



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-NLO-C1102  
Revision: 01  
Page: 1 of 20  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**RECHARGE A HYDRAULIC CONTROL UNIT (HCU)**

REASON FOR REVISION: Update for NRC Exam.

THIS DOCUMENT REPLACES GG-1-JPM-NLO-C1102.00.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

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**DISCUSSION**

This JPM will evaluate the candidate's ability to recharge a Hydraulic Control Unit accumulator. This is a routine task performed whenever the nitrogen pressure in the accumulator leaks down past the alarm setpoint.

The proper method of evaluation is by simulation in the plant.

This JPM is written to be performed on HCU accumulator 36-09, however, the evaluator may use a different HCU accumulator depending on radiological conditions (i.e. contamination areas). If a different accumulator is chosen, the evaluator should substitute the new accumulator letter designator into the valve numbers.

If requested, the evaluator should supply the candidate with a controlled copy of SOI 04-1-01-C11-1.

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Required Material(s):

- 01 SOI 04-1-01-C11-1
- 02 charged nitrogen cylinder or high-pressure hose from tanker truck
- 03 nitrogen charging cart with charging hose and regulator attached
- 04 hose with a fitting attached to be used to handle contaminated water vented from the waterside of the HCU
- 05 adjustable wrench
- 06 blue tyewraps (locks)

General Reference(s):

- 01 SOI 04-1-01-C11-1

Safety Consideration(s):

- 01 Candidate should observe all proper radiological practices.
  - 02 Candidate should not manipulate any switches or valves on the HCU accumulator.
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**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

HCU accumulator 36-09 recharged to approximately 1750 psig.

**Initial Condition(s):** (The location for the initial conditions to be given is the Control Room or Control Building entrance.)

The plant is at 100% power. The Containment temperature is 70° F. The Accumulator fault for HCU accumulator 36-09 is in alarm. The accumulator nitrogen pressure is 1575 psig. All prerequisites are complete for recharging the accumulator.

**Initiating Cue(s):**

The Plant Supervisor has directed you to recharge HCU accumulator 36-09.

**Start Time:** \_\_\_\_\_

\* This location will be determined at pre-evaluation meeting by the evaluators involved.

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 1 ( )** Obtain a controlled copy of SOI 04-1-01-C11-1.

**Standard:** Candidate obtains a controlled copy of SOI 04-1-01-C11-1.

**Comments:** Once candidate requests procedure, evaluator may provide a copy of the procedure.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 2 (\*)** Locate HCU accumulator 36-09.

**Standard:** Candidate locates HCU accumulator 36-09.

**Comments:** HCU accumulator is located in Containment, 135' el., South Bank, 1st row from the stairs.

**NOTE: The evaluator may select a different accumulator due to radiological areas.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 3 ( )** Notify the Control Room that HCU accumulator 36-09 is going to be recharged, so the LCO can be entered.

**Standard:** Candidate states that he would notify the Control Room that accumulator 36-09 is going to be recharged, so the LCO can be entered.

**Comments:** Cue the candidate that the Control Room has been notified and the LCO entered.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 4 (\*)** Locate, unlock and close the Accumulator Charging Water Riser valve, 113JB.

**Standard:** Candidate locates Charging Water Riser valve 113JB and states he would remove the blue tyewrap and close the valve by turning the handwheel clockwise until it mechanically stops.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the valve MOTION HAS STOPPED.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 5 (\*)** Attach a hose to the outlet of Water Accumulator Drain Valve 107JB and route to CRW.

**Standard:** Candidate states he would attach a hose to the outlet of Drain Valve 107JB and route the other end to CRW.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the hose is attached and routed to CRW.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 6 (\*)** Slowly open Water Accumulator Drain Valve 107JB.

**Standard:** Candidate states he would slowly open Drain Valve 107JB by turning the handwheel counterclockwise until it mechanically stops.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the valve MOTION HAS STOPPED.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 7 ( )** Verify the accumulator is fully drained.

**Standard:** Candidate states he would verify the accumulator is fully drained by observing a constant gas pressure indicated on PI-R131JB.

**Comments:** If asked, CUE the candidate that the gas pressure indicated on PI-R131JB is constant at 1050 psig.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 8** (\*) Close the Accumulator Instrument Block Isolation valve, 111JB.

**Standard:** Candidate states he would close the Accumulator Instrument Block Isolation valve, 111JB, by turning the handwheel clockwise until it mechanically stops.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the valve MOTION HAS STOPPED.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 9** ( ) Close or check closed the Gas Charging Station Shutoff valve, F097

**Standard:** Candidate states he would close or check closed the Gas Charging Station Shutoff valve, F097, by turning the handwheel clockwise until it mechanically stops.

**Comments:** The Gas Charging Station Shutoff valve is located on the Nitrogen Charging Cart.

**NOTE: All gas charging valves are common to both charging carts.**

Cue the candidate that the valve motion has stopped. (The valve should already be closed.)

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 10 (\*)** Slowly loosen the cap at Connector P6 to bleed the pressure from the instrument block, then remove the cap and connect the nitrogen charging line from the charging cart to the connector.

**Standard:** Candidate states he would slowly loosen the cap at Connector P6 to bleed the pressure from the instrument block, then remove the cap and connect the nitrogen charging line from the charging cart to the connector.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the hose is attached.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 11 ( )** Close or check closed the Gas Charging Station Vent valve, F096.

**Standard:** Candidate states he would close or check closed the Gas Charging Station Vent valve, F096, by turning the handwheel clockwise until it mechanically stops.

**Comments:** The Gas Charging Station Vent is located on the Nitrogen Charging Cart.

Cue the candidate that the valve motion has stopped (The valve should already be closed.)

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 12** (\*) Open the Gas Charging Station Nitrogen Bottle Shutoff valve, F044.

**Standard:** Candidate states he would open the Gas Charging Station Nitrogen Bottle Shutoff valve, F044, by turning the handwheel counterclockwise until it mechanically stops.

**Comments:** The Gas Charging Station Nitrogen Bottle Shutoff valve is located on the Nitrogen Charging Cart.

**Cue the candidate that the valve MOTION HAS STOPPED.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 13** ( ) Using Figure 2 of 04-1-01-C11-1, adjust charging station pressure with PCV-F099 to provide the proper precharge pressure.

**Standard:** Candidate states he would adjust PCV-F099 to 1200 psig (± 60 psig), by turning the regulator needle valve handwheel clockwise until pressure reached 1200 psig (± 60 psig).

**Comments:** Candidate should use Fig. 2 of 04-1-01-C11-1 to find the proper precharge pressure at 70°F. PCV-F099 is located on the Nitrogen Charging Cart.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 14 (\*)** Open the Instrument Block Isolation valve, 111JB.

**Standard:** Candidate states he would open the Instrument Block Isolation valve, 111JB, by turning the handwheel counterclockwise until it mechanically stops.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the valve MOTION HAS STOPPED.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 15 (\*)** Slowly open the Gas Charging Station Shutoff valve, F097, and slowly increase accumulator gas pressure, verifying pressure increase on PI-131JB.

**Standard:** Candidate states he would slowly open the Gas Charging Station Shutoff valve, F097, by turning the handwheel counterclockwise, and slowly increase accumulator gas pressure, verifying pressure increase on PI-R131JB.

**Comments:** Cue the candidate that the valve is open and, if asked, that PI-131JB shows an increase in pressure.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 16 (\*)** Adjust regulator PCV-F099 to achieve the correct precharge pressure as determined from Fig. 2.

**Standard:** Candidate states he would adjust regulator PCV-F099 to achieve 1200 psig (+ 60 psig), as indicated on PI-R131JB, by turning the regulator needle valve handwheel.

**Comments:** If asked, CUE the candidate that PI-R131JB indicates 1200 psig.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 17 (\*)** Close the Gas Charging Station Nitrogen Bottle Shutoff valve, F044.

**Standard:** Candidate states he would close the Gas Charging Station Nitrogen Bottle Shutoff valve, F044 by turning the valve handwheel in the clockwise direction until resistance is felt.

**Comments:** If asked, CUE the candidate that there is resistance.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 18** (\*) Close the Instrument Block Isolation valve, 111JB.

**Standard:** Candidate states he would close the Instrument Block Isolation valve, 111JB, by turning the handwheel clockwise until it mechanically stops.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

**Cue the candidate that the valve MOTION HAS STOPPED.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 19** (\*) Open the Gas Charging Station Vent valve, F096.

**Standard:** Candidate states that he would open the Gas Charging Station Vent valve, F096, by turning the handwheel counterclockwise.

**Comments:** **Cue the candidate that the valve MOTION HAS STOPPED.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 20** ( ) Verify that PI-R131JB indicates 0 psig.

**Standard:** Candidate states that he would verify that PI-R131JB indicates 0 psig.

**Comments:** **Cue the candidate that PI-R131JB indicates 0 psig.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 21** ( ) Close the Gas Charging Station Vent valve, F096, and the Gas Charging Station Shutoff valve, F097.

**Standard:** Candidate states he would close the Gas Charging Station Vent valve, F096, and the Gas Charging Station Shutoff valve, F097, by turning the handwheels clockwise until they mechanically stop.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the valves MOTION HAVE STOPPED.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 22** (\*) Remove the nitrogen charging hose and replace the cap on Connector P6.

**Standard:** Candidate states he would remove the hose and replace the cap on Connector P6.

**Comments:** Candidate should simulate the actions, remembering to observe proper radiological practices.

Cue the candidate that the hose is removed and cap installed.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 23** (\*) Open Instrument Block Isolation, 111JB.

**Standard:** Candidate states he would open Instrument Block Isolation, 111JB, by turning the handwheel counterclockwise until it mechanically stops.

**Comments:** Cue the candidate that the valve MOTION HAS STOPPED.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 24** ( ) Verify that PI-R131JB indicates proper precharge pressure.

**Standard:** Candidate states he would verify that PI-R131JB indicates 1200 psig (± 60 psig)

**Comments:** Cue the candidate that PI-R131JB indicates 1200 psig.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 25** ( ) Verify that the cap on Connector P6 is tight and there is no leakage.

**Standard:** Candidate states that he would verify that the cap on Connector P6 is tight and there is no leakage by observing PI-R131JB and verifying pressure remains constant.

**Comments:** If asked, CUE the candidate there pressure is remaining constant.  
NOTE: Candidate could also state he listens for audible indications of leakage.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 26 (\*)** Close the Water Accumulator Drain valve, 107JB.

**Standard:** Candidate states he would close the Water Accumulator Drain valve, 107JB, by turning the handwheel clockwise until it mechanically stops.

**Comments:** **Candidate should simulate the actions, remembering to observe proper radiological practices.**

**Cue the candidate that the valve MOTION HAS STOPPED.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 27 (\*)** Slowly open the Accumulator Charging Water Riser valve, 113JB and lock open.

**Standard:** Candidate states he would slowly open the Accumulator Charging Water Riser valve, 113JB, by turning the handwheel counterclockwise until it mechanically stops.

**Comments:** **Cue the candidate that the valve has met resistance in the counterclockwise direction. Placing blue tie wrap on valve is not critical.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 28 ( )** Verify PI-131JB indicates 1750 psig (± 88 psig).

**Standard:** Candidate states he would verify PI-131JB indicates 1750 psig (± 88 psig).

**Comments:** **Cue the candidate that PI-R131JB indicates 1750 psig.**

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SAT        UNSAT       

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

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**Item 29** ( ) Contact the Control Room to verify HCU FAULT for accumulator 36-09 is clear.

**Standard:** Candidate states he would contact the Control Room to verify HCU FAULT for accumulator 36-09 is clear.

**Comments:** Cue the candidate that the Control Room reports that the fault is clear.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 30** ( ) Ensure all cylinders are secured either in the cart or in the storage rack, nitrogen charging cart is returned to it's storage location and chained, nitrogen cylinder in the cart has the regulator removed and the cylinder cap installed, cylinders in use or are still full have FULL/IN-USE/EMPTY tags affixed, empty cylinders have the FULL/IN-USE portion of the tag removed, and the hoses are removed from the 107XX valves.

**Standard:** Candidate states he would ensure all cylinders are secured either in the cart or in the storage rack, nitrogen charging cart is returned to it's storage location and chained, nitrogen cylinder in the cart has the regulator removed and the cylinder cap installed, cylinders in use or are still full have FULL/IN-USE/EMPTY tags affixed, empty cylinders have the FULL/IN-USE portion of the tag removed, and the hoses are removed from the 107XX valves.

**Comments:** NOTE: Hoses on some of the 107XX valves are required because of leakage of the valves.

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**TERMINATING CUE(s):**

HCU accumulator 36-09 is recharged to 1750 psig.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is at 100% power. The Containment temperature is 70° F. The Accumulator fault for HCU accumulator 36-09 is in alarm. The accumulator nitrogen pressure is 1575 psig. All prerequisites are complete for charging accumulator.

Initiating Cue(s):

The Plant Supervisor has directed you to recharge HCU accumulator 36-09.



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JOB PERFORMANCE  
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TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**MANUAL START OF DIESEL DRIVEN FIRE PUMP  
( FAULTED )**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

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Task List No: AON-P64-004

K/A Reference and Importance Factors (RO/SRO):

K/A 286000 A2.05 - 3.1/3.3; A3.01 - 3.4/3.4; A4.06  
2.1.30 - 3.9/3.4

SAFETY FUNCTION - 8

RO Group 2

SRO Group 2

Time Required for Completion: 26 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

**PLANT EMERGENCY/ABNORMAL**

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APPLICABLE METHOD OF TESTING

Performance: Simulate X Actual \_\_\_\_\_

Setting: Classroom \_\_\_\_\_ Plant X Simulator \_\_\_\_\_

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EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
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Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

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**DISCUSSION**

This JPM will evaluate the candidate's ability to perform a manual Diesel Driven Fire Pump at the Fire Water Pump House. This is an abnormal condition which would require operator action in the event of a fire on site and a failure of the Diesel Driven Fire Pump to automatically start.

The proper method of evaluation is by simulation in the plant at the Fire Water Pump House.

This JPM is written to be performed on Diesel Driven Fire Pump 'A', however, the evaluator may use Diesel Driven Fire Pump 'B' depending upon plant conditions and Shift Superintendent.

If requested, the evaluator should supply the candidate with a controlled copy of SOI 04-S-01-P64-1.

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Required Material(s):

01 SOI 04-S-01-P64-1, Fire Protection Water System

General Reference(s):

01 SOI 04-S-01-P64-1, Fire Protection Water System

Safety Consideration(s):

01 Candidate should not manipulate any switches or valves on the Diesel Driven Fire Water Pumps.

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**GRAND GULF NUCLEAR STATION  
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**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

Diesel Driven Fire Pump 'A' is operating on the Fire Water System.

**Initial Condition(s):** (The location for the initial conditions to be given is the Control Room, Security Island or Control Building entrance (\*).)

The plant is at 100% power. Diesel Driven Fire Pump 'B' is tagged out for bearing replacement. The Motor Driven Fire Pump tripped on start and cannot be started. There is a fire in the Unit 1 Turbine Building. The Control Room has attempted to start the Motor Driven and Diesel Driven Fire Pump 'A' and neither has started.

**Initiating Cue(s):**

The Shift Supervisor has directed you to manually start Diesel Driven Fire Pump 'A'.

**Start Time:** \_\_\_\_\_

\* This location will be determined at pre-evaluation meeting by the evaluators involved.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

JPM No. GG-1-JPM-NLO-P6401 Rev. 00 Page 5 of 12

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 ( )** Obtain a controlled copy of SOI 04-S-01-P64-1.

**Standard:** Candidate obtains a controlled copy of SOI 04-S-01-P64-1.

**Comments:** Once candidate requests procedure, evaluator may provide a copy of the procedure.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 (\*)** Locate Diesel Driven Fire Pump 'A'.

