is felt.

Cue: Resistance is felt.

Notes:

☐*Open 1C41-F016, Recirc to Test Tank.

Standard: Simulates turning the 1C41-F016 handwheel in the counter-clockwise direction until resistance is felt.

Cue: Resistance is felt.

Notes:

☐*Open 1C41-F017, Recirc to Test Tank.

Standard: Simulates turning the 1C41-F017 handwheel in the counter-clockwise direction until resistance is felt.

Cue: Resistance is felt.

Notes:

☐*Open 1C41-F220, Recirc to Test Tank.

Standard: Simulates turning the 1C41-F220 handwheel in the counter-clockwise direction until resistance is felt.

Cue: Resistance is felt.

Notes:

☐ Verify oil level in SLC A pump is between the upper two marks in the sightglass.

Standard: Verifies SLC A pump oil level.

Cue: As indicated.

Notes:

☐ Verify gear box oil level in SLC A pump satisfies the requirements of PRECAUTION 2.11.

Standard: Check Precaution 2.11 and verifies gearbox oil level of SLC A pump.

Cue: As indicated.

Notes:

☐ Close or check closed gauge isolation T valve for PI-R003.

Standard: Simulates turning handwheel on T valve for PI-R003 in clockwise direction until resistance if felt.

Cue: Resistance if felt.

Notes:

☐ Start SLC A pump.

Standard: Simulates contacting the operator at the local SLC panel.

Cue: Acting as the operator at the local SLC panel, the evaluator reports that SLC A pump is running.

Notes:

☐ If desired, Open gauge isolation T valve for PI-R003.

Standard: Simulates turning handwheel on T valve for PI-R003 in counter-clockwise direction until resistance if felt.

Cue: If asked, state opening the T-valve is not desired. Or, if the candidate opens the T-valve, state resistance is felt and the guage is responding.

Notes:

☐ Verify the SLC A Pump recirculates water to the test tank by observing flow of >40 gpm indicated on 1C41-FI-R050.

Standard: Checks flow rate indicated on 1C41-FI-R050.

Cue: Indicated flow is >40 gpm.

Notes:

☐ Visually inspect SLC piping up to 1C41-F004A for leaks.

Standard: Inspects for leaks.

Cue: If asked, leakage from the pump stuffing box is 8-10 drops/minute. Other than that, state no leakage is indicated.

Notes:

After the candidate completes the check for leaks, the evaluator will end the JPM

Task Standard(s):

06-OP-1C41-M-0001, Standby Liquid Control Operability, has been performed through step 5.2.4g for SLC Pump A leaving SLC Pump A running in recirc to the SLC Test Tank.

Name: _____Time Start: _____ Time Stop: _____

C41 Task 6: Standby Liquid Control Pump A Monthly Operability

Follow-Up Questions & Answers:

Comments:

Standby Liquid Control Pump A Monthly Operability

Give this page to the student

Initial Condition(s):

- SLC is in standby
- An operator is stationed at the SLC drain station in the Aux. Bldg. to monitor drum level. Two 55 gallon drums are stationed in the Aux Bldg.
- An operator is stationed at the local SLC control panel.
- An operator is available to monitor SLC test tank level during performance of test.
- Plant is in Mode 1
- Makeup water is available

Initiating Cue(s):

- You have been directed to perform the SLC Pump A Monthly Operability test in accordance with 06-OP-1C41-M-0001 for SLC Pump A only. All prerequisites have been met.

GRAND GULF NUCLEAR STATION

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-L62-1
Revision: 03
Page: 1 of 10
Rtype: _____
QA Record
Number of pages _____
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TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

STARTUP STATIC INVERTER 1Y81

☐ New Material ☒ Minor Revision ☐ Major Revision ☐ Cancellation

REASON FOR REVISION: editorial enhancements
THIS DOCUMENT REPLACES: GJPM-OPS-L62-1 rev. 02

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

Prepared By: Kyle Grillis 2/13/09
**Preparer Date

Ops Review++: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
+Discipline Training Supervisor Date

Approval Date:* _____

* 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)

Generic Instructions

1. Standard cues for valve operation:
    a. MOVs:
        i. "Full open" = "red light on, green light off"
        ii. "Full closed" = "red light off, green light on"
    b. Manual valves
        i. "Full open" = "you feel resistance in the counter-clockwise direction"
        ii. "Full closed" = "you feel resistance in the clockwise direction"
2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.
3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.
4. Obtain Shift Management's permission before opening any control panel door or instrument cover.
5. It is expected that the candidate shall locate controlled copies of any required procedures and describe how copies of these procedures would be prepared for use in the field. Only at this time should the evaluator give the candidate previously prepared copies of the procedure(s). This entire procedure need only be performed or simulated once during the entire exam. <u>These activities are not required for JPMs conducted in the Simulator</u>.
6. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)
7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).
8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area.
    Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

L62 Task 1: Startup Static Inverter 1Y81

Setting:	Plant (Outside CAA)
Type:	NLO
Task:	NLO-L62-002
K&A:	262002 2.1.30: 3.9/3.4; A4.01: 2.8/3.1
Safety Function:	Electrical (6)
Time Required:	15 minutes
Time Critical:	No
Faulted:	Yes
Performance:	Simulate
Reference(s):	SOI 04-1-01-L62-1 Section 4.1, Attachment III
Handout(s):	SOI 04-1-01-L62-1, Attachment III
# Manipulations:	6
# Critical Steps:	7
Group #:	1

Simulator Setup/Required Plant Conditions:

- Area 25A elevation 148' accessible.
- Shift Manager/ Control Room Supervisor permission to conduct JPMs.

Safety Concerns:

1. Do NOT allow candidate to manipulate plant equipment.
2. Due to Protected Train concerns may substitute Inverter 1Y79 or 1Y80. If this is done review the SOI for the alternate circuit breaker numbers.

Equipment Needed: None.

Initial Condition(s):

- Inverter 1Y81 is shutdown with both Battery Input breaker CB1 and Inverter Output breaker CB2 Open.
- The Alternate Source is supplying the loads for 1Y81.
- DC Bus 11DL is energized and circuit breaker 72-11L04 is closed.
- The Manual Bypass Switch for Inverter 1Y81 is selected to Alternate Source To Load.
- The Alternate (AC) Power feeder breaker 52-164226 is closed.
- The Alternate Source AC Input breaker CB4 is open.

Initiating Cue(s):

- You have been directed to startup Inverter 1Y81 and transfer the loads to the Normal Source per SOI 04-1-01-L62-1 section 4.1.

L62 Task 1: Startup Static Inverter 1Y81

Notes

1. **If Division 2 is the Protected Train, an alternate Static Inverter may be substituted.**

Task Overview: This task is to startup a BOP Static Inverter and transfer the Uninterruptable Power Supply loads to the inverter per the SOI.

Tasks: Critical steps are underlined, italicized, and denoted by (*).

Static Inverter 1Y81 is located in the RPS 'B' Motor Generator Room 148' elevation Control Building.

☐ Check Alternate (AC) Power and Primary (DC) Power feeder breakers are closed.

Standard: Candidate checks Alternate (AC) Power and Primary (DC) Power feeder breakers are closed.

Cue: Breakers are in the closed position.

Notes: Given in Initial Conditions may not be checked further, this is acceptable.

☐ Check REVERSE POLARITY light is off.

Standard: Candidate checks REVERSE POLARITY light is off.

Cue: Light is off.

Notes:

□* *Depress PRECHARGE pushbutton until Precharge light comes on.*

Standard: Candidate depresses PRECHARGE pushbutton until Precharge light comes on.

Cue: Precharge light is on.

Note: The next step should be preformed within 10 seconds of the precharge light being illuminated.

□* *Close BATTERY INPUT breaker.*

Standard: Candidate closes the BATTERY INPUT breaker CB1.

Cue: Breaker indicates closed.

Notes:

□ Observes the following indications:

- □ DC INPUT voltmeter reads ≈ 125 volts.
- □ Both AC OUTPUT voltmeters indicate 125 ± 5 volts.
- □ AC OUTPUT frequency meter reads 60 ±0.06 Hz.

Standard: Candidate confirms the above indications.

Cue: As the candidate checks an indication give them the following indication:

DC INPUT– 125VDC, AC OUTPUT VOLT– 125 VAC, AC OUTPUT FREQ- 60 HZ

Notes:

□* *Close ALTERNATE SOURCE AC INPUT breaker.*

Standard: Candidate closes ALTERNATE SOURCE AC INPUT breaker CB4.

Cue: Breaker closed.

Notes: If asked by the operator, the Manual Bypass Switch is in the ALTERNATE SOURCE TO LOAD position.

☐* *Transfer the Manual Bypass Switch to NORMAL OPERATION position.*

Standard: Candidate transfers the Manual Bypass Switch to NORMAL OPERATION position.

Cue: Switch is in Normal Operation position.

Notes: Large two position barrel switch.

☐* *Close INVERTER OUTPUT breaker.*

Standard: Candidate closes INVERTER OUTPUT breaker CB2.

Cue: Breaker closed.

Notes: If asked cue the candidate the Alternate Source is still supplying the load.

☐ Observes the following indications:

- ☐ PRECHARGE light is on.
- ☐ INVERTER SUPPLYING LOAD light is **OFF.**
- ☐ INSYNC light is on.
- ☐ All other lights are off.
- ☐ Both AC OUTPUT ammeters indicate positive values.

Added: Alt Source Supplying Load Light is ON

Standard: Candidate confirms the above indications.

Cue: INFORM the candidate the indications are as above.

Notes:

□* *Recognizes INVERTER SUPPLYING LOAD light being Off is not expected.*
Standard: Candidate recognizes that INVERTER SUPPLYING LOAD light should be ON, and consults the procedure for needed action.

Cue: None

Notes: Once the inverter output breaker was closed, the static switch should have automatically transferred back to the normal supply (inverter supplying the load).

□* *Depress INVERTER TO LOAD pushbutton.*
Standard: Candidate depresses INVERTER TO LOAD pushbutton.

Cue: INVERTER SUPPLYING LOAD light is on.

Notes:

If asked cue the candidate the Control Room annunciator for Inverter Trouble has cleared.

If asked cue the candidate another operator will clear Caution Tags.

Task Standard(s):

Inverter 1Y81 has been started and load transferred to the Normal supply of the Inverter powering load per 04-1-01-L62-1 section 4.1.

Name: _____ Time Start: _____ Time Stop: _____

L62 Task 1: Startup Static Inverter 1Y81

Follow-Up Questions & Answers:

Comments:

Startup Static Inverter 1Y81

Give this page to the student

Initial Condition(s):

- Inverter 1Y81 is shutdown with both Battery Input breaker CB1 and Inverter Output breaker CB2 Open.
- The Alternate Source is supplying the loads for 1Y81.
- DC Bus 11DL is energized and circuit breaker 72-11L04 is closed.
- The Manual Bypass Switch for Inverter 1Y81 is selected to Alternate Source To Load.
- The Alternate (AC) Power feeder breaker 52-164226 is closed.
- The Alternate Source AC Input breaker CB4 is open.

Initiating Cue(s):

- You have been directed to startup Inverter 1Y81 and transfer the loads to the Normal Source per SOI 04-1-01-L62-1 section 4.1.

ENTERGY NUCLEAR

JOB PERFORMANCE MEASURE

Number: GJPM-OPS-EOP26
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TRAINING PROGRAM:

OPERATOR TRAINING

TITLE:

Align Fire Water to LPCS and RHR C per EP Attachment 26

☐ New Material ☐ Minor Revision ☒ Major Revision ☐ Cancellation

REASON FOR REVISION: major editorial changes, new format
THIS DOCUMENT REPLACES: GJPM-NLO-EP026 Rev 01

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

Prepared By: Kyle Grillis 2/13/09
**Preparer Date

Ops Review++: _____
Technical Reviewer (e.g., SME, line management) Date

Validated By: _____
Training Representative Date

Approved By: _____
+Discipline Training Supervisor Date

Approval Date:* _____

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FLEET/REGIONAL PROGRAM CONCURRENCE:

☐ Fleet ☐ ENS ☐ ENN ☒ Not Applicable

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Generic Instructions

1. Standards and cues for valve operation:
    a. MOVs:
        i. "Turn the valve's handswitch on (panel #)(section#, as applicable) in the (clockwise or counter-clockwise) direction and observe that the valve's red light is (energized or de-energized) and its green light is (energized or de-energized)".
    b. Manual valves
        i. "Turn the valve's handwheel (or other manual operating device) in the (clockwise or counter-clockwise) direction until resistance is felt."
2. The Evaluator should indicate simulated analog gauge readings by pointing a pen or equivalent to the intended place on the gauge.
3. Other methods of simulating control, operation and data collection is at the discretion of the Evaluator.
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5. Consideration of electrical safety must be made during the performance of certain tasks involving electrical circuits and circuit breakers. The performer should be aware that working on or near energized equipment requires, at a minimum, wearing 100% cotton clothing and low voltage (Class 0) gloves while removing or securing shock hazards such as chains, jewelry, watches and metal-framed eyeglasses. Operating or racking circuit breakers may require additional PPE. Details can be found in Att. 2 of the Electrical Safety Rulebook and General Operating procedure 04-S-04-2 (Operation of Electrical Circuit Breakers)
6. Obtain Shift Management's permission before opening any control panel or compartment. Avoid placing any tools, flashlights, pointing devices or any part of your body inside the panel or compartment in a manner that could disturb the operation of any component within or potentially result in an electric shock).
7. Use of lasers as a pointing tool requires Engineering's prior approval of the specific tool for safe use in the Control area. (specifically, the laser's emissions must be verified as not interfering with any component's intended operation or function).
8. During activities within the CAA, consideration must be given to area dose rates. When in a posted Radiation Area, check your EAD for dose rates and minimize time spent in the area. Entry into High Radiation Areas or Contamination Areas is prohibited.

Under no circumstances is any candidate allowed to operate any equipment outside the simulator without the permission of the Evaluator and Shift Management.

Task: Align Fire Water to LPCS and RHR C per EP Attachment 26

Setting:	Plant (Inside CAA)
Type:	NLO
Task:	Align Firewater to LPCS and RHR C per EP Attachment 26
K&A:	286000 A1.05: 3.2/3.2; 295031 EA1.08: 3.8/3.9; 2.1.30: 3.9/3.4; 2.4.35: 3.3/3.5
Safety Function:	2,8
Time Required:	20 minutes
Time Critical:	No
Faulted:	No
Performance:	Simulated
Reference(s):	05-S-01-EP-1 Attachment 26
Handout(s):	05-S-01-EP-1 Attachment 26
# Manipulations:	6
# Critical Steps:	12
Group :	2

Simulator Setup/Required Plant Conditions:

- Auxiliary Building 119’ elev., Areas 9/10 are accessible with rad levels ALARA

Safety Concerns:

- No climbing is allowed. .

Initial Condition(s):

- A LOCA has occurred.
- The reactor is shutdown with RPV level still lowering.
- The SRO with the Command Function is implementing EP-2 actions.

Initiating Cue(s):

- The SRO with the Command Function has directed you to obtain EP-2 Attachment 26, Injection into RPV with Fire Protection Water System, and align Fire Water for injection through LPCS and RHR ‘C’.
- Plant Services is dispatching a ladder and extra fire hoses to the area.

Task: Align Fire Water to LPCS and RHR C per EP Attachment 26

Notes:

1. Fire hoses and nozzles are not to be disturbed during task performance.

Task Overview:

This task simulates routing and connecting fire hoses from hose stations to test connections on ECCS injection piping in the Auxiliary Building.

Task: **Align Fire Water to LPCS and RHR C per EP Attachment 26**

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

Sequence for which path is aligned first is not critical. Path 3 may be aligned before path 2. Within a path, the only portion of the sequence that is critical is that the fire hose is connected before either the hose station valve or the pair of injection line test connection valves is opened.

☐ Locate a copy of EP Attachment 26.

Standard: Candidate describes location of the dedicated copy of Attachment 26 in a box on top of the Control Room Emergency Locker.

Cue: **When the candidate describes the location of the box containing the EP attachments, hand the candidate the JPM copy of Attachment 26**

Notes:

☐ Ensures at least one fire pump is running.

Standard: The candidate contacts a control room operator and requests him to start at least one fire pump on H13-P862 by depressing its remote START pushbutton on SH13-P862.

Cue: **The Motor Driven Fire Pump is running.**

Notes:

☐ Ensures a pathway for Fire Water is aligned to the Auxiliary Building header.

Standard: The candidate contacts a control room operator and requests him to ensure open at least one of the following sets of valves:

- ☐ P64-F282A AND F282B, FIRE WTR SPLY HDR #1 TO AUX BLDG on 1H13-P870.
- ☐ P64-F283A AND F283B, FIRE WTR SPLY HDR #2 TO AUX BLDG on 1H13-P870.
- ☐ P64-FA10A, FIRE HDR #1 BYP AUX BLDG ISOL on 1H13-P862.
- ☐ P64-FA10B, FIRE HDR #2 BYP AUX BLDG ISOL on 1H13-P862.

Cue: P64-F282A AND F282B are open.

Notes:

☐ Obtains spanner wrench

Standard: Describes the location where a spanner wrench may be obtained.

Cue: You have a spanner wrench.

Notes: The procedure states spanner wrenches can be obtained at the most convenient fire breakout locker. They may also be obtained from the Fire Truck House, tool room, and some hose stations.

RHR C, Pathway 2

☐ Locate HOSE STATION 13B.

Standard: Locates hose station 13B (Area 9 El. 119' by stairwell).

Cue:

Notes:

☐*Remove nozzle from existing hose on Hose Station 13B.

Standard: Describes removal of the nozzle from the hose on hose station 13B using common technique for right hand threads.

Cue: The nozzle is removed

Notes:

☐*Attach an additional 50 feet of hose.

Standard: Locates a 50 foot section of hose (provided by Plant Services in the Initial Conditions) and connects it to the hose on the hose reel of HS-13B using common technique for right hand threads.

Cue: When asked, tell the candidate as Plant Services that a 50 foot section of hose has been placed on the floor beneath hose station 13B. After the candidate describes connecting the hose section, state the hose section is attached

Notes:

☐*Route and attach hose to RPV fill connection 1E12-F056C/F057C.

Standard: Locates 1E12-F056C/F057C in the piping penetration room Area 9/10 and describes routing the hose from hose station 13B into the room and connecting it to the special fitting at E12-F057 using common technique for right hand threads..

Cue: The hose is connected

Notes:

☐*Slowly open Hose Station 13B isolation valve SP64-FA12V.

Standard: Describes slowly opening Hose Station 13B isolation valve SP64-FA12V by turning the valve handle CCW.

Cue: The hose is pressurized and you feel resistance.

Notes:

☐*Slowly open fill connection inboard valve 1E12-F056C.

Standard: Describes slowly opening fill connection 1E12-F056C by turning the valve handle CCW.

Cue: You feel resistance

Notes:

☐*Slowly open fill connection outboard valve 1E12-F057C.

Standard: Describes slowly opening fill connection 1E12-F057C by turning the valve handle CCW.

Cue: You feel resistance and hear flow.

Notes:

LPCS, Pathway 3

☐ Locate HOSE STATION 14B.

Standard: Locates hose station 14B (Area 9 El. 119' outside of switchgear room).

Cue:

Notes:

☐*_Remove nozzle from existing hose on Hose Station 14B_.

Standard: Describes removal of the nozzle from the hose on Hose Station 14B using common technique for right hand threads.

Cue: The nozzle is removed

Notes:

☐*_Route hose to the piping/penetration room._

Standard: Locates 1E21-F013/F014 in the piping penetration room Area 9/10 and describes routing the hose from hose station 14B into the room.

Cue: The hose is in place

Notes:

☐*Route and attach hose to RPV fill connection 1E21-F013/F014.

Standard: Describes connecting the hose from hose station 14B into the room and connecting it to the special fitting at E21-F014 using common technique for right hand threads.

Cue: The hose is connected

Notes:

☐*Slowly open Hose Station 14B isolation valve SP64-FA13B.

Standard: Describes slowly opening Hose Station 13B isolation valve SP64-FA13B by turning the valve handle CCW.

Cue: The hose is pressurized and you feel resistance.

Notes:

☐*Slowly open fill connection inboard valve 1E21-F013.

Standard: Describes slowly opening fill connection 1E21-F013 by turning the valve handle CCW.

Cue: You feel resistance

Notes:

☐*Slowly open fill connection outboard valve 1E21-F014.