**Standard:** Candidate locates Diesel Driven Fire Pump 'A'.

**Comments:** Diesel Driven Fire Pump 'A' is located in the Fire Water Pump House in the yard area near the Unit 1 Warehouse .

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 3 ( )** Locate panel SH22-P135 for Diesel Driven Fire Pump 'A'.

**Standard:** Candidate locates panel SH22-P135 for Diesel Driven Fire Pump 'A'.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

JPM No. GG-1-JPM-NLO-P6401 Rev. 00 Page 6 of 12

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4 ( )** On panel SH22-P135, place control switch to MANUAL 1.

**Standard:** Candidate states that he would place the local control switch for Diesel Driven Fire Pump to MANUAL 1.

**Comments:** Cue the candidate that the Control switch is in the position identified by the candidate.

**NOTE:** Candidate may elect to perform Item 6 instead of this item, this is acceptable. Candidate would have to perform at least Item 4&5 or Item 6&7.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 5 ( )** Depress the local START pushbutton on SH22-P135.

**Standard:** Candidate states he would depress the local START pushbutton on SH22-P135.

**Comments:** CUE the candidate the DIESEL FIRE PUMP DOES NOT do anything (PUMP/DIESEL is as is).

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

JPM No. GG-1-JPM-NLO-P6401 Rev. 00 Page 7 of 12

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 6** ( ) On panel SH22-P135, place control switch to MANUAL 2.

**Standard:** Candidate states that he would place the local control switch for Diesel Driven Fire Pump to MANUAL 1.

**Comments:** Cue the candidate that the Control switch is in the position identified by the candidate.

**NOTE:** Candidate may perform this item or go on to manual start.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 7** ( ) Depress the local START pushbutton on SH22-P135.

**Standard:** Candidate states he would depress the local START pushbutton on SH22-P135.

**Comments:** CUE the candidate the DIESEL FIRE PUMP DOES NOT do anything (PUMP/DIESEL is as is).

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

JPM No. GG-1-JPM-NLO-P6401 Rev. 00 Page 8 of 12

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 8** (\*) Turn Manual Override knob on Fuel Control Valve to the fully clockwise position.

**Standard:** Candidate locates the Fuel Control Valve and states he would turn the Manual Override Knob fully clockwise.

**Comments:** Cue the candidate that the Manual Override Knob MOTION HAS STOPPED.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 9** ( ) Select a starter contactor and lift and hold contactor handle to crank diesel.

**Standard:** Candidate states he would lift and hold contactor handle to crank diesel.

**Comments:** Cue the candidate the DIESEL FIRE PUMP DOES NOT do anything (PUMP/DIESEL is as is).

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

JPM No. GG-1-JPM-NLO-P6401 Rev. 00 Page 9 of 12

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 10** (\*) ON BOTH starter contactors, lifts and holds both contactor handles to crank diesel. Release the handles when diesel starts.

**Standard:** Candidate states he would lift and hold both contactor handles to crank diesel. Release the handles when diesel starts.

**Comments:** Cue the candidate the DIESEL FIRE PUMP STARTS.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 11** (\*) After Diesel Driven Fire Pump starts, throttle open P64-F323A, the Cooling Water Solenoid Bypass valve to maintain  $\approx$  5 - 10 psig cooling water to diesel.

**Standard:** Candidate states he would throttle open P64-F323A, the Cooling Water Solenoid Bypass valve to maintain  $\approx$  5 - 10 psig cooling water to diesel

**Comments:** Cue the candidate that cooling water pressure indicates 7 psig.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

JPM No. GG-1-JPM-NLO-P6401 Rev. 00 Page 10 of 12

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**TERMINATING CUE(s):**

Diesel Driven Fire Pump is operating supplying the Fire Water System.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL START OF DIESEL DRIVEN FIRE PUMP (FAULTED)

JPM No. GG-1-JPM-NLO-P6401 Rev. 00 Page 11 of 12

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is at 100% power. Diesel Driven Fire Pump 'B' is tagged out for bearing replacement. The Motor Driven Fire Pump tripped on start and cannot be started. There is a fire in the Unit 1 Turbine Building.

Initiating Cue(s):

The Shift Supervisor has directed you to manually start Diesel Driven Fire Pump 'A'.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-NLO-R2011  
Revision: 02  
Page: 1 of 13  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT  
BREAKER**

REASON FOR REVISION: UPDATE JPM FOR PROCEDURE CHANGES FOR NRC EXAM

THIS DOCUMENT REPLACES GG-1-JPM-NLO-R2011.01 .

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 2 of 13

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Task List No: NOB-R20-003

K/A Reference and Importance Factors (RO/SRO):

K/A 262001 A1.05 - 3.2/3.5; A4.01 - 3.4/3.7  
2.1.30 - 3.9/3.4; 2.1.26 - 2.2/2.6

SAFETY FUNCTION - 6

RO Group 2

SRO Group 1

Time Required for Completion: 20 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

**If JPM simulated in the plant, RCA entry required.**

---

APPLICABLE METHOD OF TESTING

Performance: Simulate X Actual **X possible in Old  
Training Building**

Setting: Classroom \_\_\_\_\_ Plant X Simulator \_\_\_\_\_

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 3 of 13

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Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 4 of 13

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**DISCUSSION**

This JPM will evaluate the candidate's ability to rack out a GE POWER/VAC circuit breaker, which is performed on an infrequent basis by NOBs.

The proper method for performance of this JPM is to actually perform the racking out of a circuit breaker utilizing the GE POWER/VAC 6.9 KV breaker located in the Old Training Building. This provides a safe, de-energized breaker for this JPM. If these breakers are utilized, the instructor must ensure to obtain the required safety equipment required to rack out the breaker.

**The instructor should ensure that the breaker is racked in, with the breaker open, closing springs charged and the control power fuses installed.**

Required Material(s):

**NOTE - Safety Equipment and tools are in Locker.**

- 01 GE POWER/VAC circuit breaker racking tool and 5/8 inch socket and speed wrench to charge the springs of the breaker
- 02 General Operating Instruction 04-S-04-2
- 03 Safety Equipment listed in Precautions and Limitation 3.4 of General Operating Instruction 04-S-04-2

General Reference(s):

- 01 General Operating Instruction 04-S-04-2
- 02 Electrical Drawing E-1006

**Safety Consideration(s):**

- 01 **Safety equipment and precautions delineated in the procedure precautions and limitations should be used and adhered to.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 5 of 13

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**02 Candidate should use caution when around the 6.9 KV switchgears.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 6 of 13

---

**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

Rack out to the disconnect position the circuit breaker identified, in accordance with steps stated in 04-S-04-2.

**Initial Condition(s):** (The location for the initial conditions to be given is Old Training Building \*.)

The plant is in Cold Shutdown. Electricians have a work order to perform maintenance on the circuit breaker 252-3103B. (If another breaker is to be used, inform the candidate which breaker is to be used.)

**Initiating Cue(s):**

The Plant Supervisor has directed you to rack out circuit breaker 252-3103B to the disconnect position.

(If another breaker is to be used, inform the candidate which breaker is to be used.)

**Start Time:** \_\_\_\_\_

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 7 of 13

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\* This location will be determined at pre-evaluation meeting by the evaluators involved if using breaker other than Old Training Building.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 8 of 13

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 1 ( )** Obtain copy of 04-S-04-2, General Operating Instruction Operation of Electrical Circuit Breakers.

**Standard:** Candidate may obtain a copy of the General Operating Instruction, however this action is not required for completion of the task, if all steps of the task are completed satisfactorily.

**Comments:** If requested, Evaluator should provide a copy of the latest revision of 04-S-04-2, Operation of Electrical Circuit Breakers.

**SAT** \_\_\_\_\_ **UNSAT** \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 9 of 13

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 2 (\*)** Verify the circuit breaker is in the OPEN position by observing the position indicator on the front of the breaker indicates OPEN.

**Standard:** Candidate verifies that the circuit breaker is in the OPEN position by observing the position indicator on the front of the breaker indicates OPEN.

**Comments:** This is a required prerequisite to ensure the circuit breaker is OPEN prior to attempting any operations with the circuit breaker.

**CAREFUL OBSERVATION OF CANDIDATE MUST BE DONE TO ENSURE THIS STEP IS DONE. STRESS TO THE CANDIDATE TO VERBALIZE ACTIONS PERFORMED**

**If required, ask a follow-up question to ensure the candidate performed this step.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 10 of 13

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 3 (\*)** Obtains and dons safety equipment listed in step 3.4 of the instruction precautions and limitations.

**Standard:** Candidate obtains the following safety equipment from the locker and dons. (1) face shield, (2) retardant lab coat, (3) leather gloves, (4) hard hat, (5)safety glasses.

**Comments:** Instructor should supply all required protective equipment, including hard hat and safety glasses.  
  
Candidate should perform a visual check of equipment to ensure proper working order prior to donning.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 11 of 13

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 4 (\*)** Remove control power fuses.

**Standard:** Candidate should indicate he would remove the control power fuses.

**Comments:** The control fuses to be removed are the closing power fuses (15 amp fuses labeled UC).

**SAT** \_\_\_\_\_ **UNSAT** \_\_\_\_\_

---

**Item 5 (\*)** Obtain a GE POWER/VAC circuit breaker racking tool.

**Standard:** Candidate obtains a racking tool for a GE POWER/VAC circuit breaker.

**Comments:** This may be performed at any time during the performance of the JPM prior to Item 7. Item 7 cannot be performed without this tool.

**SAT** \_\_\_\_\_ **UNSAT** \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 12 of 13

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 6 (\*)** Close breaker cabinet door.

**Standard:** Candidate closes and secures the breaker cabinet door.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 7 (\*)** Engage the racking handle into hole on the left side of front door. Engage racking mechanism by pushing in fully.

**Standard:** Candidate engages the racking crank into hole on the left side of front door and engages the racking mechanism by pushing in fully.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 13 of 13

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 8 (\*)** Rack out breaker to DISCONNECT/TEST position by rotating handle counterclockwise.

**Standard:** Candidate racks out the breaker to the DISCONNECT/TEST position by rotating the handle counterclockwise until it stops.

**Comments:** At this point the candidate may disengage the racking crank.

**NOTE:** The breaker is in the DISCONNECT position when the local indicator on the left side of the breaker cabinet indicates DISC/TEST.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 14 of 13

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**TERMINATING CUE(s)**

Candidate informs the Control Room that the circuit breaker 252-3103B is racked out to the DISCONNECT position.  
(The breaker of choice is racked out to disconnect.)

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 15 of 13

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: RACK OUT TO DISCONNECT A GE POWER/VAC CIRCUIT BREAKER

JPM No. GG-1-JPM-NLO-R2011 Rev. 02 Page 16 of 13

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**THIS PAGE MAY BE GIVEN TO THE TRAINEE**

Initial Condition(s):

The plant is in Cold Shutdown. Electricians have a work order to perform maintenance on the circuit breaker 252-3103B.

Initiating Cue(s):

The Plant Supervisor has directed you to rack out circuit breaker 252-3103B to the disconnect position.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-RO-B3306  
Revision: 00  
Page: 1 of 16  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**STARTUP A SECOND RECIRCULATION PUMP  
(POWER <30%)**

REASON FOR REVISION: UPDATE FOR NRC EXAM; INCORPORATE IRS 001; PLACE INTO PROPER FORMAT.

THIS DOCUMENT REPLACES OP-LOR-JPM-CRO-B33-006-04

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP A SECOND RECIRCULATION PUMP (POWER < 30%)

JPM No. GG-1-JPM-RO-B3306 Rev. 00 Page 2 of 16

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Task List No: CRO-B33(1)-011

K/A Reference and Importance Factors (RO/SRO):

K/A 202001      A4.01 - 3.7/3.7; A4.04 - 3.7/3.7  
     202002      A4.07 - 3.3/3.2; A4.08 - 3.3/3.3  
                 2.1.30 - 3.9/3.4; 2.1.31 - 4.2/3.9

SAFETY FUNCTION - 1 & 4

RO Group 1 & 2

SRO Group 1 & 2

Time Required for Completion: 22 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP A SECOND RECIRCULATION PUMP (POWER < 30%)

JPM No. GG-1-JPM-RO-B3306 Rev. 00 Page 3 of 16

---

**DISCUSSION**

This JPM will evaluate the candidate's ability to startup a second Recirculation Pump with Reactor Power less than 30 %. The performance of this task may be required while at power if the pump had been previously shutdown and single Recirc Loop operation had continued.

The proper method of evaluation is by performance in the simulator.

Initialize the simulator to an IC at low power < 30 % power. This will cause the pump to start and shift to slow speed.

With conditions stable, remove the 'B' Recirculation Pump from service in accordance with SOI 04-1-01-B33-1, section 6.1.2.

Once the 'B' pump is removed from service, verify 'A' loop flow < 50 % of rated loop flow (22,300 gpm), close loop 'B' **Flow Control Valve to 6% and suction and discharge valves open. OPEN CB 3B and CB 4B** for Recirc Pump 'B'. Ensure transformer taps for bus **12HE** are such that bus voltage is < **7.0 KV. CB 5B** for Recirc Pump 'B' is in **STOP LOCK. Adjust Feedwater Level Control Setpoint to +40 inches.**

All control room operations will be performed on panel 1H13-P680 unless otherwise noted.

---

Required Material(s):

01 SOI 04-1-01-B33-1, Reactor Recirculation System

General Reference(s):

01 SOI 04-1-01-B33-1, Reactor Recirculation System

Safety Consideration(s):

01 None.

---



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP A SECOND RECIRCULATION PUMP (POWER < 30%)

JPM No. GG-1-JPM-RO-B3306 Rev. 00 Page 5 of 16

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 ( )** Obtain a controlled copy of SOI 04-1-01-B33-1.

**Standard:** Candidate obtains a controlled copy of SOI 04-1-01-B33-1.

**Comments:** Once Candidate has had an opportunity to review the procedure and prerequisites, CUE the Candidate the Idle Loop Surveillance 06-OP-1B33-V-0005 has just been completed satisfactorily.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 ( )** Verified the following indications:

#1 Seal Cavity Pressure - slightly higher than reactor pressure. \_\_\_\_\_

#2 Seal Cavity Pressure - approximately half #1 Seal Cavity pressure. \_\_\_\_\_

Seal Flow annunciators are extinguished on H13-P680. \_\_\_\_\_

**Standard:** Candidate observes the above indications are satisfactory.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP A SECOND RECIRCULATION PUMP (POWER < 30%)

JPM No. GG-1-JPM-RO-B3306 Rev. 00 Page 6 of 16

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 3** ( ) Verify Recirc 'B' Flow Control Valve is in MANUAL at 6 %.

**Standard:** Candidate observes Recirc 'B' FCV is in MANUAL at 6%.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 4** ( ) Verify the Recirc 'B' suction and discharge valves are open.

**Standard:** Candidate observes Recirc 'B' suction and discharge valves are open.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP A SECOND RECIRCULATION PUMP (POWER < 30%)

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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 5 ( )** Verify Recirc 'A' Loop Flow is < 22,300 gpm.

**Standard:** Candidate observes Recirc 'A' Loop Flow is < 22,300gpm.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 6 (\*)** Ensure the following breakers are in the positions indicated:

CB3B, RECIRC PMP B FDR 252-1205B **CLOSED** \_\_\_\_\_  
CB4B, RECIRC PMP B FDR 252-1205C **CLOSED** \_\_\_\_\_

**NON CRITICAL** CB1B, LFMG B MTR FDR 152-1411 **OPEN** \_\_\_\_\_

**NON CRITICAL** CB2B, LFMG B GEN FDR 252-1205A **OPEN** \_\_\_\_\_

**NON CRITICAL** CB5B, RECIRC PMP B FDR 252-1205 **OPEN** \_\_\_\_\_

**Standard:** Candidate observes CB 1, 2, and 5B are open as required and **candidate closes CB 3 & 4B**.

**Comments:** If asked, CUE the candidate that he has permission to close CB 3 & 4B.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 7 ( )** Verify HPU B operational and associated annunciators are extinguished on P680 and P634.