Standard: Describes slowly opening fill connection 1E21-F014 by turning the valve handle CCW.

Cue: You feel resistance and hear flow. (End of JPM)

Notes:

Task Standard(s):

Fire Water has been aligned to RHR C, pathway 2, and to LPCS, pathway 3, in accordance with 05-S-01-EP-1 Attachment 26.

Name: _____Time Start: _____ Time Stop: _____

Task: **Align Fire Water to LPCS and RHR C per EP Attachment 26**

Follow-Up Questions & Answers:

Comments:

Align Fire Water to LPCS and RHR C per EP Attachment 26

Give this page to the student

Initial Condition(s):

- A LOCA has occurred.
- The reactor is shutdown with RPV level still lowering.
- The SRO with the Command Function is implementing EP-2 actions.

Initiating Cue(s):

- The SRO with the Command Function has directed you to obtain EP-2 Attachment 26, Injection into RPV with Fire Protection Water System, and align Fire Water for injection through LPCS and RHR 'C'.
- Plant Services is dispatching a ladder and extra fire hoses to the area.

Facility: **GRAND GULF NUCLEAR STATION** Scenario No.: **1** Op-Test No.: **030209**

Examiners: _____ Operators: _____
_____ _____
_____ _____

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

1. Rotate EHC pumps.
2. ~~Recognize and respond to indications of a Seal Steam Pressure Controller failure.~~
3. Respond to RPS MG Set B trip.
4. Recognize and respond to Reactor Recirc Flow Control Valve A failing open.
5. Respond to bus 16AB lockout.
6. Respond to an ATWS.
7. Respond to a SSW C Pump trip.

Initial Conditions: Reactor Power is at 73 %.

INOPERABLE Equipment

None

Turnover:

The plant is at 73% power during startup. Power ascension is temporarily suspended to place EHC pump C in service and remove EHC pump A from operation in accordance with SOI 04-1-01-N32-1. No out of service equipment and EOOS is green. Division 1 work week is in effect.

Event No.	Malf. No.	Event Type*	Event Description
1		N(BOP)	Rotate EHC pumps - start C and secure A (SOI 04-1-01-N32-1 section 5.1)
~~2~~ Removed From Exam	~~**ms255**~~	~~C(ACRO)~~	~~Recognize and respond to indications of a Seal Steam Pressure Controller failure. (ARI 1H13-P680-10A-E7)~~
3	**c71077b**	C(ACRO) C(BOP)	Respond to RPS MG Set B trip (05-1-02-III-2)
4	**di_1b33k603ac**	C(ACRO)	Recognize and respond to Recirc FCV A Controller Failure (FCV Opens)
5	**r21139f**	C(BOP)	Respond to ESF bus 16AB lockout (ONEP 05-1-02-I-4)
6	**c11164 @ 10**	M (ALL)	Respond to an ATWS (EP-2A)
7	**p41149**	C(BOP)	Respond to SSW C Pump trip

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Critical Tasks

- Upon recognition of ATWS conditions, perform actions to insert control rods by scramming and/or driving.
- When conditions are met in EP-2A, terminate and prevent injection to exercise power/level control, and re-establish injection to control RPV level in accordance with EP-2A.

CREW TURNOVER

The plant is at 73% power during startup at section 6.5 of IOI 03-1-01-2 and step 177 of the control rod movement sequence. The target control rod pattern has not been reached.

Power ascension is temporarily suspended to place EHC pump C in service and remove EHC pump A from operation. Immediately following turnover, the BOP operator is to perform the EHC pump rotation in accordance with SOI 04-1-01-N32-1 section 5.1.

There is no out of service equipment, and EOOS is green.

A Division 1 work week is in effect.

SIMULATOR SETUP

Start the process from a new simulator load. Reset to IC-124 (password protected).

Verify or perform the following:

IC:	**124**
OOS:	**none**
Active malfunctions:	**c11164** @ **10%** SDV Block **c41f001a_i** SLC A suction valve power loss on stroke **p41149** SSW C Pump trip
Active overrides	**none**
Pending overrides	**di_1b33k603ac fast_open** Recirc FCV A Failure Open (TRG 4)
Pending malfunctions:	**ms255** @ **27** Seal Steam Pressure Controller Fail Low (TRG 2) **c71077b** RPS B MG Set Trip (TRG 3) **r21139f** Bus 16AB Lockout (TRG 5)
Trigger files:	**none**
BAT/CAEP files:	**hpuastart.cae** Restarts Recirc FCV A HPU on P634 (TRG 10)

SIMULATOR SETUP (Continued)

Startup all PDS / SPDS screens. Clear any graphs and trends off of SPDS.

Setup cyclops display and verify it is functional.

Ensure the correct control rod movement sequence is available at the P680.

Mark IOI for startup to 73% power 03-1-01-02 Attachment II through Step 6.4 completed, as appropriate.

Place/position turnover guide, red tag, and LCO paperwork as applicable.

Erase all temporary markings from control room panels, posted operator aids, switch covers, and indicators.

Erase all prior markings from procedures and hard cards expected to be referenced by the crew during this scenario.

Advance all chart recorders and ensure all pens are inking properly.
(APRM chart recorders must be turned on and settings for scales on pens 0 – 125 scale)

SIMULATOR OPERATION

Once simulator is reinitialized and setup complete take the simulator out of Freeze.

Once the Crew has taken control, note the simulator time.

EHC Pump Rotation

Provide role play as local operator verifying EHC pump C discharge pressure is normal after it is started.

The local operator observes discharge pressure on EHC Fluid pump C, 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)

When the lead evaluator is ready to proceed, **activate TRIGGER 2, (Seal Steam Pressure Controller Failure)**

Respond to Seal Steam Pressure Controller Failure (Low)

The ACRO should announce 1H13-P680-10A-E7 TURB SS PRESS LO and check seal steam pressure on P680. The operator may place the seal steam controller in manual on P680 and attempt manual control using the raise pushbutton, but this will be unsuccessful. The operator will manually control turbine seal steam header pressure at approximately 20”wc using the bypass valve around the failed pressure control valve via MN TURB SSCV BYP VLV F105 JOG OPEN/CLOSE pushbuttons on 1H13-P680

SIMULATOR OPERATION (Continued)

When the lead evaluator is ready to proceed, **activate TRIGGER 3, (RPS B MG Set Trip)**

RPS B MG Set Trip (05-1-02-III-2)

The ACRO should announce alarms RX SCRAM TRIP and HCU TROUBLE and recognize a half scram exists on RPS B. ACRO will diagnose the half scram is due to loss of RPS B power because no scram signals are annunciated. The CRS will enter 05-1-02-III-2 Loss of One or Both RPS Busses ONEP and direct RPS B power be transferred to the alternate supply. The BOP operator will transfer RPS B to Alternate via a backpanel handswitch per the ONEP, and the ACRO will reset the division 2 half scram. The CRS should enter TR 3.1.5 Conditions A and B for HCU Accumulator Instrumentation since any accumulator pressure or moisture condition would have been masked by the sealed-in HCU trouble alarm, which was caused by the power monitoring circuit under half scram conditions.

Cue:

When dispatched report RPS B MG Set feels warmer than normal to the touch, and its breaker, 52-142229, is tripped.

When ONEP actions have been completed and the lead evaluator is ready to proceed, **initiate TRIGGER 4, (Recirc FCV A Fail Open)**

Recirc FCV A Controller Failure (FCV Opens)

No alarms directly identifying this failure will be received. The ACRO will observe a rise in power, generator output, feedwater controller output, and/or core flow and diagnose positive reactivity addition. If the ACRO recognizes Recirc FCV A failing open before the valve is fully open, he will trip the FCV HPU by arming and depressing the HPU A SHUTDOWN pushbutton on P680. Because of the resulting difference in Recirc loop flows, the CRS will enter TS 3.4.1 Condition A, which requires the Recirc loop flow mismatch to be restored within 2 hours. When the problem with FCV A is reported corrected, the crew will restore the Recirc loop flow mismatch to within the limit by closing FCV A.

Cues:

After the CRS has addressed TS for mismatched Recirc loop flows, as I&C report the problem has been corrected and the FCV can be operated as desired. As Reactor Engineering advise the crew to match Recirc loop flows by closing FCV A to match the position of FCV B.

If necessary, restart HPU using Trigger 10 (runs file hpuastart.cae)

SIMULATOR OPERATION (Continued)

When the lead evaluator is ready to proceed, **Initiate Trigger 5, Bus 16AB Lockout.**

The BOP operator will report loss of power to Division 2 bus. The CRS will enter Loss of AC Power ONEP 05-1-02-I-4. After DG12 does not restore bus power within the normal timeframe, as indicated by receipt of DIV 2 LSS SYS FAIL alarm, P864-2A-H1, the BOP operator will attempt to close the feeder from ESF transformer 21 and/or 12. He will then report bus 16AB is locked out. Due to the loss of power to Division 2 equipment, the CRS will enter ONEPs for air operated isolation valve closures, CRD pump trip, loss of fuel pool cooling, loss of cooling water. If core flow is greater than 67 Mlbm/hr, the ACRO will lower core flow to 67 Mlbm/hr in accordance with loss of PSW ONEP 05-1-02-V-11. Plant Service Water isolation valves to the auxiliary building failing closed will result in rising temperatures of TBCW and CCW. Due to rising TBCW temperature, Generator Seal Oil temperature will not be able to be maintained below the limit of 125°F, and a manual scram will be required per Loss of TBCW ONEP 05-1-02-V-2.

Cues:

As electricians, report there is probable bus bar damage to bus 16AB.

ATWS

When the ACRO places the RMS to Shutdown to scram the reactor, he will recognize and report that rods did not fully insert and diagnose a hydraulic block of the scram discharge volume exists. The CRS will enter EP-2A and direct actions to insert rods. Power will be above 4% requiring the ACRO to terminate feedwater injection to lower level to -70" to -130" in order to reduce power. The BOP operator will terminate and prevent injection from ECCS. Bypass valves will be available to automatically control pressure. The BOP operator will attempt SLC initiation and will be forced to call for Alternate Boron Injection. After EP Attachments 18 and 19 are installed, control rod insertion via repetitively scramming will be possible. Then after Attachment 20 is installed, control rods can be driven in.