**Standard:** Candidate observes annunciators on P680 and notes no alarms on HPUs and states he would check the back panel indication for HPU B.

**Comments:** **CUE the Candidate that HPU B is OPERATIONAL with Subloop 1 in lead and there are no alarms on HPU B.**

Note: Candidate may observe white light on the upper right above the FCV A/B MOTION INHIBIT RESET pushbuttons is extinguished.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 8 ( )** Check annunciators related to seal flow, motor and pump temperatures are extinguished.

**Standard:** Candidate checks that the annunciators on panel P680 section 3A associated with Recirc Pump 'B' are clear:

- (1) 3A-B11, RECRIC PMP B SEAL STG FLO HI/LO
- (2) 3A-C11, RECRIC MTR B WDG CLG WTR LEAK
- (3) 3A-D11, RECIRC MTR B WDG CLG WTR FLO LO
- (4) 3A-E6, RECIRC PMP/MTR A/B TEMP HI

**Comments:** Candidate may not identify each alarm individually.

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SAT        UNSAT       

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 9** (\*) Raise respective BOP Transformer tap setting to about 7.2 KV on Bus 12HE.

**Standard:** Candidate raises taps on BOP Transformer 11B X winding to achieve  $\approx$  7.2 KV on bus 12HE using the tap changer on H13-P807.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 10** (\*) Depress the RELEASE pushbutton on the RECIRC PMP B FDR 252-1205 STOP/STOP LOCK pushbutton assembly.

**Standard:** Candidate depresses the RELEASE pushbutton to release the Recirc Pump 'B' from Stop Lock on section 3C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 11** (\*) Depress the START pushbutton on the RECIRC PMP B TRANS TO LFMG/START pushbutton assembly.

**Standard:** Candidate depresses the START pushbutton for Recirc Pump 'B' on section 3C RECIRC PMP B TRANS TO LFMG/START pushbutton assembly.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 12** ( ) Checks the following on section 3C:

- \_\_\_\_\_ (1) CB5B, RECIRC PMP B FDR 252-1205, closed as indicated by the illuminated red light above the breaker pushbutton.
- \_\_\_\_\_ (2) CB1B, LFMG B MTR FDR 152-1411, closed as indicated by the illuminated red light above the breaker pushbutton.
- \_\_\_\_\_ (3) RECIRC PMP B AMPS, 1B33-II-R609B, rises.
- \_\_\_\_\_ (4) RECIRC PMP B RPM, 1B33-SI-R651C, rises

**Standard:** Candidate observes the above indications.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 13 ( )** Observes CB5B, RECIRC PMP B FDR 252-1205 OPENS.

**Standard:** Candidate observes CB5B opens as indicated by the green light above the pushbutton assembly illuminates when pump speed rises to  $\approx$  1700 rpm, then pump speed drops.

Comments:

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 14 ( )** Observes CB2B, LFMG B GEN FDR 252-1205A, closes.

**Standard:** Candidate observes CB25B closes as indicated by the red light above the pushbutton illuminates when pump speed drops between 360 - 450 rpm.

**Comments:** Candidate will inform the Plant Supervisor to notify I&C to restore setpoints. Acknowledge this.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 15** ( ) Lower 12HE bus voltage to 7 KV.

**Standard:** Candidate lowers bus voltage on 12HE to 7 KV using the tap changer on BOP Transformer 11B X winding on H13-P807.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 16** ( ) Check proper Recirc Pump and Jet Pump operation.

**Standard:** Candidate states he would check proper Recirc Pump and Jet Pump operation.

**Comments:** Candidate may go to the back panels to observe the Jet Pump indicators.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 17** (\*) Balance the flow between Recirc Loops A and B to establish <10 % differential flow.

**Standard:** Candidate balances flows between Recirc Loops A and B by opening the Recirc 'B' Flow Control Valve to about 100 % valve position.

Comments:

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

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**TERMINATING CUE(s):**

The 'B' Recirculation Loop is returned to service with flow balanced to within 10 % of the 'A' Recirculation Loop.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

A plant startup is in progress with reactor power at approximately \_\_\_\_\_ %. Recirculation Pump 'B' was shutdown to investigate abnormal winding temperatures. Reactor Power is less than the 75 % Rod Line. Reactor Engineering has verified thermal limits are within allowances to start the Recirc Pump. Surveillance 06-OP-1B33-V-0005, Idle Loop Startup is being completed by another operator. Seal Purge Flow to Recirc Pump 'B' has been verified at 1.7 gpm by the Auxiliary Building Operator.

Initiating Cue(s):

The Plant Supervisor has directed you to complete the return of Recirculation Pump 'B' loop to service.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-RO-E1225  
Revision: 00  
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Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**STARTUP ALTERNATE DECAY HEAT REMOVAL IN  
REACTOR TO REACTOR MODE**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
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Task List No: CRO-E12-025

K/A Reference and Importance Factors (RO/SRO):

K/A 205000 A4.01 - 3.7/3.7; A4.02 - 3.6/3.5; A4.03 - 3.6/3.5;  
A4.05 - 3.2/3.2  
295021 AA1.04 - 3.7/3.7  
2.1.30 - 3.9/3.4; 2.1.31 - 4.2/3.9

SAFETY FUNCTION - 4  
RO Group 2  
SRO Group 2

Time Required for Completion: 10 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO SHUTDOWN PLANT

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X  
Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: \_\_\_\_\_  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**GRAND GULF NUCLEAR STATION  
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**DISCUSSION**

This JPM will evaluate the candidate's ability to startup the Alternate Decay Heat Removal System in Reactor to Reactor mode of operation. The performance of this task is required during Refueling outages to allow work on the RHR systems thus reducing the outage time.

The proper method of evaluation is by performance in the simulator.

Initialize the simulator to an IC with the plant shutdown with the reactor temperature at some temperature <200 °F (Mode 4).

RHR A, B and C in LPCI Standby and secured. Verify E12-F064A & B, F004A & B are open, E12-F006A & B, F008, F009, F053A & B are closed. Tags for ADHR are removed.

All control room operations will be performed on panel 1H13-P601 unless otherwise noted.

---

Required Material(s):

01 SOI 04-1-01-E12-1, Residual Heat Removal System

General Reference(s):

01 SOI 04-1-01-E12-1, Residual Heat Removal System

Safety Consideration(s):

01 None.

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**GRAND GULF NUCLEAR STATION  
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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 ( )** Obtain a controlled copy of SOI 04-1-01-E12-1.

**Standard:** Candidate obtains a controlled copy of SOI 04-1-01-E12-1.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 ( )** Place RHR 'C' MOV TEST switch to TEST.

**Standard:** Candidate places the key lock switch for RHR 'C' MOV TEST to TEST and observes "RHR C MOV IN TEST STATUS" status light is lit.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 3 ( )** Close or check closed E12-F021, RHR C Test Return to Supp Pool.

**Standard:** Candidate observes E12-F021 is closed by the green light indication on H13-P601 section 17C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

GRAND GULF NUCLEAR STATION  
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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4 ( )** Open supply breaker 52-161120 for E12-F021 RHR C Test Return to Supp Pool.

**Standard:** Candidate dispatches an operator to open the circuit breaker 52-161120. Observes light indication de-energizes and the MOV Overload / Power loss status light illuminates and the RHR OOSVC annunciator P601 17A-H3 illuminates.

**Comments:** **NOTE: Simulator Operator on the Remote Function Action page for E12, select e12201, e12f021 breaker and select the breaker to OPEN.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 5 (\*)** Stop RHR C Jockey Pump.

**Standard:** Candidate places the RHR C Jockey Pump handswitch to STOP on P601 section 17C and observes the green light illuminate. The RHR C Discharge Pressure Abnormal annunciator illuminates.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 6 ( )**      Unlock and close E12-F443C, Pressure Lock Isol for E12-F004C.

**Standard:**      Candidate dispatches an operator to unlock and close E12-F443C.

**Comments:**      **Cue the candidate E12-F443C has been unlocked and is closed.**

SAT      \_\_\_\_\_      UNSAT      \_\_\_\_\_

---

**Item 7 (\*)**      Close E12-F004C, RHR C Suct Fm Supp Pool.

**Standard:**      Candidate places the key lock switch for E12-F004C on P601 section 17C to CLOSE and observes the green light is illuminated and status light F004C IN CLOSE POS is illuminated.

**Comments:**

SAT      \_\_\_\_\_      UNSAT      \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 8 (\*)** Close or check closed E12-F064C, RHR C Min Flow to Supp Pool.

**Standard:** Candidate places the handswitch for E12-F064C to CLOSE and observes green light illuminated on P601 section 17C.

**Comments:**

SAT        UNSAT       

---

**Item 9 ( )** Ensure E12-F066A and B are closed.

**Standard:** Candidate may request an operator verify E12-F066A and B are closed locally OR may have the circuit breakers for E12-F066A and B closed to use light indication.

**Comments:** Either method is acceptable. **If an operator is used, CUE the candidate E12-F066A and B are closed.**

**SIMULATOR OPERATOR: RHR Remote Function Action page e12200a & b, E12-F066A and F066B toggle to CLOSED.**

SAT        UNSAT       

---

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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 10 ( )** Open breakers 52-153146 (F066A) and 52-163149 (F066B).

**Standard:** Candidate observes the absence of light indication for E12-F066A and F066B on P601 section 17C or dispatches an operator to open 52-153146 and 52-163149.

**Comments:** Either method is acceptable. If both breakers have been closed the candidate may elect to leave 52-153146 closed (next Item). This is acceptable. If asked, CUE the candidate breakers 52-153146 and 52-163149 are OPEN.

**SIMULATOR OPERATOR:** RHR Remote Function Action page e12200a & b, E12-F066A and F066B toggle to OPEN.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 11 (\*)** Close breaker 52-153146 for E12-F066A.

**Standard:** Candidate dispatches an operator to close breaker 52-153146 for E12-F066A. Breaker closed indication is the presence of green light indication for E12-F066A.

**Comments:** **SIMULATOR OPERATOR:** on the Remote Function Action page for E12 select e12200a, e12f066a and select CLOSE.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 12** ( ) Reset NSSSS inboard and outboard isolation logic using NSSSS INBD and OTBD RESET pushbuttons on P601.

**Standard:** Candidate depresses reset pushbuttons for NSSSS INBD and OTBD isolation logic or observes the absence of any isolation logic annunciators

**Comments:** Either action is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 13** ( ) Stop the RHR A Jockey Pump.

**Standard:** Candidate requests the RHR A Jockey Pump hand switch taken to STOP on H13-P871. Observes the RHR A Discharge Pressure Abnormal annunciator illuminates.

**Comments:** Simulator Operator on the Remote Function Action page for E12 select e12224, rhra jockey pump and select STOP.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 14 ( )** Place CTMT DRWL ISOL DIV I MOV TEST switch to TEST.

**Standard:** Candidate places the key lock switch for CTMT DRWL ISOL DIV I MOV TEST to TEST and observes "RX Div 1 Isol Sys OOSVC" annunciator is received.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT        UNSAT       

---

**Item 15 ( )** Close E12-F082A, RHR A Jockey Pump Suction Isolation.

**Standard:** Candidate requests the handswitch for E12-F082A on H13-P871 taken to CLOSE.

**Comments:** **CUE the candidate the handswitch for E12-F082A is in CLOSE and the valve indicates closed.**

SAT        UNSAT       

---

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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 16 ( )** Place RHR A MOV TEST switch to TEST.

**Standard:** Candidate places the key lock switch for RHR A MOV TEST to TEST and observes "RHR A MOV IN TEST STATUS" status light is lit.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT        UNSAT       

---

**Item 17 (\*)** Close E12-F004A, RHR A Suction from Supp Pool.

**Standard:** Candidate places the key lock switch for E12-F004A to CLOSE and observes green light illumination on P601 section 20C and the RHR A OOSVC annunciator and F004A IN CLOSE POS status light illuminate on P601 section 20A and B.

**Comments:**

SAT        UNSAT       

---

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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 18** (\*) Close or check closed E12-F024A, RHR A Test Return to Supp Pool.

**Standard:** Candidate places the handswitch for E12-F024A to CLOSE and observes green light illumination on P601 section 20C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 19** (\*) Close E12-F064A, RHR A MIN Flow to Supp Pool.

**Standard:** Candidate places the handswitch for E12-F064A to CLOSE and observes green light illumination on P601 section 20C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 20 (\*)** Open or check open E12-F010, Inlet to SDC (Shutdown Cooling).

**Standard:** Candidate observes the red light is illuminated on P601 section 17C for E12-F010.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 21 ( )** Place NSSSS OTBD MOV TEST switch to TEST.

**Standard:** Candidate places the key lock switch for NSSSS OTBD MOV TEST to TEST and observes "RX Div 2 Isol Sys OOSVC" annunciator is received.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT        UNSAT       

---

**Item 22 (\*)** Open E12-F009, SDC Inbd Suct Vlv.

**Standard:** Candidate places the handswitch for E12-F009 to OPEN and observes red light illumination on P601 section 17C.

**Comments:**

SAT        UNSAT       

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP ALTERNATE DECAY HEAT REMOVAL IN REACTOR TO  
REACTOR MODE

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 23 ( )** Place NSSSS INBD MOV TEST switch to TEST.

**Standard:** Candidate places the key lock switch for NSSSS INBD MOV TEST to TEST and observes "RX Div 1 Isol Sys OOSVC" annunciator is received.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 24 (\*)** Open E12-F008, SDC Otbd Suct Vlv.

**Standard:** Candidate places the handswitch for E12-F008 to OPEN and observes red light illumination on P601 section 20C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 25** (\*) Open E12-F006A, RHR PMP A Suct Fm SDC.

**Standard:** Candidate places the handswitch for E12-F006A to  
OPEN and observes red light illumination on P601  
section 20C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 26** ( ) Close or check closed G41-F348, Spent Fuel Pool to RHR.

**Standard:** Candidate dispatches an operator to close or check closed G41-F348.

**Comments:** CUE the candidate G41-F348, Spent Fuel Pool to RHR is closed.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 27** (\*) Open or check open G41-F059, Spent Fuel Pool to RHR A and B.

**Standard:** Candidate dispatches an operator to open or check open G41-F059.

**Comments:** CUE the candidate G41-F059, Spent Fuel Pool to RHR A and B is open.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP ALTERNATE DECAY HEAT REMOVAL IN REACTOR TO  
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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 28 (\*)** Place RHR A ADHRS MODE TRIP ENABLE switch to ADHRS on H13-P629.

**Standard:** Candidate dispatches an operator to place the RHR A ADHRS MODE TRIP ENABLE switch to ADHRS.

**Comments:** Simulator Operator on Remote Function Action page for E12 select e12199 to ADHRS and e12198 to ON.

CUE the candidate the RHR A ADHRS MODE TRIP ENABLE switch is in ADHRS position.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 29 (\*)** Open E12-F066A, FPC Assist to RHR PMP A.

**Standard:** Candidate places the handswitch for E12-F066A to OPEN and observes red light illumination on P601 section 20C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP ALTERNATE DECAY HEAT REMOVAL IN REACTOR TO  
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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 30** (\*) Throttle open E12-F424, ADHR FCV to approximately 10%.

**Standard:** Candidate throttles open E12-F424 to 10% valve position as indicated on E12-ZI-R613 on P601 section 17B (electronic bar indicator).