EP Attachments that may be requested	Time to install
Att 12 - Defeat RHR Shutdown Cooling interlocks	6 minutes
Att 18 - Defeat ATWS ARI	5 minutes
Att 19 - Defeat RPS	5 minutes
Att 20 - Defeat RCIS	5 minutes
Att 8 - Defeat MSIV Level 1 Isolation	9 minutes
Att 1 - Defeat RCIC High Supp Pool Level Suction Transfer	8 minutes
Att 2 - Defeat RCIC Low Steam Supply Pressure Isolation	8 minutes
Att 3 – Defeat all RCIC Isolations	8 minutes
Att 28 – Alternate Boron Injection	Not modeled

Standby Service Water (SSW) C Pump Trip

When HPCS is initiated and overridden, SSW Pump C will trip. The BOP operator will check for proper operation of HPCS support systems, DG13 and SSW C, and will recognize the failure of SSW C. He will advise the SRO, and because DG13 will be running without cooling water, he will shut down DG13 by depressing its emergency stop pushbutton on P601 per SOI 04-1-01-P81-1 section 6.6.

TERMINATION

Once Control Rods are being inserted and as directed by the Lead Evaluator, terminate the scenario by placing the simulator in freeze and turning the “horns” off.

Critical Tasks

- Upon recognition of ATWS conditions, perform actions required to insert control rods by scramming and/or driving.
- When conditions are met in EP-2A, terminate and prevent injection to exercise power/level control, and re-establish injection to control RPV level in accordance with EP-2A.

Emergency Classification

Site Area Emergency per EAL Failure of RPS SS3.

Op-Test No.: **030209** Scenario No.: **1** Event No.: **1**

Event Description: **Rotate EHC Pumps A and C (SOI 04-1-01-N32-1 section 5.1)**

Time	Position	Applicant's Actions or Behavior

	BOP	• Places STANDBY EHC Fluid pump into operation by first depressing CF PMP C START pushbutton, then depressing C AUTO pushbutton.
		
		• Directs local operator to 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)
		
		• Shuts down EHC pump A by depressing CF PMP A STOP pushbutton on 1H13-P680-10C. Waits approximately 30 seconds, then depresses CF PMP A AUTO pushbutton.
		
		• Observes that CF PRESS HP SIDE and CF PRESS LP SIDE remain at greater than 455 psig and 175 psig respectively on 1H13-P680-10B.
		
		• Clears annunciator "CF PMP SWITCH TO AUTO", 1H13-P680-10A (C-5).

Op-Test No.: __**030209**___ Scenario No.: __**1**___ Event No.: ___**2**__

Event Description: **Seal Steam Pressure Controller failure. (ARI 1H13-P680-10A-E7)**

Time	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports TURB SS PRESS LO (1H13-P680-10A-E7) and notes seal steam pressure decreasing and seal steam control valves N33-F505A/B closing on P680 meters.
	CRS	Directs manually controlling seal steam pressure using the seal steam pressure control bypass valve per ARI P680-10A-E7 step 3.6.
	ACRO	Controls turbine seal steam header pressure at approximately 19.6”wc by throttling open the bypass valve around the failed pressure control valve via MN TURB SSCV BYP VLV F105 JOG OPEN/CLOSE pushbuttons on 1H13-P680
	CRS	Directs checking condenser vacuum
	BOP	Monitors and reports condenser vacuum as directed
	CRS	Notifies Duty Mgr and Maintenance of the seal steam pressure control failure

Op-Test No.: __**030209**___ Scenario No.: __**1**___ Event No.: ___**3**__

Event Description: **RPS MG Set B trip (05-1-02-III-2)**

Time	Position	Applicant's Actions or Behavior
	ACRO	Announces Half Scram and HCU Trouble alarms on P680. Diagnoses condition is due to loss of RPS B power.
	CRS	Enters 05-1-02-III-2 Loss of One or Both RPS Busses ONEP and direct RPS B power be transferred to the alternate supply
	BOP	Transfers RPS B to Alternate by placing MG SET B TRANSFER switch on Panel 1H13-P610 to ALT "B." per 05-1-02-III-2 step 3.1.3
	ACRO	Resets Division 2 half scram using HS-M601 B and D on Panel P680 by placing switches momentarily to reset per 05-1-02-III-2 step 3.1.4
	BOP	May request status of MSIV solenoid lights and amp meters from the simulator operator (these indicators are not modeled)
	CRS	Sends operator to check status of RPS MG Set B and normal supply EPA breakers
	CRS	Enters TR 3.1.5 Conditions A and B for HCU Accumulator Instrumentation for the time the half-scram existed due to the HCU accumulator trouble alarm being sealed in and masking any actual low pressure/high moisture condition.
	CRS	Notifies Duty Mgr and Maintenance of RPS MG set B failure.

Op-Test No.: __**030209**___ Scenario No.: __**1**___ Event No.: ___**4**__

Event Description: **Recirc FCV A Controller Failure (FCV Opens)**

Time	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports a rise in power, generator output, feedwater controller output, and/or core flow and diagnoses positive reactivity addition is due to Recirc FCV A failing open
	ACRO	Trips the FCV HPU by arming and depressing the HPU A SHUTDOWN pushbutton on P680.
	CRS	Notifies Reactor Engineering of reactivity event and to check thermal limits and margin to preconditioning envelope
	CRS	The CRS will enter TS 3.4.1 Condition A due to Recirc loop flow mismatch
	CRS	Notifies Duty Mgr and Maintenance of event. Directs Maintenance to restore operability of FCV A.
	CRS	When the problem with FCV A is reported corrected, CRS conducts reactivity brief for closing FCV A to restore the Recirc loop flow mismatch to within the limit.
	CRS	Directs restarting one subloop on FCV A HPU (note: HPUs are not physically modeled in the simulator, so the simulator operator performs this)
	CRS	Directs ACRO to match Recirc loop flows by slowly closing FCV A
	ACRO	Closes Recirc FCV A using manual loop A flow controller on P680 in slow detent

Op-Test No.: __**030209**___ Scenario No.: __**1**___ Event No.: ___**5**__

Event Description: **ESF Bus 16AB lockout (ONEP 05-1-02-I-4)**

Time	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports loss of power to Division 2 bus. After DG12 does not restore bus power within the normal timeframe, as indicated by receipt of DIV 2 LSS SYS FAIL alarm, P864-2A-H1, the BOP operator will attempt to close the feeder from ESF transformer 21 and/or 12. He will then report bus 16AB is locked out.
	CRS	Enters Loss of AC Power ONEP 05-1-02-I-4. Directs building operator and electrical maintenance to investigate 16AB lockout.
	BOP	Recognizes and reports isolation valves failing closed due to loss of power
	CRS	Enters Automatic Isolations ONEP 05-1-02-III-5 and Loss of PSW ONEP 05-1-02-V-11. Directs monitoring PSW, TBCW, CCW, and Generator Seal Oil temperatures.
	ACRO	If core flow is greater than 67 Mlbm/hr, the ACRO will lower core flow to 67 Mlbm/hr in accordance with loss of PSW ONEP 05-1-02-V-11.
	ACRO/ BOP	Demands PDS computer displays for Loss of PSW/CCW/TBCW ONEPS
	BOP	Reports CRD pump B trip. Starts CRD pump A on P601 per CRD Malfunctions ONEP 05-1-02-IV-1 step 2.1.2: • Places CRD SYS FLO CONT in MANUAL and reduces output to zero. • Starts standby CRD pump. • Adjusts CRD SYS FLO CONT to 54-66 gpm after charging pressure is normal. • Returns CRD SYS FLO CONT to AUTO with tapeset at 54-66 gpm.

Time	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports P680 alarms indicating loss of Spent Fuel Pool Cooling
	CRS	Enters Inadequate Decay Heat Removal ONEP 05-1-02-III-1, directs monitoring Spent Fuel Pool temperature
	ACRO/ BOP	Reports cooling water temperatures rising, Seal Oil temperature approaching 125°F
	CRS	Declares total loss of PSW/TBCW due to rising cooling water/seal oil temperatures. Directs manual scram per 05-1-02-V-11 step 3.2.5a
	ACRO	Places RMS in Shutdown. Provides scram report: • All control rods not fully inserted • Reactor power above 4% • Indications of SDV hydraulic block • Reactor level being controlled by FW control system • Reactor pressure being controlled by EHC control system

Op-Test No.: __**030209**___ Scenario No.: __**1**___ Event No.: ___**6**__

Event Description: **ATWS (EP-2A)**

Time	Position	Applicant's Actions or Behavior
	CRS	Enters EP-2A. Directs ARI-RPT initiation
	BOP	Initiates ARI/RPT by arming/depressing ARI/RPT INIT channel 1 and channel 2 pushbuttons on P680
	CRS	Directs ADS inhibited
	BOP	Inhibits ADS by placing channel A and Channel B handswitches to INHIBIT on P601
	CRS	Directs HPCS initiated and overridden.
	BOP	Initiates and overrides HPCS by holding handswitch for E22-F004 in CLOSE while arming/depressing HPCS MAN INIT pushbutton and then placing HPCS pump handswitch to stop on P601.

	ACRO	Aligns Startup Level Control per 04-1-01-N21-1 Att. VII:
		• On P680, closes the following valves:
		  • N21-F009A, FW HTR 6A OUTL VLV
		  • N21-F009B, FW HTR 6B OUTL VLV.
		• On P870, opens the following valves:
		  • N21-F001, SU FCV OUTL ISOL VLV.
		  • N21-F010A, HP FW HTR STRNG A SU OUTL VLV.
		  • N21-F010B, HP FW HTR STRNG B SU OUTL VLV.
		• On P680, verifies the following valves are closed:
		  • N21-F513, X WTR LVL SU CONTR Valve (via controller 1C34-LK-R602)
		  • N21-F510, FW CU RECIRC VLV
		  • N21-F040, FW SU BYP VLV

Time	Position	Applicant's Actions or Behavior
	ACRO	Recovers a RFP per 04-1-01-N21-1 Att. VI at P680: (may be delayed if Level 9 was reached due to HPCS injection) • Restarts the 'A' AC lube oil pump for RFPT to be restarted by depressing STOP then AUTO for the oil pump. • Opens RFP A(B) DISCH VLV N21-F014A(B). • Depresses the RFPT A(B) TRIP RESET pushbutton. • Raises pump speed using the RAISE pushbutton until governor position is approx. 60% or as required to obtain discharge pressure approx. 250 psig above reactor pressure. • Adjusts N21-F513, RX WTR LVL SU CONT valve, as necessary in MANUAL to maintain desired Reactor level. N21-F040 and/or N21-F009A(B) may be OPEN/CLOSED as necessary to augment flow.
	CRS	Directs BOP to monitor/control reactor pressure 800-1060 psig using turbine/bypass valves
	CRS	Orders installation of Attachments 8 of EP-2.
	CRS**	Directs terminating condensate/feedwater injection to a band of -70" to -130" wide range.
	ACRO**	Terminates feedwater injection by closing startup level control valve N21-F513 on P680. When reactor level decreases below -70" WR, injects by opening the startup level control valve and attempts to stabilize level in the middle of the prescribed band, -100" WR. Controls Feedwater to maintain level in band.