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 31** ( ) Vent suction piping at E12-F800 and RHR C piping at E12-F231 and F232 then re-close the vents.

**Standard:** Candidate dispatches an operator to vent the ADHR suction piping at E12-F800 and RHR C piping at E12-F231 and F232.

**Comments:** CUE the candidate the ADHR suction piping has been vented at E1-F800 and RHR C piping at E12-F231 and F232.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 32 (\*)** Start ADHR Pumps A and B.

**Standard:** Candidate places the handswitches for ADHR pumps A and B to START and observes red light illumination on P601 section 17C.

**Comments:** **NOTE: The candidate may elect to start first pump then establish flow path through E12-F042C prior to starting second pump and adjustments to E12-F424 at anytime in the process is acceptable.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 33 (\*)** Open E12-F042C, RHR C INJ Shutoff Vlv.

**Standard:** Candidate places the handswitch for E12-F042C to OPEN and observes red light illumination on P601 section 17C and flow rise on E12-FI-R633 (electronic bar indicator section 17B)

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

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---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 34** (\*) Throttle E12-F424, ADHR FCV to attain 2000 gpm flow as indicated on E12-FI-R633.

**Standard:** Candidate throttles E12-F424 to attain 2000gpm flow indicated on E12-FI-R633.

**Comments:** **NOTE: If candidate exceeds 3600 gpm flow as indicated on E12-FI-R633, the candidate is unsat.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 35** ( ) Place the following MOV TEST switches to NORM:

NSSSS INBD MOV TEST \_\_\_\_\_  
NSSSS OTBD MOV TEST \_\_\_\_\_  
RHR A MOV TEST \_\_\_\_\_  
RHR C MOV TEST \_\_\_\_\_  
CTMT DRWL DIV 1 MOV TEST \_\_\_\_\_

**Standard:** Candidate places the key lock switches for the above in NORM and observes appropriate Test Status Light extinguish.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP ALTERNATE DECAY HEAT REMOVAL IN REACTOR TO  
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**TERMINATING CUE(s):**

ADHR is operating with 2000 gpm flow Reactor to Reactor operation  
using RHR A Shutdown Cooling Suction.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : STARTUP ALTERNATE DECAY HEAT REMOVAL IN REACTOR TO  
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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is in mode 4 with coolant temperature  $\approx$  \_\_\_\_ °F. RHR A, B and C are in LPCI Standby. ADHR has been filled and vented per 04-1-01-E12-1 section 5.11. The PSW system has been aligned to the ADHR Heat Exchangers and CCW Controller P42-TIC-R016 has been set to 55°F. Signs indicating ADHR operation have been hung. The PSW Radiation Monitor has been placed in service. E12-F008 and F009 isolation capability has been verified. Health Physics has been notified of ADHR operation. The ADHR Room Air Conditioner has been started. ADHR has been flushed, filled, and vented.

Initiating Cue(s):

The Plant Supervisor has directed you start ADHR with two pumps in the RPV to RPV mode of operation using RHR A Shutdown Cooling as the source.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

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Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)**

REASON FOR REVISION: NEW JPM

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
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Task List No: CRO-E30-003

K/A Reference and Importance Factors (RO/SRO):

K/A 223001 A2.11 - 3.6/3.8  
295030 EA1.04 - 4.0/4.0; EK2.06 - 3.9/3.9; EK3.05 - 3.6/3.6  
2.1.30 - 3.9/3.4; 2.1.31 - 4.2/3.9; 2.4.48 - 3.5/3.8  
SAFETY FUNCTION - 5  
RO Group 1  
SRO Group 1

Time Required for Completion: 5 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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**DISCUSSION**

This JPM will evaluate the candidate's ability to initiate Suppression Pool Make Up without a LOCA signal.

The proper method for performance of this JPM is to actually perform the operations in the GGNS Simulator.

Simulator Setup:

Initialize the simulator to IC-15 or any other rated conditions IC.

Insert the following:

Malfunction **ct218a** (Containment Leak) with a **severity** of **1**  
Component override **e30f001a\_i** (E30-F001A loss of power on stroke)

The following alarms should be present:

P870  
2A-E1 RHR A Pump Room Flooded  
4A-C3 Supp Pool Level Hi/Lo  
10A-C3 Supp Pool Level Hi/Lo  
P680  
8A1-A2 RHR Room A Sump HiHi

**Suppression Pool Level should be above 18 feet.**

Required Material(s):

01 SOI 04-1-01-E30-1 Suppression Pool Make up System

General Reference(s):

01 SOI 04-1-01-E30-1 Suppression Pool Make up System

Safety Consideration(s):

GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
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01 None

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

JPM No. GG-1-JPM-RO-E3003 Rev. 00 Page 6 of 11

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**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

The Division 2 Suppression Pool Makeup valves are open and Suppression Pool level is rising.

**Initial Condition(s):**

The plant is at rated conditions. The Auxiliary Building Operator has reported a leak on the Suppression Pool side of the E12-F004A RHR A Suppression Pool suction valve. Level in the Suppression Pool is lowering. The level in the RHR A Pump Room has actuated the RHR A Room Flooded annunciator. Mechanics are attempting to place a pipe patch on the leak.

**Initiating Cue(s):**

The Plant Supervisor has directed you to initiate Suppression Pool Make Up for Division I to assist in raising Suppression Pool level.

**Start Time:** \_\_\_\_\_



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 1 ( )** Obtain copy of 04-1-01-E30-1, System Operating Instruction Suppression Pool Make Up System.

**Standard:** Candidate may obtain a copy of the System Operating Instruction or Operator Aid from H13-P870 panel, however this action is not required for completion of the task, if all steps of the task are completed satisfactorily.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 ( )** Observe there are No LOCA signals and No LO-LO Suppression Pool signals present.

**Standard:** Candidate verifies that No LOCA signals are present and the LO-LO Suppression Pool Level annunciators P870 4A-A3 and 10A-A3 are not present.

**Comments:** Level in the Suppression Pool is above 18 feet. Use of the Manual Initiate pushbuttons alone will not open the valves.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 3 ( )** Simultaneously depress the DIV 1 SPMU MAN INIT pushbuttons.

**Standard:** Candidate attempts to open the Division 1 SPMU valves by depressing Manual Initiate pushbuttons. (section 4B H13-P870).

**Comments:** **NOTE:** This action is NOT required, candidate may elect to go to section 5.1.2c of the procedure directly. This is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 4 (\*)** Place SPMU DIV 1 DUMP TEST handswitch to TEST.

**Standard:** Candidate will place the SPMU DIV 1 DUMP TEST handswitch to test on H13-P870 section 4B and observes the amber light above the handswitch is illuminated (light is Non Critical).

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 5 (\*)** Simultaneously depresses DIV 1 SPMU MAN INIT pushbuttons.

**Standard:** Candidate depresses the DIV 1 SPMU MAN INIT pushbuttons and observes E30-F002A opening and E30-F001A receives a loss of power status light and a DIV 1 SPMU OOSVC annunciator.

**Comments:** **NOTE: The candidate should report the power loss on E30-F001A to the Plant Supervisor.**

Candidate may report breaker to investigate 52-152144. Acknowledge the breaker fault.

CUE the candidate to initiate Division 2 SPMU.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 6 (\*)** Place SPMU DIV 2 DUMP TEST handswitch to TEST.

**Standard:** Candidate will place the SPMU DIV 2 DUMP TEST handswitch to test on H13-P870 section 10B and observes the amber light above the handswitch is illuminated (light is Non Critical).

**Comments:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
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SAT        UNSAT       

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

**Item 7 (\*)** Simultaneously depresses DIV 2 SPMU MAN INIT pushbuttons.

**Standard:** Candidate depresses the DIV 2 SPMU MAN INIT pushbuttons and observes E30-F001B and E30-F002B opening.

**Comments:** **NOTE:** The candidate should report a rising level in the Suppression Pool.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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**TERMINATING CUE(s)**

Candidate informs the Plant Supervisor that E30-F001B and E30-F002B Division 2 SPMU Valves are open, and Suppression Pool Level is rising.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: MANUALLY INITIATE SUPPRESSION POOL MAKE UP  
(NO LOCA - FAULTED)

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---

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is at rated conditions. The Auxiliary Building Operator has reported a leak on the Suppression Pool side of the E12-F004A RHR A Suppression Pool suction valve. Level in the Suppression Pool is lowering. The level in the RHR A Pump Room has actuated the RHR A Room Flooded annunciator. Mechanics are attempting to place a pipe patch on the leak.

Initiating Cue(s):

The Plant Supervisor has directed you to initiate Suppression Pool Make Up for Division I to assist in raising Suppression Pool level.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

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TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**MANUALLY INITIATE RCIC  
ALTERNATE PATH  
(FAILURE OF E51-F046 TO OPEN)**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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Task List No: E51-CRO-004

K/A Reference and Importance Factors (RO/SRO):

K/A 217000 A3.01 - 3.5/3.5; A4.01 - 3.7/3.7; A4.03 - 3.4/3.3;  
A4.04 - 3.6/3.6; A4.08 - 3.7/3.6; A4.09 - 3.7/3.6  
2.1.30 - 3.9/3.4; 2.1.31 - 4.2/3.9

SAFETY FUNCTION: 2 & 4  
RO Group 1  
SRO Group 1

Time Required for Completion: 15 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X  
Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 3 of 21

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**DISCUSSION**

This JPM will evaluate the candidate's ability to perform a RCIC manual startup with a failure of the E51-F046 RCIC water to Turbine Lube Oil Cooler valve to open. This will evaluate the candidate's ability to verify the alignment of RCIC following manual initiation and recognize a failure of the proper lineup and take actions to secure RCIC following a malfunction.

This JPM will be performed in the simulator. To establish the initial conditions for performance of this JPM, initialize the simulator to IC-17.

Insert the following Malfunction **E51187F Failure of E51-F046 on stroke RCIC WTR TO TURB LUBE OIL CLR CLOSED**

Insert the following malfunctions

**FW070A Feedwater line rupture outside containment**  
**E22177 Defeat HPCS Auto Initiation**  
**E51043 RCIC Auto Start Failure**

Place the simulator in FREEZE after all of the Malfunctions are active.

All control room operations will be performed on panel 1H13-P601, unless noted otherwise.

---

Required Material(s):

01 SOI 04-1-01-E51-1 RCIC System

General Reference(s):

01 SOI 04-1-01-E51-1 RCIC System

02 ONEP 05-1-02-V-7 Loss of Feedwater Flow

Safety Consideration(s):

01 None

---



GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**\*\*NOTE TO EVALUATOR\*\***

**CANDIDATE MAY PERFORM EITHER A MANUAL PUSHBUTTON  
INITIATION OR MANUAL ALIGNMENT EITHER PATH IS  
ACCEPTABLE.**

**MANUAL PUSHBUTTON INITIATION UTILIZES ITEMS  
1, 2, 3, AND POSSIBLY 8**

---

**MANUAL ALIGNMENT UTILIZES ITEMS 1, 4 - 14**

**SHUTDOWN OF RCIC MAY TAKE ANY ONE OF PATHS 1, 2, OR 3  
ANY OF THESE PATHS ARE ACCEPTABLE.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 6 of 21

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 ( )** Obtain Operator aid checksheet for RCIC MANUAL START.

**Standard:** Candidate may obtain operator aid to initiate RCIC Attachment VI of 04-1-01-E51-1.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 (\*)** Arm and Depress the RCIC Manual Initiate pushbutton.

**Standard:** Candidate goes to the 1H13-P601 panel section 21B and ARMS and DEPRESSES the RCIC MANUAL INITIATE pushbutton.

**Comments:** The candidate may elect to startup the system by manually aligning the valves. This is allowed by procedure. If this Item is to be used to start up RCIC proceed to Item 4. **If the candidate may note to the SRO that RCIC has not Auto started. If so acknowledge the failure and CUE the candidate to start the RCIC System. IF MANUAL ALIGNMENT STARTUP IS USED THIS STEP IS NOT CRITICAL.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 7 of 21

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 3 (\*)** If Manual Initiation Pushbutton used to start RCIC verifies the following actions occur:

F095 opens \_\_\_\_\_  
(≥6 second time delay for following valves.)  
F045 opens \_\_\_\_\_  
F013 opens \_\_\_\_\_  
(\*) **F046 opens \_\_\_\_\_ (candidate should note valve does not open)**  
F022 closes \_\_\_\_\_  
F059 closes \_\_\_\_\_  
F004 closes \_\_\_\_\_  
F005 closes \_\_\_\_\_  
F025 closes \_\_\_\_\_  
F026 closes \_\_\_\_\_  
RCIC Room Cooler starts \_\_\_\_\_ (on H13-P870)  
SSW A System starts \_\_\_\_\_ (on H13-P870)  
RCIC Gland Seal Compressor starts \_\_\_\_\_

**Standard:** The candidate observes the above actions as they occur and reports the failure of E51-F046 to OPEN as required.

**Comments:** The candidate may attempt to Open E51-F046 using its handswitch on H13-P601. After attempting to open the valve should notify the SRO that the valve breaker has tripped. The candidate should request to shutdown RCIC. IF RCIC STARTED UP VIA MANUAL ALIGNMENT THIS ITEM IS NOT CRITICAL.

If asked for permission to shutdown RCIC, CUE the candidate to shutdown RCIC.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 8 of 21

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4 ( )** Start RCIC RM FAN COIL UNIT using RCIC RM FAN COIL UNIT handswitch on H13-P870-1C.

**Standard:** The candidate may allow the RCIC Room Fan Coil Unit to start on its own.

**Comments:** **This step may not be performed by the candidate.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 5 ( )** Start SSW Subsystem A IAW 04-1-01-P41-1 SSW SOI.

**Standard:** The candidate **may elect** to allow SSW A to auto start. This is acceptable per plant conditions.

**Comments:** **This step may not be performed by the candidate.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 6 ( )** Shift the RCIC FLO CONT to MANUAL.

**Standard:** The candidate **may elect** to shift the flow controller to MANUAL using the M/A switch on flow controller E51-FK-R600 on panel P601-21B.

**Comments:** **This step may not be performed by the candidate.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 9 of 21

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 7 ( )** Reduce the RCIC FLO CONT output to minimum.

**Standard:** If the Candidate performed item 2, the candidate may reduce the flow controller output to minimum using the CLOSE pushbutton on flow controller E51-FK-R600 on panel P601-21B, as indicated by the controller output set to 0.

**Comments:** This step may not be performed by the candidate.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 8 (\*)** Open MOV-F046.

**Standard:** The candidate attempts to open F046 using the RCIC WTR TO TURB LUBE OIL CLR handswitch on panel P601-21C. **The candidate should note that F046 fails to open.** Once failure is noted the candidate should notify the SRO that F046 failed to open and that RCIC is not to be started without cooling water.

**Comments:** The candidate may perform this item after RCIC is running. This is acceptable. If asked by the candidate, CUE the candidate to shutdown RCIC if running.

**NOTE:** If RCIC is running without cooling water and left running this constitutes a failure of the JPM.

**NOTE:** If RCIC is running and shutdown of RCIC is ordered or the candidate decides to shutdown RCIC proceed to Item 15 or 17 or 18.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 10 of 21

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 9 ( )** Start the Turbine Gland Seal Compressor.

**Standard:** The candidate starts the compressor using the RCIC GL SEAL COMPR handswitch on panel P601-21C, as indicated by the illuminated red light above the compressor handswitch.

**Comments:** The candidate may perform this item after RCIC is running. This is acceptable.

NOTE: If failure of E51-F046 has already been noted the candidate may not get to this step.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 10 ( )** Open F095.

**Standard:** The candidate opens F095 using the RCIC STM SPLY BYP VLV handswitch on panel P601-21C, as indicated by the illuminated red light above the valve handswitch and by increasing RPM on the turbine.

**Comments:** The RCIC turbine should begin to roll as indicated by the RCIC TURB SPD meter on P601-21B.

NOTE: If failure of E51-F046 has already been noted the candidate may not get to this step. The step is not critical.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 11 ( )** After six seconds, open MOV-F045.

**Standard:** After a minimum of six seconds, the candidate opens F045 using the RCIC STM SPLY TO RCIC TURB handswitch on panel P601-21C, as indicated by the illuminated red light above the valve handswitch.

**Comments:** The F095 will close approximately 15 seconds after the F045 begins to Open.

NOTE: If failure of E51-F046 has already been noted the candidate may not get to this step.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 12 ( )** Increase turbine speed to develop greater than reactor pressure.

**Standard:** The candidate increases turbine speed to develop greater than reactor pressure using the RCIC FLOW CONT in MANUAL by depressing the OPEN pushbutton until pressure is above reactor, as indicated on RCIC DISCH PRESS gauge E51-PI-R601 on panel P601-21B.

**Comments:**

NOTE: If failure of E51-F046 has already been noted the candidate may not get to this step.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 12 of 21

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 13 ( )** Open E51-F013.

**Standard:** The candidate opens F013 using the RCIC INJ SHUTOFF VLV handswitch on panel P601-21C, as indicated by the illuminated red light above the valve handswitch.

**Comments:** The candidate may open the F013 prior to increasing the RCIC turbine speed (Item 8). This is acceptable.

NOTE: If failure of E51-F046 has already been noted the candidate may not get to this step.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 14 ( )** Verify flow to the Reactor Vessel of  $\geq 800$  gpm

**Standard:** The candidate observes flow on the RCIC FLOW Indicator E51-FI-R606 on panel P601-21B increases to 800 gpm ( $\pm 50$  gpm).

**Comments:** The candidate may use the RCIC Flow Controller as an indication of flow to the reactor vessel. This is acceptable.

NOTE: If failure of E51-F046 has already been noted the candidate may not get to this step.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**THE CANDIDATE MAY ELECT TO PERFORM EITHER OF THE TWO FOLLOWING OPTIONS TO SHUTDOWN RCIC.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**ALTERNATE PATH 1**

**Item 15 (\*)** Close the RCIC Turbine Trip Throttle Valve.

**Standard:** The candidate closes the RCIC Turbine Trip Throttle Valve using its handswitch on H13-P601 section 21C and observes green indication on the RCIC Turbine Trip Throttle Valve illuminated.

**Comments:** The candidate may use the ALTERNATE PATH 2 OR 3, this is acceptable and in this case Item 15 is NOT critical.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 16 ( )** Place the RCIC Flow Controller in manual and reduce to minimum.

**Standard:** The candidate places the RCIC Flow Controller on H13-P601 Section 21B in manual and reduces its output to minimum.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**STOPPING AT ITEM 15 OR 16 IS ACCEPTABLE.**

GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**NOTE:** Critical items denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

## ALTERNATE PATH 2

**Item 17 (\*)** Trip RCIC turbine using the RCIC TURBINE TRIP pushbutton.

**Standard:** The candidate trips RCIC using the RCIC Turbine Trip Pushbutton on H13-P601 section 21C.

**Comments:** The candidate may use the ALTERNATE PATH 1 OR 3, this is acceptable and in this case Item 17 is NOT critical.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**ALTERNATE PATH 3**

**Item 18** (\*) If the Manual Initiation Pushbutton was used, reset initiation using the RCIC Initiation RESET Pushbutton and observe the white initiation light extinguishes.

**Standard:** The candidate depresses the RCIC Initiation Reset pushbutton and observes the white initiation indicating light go out.

**Comments:** If the candidate did not use the Manual Initiation pushbutton, this step is not required and is not critical. If the candidate uses the trip throttle valve to shutdown RCIC, ASK a followup question after the JPM as to the automatic status of RCIC.

Closing the RCIC Trip Throttle valve to shutdown RCIC is also acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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If RCIC is operating the candidate may perform the following items.

**Item 19** ( ) Manually reduce RCIC Flow to 100GPM using RCIC Flow Controller.

**Standard:** The candidate reduces RCIC flow to 100 GPM using the RCIC Flow Controller.

**Comments:** The candidate may not perform this item. This is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 20 ( )** Close F013 RCIC Injection Shutoff Valve.

**Standard:** The candidate closes E51-F013 using its handswitch observing green indicating light is illuminated.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 21 (\*)** Trip RCIC turbine using the RCIC TURBINE TRIP pushbutton.

**Standard:** The candidate trips RCIC using the RCIC Turbine Trip Pushbutton on H13-P601 section 21C.

**Comments:** The candidate may use the ALTERNATE PATH 1 OR 2, this is acceptable and in this case Item 21 is NOT critical.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 22 ( )** Check F019 RCIC MIN FLO TO SUPP POOL closes.

**Standard:** The candidate checks and observes F019 is closed by the green light being illuminated.

**Comments:** The candidate may not perform this step. This is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 23 ( )** Close F045 using RCIC STM SPLY TO RCIC TURB handswitch.

**Standard:** The candidate closes F045 and observes green light indication is illuminated.

**Comments:** The candidate may not perform this step. This is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 24 ( )** Stop the Turbine Gland Seal Compressor using the RCIC SEAL COMPR handswitch.

**Standard:** The candidate stops the RCIC Turbine Gland Seal Compressor and observes green light indication is illuminated.

**Comments:** The candidate may not perform this step. This is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**ONCE THE CANDIDATE HAS COMPLETED EITHER PATH 1, 2, or 3, RCIC IS SHUTDOWN, CUE THE CANDIDATE THAT ANOTHER OPERATOR WILL TAKE OVER ANY FURTHER ACTIONS.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

JPM No. GG-1-JPM-RO-E5111 Rev. 00 Page 19 of 21

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**TERMINATING CUE(s):**

The Reactor Core Isolation Cooling (RCIC) System has been SHUTDOWN following a manual start and a failure of the E51-F046 to open.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : MANUAL INITIATION OF RCIC (FAULTED)

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No      Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The reactor was operating at rated conditions. When a rupture in the Feedwater lines has caused entry into the Loss of Feedwater Flow ONEP.

Initiating Cue(s):

The SRO with the Command Function has directed you to manually initiate RCIC with full rated flow the Reactor Vessel. Other operators will respond to all other systems except RCIC.



GRAND GULF  
 NUCLEAR STATION  
  
 JOB PERFORMANCE  
 MEASURE

Number: GG-1-JPM-RO-EP004  
 Revision: 00  
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 Rtype:  
 QA Record  
 Number of pages \_\_\_\_\_  
 Date \_\_\_\_\_ Initials \_\_\_\_\_

**TRAINING PROGRAM:**

**OPERATOR TRAINING**

**TITLE:**

**DEFEAT HPCS HIGH SP WATER LEVEL SUCTION  
 TRANSFER INTERLOCK (EP ATTACHMENT 4)**

REASON FOR REVISION: EDITORIAL CHANGES

THIS DOCUMENT REPLACES OP-LOR-JPM-CRO-EP-004-04

**REVIEW / APPROVAL:**

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

  

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer Interlock

JPM No. GG-1-JPM-RO-EP004 Rev. 00 Page 2 of 10

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Task List No: CRO-EP-04

K/A Reference and Importance Factors (RO/SRO):

K/A 295029 EA1.02 - 3.1/3.1  
209002 A2.12 - 3.3/3.5

SAFETY FUNCTION: 2 & 5  
RO Group 1  
SRO Group 1

Time Required for Completion: 5 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate X Actual \_\_\_\_\_  
Setting: Classroom \_\_\_\_\_ Plant X Simulator \_\_\_\_\_  
MAIN CONTROL ROOM

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: \_\_\_\_\_  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer  
Interlock

JPM No. GG-1-JPM-RO-EP004 Rev. 00 Page 3 of 10

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**DISCUSSION**

This JPM will evaluate the candidate's ability to defeat the HPCS high SP water level suction transfer interlock to ensure injection into the RPV with high quality water that is not subject to the temperature increase of the SP. This task may be required by the Emergency Procedures in order to restore and maintain RPV water level between 11.4" and 53.5".

This JPM will be performed in the Main Control Room. Prior to conducting this JPM, access permission must be obtained to allow entry into the affected cabinet(s) and to the required panel(s).

---

Required Material(s):

01 Attachment 4 to EP-2

General Reference(s):

01 Attachment 4 to EP-2

02 Schematic Diagram E-1183

**Safety Consideration(s):**

01 **Exercise extreme caution in and around Main Control Room Panels. DO NOT OPERATE ANY PLANT EQUIPMENT.**

02 **Obtain Shift Superintendent permission prior to entry into any Control Room Panels.**

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer Interlock

JPM No. GG-1-JPM-RO-EP004 Rev. 00 Page 4 of 10

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**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

Relay E22A-K55 is removed and the HPCS PUMP CST SUCTION valve, E22-F001, is open and the HPCS PUMP SUP PL SUCTION valve, E22-F015, is close.

**Initial Condition(s):** (The location for the initial conditions to be given is Main Control Room (\*).)

Normal injection systems are being aligned for RPV water level control in accordance with EP-2. Suppression pool water level is in the normal band and is slowly increasing.

**Initiating Cue(s):**

The SRO directing the actions of EP-2 has directed you to obtain a controlled copy of Attachment 4 and to defeat the HPCS high suppression pool water level suction transfer and ensure the HPCS system has a suction from the CST.

**Start Time:** \_\_\_\_\_

\* This location will be determined at pre-evaluation meeting by the evaluators involved.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer Interlock

JPM No. GG-1-JPM-RO-EP004 Rev. 00 Page 5 of 10

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**NOTE:** Critical items denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 (\*)** Obtain Attachment 4 from the Control Room emergency locker.

**Standard:** Candidate has obtained Attachment 4 or states he or she would obtain Attachment 4 from the Control Room emergency locker. Candidate must know the location of the Control Room emergency locker.

**Comments:** When the candidate locates the locker, CUE the candidate that Attachment 4 has been obtained. Give Candidate a copy of Attachment 4.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 (\*)** Locate Main Control Room Panel 1H13-P625, Bay B.

**Standard:** Candidate has located panel 1H13-P625, Bay B, as shown on Figure 1 of Attachment 4.

**Comments:** Candidate must state that he or she would open this bay or demonstrate bay location by actual opening.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 3 (\*)** Locate and remove relay E22A-K55.

**Standard:** Relay E22A-K55 (6th row of Agastat relays from top, 6th relay from left) is removed by local observation.

**Comments:** Candidate should state that the 6th relay from the left on the 6th row of Agastat relays from the top would be the one removed.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer Interlock

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SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4 ( )** Verify close or closes HPCS PUMP SUP PL SUCTION valve, E22-F015.

**Standard:** Candidate verifies E22-F015 HPCS PUMP SUP PL SUCTION valve closed by observing the green close indicating light illuminated and the red open indicating light not illuminated above valve handswitch on P601-16C or closes by operating the control room handswitch on P601-16C.

**Comments:** Valve should be closed since the initial condition stated that suppression water level was in the normal band. If candidate states he or she would close the valve, **CUE the candidate that the green indicating light is illuminated and the red indicating light is not illuminated.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 5 ( )** Verifies open or opens HPCS PUMP CST SUCTION valve, E22-F001.

**Standard:** Candidate verifies E22-F001 HPCS PUMP CST SUCTION valve open by observing the red open indicating light illuminated and the green closed indicating light not illuminated above valve handswitch on P601-16C or opens by operating the handswitch using control room handswitch on P601-16C.

**Comments:** Valve should be open since the initial condition stated that suppression water level was in the normal band. If candidate states he or she would open the valve, **CUE the candidate that the red indicating light is illuminated and the green indicating light is not illuminated.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer  
Interlock

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SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer  
Interlock

JPM No. GG-1-JPM-RO-EP004 Rev. 00 Page 8 of 10

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 6 ( )** Complete Alteration Tracking Sheet indicating removal of relay E22A-K55.

**Standard:** Candidate signs and dates Alteration Tracking Sheet.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer  
Interlock

JPM No. GG-1-JPM-RO-EP004 Rev. 00 Page 9 of 10

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**TERMINATING CUE(s)**

With a high SP water level condition present, HPCS PUMP SUP  
PL SUCTION valve, E22-F015, remains closed and HPCS PUMP CST  
SUCTION valve, E22-F001, remains open. (Also accept:  
Attachment 4 is completed.)

**Stop Time:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Defeat HPCS High SP Water Level Suction Transfer  
Interlock

JPM No. GG-1-JPM-RO-EP004 Rev. 00 Page 10 of 10

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ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s) :

Normal injection systems are being aligned for RPV water level control in accordance with EP-2. Suppression pool water level is in the normal band and is slowly increasing.

Initiating Cue(s) :

The SRO directing the actions of EP-2 has directed you to obtain a controlled copy of Attachment 4 and to defeat the HPCS high suppression pool water level suction transfer and ensure the HPCS system has a suction from the CST.



GRAND GULF  
 NUCLEAR STATION  
 JOB PERFORMANCE  
 MEASURE

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 Rtype:  
 QA Record  
 Number of pages \_\_\_\_\_  
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TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**SCRAM CONTROL RODS LOCALLY AT THE HCU<sub>s</sub>  
 (EP ATTACHMENT 22)**

REASON FOR REVISION: EDITORIAL CHANGES.

THIS DOCUMENT REPLACES OP-LOR-JPM-CRO-EP-020-03.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCUs

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 2 of 9

Task List No: CRO-EP-022

K/A Reference and Importance Factors (RO/SRO):

EPE 295037 EA1.05 - 3.9/4.0; EK3.07 - 4.2/4.3  
212000 A4.17 - 4.1/4.1  
201003 A2.01 - 3.4/3.6; A2.04 - 3.5/3.6; A2.05 - 4.1/4.1;  
A4.02 - 3.5/3.5  
GENERIC 2.1.30 - 3.9/3.4

SAFETY FUNCTION: 1 & 7  
RO Group 1 & 2  
SRO Group 1

Time Required for Completion: 20 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

**RCA ENTRY**

**EMERGENCY PROCEDURE**

---

APPLICABLE METHOD OF TESTING

Performance: Simulate X Actual \_\_\_\_\_  
Setting: Classroom \_\_\_\_\_ Plant X Simulator \_\_\_\_\_

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: \_\_\_\_\_  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCUs

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 3 of 9

**DISCUSSION**

This JPM will evaluate the candidate's ability to scram individual control rods at the respective Hydraulic Control Unit (HCU). This task may be performed in an attempt to scram control rods that did not fully insert during an ATWS event.

This JPM will be performed in the plant and requires access to the Primary Containment. The four control rods selected to scram may be changed in the event the particular HCUs are not accessible due to radiological conditions in the area.

---

Required Material(s):

01 Attachment 22 to EP-2.

General Reference(s):

01 Attachment 22 to EP-2.

Safety Consideration(s):

01 Observe radiological posting in the Primary Containment.

02 DO NOT allow candidate to operate equipment on the HCUs.

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCUs

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 4 of 9

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCUs

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 5 of 9

**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

Operate individual test switches at the HCUs to cause individual control rod scrams.

**Initial Condition(s):** (The location for the initial conditions to be given is \_\_\_\_\_\*\_\_\_\_\_.)

The plant has experienced a failure of several control rods to insert on a reactor scram. The Reactor Engineer has determined that the reactor will not remain subcritical under all conditions and EP-2A is being implemented. The reactor scram is reset. RPS logic trips have been defeated per Att. 19 and ARI/RPT logic trips have been defeated per Att. 18.