Time	Position	Applicant's Actions or Behavior
	CRS	Directs preventing low pressure ECCS injection
	BOP	Prevents LP ECCS injection by arming/depressing Div 1 and Div 2 ECCS INIT pushbuttons and placing handswitches for LPCS, RHR A, RHR B, RHR C pumps to STOP and injection valves to CLOSE Verifies associated manual override alarms seal in on P601.
	BOP	Reports reactor Level 2 as level lowers and resulting isolation
	BOP	Reports drywell pressure 1.23 psig due to DW Purge Compressor operation and resulting isolation
	CRS	Directs restoring instrument air to containment following L2 / high drywell pressure isolation
	BOP**	Reopens P53-F001 on P870 (section 3C) following Level 2/High DW Pressure isolation
	BOP	At P807, restores isolations as directed using 05-1-02-III-5 Att. II: • Opens P44-F121, F118, F122, F117 (section 3C) • Opens P72-F121, F122, F125 (section 3C)
	CRS	Orders Standby Liquid Control initiated prior to Suppression Pool Temperature reaching 110°F.
	BOP	When ordered, initiates Standby Liquid Control using 04-1-01-C41-1 Att. I (hard card)
	BOP	When SLC A is initiated, identifies the failure of SLC pump A suction valve manifested by P601 status light and loss of valve position indication. Reports SLC A suction valve failure and SLC B unavailable due to previous bus 16AB lockout.
	CRS	Orders implementation of Attachment 28 Alternate Boron Injection.

Time	Position	Applicant's Actions or Behavior
	CRS	Directs CRD flow maximized
	BOP	Maximizes CRD flow: • Places CRD SYS FLO CONT C11-R600 in MANUAL. • USING CRD SYS FLOW CONT C11-R600, fully opens C11-F002A(B), CRD FLO CONT VLV. • Fully opens C11-F003, CRD DRIVE WTR PRESS CONT VLV
	CRS **	Orders installation of Attachments 18, 19, and 20 of EP-2.
	CRS	When Attachments 18, 19, and 20 are reported installed, directs resetting scram and maximizing CRD drive water pressure.
	ACRO	Resets RPS A by placing RPS Div 1 and 3 Reset switches to RESET on P680.
	BOP	Maximizes CRD drive water pressure by fully closing C11-F003, CRD DRIVE WTR PRESS CONT VLV on P601
	BOP **	Inserts Control Rods by scramming rods using RPS A scram arm/depress pushbuttons and/or by selecting control rods on RC&IS and depressing IN TIMER SKIP pushbutton on P680.

Op-Test No.: __**030209**___ Scenario No.: __**1**___ Event No.: ___**7**__

Event Description: **SSW Pump C Trip (04-1-01-P81-1)**

Time	Position	Applicant's Actions or Behavior
	BOP	After initiating and overriding HPCS for EP-2A, checks for proper operation DG13 (P601) and SSW C (P870). Recognizes and reports SSW C has tripped and DG13 is running without cooling water.
	CRS	Directs securing DG13.
	BOP	Stops DG13 by depressing HPCS DSL ENG EMERG STOP pushbutton on P601 per 04-1-01-P81-1 step 6.6.2a(1).

** denotes critical task

Crew Turnover:

The plant is at 73% power during startup at section 6.5 of IOI 03-1-01-2 and step 177 of the control rod movement sequence. The target control rod pattern has not been reached.

Power ascension is temporarily suspended to place EHC pump C in service and remove EHC pump A from operation. Immediately following turnover, the BOP operator is to perform the EHC pump rotation in accordance with SOI 04-1-01-N32-1 section 5.1.

There is no out of service equipment, and EOOS is green.

A Division 1 work week is in effect.

Facility: **GRAND GULF NUCLEAR STATION** Scenario No.: **2** Op-Test No.: **030209**

Examiners: _____ Operators:_____
_____ _____
_____ _____

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

1. Raise reactor power from 81% to 88% using Recirc FCVs.
2. ~~Recognize and respond to a low failure of APRM B Flow Reference Signal resulting in an APRM B Upscale.~~ APRM B Fails Upscale
3. Recognize and respond to Reactor Feed Pump B Controller failure – increasing speed.
4. Respond to an SRV failing open.
5. Recognize and respond to failure of HPCS suction to automatically align to Suppression Pool on high Suppression Pool level.
6. Respond to bus 12HE lockout.
7. Respond to trip of Service Transformer 11.
8. Respond to a RCIC steam line break in the RCIC room with failure/inability to isolate.

Initial Conditions: Reactor Power is at 81 %.

INOPERABLE Equipment

None

Turnover:

The plant is at 81% power following a temporary downpower for a control rod pattern adjustment. Power ascension is to continue to 88% where it will be held due to fuel preconditioning limitations. The current envelope is at 90% power. There is no out of service equipment. EOOS is green. A Division 1 work week is in effect.

Event No.	Malf. No.	Event Type*	Event Description
1		R(ACRO)	Raise reactor power from 81% to 88% using Recirc FCVs (03-1-01-2)
2	**aprmbus**	C(ACRO)	~~APRM B Flow Reference Signal Failure Low – APRM Upscale (ARI 04-1-021H13-P680-5A-B10)~~ APRM B Fails Upscale
3	**fw121b**	C(ACRO)	Reactor Feed Pump B Controller failure – increasing speed (05-1-02-V-7)
4	**di_1b21606d**	C(BOP)	Respond to an SRV B21-F041D failing open (EP-3)
5	**Att 4**	C(BOP)	Respond to failure of HPCS suction to automatically align to Suppression Pool on high Suppression Pool level (ARI 1H13-P601-16A-C5)
6	**r21138b**	C(ACRO)	Respond to bus 12HE lockout (ONEP 05-1-02-I-4)
7	**r21133a**	M (ALL)	Respond to trip of Service Transformer 11 (ONEP 05-1-02-I-4, EP-2)
8	**e51050** **e51187a** **e51187b**	M (ALL)	Respond to a RCIC steam line break in the RCIC room with failure/inability to isolate (EP-4)

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Critical Tasks

- When Maximum Safe temperature is reached in RCIC Room and auxiliary building Steam Tunnel, enters the Emergency Depressurization leg of EP-2 and opens at least 7 SRVs.

- During Emergency Depressurization, maintains reactor water level above -192” Compensated Fuel Zone using Condensate system.

CREW TURNOVER

The plant is at 81% power at the target rod pattern following a temporary downpower for a control rod pattern adjustment. Power ascension is in progress at 03-1-01-2 Attachment VIII step 12.9.

The current fuel preconditioned envelope is at 90% power. Reactor Engineering has requested power be raised to 88% immediately after turnover. Power will be held there for 30 minutes, then another ramp rate edit will be obtained.

There is no out of service equipment, and EOOS is green. A Division 1 work week is in effect.

SIMULATOR SETUP

Start the process from a new simulator load. Reset to IC-123 (password protected).

Verify or perform the following:

IC:	**123**
OOS:	**none**
Active malfunctions:	**e51187a** RCIC Steam Sply E51F063 loss of power on stroke **e51187b** RCIC Steam Sply E51F064 loss of power on stroke
Active overrides	**none**
Active Remote Functions:	**Att 4 Done** Defeat HPCS high Supp Pool suction transfer **Att 3 Done** Defeat all RCIC isolations
Pending Rem. Functions:	**ms065 Pulled** SRV B21F041D division 2 fuses (TRG 13)
Pending overrides	**di_1b21m606d Open** SRV B21F041D Failure Open (TRG 4) **P601_16a_c_5** HPCS Supp Pool Level High (TRG 5)
Pending malfunctions:	**fw121b** @ **70, r90** RFP B controller failure - increasing (TRG 3) **r21138b** Bus 12HE Lockout (TRG 6) **r21133a** Service Transformer 11 Lockout (TRG 7) **e51050** RCIC steam leak upstream of F045 (TRG 8) **tte31n031a_d** @ **220, r300**Steam tunnel temperature (TRG 17) **tte31n031b_d** @ **220, r300**Steam tunnel temperature (TRG 17) **tte31n031c_d** @ **220, r300**Steam tunnel temperature (TRG 17) **tte31n031d_d** @ **220, r300**Steam tunnel temperature (TRG 17)
Trigger files:	**rcicsplvlhi** RCIC Supp Pool level high alarm on (TRG 5)
BAT/CAEP files:	**aprmbus** APRM B Flow Reference Failure (TRG 2)

SIMULATOR SETUP (Continued)

Startup all PDS / SPDS screens. Clear any graphs and trends off of SPDS.

Setup cyclops display and verify it is functional.

Ensure the correct control rod movement sequence is available at the P680.

Mark IOI for startup to 81% power 03-1-01-02 Temporary Downpower Attachment VIII through Step 12.8 completed, as appropriate.

Place/position turnover guide.

Erase all temporary markings from control room panels, posted operator aids, switch covers, and indicators.

Erase all prior markings from procedures and hard cards expected to be referenced by the crew during this scenario.

Advance all chart recorders and ensure all pens are inking properly.
(APRM chart recorders must be turned on and settings for scales on pens 0 – 125 scale)

SIMULATOR OPERATION

Once simulator is reinitialized and setup complete take the simulator out of Freeze.

Once the Crew has taken control, note the simulator time.

Raise power from 81% to 88% using Recirc flow

The ACRO will open Recirc FCVs in slow detent to raise power to 88%. The BOP operator will raise turbine load demand as power is raised.

When the lead evaluator is ready, **activate TRIGGER 2, (APRM B Upscale)**

APRM B Flow Reference Signal Failure Low – APRM Upscale

The ACRO should recognize and report APRM Upscale and Control Rod Withdrawal Block alarms and diagnose the condition is attributable to APRM B. Flux indication for APRM B will be unchanged, so the operator should diagnose the condition is related to a change in the upscale setpoint. The operator may check the flow biased alarm setting by depressing the PUSH TO REC button for APRM B recorder on P680 per ARI P680-5A-B10 step 3.6. The crew will determine the condition is not valid and will bypass APRM B per ARI step 3.8 using SOI 04-1-01-C51-1 section 5.1. TS will still be satisfied since seven APRMs will remain operable, but the CRS will discuss initiating a Potential LCO for APRM B with respect to TS 3.3.1.1 and TR 3.3.2.1.

Cue: As I&C, state that a problem must exist in the APRM B electronics and a work request will be required for troubleshooting.

When the lead evaluator is ready, **activate TRIGGER 3, (Reactor Feed Pump B Controller Failure)**

Reactor Feed Pump B Controller Failure (Increasing)

The ACRO should note the perturbation in FW controller outputs on P680 and diagnose RFP B controller is malfunctioning. The ACRO should place RFP B speed controller in manual per Feedwater System Malfunctions ONEP 05-1-02-V-7 step 2.1 and stabilize the feedwater pumps. The operator may lower output on RFP B to match feed pump flows. The CRS may elect not to reduce RFP B speed, allowing time for conservative decision making, since the transient will have terminated when controller output was stabilized. Power ascension will be suspended with the controller in manual. I&C will be contacted to investigate.

Cue: As I&C, state that a work request will be required for troubleshooting.

SIMULATOR OPERATION (Continued)

When the lead evaluator is ready, **activate TRIGGER 4, (SVR B21F041D Fails Open)**

SRV B21-F041D Fails Open (EP-3))

The BOP operator should respond to alarm 1H13-P601-19A-A5 SRV/ADS VLV OPEN/ DISCH LINE PRESS HI and recognize B21F041D is open from the red light on its P601 handswitch. The ACRO should observe a perturbation in FW controller output and a step decrease in generator output. The BOP operator should diagnose the Division 2 solenoid for B21F041D is energized by observing the red solenoid light on the P601 vertical section above the SRV handswitches. The CRS should direct attempting to close the SRV by placing its handswitches on P601 and P631 to OFF. When this is unsuccessful, the CRS should direct maintenance to pull Division 2 fuses for B21F041D. The CRS should direct Suppression Pool temperature monitoring as a critical parameter and establish scram criteria at ≤110°F Suppression Pool temperature. The CRS may direct Suppression Pool Cooling be placed into operation. The SRV discharge will cause Suppression Pool level to rise above the EP-3 entry condition limit of 18.81 ft. The CRS will enter EP-3, then simulation of fuses being pulled will close the SRV. The CRS should enter TS 3.6.2.2 Condition A and direct action to lower Suppression Pool level to less than 18.81 ft. within 2 hours using P11, HPCS, or RCIC per EP-3, although the crew is not expected to progress to performing that action within the timeframe of the scenario. By the time the SRV is closed, Suppression Pool Temperature will be near the EP-3 entry condition. If Suppression Pool Cooling is placed into operation, entry into TS 3.5.1 Condition A (for one loop) or Condition C (if two loops are placed into operation). Pulling of the Division 2 fuses for B21F041D will require entry into TS 3.3.5.1 Conditions F and G for ADS trip system B.

Cue: **When requested to pull fuses for B21F041D, wait until average Suppression Pool water level exceeds 18.81 feet, then activate Trigger 5 to simulate pulling Division 2 fuses, and report Division 2 fuses have been pulled.**

Failure of HPCS suction to automatically align to Suppression Pool on high Suppression Pool level (ARI 1H13-P601-16A-C5)

As Suppression Pool level is rising while SRV B21F041D is open, high Suppression Pool level signals will be received by HPCS and RCIC systems. RCIC suction will automatically align to Suppression Pool as designed, however, HPCS suction will not. The BOP operator will recognize and report the failure of HPCS PMP SUCT FM SUPP POOL E22F015 to open and HPCS PMP SUCT FM CST E22F001 to close. The CRS should enter TS 3.3.5.1 Condition D and direct HPCS suction be manually aligned to the Suppression Pool within 1 hour.

Cue: **If requested, report Suppression Pool Level trip units E22-LIS-N655C and G are tripped and indicate high Suppression Pool level.**

When TS have been addressed and the lead evaluator is ready to proceed, **initiate TRIGGER 6, (Bus 12HE Lockout)**

Bus 12HE Lockout (ONEP 05-1-02-I-4)

The BOP operator will respond to alarms on P807 indicating the incoming feeder breaker from BOP transformer 11B to 6.9KV bus 12HE has tripped and undervoltage conditions exist on associated 480V busses. The BOP operator will attempt to close the supply breaker from BOP transformer 12B, but being unsuccessful, will report bus 12HE is locked out. The CRS will enter Loss of AC Power ONEP 05-1-02-I-4, but it will provide no additional actions. Though no direct alarms relating to core flow will be received, the ACRO should recognize a large drop in power and diagnose and report it is due to the core flow reduction resulting from loss of power to Recirc pump B. The ACRO should close B33F067B and plot the point of operation on the Power/Flow Map in the Restricted Region. The CRS will enter Reduction in Recirc Flow Rate ONEP 05-1-02-III-3 and direct the ACRO to monitor for thermal hydraulic instability without concurrent duties. The CRS should immediately begin preparing for action to exit the Restricted Region using CRAM rod insertion. The ACRO should report loss of Circ Water Pump B due to the bus loss. The CRS should direct the BOP operator to monitor condenser vacuum, which will stabilize above the operating limit of 23.5”Hg. After CRAM rods are inserted and the Restricted Region is exited, the CRS should direct FCTR and thermal limit setpoints be installed for single Recirc Loop operation per TS 3.4.1. The CRS should direct Circ Water system alignment for single pump/double train operation per 03-1-01-2 and begin working through that IOI to ensure system alignments are proper for reduced power conditions. Some other plant auxiliaries, such as plant chilled water, will have been lost due to the bus 12HE trip, but nothing that will require an immediate plant shutdown. The CRS should notify the Duty Mgr and direct maintenance to assess the condition of bus 12HE and provide a repair estimate.

Cues: **As Electrical Maintenance, report there is no apparent damage to the exterior of bus 12HE, but a tagout for bus 12HE is needed for internal inspection.**

SIMULATOR OPERATION (Continued)

When the lead evaluator is ready to proceed, **initiate TRIGGER 7 (Service Transformer 11 Lockout)**

Service Transformer 11 Lockout

The BOP operator will report loss of Service Transformer 11 and resulting loss of power to busses 13AD and 15AA. The BOP operator will verify DG11 re-energizes bus 15AA. He will manually re-energize bus 13AD via BOP Transformer 12A from P807 and direct the building operator to reset bus 13AD undervoltage lockout relays. The ACRO will observe loss of both Reactor Feed Pumps due to loss of power to their AC oil pumps and will place the Reactor Mode Switch to Shutdown due to the imminent Level 3. The CRS will enter Loss of AC Power ONEP 05-1-02-I-4, Feedwater Systems Malfunctions ONEP 05-1-02-V-7, and Reactor Scram ONEP 05-1-02-I-1. When the BOP operator is made aware Feedwater has tripped, he should ensure RCIC and HPCS are initiated, as required. After bus 13AD has been re-energized, the ACRO should restart the 'A' AC oil pump for either Reactor Feed Pump and align Condensate/Feedwater on Startup Level Control. The crew should coordinate securing HPCS to transition to Condensate/Feedwater for level control. The CRS should direct restoring Plant Service Water to the auxiliary building and instrument air to containment per Automatic Isolations ONEP 05-1-02-III-5.

Approximately five (5) minutes after the scram, **initiate TRIGGER 8 (RCIC Steam Line Break)**

RCIC Steam Line Break with Inability to Isolate

The BOP operator will respond to and report EP-4 Alarm RCIC EQUIP AREA TEMP HI (1H13-P601-21A-G3) and RCIC turbine trip. He will verify the signal is valid by observing independent RCIC room temperature alarms (1H13-P601-21A-H2 and H3), the PDS EP-4 Operator Guide, and/or Division 2 Leak Detection temperature switches on backpanel P642 and recognize steam supply isolation valves E51F063 and E51F064 did not automatically close, as required. The BOP operator will attempt to manually close E51F063 and E51F064 from P601, but the valves will lose power in the open position. The CRS will enter EP-4 and assign the BOP operator to monitor EP-4 parameters as a critical parameter. The CRS should dispatch a repair team to restore power to at least one of the RCIC isolation valves. The BOP operator will observe and report RCIC room temperature above its Maximum Safe limit. The CRS may elect to lower pressure to a band of 450-600 psig to reduce the driving head of the leak per Operation Philosophy step 6.4.3. The BOP operator will observe auxiliary building steam tunnel temperature rising toward its Maximum Safe limit. The CRS should anticipate Emergency Depressurization being required because RCIC room communicates with the steam tunnel and should fully open main bypass valves to the condenser per EP-2 step P-1. Once auxiliary building steam tunnel temperature reaches its Maximum Safe limit, indicated on the LDS common temperature meter on P642 by the BOP operator selecting "read" for temperature switch E31-TS-N604B or F, the CRS will enter the Emergency Depressurization leg of EP-2 as required by

EP-4 step 10. The BOP operator will open 8 ADS/SRVs from P601. The ACRO will ensure Condensate is aligned with Startup Level Control in automatic to maintain reactor water level during the depressurization. This includes ensuring RFP discharge valve N21F014A and/or B are reopened if they had closed due reaching Level 9 from the swell following HPCS injection.

EP Attachments that may be requested	Time to install
Att 12 - Defeat RHR Shutdown Cooling interlocks	6 minutes
Att 1 - Defeat RCIC High Supp Pool Level Suction Transfer	8 minutes

TERMINATION

Once Control Rods are being inserted and as directed by the Lead Evaluator, terminate the scenario by placing the simulator in freeze and turning the “horns” off.