**Initiating Cue(s):**

The SRO with the Command Function has directed you to individually scram control rods 48-09, 60-41, 04-37, and 12-53 at the respective HCU per Attachment 22 to EP-2. The SRO with the Command Function has just handed you a controlled copy of Attachment 22 to EP-2.

**Start Time:** \_\_\_\_\_

\* This location will be determined at pre-evaluation meeting by the evaluators involved.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCU's

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 6 of 9

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 (\*)** Locate the respective control rod HCU.  
(Figure 1 of Attachment 22 to EP-2.)

**Standard:** The respective control rod HCU is located.

**Comments:** **All steps of this JPM should be performed at each HCU prior to going to the next HCU.**

HCU 48-09 Completed \_\_\_\_\_

HCU 60-41 Completed \_\_\_\_\_

HCU 04-37 Completed \_\_\_\_\_

HCU 12-53 Completed \_\_\_\_\_

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 (\*)** Place the A and B Scram Test Switches at each respective HCU to TEST and leave in TEST position until control rod motion stops.

**Standard:** The respective HCU A and B Scram Test Switches are in TEST. Note: It is acceptable to place the Test Switch in SRI because the scram will occur.

**Comments:** Approximately 5 seconds after the candidate places the HCU A and B Scram Test Switches in TEST, **when asked, CUE the candidate that the control room has announced over the PA, "Control rod \_\_\_ - \_\_\_ has scrambled."**

HCU 48-09 Completed \_\_\_\_\_

HCU 60-41 Completed \_\_\_\_\_

HCU 04-37 Completed \_\_\_\_\_

HCU 12-53 Completed \_\_\_\_\_

**SEQUENCE OF HCUs IS NOT CRITICAL.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCUs

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 7 of 9

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 3 ( )** Place the Scram Test Switches at each respective HCU to NORM.

**Standard:** The A and B Scram Test Switches are in NORM.

**Comments:** HCU 48-09 Completed \_\_\_\_\_  
HCU 60-41 Completed \_\_\_\_\_  
HCU 04-37 Completed \_\_\_\_\_  
HCU 12-53 Completed \_\_\_\_\_

**SAT** \_\_\_\_\_ **UNSAT** \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCUs

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 8 of 9

**TERMINATING CUE(s)**

Candidate states that the selected HCUs have been scrambled.

**STOP TIME** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Scram Control Rods Locally at the HCUs

JPM No. GG-1-JPM-RO-EP020 Rev. 00 Page 9 of 9

**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No      Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s) :

The plant has experienced a failure of several control rods to insert on a reactor scram. The Reactor Engineer has determined that the reactor will not remain subcritical under all conditions and EP-2A is being implemented. The reactor scram is reset. RPS logic trips have been defeated per Att. 19 and ARI/RPT logic trips have been defeated per Att. 18.

Initiating Cue(s) :

The SRO with the Command Function has directed you to individually scram control rods

48-09  
60-41  
04-37  
12-53

at the respective HCU per Attachment 22 to EP-2. The SRO with the Command Function has just handed you a controlled copy of Attachment 22 to EP-2.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-RO-EP030  
Revision: 00  
Page: 1 of 12  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS  
(EP-2 ATTACHMENT 20)**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: _____	DATE: _____
APPROVED BY: _____ Facility Representative	DATE: _____

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)



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 3 of 12

---

**DISCUSSION**

This JPM will evaluate the candidate's ability to defeat RCIS control rod drive blocks during an ATWS. This allows the insertion of control rods using normal control rod drive system. This is Attachment 20 of EP-2 RPV Control.

Inform the On-Duty Shift Superintendent and obtain permission to open the Main Control Room and Upper Control Room Back Panels.

The proper method of evaluation is by simulation in the Main Control Room.

---

**Required Material(s):**

- 01 Emergency Operating Procedure 05-S-01-EP-2, RPV Control Attachment 20, Defeating RC&IS Control Rod Drive Blocks
- 02 Flashlight
- 03 Laser Pointer

**General Reference(s):**

- 01 Emergency Operating Procedure 05-S-01-EP-2, RPV Control Attachment 20, Defeating RC&IS Control Rod Drive Blocks

**Safety Consideration(s):**

- 01 Contact Shift Superintendent and obtain permission to enter Main Control Room and Upper Control Room back panels.
  - 02 Candidate should not touch any of the relays or terminal boards in the back panels, use the flashlight and laser pointer to denote actions to be taken in the panels.
-



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 5 of 12

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 (\*)** Locate the Main Control Room Emergency Locker and the Emergency Procedure Jumper Kits.

**Standard:** Candidate locates the Main Control Room Emergency Locker and the Emergency Procedure Jumper Kits

**Comments:** (located in the Main Control Room just inside the door coming from the Control Building elevator)

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 ( )** Obtain a controlled copy of EP-2 Attachment 20.

**Standard:** Candidate obtains a controlled copy of EP-2 Attachment 20.

**Comments:** When the candidate locates the Attachment the evaluator may provide the candidate a copy of the procedure.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 3 (\*)** Inspect Jumper Kit for two (2) jumpers.

**Standard:** Candidate locates jumper kit and verifies there are two (2) jumpers.

**Comments:** **NOTE:** Once the candidate locates the jumpers have the candidate leave the jumpers in the locker.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 6 of 12

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 7 of 12

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4 (\*)** Locate Main Control Room Panel H13-P618 Bay C.

**Standard:** Candidate locates Main Control Room Panel H13-P618 Bay C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 5 (\*)** Locates the affected relay C11A-K08 (3<sup>rd</sup> row of agastat relays from top, 6<sup>th</sup> relay from left)

**Standard:** Candidate locates the affected relay C11A-K08 (3<sup>rd</sup> row of agastat relays from top, 6<sup>th</sup> relay from left).

**Comments:** Candidate should point out the relay.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 8 of 12

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 6 (\*)** Install Jumper between Terminals M1 and T1 on relay C11A-K08.

**Standard:** Candidate locates terminals M1 and T1 and indicates the installation of a jumper between Terminals M1 and T1 on relay C11A-K08.

**Comments:** Candidate should point out terminals M1 and T1.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 7 ( )** Initials Alteration Tracking Sheet for Jumper 1 installed.

**Standard:** Candidate initials Alteration Tracking Sheet for Jumper 1.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 9 of 12

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 8 (\*)** Locate Upper Control Room Panel H13-P629 Bay C.

**Standard:** Candidate locates Upper Control Room Panel H13-P629 Bay C.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 9 (\*)** Locates the affected relay C11A-K1 (4th row of agastat relays from top, 1st relay from left)

**Standard:** Candidate locates the affected relay C11A-K1 (4th row of agastat relays from top, 1st relay from left).

**Comments:** Candidate should point out the relay.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 10 of 12

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 10 (\*)** Install Jumper between Terminals M1 and T1 on relay C11A-K1.

**Standard:** Candidate locates terminals M1 and T1 and indicates the installation of a jumper between Terminals M1 and T1 on relay C11A-K1.

**Comments:** Candidate should point out terminals M1 and T1.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 11 ( )** Initials Alteration Tracking Sheet for Jumper 2 installed.

**Standard:** Candidate initials Alteration Tracking Sheet for Jumper 2.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 11 of 12

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**TERMINATING CUE(s):**

Inform the Plant Supervisor that EP-2 Attachment 20 has been installed to defeat RC&IS Control Rod Drive Blocks.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : DEFEAT RC&IS CONTROL ROD DRIVE BLOCKS (EP-2 ATT. 20)

JPM No. GG-1-JPM-RO-EP030 Rev. 00 Page 12 of 12

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is at 30% power in an ATWS condition. The Plant Supervisor is directing actions per EP-2A.

Initiating Cue(s):

The Plant Supervisor has directed you to defeat RC&IS Control Rod Drive Blocks per EP-2 Attachment 20.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-RO-G3301  
Revision: 00  
Page: 1 of 15  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**ALIGN RWCU FOR VESSEL LEVEL CONTROL  
( FAULTED )**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 2 of 15

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Task List No: CRO-G33/36-009

K/A Reference and Importance Factors (RO/SRO):

K/A 204000 A1.01 - 3.1/3.2; A1.04 - 2.8/2.8; A2.01 - 3.2/3.4  
2.1.30 - 3.9/3.4; 2.1.31 - 4.2/3.9

SAFETY FUNCTION - 2

RO Group 2

SRO Group 2

Time Required for Completion: 10 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 3 of 15

---

**DISCUSSION**

This JPM will evaluate the candidate's ability to align Reactor Water Cleanup for blow down operations. The performance of this task is required during plant shutdown and startup conditions to remove excess water from the reactor for level control.

The proper method of evaluation is by performance in the simulator.

Initialize the simulator to an IC with the plant startup with the reactor temperature at some temperature <200 °F (Mode 2).

RWCU should be operating in single pump Pre-Pump mode of operation with the **blow down lineup secured. ENSURE G33-F033 is set on controller G33-R606 at 0%.**

Insert override on G33-F234 handswitch to CLOSE.

All control room operations will be performed on panel 1H13-P680 unless otherwise noted.

---

Required Material(s):

01 SOI 04-1-01-G33-1, Reactor Water Cleanup System

General Reference(s):

01 SOI 04-1-01-G33-1, Reactor Water Cleanup System

Safety Consideration(s):

01 None.

---



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 5 of 15

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 ( )** Obtain a controlled copy of SOI 04-1-01-G33-1.

**Standard:** Candidate obtains a controlled copy of SOI 04-1-01-G33-1.

**Comments:**

**SAT** \_\_\_\_\_ **UNSAT** \_\_\_\_\_

---

**Item 2 (\*)** Check that G33-F033, RWCU SYS BLWDN F/D CONT VLV is  $\approx$  10 % open.

**Standard:** Candidate will have to adjust the G33-F033 controller G33-R606 to achieve  $\approx$  10 % open on H13-P680 section 11D. (horizontal meter on the controller)

**Comments:**

**SAT** \_\_\_\_\_ **UNSAT** \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 6 of 15

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 3 ( )** Place NSSSS INBD MOV TEST switch to TEST.

**Standard:** Candidate places the key lock switch for NSSSS INBD MOV TEST to TEST and observes "RX Div 1 Isol Sys OOSVC" annunciator is received.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT        UNSAT       

---

**Item 4 (\*)** Open or check open G33-F028, RWCU BLWDN CTMT INBD ISOL.

**Standard:** Candidate places the key lock switch for G33-F028 on P680 section 11C to OPEN and observes the red light is illuminated.

**Comments:**

SAT        UNSAT       

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 7 of 15

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 5 ( )** Place NSSSS OTBD MOV TEST switch to TEST.

**Standard:** Candidate places the key lock switch for NSSSS OTBD MOV TEST to TEST and observes "RX Div 2 Isol Sys OOSVC" annunciator is received.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT        UNSAT       

---

**Item 6 (\*)** Open or check open G33-F034, RWCU BLWDN CTMT OTBD ISOL .

**Standard:** Candidate places the key lock switch for G33-F034 on P680 section 11C to OPEN and observes the red light is illuminated.

**Comments:**

SAT        UNSAT       

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 8 of 15

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 7 (\*)** Open or check open G33-F046, RWCU BLWDN TO MN CNDSR.

**Standard:** Candidate depresses the OPEN pushbutton for G33-F046 on P680 section 11C and observes the red light is illuminated.

**Comments:** **NOTE: Candidate has an option to use either Item 7 OR Item 8 either is acceptable. If Item 8 is selected this Item is NOT critical.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 8 (\*)** Open or check open G33-F041, RWCU BLWDN TO MN CNDSR BYP.

**Standard:** Candidate depresses the OPEN pushbutton for G33-F041 on P680 section 11C and observes the red light is illuminated.

**Comments:** **NOTE: Candidate has an option to use either Item 7 OR Item 8 either is acceptable. If Item 7 is selected this Item is NOT critical.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 9 of 15

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 9 (\*)** Open or check open G33-F235, RWCU BLWDN TO MN CNDSR.

**Standard:** Candidate places the handswitch for G33-F235 to OPEN and observes red light illuminated on P870 section 3C.

**Comments:** **NOTE: This Item may follow Item 10. This is acceptable. If Item 10 is performed first this Item may NOT be performed This is acceptable.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 10 (\*)** Open or check open G33-F234, RWCU BLWDN to MN CNDSR.

**Standard:** Candidate places handswitch for G33-F234 to OPEN the Valve will NOT stroke. The Candidate should report this to the Plant Supervisor.

**Comments:** **When failure is reported, CUE the candidate to restore the lineup for the Main Condenser to normal and lineup for blow down to Radwaste.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 10 of 15

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 11 (\*)** Close G33-F235, RWCU BLWDN TO MN CNDSR.

**Standard:** Candidate places the handswitch for G33-F235 to CLOSE and observes green light illuminated on P870 section 3C.

**Comments:** **NOTE: If Item 9 was NOT performed this Item will not be performed and is NOT critical.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 12 (\*)** Close G33-F046, RWCU BLWDN TO MN CNDSR **OR** G33-F041, RWCU BLWDN TO MN CNDSR BYP.

**Standard:** Candidate depresses the CLOSE pushbutton for G33-F046 or G33-F041 on P680 section 11C and observes the green light is illuminated.

**Comments:** **NOTE: Candidate will close G33-F046 or F041 whichever was opened in ITEM 7 or 8.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

JPM No. GG-1-JPM-RO-G3301 Rev. 00 Page 11 of 15

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 13** (\*) Open G33-F035, RWCU BLWDN TO RADWST.

**Standard:** Candidate depresses the OPEN pushbutton for G33-F035 on P680 section 11C and observes the red light is illuminated.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 14** (\*) Adjust controller G33-R606 for G33-F033 RWCU SYS BLWDN F/D CONT VLV to attain 60 gpm flow as indicated on G33-FI-R602. Opening of G33-F031, RWCU BLWDN ORF BYP VLV to obtain additional flow as necessary.

**Standard:** Candidate adjusts controller G33-R606 to obtain 60 gpm on G33-FI-R602 and open G33-F031 to obtain additional flow.

**Comments:** Note: If Candidate requests permission to throttle G33-F042 closed to obtain desired flow, CUE candidate to throttle G33-F042. OR Candidate may elect to open G33-F031, RWCU BLWDN ORF BYP VLV to obtain additional flow. Either method is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 15 ( )** Place NSSSS INBD and OTBD MOV TEST switches to NORM.

**Standard:** Candidate places the key lock switches for NSSSS INBD and OTBD MOV TEST to NORM and observes "RX Div 1 & 2 Isol Sys OOSVC" annunciators clear received.

**Comments:** **NOTE: Candidate may not perform this step this is acceptable.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

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---

**TERMINATING CUE(s):**

RWCU is aligned to blow down the reactor to Radwaste at 60 gpm as indicated on G33-R602.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : ALIGN RWCU FOR VESSEL LEVEL CONTROL (FAULTED)

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is in mode 2 with coolant temperature  $\approx$  \_\_\_\_\_ °F. Plant startup is in progress. Component Cooling Water is in operation. RWCU is in Pre-Pump Mode of operation with one pump and one filter.

Initiating Cue(s):

The Plant Supervisor has directed align the RWCU system for blow down flow to the Main Condenser at 60 gpm. Health Physics has been notified of the evolution.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-RO-N3201  
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Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**RAISE REACTOR PRESSURE AT 90°F/HR USING  
TURBINE BYPASS CONTROLS**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS

CONTROLS

JPM No. GG-1-JPM-RO-N3201 Rev. 00 Page 2 of 9

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Task List No: CRO-N32(2)-007

K/A Reference and Importance Factors (RO/SRO):

K/A 241000 A4.02 - 4.1/4.1; A4.06 - 3.9/3.9; A3.08 - 3.8/3.8  
2.1.30 - 3.9/3.4; 2.1.31 - 4.2/3.9

SAFETY FUNCTION - 3

RO Group 1

SRO Group 1

Time Required for Completion: 45 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

**LOW REACTOR POWER**

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS

CONTROLS

JPM No. GG-1-JPM-RO-N3201 Rev. 00 Page 3 of 9

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**DISCUSSION**

This JPM will evaluate the candidate's ability to control reactor pressure and heat up rate during a reactor startup using the Turbine/Reactor Pressure Control System via Bypass Valve operation. The performance of this task is required during plant startup conditions to allow plant heat up and pressurization.

The proper method of evaluation is by performance in the simulator.

Initialize the simulator to an IC with the plant startup with the reactor temperature at some temperature >200 °F (Mode 2).

Make necessary changes to establish 20 to 30 % Bypass valve opening with the EHC system and Turbine/ Reactor Pressure controls in service with Bypass valves in operation. Allow heat up parameters to clear and maintain Reactor Pressure stable for at least 15 minutes.

All control room operations will be performed on panel 1H13-P680 unless otherwise noted.

---

Required Material(s):

- 01 IOI 03-1-01-1, Cold Shutdown to Generator carrying Minimum Load Integrated Operating Instruction
- 02 Steam Tables
- 03 Calculator
- 04 Watch or Stop watch

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS

CONTROLS

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---

General Reference(s):

- 01 IOI 03-1-01-1, Cold Shutdown to Generator carrying  
Minimum Load Integrated Operating Instruction
- 02 Steam Tables
- 03 GGNS Tech Specs

Safety Consideration(s):

- 01 None.
-

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS  
CONTROLS

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**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

Perform a reactor heat up using the Turbine Bypass valves as a control mechanism at a rate of 90°F/hour (between 75 - 90°F/hour, is acceptable)

**Initial Condition(s):**

The plant is in mode 2 with coolant temperature ≈ \_\_\_\_\_ °F. Plant startup is in progress. Turbine Bypass valves are \_\_\_\_\_% open. Reactor heat up is in progress.

**Initiating Cue(s):**

The Plant Supervisor has directed you to continue plant heat up at a rate of as close to 90 °F / hour as possible NOT to exceed 90 °F/ hour. Another operator will control other parameters such as Reactor Feed Flow. Steam Tables, calculator and stopwatch are available for your use.

Start Time: \_\_\_\_\_

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS  
CONTROLS

JPM No. GG-1-JPM-RO-N3201 Rev. 00 Page 6 of 9

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 (\*)** Using the Pressure Demand Controller raise pressure demand slowly to raise reactor pressure.

**Standard:** Candidate determines pressure equivalent to 90°F/hour and begins to raise Pressure Demand settings to raise reactor pressure.

**Comments:** Candidate will most likely call up heat up plots on the PDS computer and use the steam tables and PDS information to determine a rate of increase.

Allow the candidate to get familiar with conditions. Once heat up has been established candidate should be able to maintain this rate for 30 minutes OR until the evaluator is satisfied with the abilities of the candidate.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**WHEN EVALUATOR IS SATISFIED WITH CANDIDATE'S  
ABILITY THE EVALUATOR WILL TERMINATE THE JPM AND  
SIGNAL THE CANDIDATE.**

GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS

CONTROLS

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**TERMINATING CUE(s):**

A reactor heat up using the Turbine Bypass valves as a control mechanism at a rate of 90°F/hour (between 75 - 90°F/hour, is acceptable).

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS

CONTROLS

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No      Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title : RAISE REACTOR PRESSURE AT 90°F/HR USING TURBINE  
BYPASS

CONTROLS

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THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is in mode 2 with coolant temperature  $\approx$  \_\_\_\_ °F. Plant startup is in progress. Turbine Bypass valves are \_\_\_\_% open. Reactor heat up is in progress.

Initiating Cue(s):

The Plant Supervisor has directed you to continue plant heat up at a rate of as close to 90 °F / hour as possible NOT to exceed 90 °F/ hour. Another operator will control other parameters such as Reactor Feed Flow.

Steam Tables, calculator and stopwatch are available for your use.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

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QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**PLACE SBTG TRAIN IN STANDBY WITH AN AUTO  
START SIGNAL PRESENT (FAULTED)**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 3 of 13

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**DISCUSSION**

This JPM will evaluate the candidate's ability to place Standby Gas Treatment (SBGT) System in Standby with an Automatic Initiation signal and perform a follow up manual start. The performance of this task is required if SBTG is in Standby with an automatic initiation signal and a subsequent plant condition requires operation of the SBTG System.

The proper method of evaluation is by performance in the simulator.

Initialize the simulator to an IC with the plant at 100 % power.

Insert malfunction rr063a at 50% Recirc Loop A leak and allow the simulator to stabilize.

Follow up malfunctions are:

rm157n PRM FPS Vent Exh D17K618 B/C High Rad  
rm157o PRM FPS Vent Exh D17K618 A/D High Rad

All control room operations will be performed on panel 1H13-P870 unless otherwise noted.

---

Required Material(s):

01 SOI 04-1-01-T48-1, Standby Gas Treatment System

General Reference(s):

01 SOI 04-1-01-T48-1, Standby Gas Treatment System

02 ARI 04-1-02-P601-19A-B10 & C10  
ARI 04-1-02-P870-8A-F3

03 EOP 05-S-01-EP-4

Safety Consideration(s):

01 None.

---



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 5 of 13

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 ( )** Obtain a controlled copy of SOI 04-1-01-T48-1.

**Standard:** Candidate obtains a controlled copy of SOI 04-1-01-T48-1.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 ( )** Check that the following are operating on SBTG Train 'A':

\_\_\_\_\_ Annunciator "SGTS DIV 1 OPER" P870-2A-A3

\_\_\_\_\_ SGTS Filter Train Fan A is running

\_\_\_\_\_ Enclosure Building Recirculation Fan A is running

\_\_\_\_\_ Dampers and valves F001, F004, F006, F007, F009, F011, F013, F015, F017, F019, F021, F023, AND F025 are OPEN.

\_\_\_\_\_ Dampers and valves M41-F036, M41-F008, T41-F007, T42-F004, T42-F011, T42-F019 are CLOSED.

**Standard:** Candidate observes the above indications.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 6 of 13

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 3 ( )** Check that the following are operating on SBTG Train  
'B':

\_\_\_\_\_ Annunciator "SGTS DIV 2 OPER" P870-8A-A3

\_\_\_\_\_ SGTS Filter Train Fan B is running

\_\_\_\_\_ Enclosure Building Recirculation Fan B is running

\_\_\_\_\_ Dampers and valves F002, F003, F005, F008, F010, F012, F014,  
F016, F018, F020, F022, F024 AND F026 are OPEN.

\_\_\_\_\_ Dampers and valves M41-F037, M41-F007, T41-F006, T42-F003,  
T42-F012, T42-F020 are CLOSED.

**Standard:** Candidate observes the above indications.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 7 of 13

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4 ( )** Monitor SGTS A and B filter differential pressure, filter flow and Enclosure Building Pressure chart recorders:

\_\_\_\_\_ T48-R601A & B SGTS FLTRA & B DP

\_\_\_\_\_ R600A & B SGTS FLTR TR A & B FLO

\_\_\_\_\_ R602A & B ENCL BLDG PRESS

**Standard:** Candidate observes indications are acceptable and no annunciators associated with FLTR DP, FLTR Flow and Enclosure Building Pressure.

**Comments:** Candidate may inform the SRO of indications on SBTG prior to securing 'B' Train. This is acceptable.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 5 (\*)** Place SGTS DIV 2 MODE SEL keylock switch to STDBY position and observe amber light illuminates.

**Standard:** Candidate places keylock switch for SGTS DIV 2 MODE SEL to STBY and observes amber light illuminated and white light extinguishes.

**Comments:** NOTE: Light is non-critical.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 8 of 13

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 6 (\*)** Reset Manual Initiation signal for filter train by turning SGTS DIV 2 MAN INIT RESET keylock switch to RESET position and back to NORM.

**Standard:** Candidate places the keylock switch SGTS DIV 2 MAN INIT RESET to RESET and back to NORM on panel P870 section 8B.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 7 (\*)** Stop B SGTS filter train fans by taking ENCL BLDG RECIRC FAN B handswitch to STOP.

**Standard:** Candidate places handswitch for ENCL BLDG RECIRC FAN B to STOP and observes the green light illuminated on Panel P870 section 8C.

**Comments:** Items 7 and 8 may be performed in any order.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 9 of 13

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 8 (\*)** Stop B SGTS filter train fans by taking SGTS FLTR TR B EXH FAN handswitch to STOP.

**Standard:** Candidate places handswitch for SGTS FLTR TR B EXH FAN to STOP and observes the green light illuminated on Panel P870 section 8C.

**Comments:** Items 7 and 8 may be performed in any order.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 9 ( )** Verify adequate enclosure building vacuum draw down still exists.

**Standard:** Candidate observes Enclosure Building pressure is adequate T48-PDR-R602 A & B on panel P870 sections 2B and 8B.

**Comments:** Candidate will report the 'B' Standby Gas Treatment Train is in Standby.

SIMULATOR OPERATOR INSERT MALFUNCTIONS as follows:

rm157m PRM FPS VENT EXH D17K618A/D HIGH RAD

rm157n PRM FPS VENT EXH D17K618B/C HIGH RAD

OBSERVE ANNUNCIATORS P601-19A-B10 and C10 COME IN.

SBGT B WILL NOT AUTO RESTART.

**AS PLANT SUPERVISOR ANNOUNCE ENTRY INTO EP-4 ORDER THE IMMEDIATE RESTART OF SBTG TRAIN B PER EP-4.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 10 of 13

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**NOTE: Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 10** (\*) Manually initiate SBTG B by simultaneously depressing the SGTS DIV 2 MAN INIT pushbuttons OR place the SGTS DIV 2 MODE SEL keylock switch to AUTO.

**Standard:** Candidate simultaneously depresses the SGTS DIV 2 MAN INIT pushbuttons on P870 section 8B and observes the white lights extinguish over the pushbuttons OR places SGTS DIV 2 MODE SEL keylock switch to AUTO and observes the amber light extinguish and white light illuminate.

**Comments:** **NOTE: either method is acceptable and will accomplish the same end point.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 11** ( ) Observe SGTS FLTR TR B EXH FAN and ENCL BLDG RECIRC FAN B start.

**Standard:** Candidate observes SGTS FLTR TR B EXH FAN and ENCL BLDG RECIRC FAN B start as indicated by red light illuminated on P870 section 8C for each fan. Annunciator P870 8A-F3 will clear if the MODE SELECT switch is returned to AUTO.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBT TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 11 of 13

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**TERMINATING CUE(s):**

Report to the Plant Supervisor, "Standby Gas Treatment Train 'B'; has been restarted" following being placed in standby.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PLACE SBTG TRAIN IN STANDBY WITH AN AUTO START SIGNAL  
PRESENT (FAULTED)

JPM No. GG-1-JPM-RO-T4801 Rev. 00 Page 12 of 13

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY  
THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant has a LOCA in progress following power operations. Standby Gas Treatment Trains A & B operated per design.

Initiating Cue(s):

The Plant Supervisor has directed place Standby Gas Treatment Train 'B' in STANDBY. Health Physics has been notified of the evolution.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-OP-ADM21  
Revision: 00  
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Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**DETERMINE THE FUSE(S) TO BE REMOVED TO  
DE-ENERGIZE A COMPONENT (Z51-F002)**

REASON FOR REVISION:   New JPM  

THIS DOCUMENT REPLACES   N/A  

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 2 of 9

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TASK LIST: CRO-ADMIN-005

K/A Reference and Importance Factors (RO/SRO):

K/A 2.1.24 2.8/3.1

Time Required for Completion: 20 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom X Plant X Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

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**DISCUSSION**

Performance of this JPM will demonstrate the ability of an Operator to determine the fuse(s) to be removed to de-energize a component and the effect on the system. Performance can be performed in the simulator, plant or in a classroom setting provided candidate has access to a set of P&IDs and electrical prints.

Normal access to Fuse List E-0300 is by individual sheets posted inside panels. Performance in plant is the best method.

---

Required Material(s):

- 01 P&ID M-0049
- 02 Electrical Drawing E-0131
- 03 H13-P872 Fuse List E-0300

General Reference(s):

- 01 P&ID M-0049
- 02 Electrical Drawing E-0131-00, 09, 021
- 03 H-13-P872 Fuse List

Safety Consideration(s):

- 01 None
-

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 4 of 9

---

**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

Candidate states that Z51-F002 is operated by SV-F506, the fuse is F16 (3 amp fuse) located in H13-P872. This fuse is located in Bay D on Terminal Board F Fuse 14.

**Initial Condition(s):** (The location for the initial conditions to be given is \_\_\_\_\_\*\_\_\_\_\_.)

The plant is operating at 100 % power. Maintenance has repair work to perform on QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve.

**Initiating Cue(s):**

Identify the fuse(s) to be removed to remove power to QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve, where the fuse is located and what the fuse number is for the fuse in the panel, also how will the valve react (fail) when the fuse is removed.

**Start Time:** \_\_\_\_\_

\* This location will be determined at pre-evaluation meeting by the evaluators involved.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 5 of 9

---

**NOTE:** Critical items denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 1 (\*)** Candidate determines the fuse(s) to be removed.

**Standard:** Candidate states that Z51-F16 (3 amp fuse).

**Comments:** Drawing E-0131-09 identifies fuse F16 it can also  
be found on E-0131-021

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 (\*)** Candidate determines the panel in which the fuse  
is located.

**Standard:** Candidate states that Z51-F16 is located in H13-  
P872.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 6 of 9

---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 3 (\*)** Candidate determines the fuse location inside the  
panel.

**Standard:** Candidate states that Z51-F16 (3 amp fuse) is in  
panel H13-P872 Bay D on Terminal Board F fuse 14.

**Comments:** Panel fuse locator located on inside of door to  
1H13-P872 Bay D.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 4 (\*)** Candidate determines the valve action when power  
is removed.

**Standard:** Candidate states that QSZ51-F002 WILL FAIL CLOSED.

**Comments:** This is determined using P&ID M-0049 section  
F-7/8.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 7 of 9

---

**TERMINATING CUE(s):**

Z51-F002, Control Room HVAC Purge Exhaust Butterfly Valve is operated using Fuse Z51-F16 (3 amp fuse) located in H13-P872 and is identified as fuse 14 on Terminal Board F in Bay D. Z51-F002 will fail closed when power is removed.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 8 of 9

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is operating at 100 % power. Maintenance has repair work to perform on QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve.

Initiating Cue(s):

Identify the fuse(s) to be removed to remove power to QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve, where the fuse is located and what the fuse number is for the fuse in the panel, also how will the valve react (fail) when the fuse is removed.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-OP-ADM21  
Revision: 00  
Page: 1 of 9  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**DETERMINE THE FUSE(S) TO BE REMOVED TO  
DE-ENERGIZE A COMPONENT (Z51-F002)**

REASON FOR REVISION:   New JPM  

THIS DOCUMENT REPLACES   N/A  

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 2 of 9

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TASK LIST: CRO-ADMIN-005

K/A Reference and Importance Factors (RO/SRO):

K/A 2.1.24 2.8/3.1

Time Required for Completion: 20 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom X Plant X Simulator X

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 3 of 9

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**DISCUSSION**

Performance of this JPM will demonstrate the ability of an Operator to determine the fuse(s) to be removed to de-energize a component and the effect on the system. Performance can be performed in the simulator, plant or in a classroom setting provided candidate has access to a set of P&IDs and electrical prints.