Critical Tasks

- When Maximum Safe temperature is reached in RCIC Room and Auxiliary Building Steam Tunnel, enters the Emergency Depressurization leg of EP-2 and opens at least 7 SRVs.
- During Emergency Depressurization, maintains reactor water level above -192” Compensated Fuel Zone using Condensate system.

Emergency Classification

Site Area Emergency per EAL FS2 Loss of 2 Fission Product Barriers, (RC3 and PC3)

Op-Test No.: __**030209**___ Scenario No.: __**2**___ Event No.: ___**1**__

Event Description: **Raise reactor power from 81% to 88% using Recirc FCVs (03-1-01-2)**

Time	Position	Applicant's Actions or Behavior
	CRS	Conducts reactivity briefing and directs power increase to 88%
	ACRO	Raises power by simultaneously opening Recirc flow control valves in slow detent on P680. Monitors APRMs, recirc drive flows, total core flow, reactor water level on P680 during power increase.
	BOP	Raises load turbine demand using LOAD DEMAND RAISE pushbutton on P680 to maintain the load demand limited value within 65 MW above generator actual load during the power ascension

Op-Test No.: __**030209**___ Scenario No.: __**2**___ Event No.: ___**2**__

Event Description: **APRM B Flow Reference Signal Failure Low – APRM Upscale (ARI 04-1-021H13-P680-5A-B10)**

Time	Position	Applicant's Actions or Behavior
	ACRO	Recognizes and reports APRM Upscale and Control Rod Withdrawal Block alarms attributable to APRM B.
	ACRO	Observes APRM recorders and notes all APRM readings are unchanged. Checks the flow biased alarm setting by depressing the PUSH TO REC button for APRM B recorder on P680 per ARI P680-5A-B10.
	CRS	Determines the condition is not valid and directs bypassing APRM B per ARI P680-5A-B10 step 3.8.
	ACRO	Bypasses APRM B using the Division 2 APRM Bypass Joystick on P680 per SOI 04-1-01-C51-1 section 5.1.
	BOP	Verifies the bypassed light is illuminated on the drawer for APRM B on P671 in the control room backpanel area per the SOI.
	CRS	Enters a Potential LCO for TS 3.3.1.1 and TR 3.3.2.1 for one APRM inoperable

Op-Test No.: __**030209**___ Scenario No.: __**2**___ Event No.: ___**3**__

Event Description: **Reactor Feed Pump B Controller failure – increasing speed (05-1-02-V-7)**

Time	Position	Applicant's Actions or Behavior
	ACRO	ACRO should note the perturbation in FW controller outputs on P680 and diagnose RFP B controller is malfunctioning. The ACRO should place RFP B speed controller 1C34-FK-R613 on P680 vertical section or RFP B controls on P680 apron section in manual per Feedwater System Malfunctions ONEP 05-1-02-V-7 step 2.1 and stabilize the feedwater pumps. The operator may lower output on RFP B to match feed pump flows by depressing the LOWER pushbutton on the associated controller..
	CRS	Enters Feedwater Systems Malfunction ONEP 05-1-02-V-7 and directs manual control of RFP B. The CRS may elect not to immediately reduce RFP B speed. Suspends power ascension and formulates contingencies for the controller in manual.
	CRS	Notifies Duty Mgr and I&C of the controller failure.
	BOP	If RFP B reaches the point at which a high vibration alarm is received, directs operator to check vibration monitoring panel in the control building and to check RFP B operation locally.
	CRS	If a high vibration condition exists for RFP B, directs reducing RFP B speed to reduce vibration levels in accordance with the intent of ARI 1H13-P680-2A-E12 step 4.1.
	ACRO	Slowly lowers RFP B speed controller output as directed

Op-Test No.: __**030209**___ Scenario No.: __**2**___ Event No.: ___**4**__

Event Description: **SRV B21F041D Fails Open (ARI P601-19A-A5, EP-3)**

Time	Position	Applicant's Actions or Behavior
	BOP	Responds to alarm SRV/ADS VLV OPEN/ DISCH LINE PRESS HI and recognize B21F041D is open from the red light on its P601 handswitch. Recognizes the Division 2 solenoid for B21F041D is energized by observing the red solenoid light on the P601 vertical section
	ACRO	Confirms SRV open based on a step decrease in generator output.
	BOP	Attempts to close SRV by placing its P601 handswitch to OFF per ARI P601-19A-A5 step 3.4.
	CRS	Directs placing Division 2 handswitch for B21F041D to OFF on P631.
	BOP	Places Division 2 handswitch for B21F041D to OFF on P631, as directed.
	CRS	Directs monitoring Suppression Pool Temperature as a critical parameter and assigns scram criteria of ≤110°F average Suppression Pool temperature.
	BOP	Frequently reports Suppression Pool temperature, as directed.
	CRS	Directs I&C to pull Division 2 fuses for B21F041D.
	CRS	May direct placing Suppression Pool Cooling in operation for pool circulation and cooling before reaching the EP-3 entry condition of 95°F.
	BOP	Reports Suppression Pool level high from alarms and indications on P870 and P601.
	CRS	Enters EP-3 and TS 3.6.2.2 Condition A on Suppression Pool level above 18.81 ft. Directs action to reduce Suppression Pool level to the normal band using P11, HPCS, or RCIC within 2 hours per TS.

Time	Position	Applicant's Actions or Behavior
	CRS	If Suppression Pool Cooling is placed into operation, enters TS 3.5.1 Condition A (for one loop) or Condition C (if two loops are placed into operation). Note: Since below the EP-3 entry condition of 95°F Suppression Pool temperature, only one loop of Suppression Pool Cooling should be placed into operation to minimize plant risk.
	CRS	Enters TS 3.3.5.1 Conditions F and G for ADS trip system B due to pulling of the Division 2 fuses for B21F041D

Time	Position	Applicant's Actions or Behavior

	BOP	If directed to place Suppression Pool Cooling into operation,
		
		Starts SSW A(B) at P870 to support Suppression Pool Cooling using 04-1-01-P41-1 Att. VIII as follows:
		
		Presses <u>both</u> SSW Div 1(2) MAN INIT pushbuttons.
		
		<u>OR</u>
		
		Performs the following:
		
		• Checks open P41-F006A(B), SSW PMP A(B) RECIRC VLV
		• Starts SSW pump A(B).
		• Opens the following valves:
		  • P41-F001A(B), SSW PMP A(B) DISCH VLV
		  • P41-F014A(B), SSW INL TO RHR HX A(B)
		  • P41-F068A(B), SSW OUTL FM RHR HX A(B)
		• Opens P41-F005A(B), SSW LOOP A(B) RTN TO CLG TWR A(B).
		• Closes P41-F006A(B), SSW PMP A(B) RECIRC VLV.
		• Starts Cooling Tower Fans P41-C003A&B (C&D).
		
		Starts RHR A(B) at P601 in Suppression Pool Cooling using 04-1-01-E12-1 Att. VI as follows:
		
		• Verifies open E12-F003A(B), RHR HX A(B) OUTL VLV.
		• Starts RHR PMP A(B).
		• Opens E12-F024A(B), RHR A(B) TEST RTN TO SUPP POOL.
		• Closes E12-F048A(B), RHR HX A(B) BYP VLV.
		• Verifies E12-F064A(B), RHR A(B) MIN FLO TO SUPP POOL, Closes when flow exceeds 1000 gpm.
		
		Refers to appropriate sections of 04-1-01-P41-1 and 04-1-01-E12-1 when time permits

Op-Test No.: __**030209**___ Scenario No.: __**2**___ Event No.: ___**5**__

Event Description: **Failure of HPCS Suction to Automatically Align to Suppression Pool on High Suppression Pool Level (ARI 1H13-P601-16A-C5)**

Time	Position	Applicant's Actions or Behavior
	BOP	Responds to SUPP POOL LVL HI alarm P601-16A-C5. Recognizes and reports the failure of HPCS PMP SUCT FM SUPP POOL E22F015 to open and HPCS PMP SUCT FM CST E22F001 to close.
	CRS	Enters TS 3.3.5.1 Condition D and directs HPCS suction be manually aligned to the Suppression Pool within 1 hour.
	BOP	Realigns HPCS suction to Suppression Pool per SOI 04-1-01-E22-1 steps 5.4.2b and 5.4.2d: • Opens HPCS PMP SUCT FM SUPP POOL E22F015 • Ensures HPCS PMP SUCT FM CST E22F001 closes when F015 reaches fully open.
	CRS	Notifies Duty Mgr and I&C of the failure.

Op-Test No.: __**030209**___ Scenario No.: __**2**___ Event No.: ___**6**__

Event Description: **BOP Bus 12HE lockout (ONEP 05-1-02-I-4)**

Time	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports loss of power to bus 12HE and attempts to close the supply breaker from BOP transformer 12B, then reports bus 12HE is locked out..
	CRS	Enters Loss of AC Power ONEP 05-1-02-I-4. Directs building operator and electrical maintenance to investigate 12HE lockout.
	ACRO	Recognizes a large drop in power and diagnoses and reports loss of power to Recirc pump B. Closes B33F067B per 05-1-02-I-4 step 3.2.
	ACRO	Plots the point of operation on the Power/Flow Map in the Restricted Region
	BOP	Verifies ACRO's plot on the Power/Flow Map.
	CRS	Enters Reduction in Recirc Flow Rate ONEP 05-1-02-III-3 and direct the ACRO to monitor for thermal hydraulic instability without concurrent duties.
	CRS	Begin preparing for action to exit the Restricted Region using CRAM rod insertion including reviewing the Control Rod Movement Sequence notes, notifying Reactor Engineering, conduction a reactivity brief, directs CRAM rod insertion.
	ACRO	Inserts control rods per the Control Rod Movement Sequence
	BOP	Verifies control rod movements
	CRS	Directs I&C to install FCTR setpoints be installed for single Recirc Loop operation per TS 3.4.1. Directs Reactor Engineering to install thermal limits for LCO 3.2.1 and 3.2.2 due to single loop operation.
	ACRO	Reports trip of Circ Water Pump B

Time	Position	Applicant's Actions or Behavior
	CRS	Assigns monitoring condenser vacuum
	CRS	Assess plant and system status. Reviews 03-1-01-2 for necessary configuration changes due to decreased power level.
	CRS	Directs aligning Circ Water system to single pump/double train operation per 03-1-01-2 step 8.4.2 and 04-1-01-N71 section 5.7.

Op-Test No.: __**030209**___ Scenario No.: __**2**___ Event No.: ___**7**__

Event Description: **Service Transformer 11 Lockout (ONEPs 05-1-02-I-4, 05-1-02-V-7, 05-1-02-I-1, and EP-2))**

Time	Position	Applicant's Actions or Behavior
	BOP	At P807, recognizes and reports trip of Service Transformer 11 and loss of power to bus 13AD. Re-energizes bus 13AD via BOP Transformer 12A from P807 per 05-1-02-I-4 step 2.1 and direct the building operator to reset bus 13AD undervoltage lockout relays per step 2.2.
	BOP	At P601, verifies DG11 starts and re-energizes ESF bus 15AA.
	ACRO	Recognizes and reports trip of both Reactor Feed Pumps. Places Reactor Mode Switch in Shutdown due to water level decreasing and reports manual scram.
	CRS	Enters Loss of AC Power ONEP 05-1-02-I-4, Feedwater System Malfunctions ONEP 05-1-02-V-7, and Reactor Scram ONEP 05-1-02-I-1. • Directs initiation of RCIC. • Directs building operator and electrical maintenance to investigate 12HE lockout.
	ACRO	Provides Scram Report: • All control rods fully inserted • Reactor power decreasing • Feedwater tripped but recoverable • Reactor pressure being controlled by EHC control system
	CRS	Enters EP-2 on low reactor water level. Directs level band +11.4” to +53.5” using Condensate/Feedwater. May initially direct level band of -30” to +30” if HPCS and RCIC are injecting and Feedwater has not yet been recovered.
	BOP	If Level 2 has not already been reached, initiates RCIC by arming and depressing RCIC MAN INIT pushbutton on P601.

Time	Position	Applicant's Actions or Behavior
	BOP	Reports Level 2 received: • HPCS initiation • RCIC initiation • Level 2 isolations
	BOP	At P870, verifies SSW A aligns to support DG11 and RCIC operation
	BOP	At P870, verifies SSW C aligns to support HPCS operation

	ACRO	Aligns Startup Level Control per 04-1-01-N21-1 Att. VII:
		• On P680, closes the following valves:
		  • N21-F009A, FW HTR 6A OUTL VLV
		  • N21-F009B, FW HTR 6B OUTL VLV.
		• On P870, opens the following valves:
		  • N21-F001, SU FCV OUTL ISOL VLV.
		  • N21-F010A, HP FW HTR STRNG A SU OUTL VLV.
		  • N21-F010B, HP FW HTR STRNG B SU OUTL VLV.
		• On P680, verifies the following valves are closed:
		  • N21-F513, X WTR LVL SU CONTR Valve (via controller 1C34-LK-R602)
		  • N21-F510, FW CU RECIRC VLV
		  • N21-F040, FW SU BYP VLV

Time	Position	Applicant's Actions or Behavior
	ACRO	Recovers a RFP injection per 04-1-01-N21-1 Att. VI at P680: (may be delayed if Level 9 was reached due to HPCS injection) • Restarts the 'A' AC lube oil pump for RFPT to be restarted by depressing STOP then AUTO for the oil pump. • Opens RFP A(B) DISCH VLV N21-F014A(B). • Depresses the RFPT A(B) TRIP RESET pushbutton. • Raises pump speed using the RAISE pushbutton until governor position is approx. 60% or as required to obtain discharge pressure approx. 250 psig above reactor pressure. • Adjusts N21-F513, RX WTR LVL SU CONT valve, as necessary in MANUAL or AUTO to maintain desired Reactor level. N21-F040 and/or N21-F009A(B) may be OPEN/CLOSED as necessary to augment flow. • Ultimately places Startup Level Control in automatic when level is in band +11.4" to 53.5"
	CRS	Directs restoring isolations for Plant Service Water to the auxiliary building and Instrument Air and Drywell Chilled Water to containment that isolated due to power loss to bus 15AA and Level 2
	BOP	At P807, restores isolations as directed using 05-1-02-III-5 Att. II for P53, P44, and P72 Primary and Secondary CTMT valves that isolated due to power loss to bus 15AA and Level 2 :

Op-Test No.: __**030209**___ Scenario No.: __**1**___ Event No.: ___**8**__

Event Description: **RCIC Steam Line Break in the RCIC Room with Failure/Inability to Isolate (EP-4)**

Time	Position	Applicant's Actions or Behavior
	BOP	Recognizes and reports RCIC EQUIP AREA TEMP HI alarm (H13-P601-21A-G3) and identifies it as and EP-4 entry condition. Confirms signal is valid by observing independent RCIC room temperature alarms (1H13-P601-21A-H2 and H3), the PDS EP-4 Operator Guide, and/or Division 2 Leak Detection temperature switches on backpanel P642. Reports RCIC tripped.
	BOP	Recognizes steam supply isolation valves E51F063 and E51F064 did not automatically close, as required. The BOP operator will attempt to manually close E51F063 and E51F064 from P601, but the valves will lose power in the open position. Reports RCIC status.
	CRS	Enters EP-4 and assign the BOP operator to monitor EP-4 parameters as a critical parameter.
	BOP	Obtains EP-4 data collection operator aid at backpanel P844 And begins collecting EP-4 parameters: • Area Radiation Monitors (P844) • Division 2 LDS (Riley) Temperature Switches (P642) • May use EP-4 Operator Guide display on PDS for confirmation (P680) Reports EP-4 readings to CRS. Initially specifies RCIC room temperature is above the Maximum Safe limit, 212°F.
	CRS	Dispatches a repair team to restore power to at least one of the RCIC isolation valves to isolate the leak (breakers 52-163134 and 52-153129).

Time	Position	Applicant's Actions or Behavior
	CRS	May elect to lower pressure to a band of 450-600 psig using Main Bypass valves to reduce the driving head of the leak per Operation Philosophy step 6.4.3
	BOP	Recognizes and reports Auxiliary Building Steam Tunnel temperature rising based on EP-4 readings or receipt of MN STM TNL AMBIENT TEMP HI (P601-19A-E3) and reports value
	CRS	Depending on Steam Tunnel temperature rate of rise, may direct fully opening Main Bypass Valves per EP-2 step P-1 due to anticipating Emergency Depressurization, which would be required when Steam Tunnel temperature reached 250°F
	BOP	Operates Main Bypass Valves on P680, as directed, using 04-1-01-N32-2 Att. V: • Energize Manual Bypass Valve Controller by simultaneously depressing MANUAL BYPASS CONTROL RELEASE pushbutton and MANUAL BYPASS VALVE CONTROLLER ON pushbutton until ON pushbutton becomes illuminated. • Uses the RAISE or LOWER pushbuttons to open or close the Bypass Valves to control reactor pressure
	BOP	Reports Steam Tunnel Temperature above its Maximum Safe limit, 250°F. Specifies 2 area temperatures are now above Maximum safe limits.
	CRS**	Enters Emergency Depressurization leg of EP-2 and directs opening 8 ADS/SRVs.
	BOP**	Opens 8 ADS/SRVs at P601
	CRS	Verifies Feedwater/Condensate is aligned for injection through Startup Level Control in automatic
	ACRO**	Ensures Feedwater/Condensate is aligned for proper control of RPV level and ensures level is maintained above -192”.

** denotes critical task

CREW TURNOVER

The plant is at 81% power at the target rod pattern following a temporary downpower for a control rod pattern adjustment. Power ascension is in progress at 03-1-01-2 Attachment VIII step 12.9.

The current fuel preconditioned envelope is at 90% power. Reactor Engineering has requested power be raised to 88% immediately after turnover. Power will be held there for 30 minutes, then, another ramp rate edit will be obtained.

There is no out of service equipment, and EOOS is green.

A Division 1 work week is in effect.

Facility: **Grand Gulf Nuclear Station** Date of Exam: **3/2/2009** Operating Test No.:

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(*)		
		1			2			3			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO ☐ SRO-I ☐ SRO-U ☒	RX													0	1	1	0
	NOR	1												1	1	1	1
	I/C	2,3, 4,5, 7					4,5							7	4	4	2
	MAJ	6					7,8							3	2	2	1
	TS	3,4												2	0	2	2
RO ☐ SRO-I ☒ SRO-U ☐	RX													0	1	1	0
	NOR													0	1	1	1
	I/C		2,3, 4		2,3, 4,5, 6									8	4	4	2
	MAJ		6		7,8									3	2	2	1
	TS				4,5									2	0	2	2
RO ☒ SRO-I ☐ SRO-U ☐	RX					1								1	1	1	0
	NOR			1										1	1	1	1
	I/C			5,7		2,3 6								5	4	4	2
	MAJ			6		7,8								3	2	2	1
	TS													0	0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position.

2. Reactivity manipulations may be conducted under normal or controlled abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Facility: **Grand Gulf Nuclear Station**	Date of Examination: **03/02/2009**	Operating Test No.:

Competencies	APPLICANTS											
	RO ☐ SRO-I ☐ SRO-U ☒			RO ☐ SRO-I ☒ SRO-U ☐			RO ☒ SRO-I ☐ SRO-U ☐			RO ☐ SRO-I ☐ SRO-U ☐		
	SCENARIO			SCENARIO			SCENARIO			SCENARIO		
	1	2		1	2		1	2		1	2	3	4
	SRO	**BOP**		**ATC**	**SRO**		**BOP**	**ATC**					
Interpret/Diagnose Events and Conditions	2,3,4 6,7	4,5,6 7,8		2,3, 4,6	2,3,4, 5,6,7, 8		3,5, 6,7	2,3, 6,7					
Comply With and Use Procedures (1)	ALL	1,4,5 6,7,8		2,3, 4,6	ALL		1,3, 5,6, 7	1,2, 3,6, 7					
Operate Control Boards (2)	N/A	1,4,5 6,7,8		2,3, 4,5, 6	N/A		1,3, 5,6, 7	1,2, 3,6, 7					
Communicate and Interact	ALL	1,4,5 6,7,8		2,3, 4,6	ALL		1,3, 5,6, 7	1,2, 3,6, 7					
Demonstrate Supervisory Ability (3)	1,2,3 4,5,6 ,7	N/A		N/A	ALL		N/A	N/A					
Comply With and Use Tech Specs (3)	3,4	N/A		N/A	4,5		N/A	N/A					

Notes:

(1) Includes Technical Specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only Applicable to SROs.

Instructions:

Check the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.