Normal access to Fuse List E-0300 is by individual sheets posted inside panels. Performance in plant is the best method.

---

Required Material(s):

- 01 P&ID M-0049
- 02 Electrical Drawing E-0131
- 03 H13-P872 Fuse List E-0300

General Reference(s):

- 01 P&ID M-0049
- 02 Electrical Drawing E-0131-00, 09, 021
- 03 H-13-P872 Fuse List

Safety Consideration(s):

- 01 None
-

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 4 of 9

---

**READ TO TRAINEE**

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. Prior to actually starting the performance of this JPM, I will answer any questions you have. For each step you perform, describe or state what indications you are observing and what indications you expect to see in response to your action. When you have completed the task, inform me.

**Task Standard(s):**

Candidate states that Z51-F002 is operated by SV-F506, the fuse is F16 (3 amp fuse) located in H13-P872. This fuse is located in Bay D on Terminal Board F Fuse 14.

**Initial Condition(s):** (The location for the initial conditions to be given is \_\_\_\_\_\*\_\_\_\_\_.)

The plant is operating at 100 % power. Maintenance has repair work to perform on QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve.

**Initiating Cue(s):**

Identify the fuse(s) to be removed to remove power to QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve, where the fuse is located and what the fuse number is for the fuse in the panel, also how will the valve react (fail) when the fuse is removed.

**Start Time:** \_\_\_\_\_

\* This location will be determined at pre-evaluation meeting by the evaluators involved.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 5 of 9

---

**NOTE: Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 1 (\*)** Candidate determines the fuse(s) to be removed.

**Standard:** Candidate states that Z51-F16 (3 amp fuse).

**Comments:** Drawing E-0131-09 identifies fuse F16 it can also  
be found on E-0131-021

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 (\*)** Candidate determines the panel in which the fuse  
is located.

**Standard:** Candidate states that Z51-F16 is located in H13-  
P872.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 6 of 9

---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 3 (\*)** Candidate determines the fuse location inside the  
panel.

**Standard:** Candidate states that Z51-F16 (3 amp fuse) is in  
panel H13-P872 Bay D on Terminal Board F fuse 14.

**Comments:** Panel fuse locator located on inside of door to  
1H13-P872 Bay D.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 4 (\*)** Candidate determines the valve action when power  
is removed.

**Standard:** Candidate states that QSZ51-F002 WILL FAIL CLOSED.

**Comments:** This is determined using P&ID M-0049 section  
F-7/8.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 7 of 9

---

**TERMINATING CUE(s):**

Z51-F002, Control Room HVAC Purge Exhaust Butterfly Valve is operated using Fuse Z51-F16 (3 amp fuse) located in H13-P872 and is identified as fuse 14 on Terminal Board F in Bay D. Z51-F002 will fail closed when power is removed.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: DETERMINE THE FUSE(S) TO BE REMOVED TO DE-ENERGIZE  
A COMPONENT (Z51-F002)

JPM No. GG-1-JPM-OP-ADM21 Rev. 00 Page 8 of 9

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is operating at 100 % power. Maintenance has repair work to perform on QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve.

Initiating Cue(s):

Identify the fuse(s) to be removed to remove power to QSZ51-F002, Control Room HVAC Purge Exhaust Butterfly Valve, where the fuse is located and what the fuse number is for the fuse in the panel, also how will the valve react (fail) when the fuse is removed.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-OP-ADM25  
Revision: 00  
Page: 1 of 10  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**PERFORM NOTIFICATION OF OFFSITE AGENCIES  
USING OPERATIONAL HOTLINE (OHL)**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PERFORM NOTIFICATION OF OFFSITE AGENCIES USING  
OPERATIONAL HOTLINE (OHL)

JPM No. GG-1-JPM-OP-ADM25 Rev. 00 Page 2 of 10

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Task List No: AON-EP-001

K/A Reference and Importance Factors (RO/SRO):

K/A 2.4.43 - 2.8/3.5; 2.4.39 - 3.3/3.1; 2.4.30 - 2.2/3.6  
**10CFR55.45a(11)**

Time Required for Completion: 15 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate X Actual X\*

Setting: Classroom \_\_\_\_\_ Plant X Simulator X\*

**X\* SHOULD BE PERFORMED IN THE SIMULATOR**

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PERFORM NOTIFICATION OF OFFSITE AGENCIES USING  
OPERATIONAL HOTLINE (OHL)

JPM No. GG-1-JPM-OP-ADM25 Rev. 00 Page 3 of 10

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**DISCUSSION**

Performance of this JPM will demonstrate the ability of an Operator to perform the duties of a Control Room Communicator during an emergency and contact the Offsite Agencies using the Operational Hotline (OHL). Performance can be performed in the simulator. If JPM is administered in the plant the communications are to be SIMULATED. **DO NOT ALLOW CANDIDATE TO LIFT THE RECIEVER ON THE CONTROL ROOM OPERATIONAL HOTLINE (OHL).**

**A Simulator Operator or the Evaluator may be used to act as the Offsite Agencies.**

---

Required Material(s):

- 01 EPP 10-S-01-6, Notification of Offsite Agencies and Plant On-Call Personnel
- 02 EPP 06-01, NOTIFICATION FORM (Last Page of JPM)

General Reference(s):

- 01 EPP 10-S-01-1, Activation of the Emergency Plan
- 02 EPP 10-S-01-6, Notification of Offsite Agencies and Plant On-Call Personnel
- 03 EPP 06-01, NOTIFICATION FORM

Safety Consideration(s):

- 01 **DO NOT ALLOW CANDIDATE TO LIFT THE RECIEVER ON THE CONTROL ROOM OPERATIONAL HOTLINE (OHL).**
-



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PERFORM NOTIFICATION OF OFFSITE AGENCIES USING  
OPERATIONAL HOTLINE (OHL)

JPM No. GG-1-JPM-OP-ADM25 Rev. 00 Page 5 of 10

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**NOTE:** Critical items denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 (\*)** Locate the OHL and lift the receiver to begin ring down of agencies.

**Standard:** Candidate locates the OHL and lifts the receiver. As agencies answer, the candidate will say "This is Grand Gulf Nuclear Station, Please standby for an Emergency Notification."

**Comments:** Simulator Operator pickup on the OHL and respond down the list of state agencies, **DO NOT** answer for either the **Louisiana Office of Emergency Preparedness or Louisiana Radiation Protection Division.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2 (\*)** After 30 seconds, perform ROLL CALL of agencies.

**Standard:** Candidate performs a ROLL CALL of agencies and marks off agencies as they answer in on the roll call.

**Comments:** Simulator Operator will answer the roll call for the agencies marked on the **EVALUATOR COPY** of the **Emergency Notification Form**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PERFORM NOTIFICATION OF OFFSITE AGENCIES USING  
OPERATIONAL HOTLINE (OHL)

JPM No. GG-1-JPM-OP-ADM25 Rev. 00 Page 6 of 10

---

**NOTE:** Critical items denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 3 (\*)** Slowly read the Notification form to ensure the information is received to the agencies.

**Standard:** Candidate slowly reads the information on the Notification form and at the end of reading the material asks if any parts need to be repeated.

**Comments:** Simulator Operator once the candidate has read the form, **INFORM** the candidate no agencies have questions.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 4 (\*)** Perform the Final ROLL CALL of the Offsite agencies.

**Standard:** Candidate performs the Final ROLL CALL of agencies and marks off agencies as they answer in on the roll call and notes the failure of LOEP and LRPD to respond.

**Comments:** Simulator Operator will answer the roll call for the agencies marked on the **EVALUATOR COPY** of the **Emergency Notification Form**. **DO NOT** answer for either the **Louisiana Office of Emergency Preparedness or Louisiana Radiation Protection Division**.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PERFORM NOTIFICATION OF OFFSITE AGENCIES USING  
OPERATIONAL HOTLINE (OHL)

JPM No. GG-1-JPM-OP-ADM25 Rev. 00 Page 7 of 10

---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 5 (\*)** Complete the Notification informing the agencies  
THE NEXT MESSAGE IS EXPECTED TO BE ISSUED 60  
MINUTES FROM THE START OF THIS MESSAGE OR WHEN THE  
EVENT IS TERMINATED whichever is first. THIS IS  
GRAND GULF OUT.

**Standard:** Candidate informs the agencies THE NEXT MESSAGE IS  
EXPECTED TO BE ISSUED 60 MINUTES FROM THE START OF  
THIS MESSAGE OR WHEN THE EVENT IS TERMINATED  
whichever is first. THIS IS GRAND GULF OUT.

**Comments:** Simulator Operator may hang up the phone.

**NOTE:** The candidate should inform the evaluator  
that either LOEP or LRPD would require a manual  
telephone call. CUE the candidate the call will  
be made by someone else.

If asked, CUE the candidate another communicator  
will Notify NRC personnel.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PERFORM NOTIFICATION OF OFFSITE AGENCIES USING  
OPERATIONAL HOTLINE (OHL)

JPM No. GG-1-JPM-OP-ADM25 Rev. 00 Page 8 of 10

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**TERMINATING CUE(s):**

Notification of the Offsite Agencies has been performed per 10-S-01-6 and the absence of the Louisiana Office of Emergency Preparedness (LOEP) and Louisiana Radiation Protection Division (LRPD) noted. (See Attached EVALUATOR COPY).

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : PERFORM NOTIFICATION OF OFFSITE AGENCIES USING  
OPERATIONAL HOTLINE (OHL)

JPM No. GG-1-JPM-OP-ADM25 Rev. 00 Page 9 of 10

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No      Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is operating at 100% power. The Emergency Plan is being implemented due to a fire in the Division 1 Diesel Generator. The Fire is out. The Division 1 Bus 15AA was unaffected. The Shift Superintendent as Emergency Director has declared an UNUSUAL EVENT. All Non-Licensed Operators are occupied.

Initiating Cue(s):

The Emergency Director directs you to make the initial notification of the Offsite Agencies using the Operational Hotline. The next notification will be to terminate the event. Here is the Initial Notification Form.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-OP-ADM26

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Page: 1 of 13

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QA Record

Number of pages \_\_\_\_\_

Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**ADMINISTRATIVE JPM  
ENTRY AND EGRESS FROM THE CONTROLLED ACCESS  
AREA (CAA) WITH ENTRY REQUIREMENTS FOR  
ACCESSING A HIGH RADIATION AREA**

REASON FOR REVISION: NEW JPM .

THIS DOCUMENT REPLACES N/A .

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

JPM No. GG-1-JPM-OP-ADM26 Rev. 00 Page 2 of 13

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Task List No: AON-ADMIN-022; 025

K/A Reference and Importance Factors (RO/SRO):

K/A GENERIC 2.3.1 - 2.6; 2.3.4 - 2.5; 2.3.5 - 2.3

SAFETY FUNCTION: N/A

**Radiological Protection Generic Section 3**

Time Required for Completion: N/A Minutes (approximate).  
Time for this JPM will vary based on time spent inside CAA  
performing other JPMS.

Time Critical: YES/NO

Faulted JPM: YES/NO

Administrative JPM

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X  
Setting: Classroom \_\_\_\_\_ Plant X Simulator \_\_\_\_\_

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License:  
RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

JPM No. GG-1-JPM-OP-ADM26 Rev. 00 Page 3 of 13

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area (CAA) with entry requirements for accessing a High Radiation Area.

JPM No. GG-1-JPM-OP-ADM26 Rev. 00 Page 4 of 13

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**DISCUSSION**

This JPM will evaluate the candidate's ability to enter the GGNS Controlled Access Area (CAA) observing all applicable radiation practices for operators entering the Power Block and the procedures for exiting the CAA. Prior to entry into the CAA, the candidate will be informed to enter an area designated as a High Radiation Area. The proper method of evaluation is by the candidate performing entry into the Controlled Access Area of GGNS and exiting the area.

**This JPM will be performed in conjunction with other  
JPMs performed inside the CAA.**

---

Required Material(s):

- 01 Key Card
- 02 TLD
- 03 Merlin Guerlin alarming dosimeter
- 04 Hard Hat
- 05 Safety Glasses
- 06 Ear Plugs (optional only required if time in a high noise area will exceed posted times.)

General Reference(s):

- 01 Administrative Procedure 01-S-08-34  
Radiological Work Planning, Performance, and Reviews
- 02 Administrative Procedure 01-S-08-2, Exposure &  
Contamination Control.

Safety Consideration(s):

- 01 Normal plant access safety materials.

GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

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**GIVE CANDIDATE THE INSTRUCTIONS FOR THIS  
JPM PRIOR TO ENTRY INTO SECURITY ISLAND.**

**DISCUSSION IS ON THE NEXT PAGE UNDER  
INITIATING CUE.**



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area (CAA) with entry requirements for accessing a High Radiation Area.

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---

NOTE: **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1** (\*) Obtain Key Card and TLD from Security Island.

**Standard:** Candidate should obtain Key Card and TLD from rack in Security Island.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2** (\*) Wears Hard Hat and Safety Glasses inside the CAA as required.

**Standard:** Candidate has a hard hat and safety glasses for entry into the CAA. Candidate may obtain ear plugs and safety glasses in the Health Physics Lab on 93 foot elevation of the Control Building.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**EVALUATOR:**

**CUE THE CANDIDATE THAT DURING THE FACILITY WALK THROUGH YOU WILL NEED TO GO TO RESIDUAL HEAT REMOVAL 'A' PUMP ROOM. (This area should be a High Radiation Area.)**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

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NOTE: **Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 3** (\*) Informs the Health Physics Technician/Supervisor  
at the 93 ft HP desk that part of the Job will  
involve entry into the Residual Heat Removal (RHR)  
'A' Pump Room. Obtain the HP Pre-Job brief and  
permission for entry.

**Standard:** Candidate will inform HP of the entry into RHR 'A'  
Pump Room and receive the Pre-Job brief and  
permission to enter a High Radiation Area.

**Comments:** The Evaluator may be required to discuss the entry  
in private with the Health Physics personnel this  
is only a test and the operator will NOT be  
entering the RHR 'A' Pump Room.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Do NOT allow candidate to enter the RHR 'A' Pump Room.  
This is based on ALARA considerations.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area (CAA) with entry requirements for accessing a High Radiation Area.

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NOTE: **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4** (\*) Obtain Electronic Alarming Dosimeter (Merlin Guerlin) from the Health Physics Lab and activate at the access turnstile using appropriate Radiation Work Permit (RWP) number and enters CAA when access is granted.

**Standard:** Candidate will obtain a Merlin Guerlin and insert the Merlin Guerlin into the activation slot and SCAN the bar code on his TLD and follow instructions on the screen. Entering RWP number and answering the questions on the computer fields of the access terminal. Once all fields have been entered appropriately access is granted.

**Comments:** The RWP Number will be either 00-01-001 or 00-01-017 either RWP number is acceptable dependent on the candidate's authorization.

NOTE: USE OF PAPER SUITS IS HIGHLY RECOMMENDED DUE TO RADON PROBLEMS IN THE PLANT!!

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

Do NOT allow candidate to enter the RHR 'A' Pump Room.  
This is based on ALARA considerations.

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

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---

NOTE: **Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 5** (\*) While in CAA the candidate observes and adheres to  
ALL applicable Postings and entry requirements.

**Standard:** While in CAA the candidate observes and adheres to  
ALL applicable Postings and entry requirements.

**Comments:** **EVALUATOR SHOULD DISCUSS ACTIONS FOR ENTRY INTO A  
HIGH RADIATION AREA.**

NOTE: None of the areas for the JPMS should access any High  
Radiation Areas, Contamination Areas, or High Contamination Areas.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Do NOT allow candidate to enter the RHR 'A' Pump Room.  
This is based on ALARA considerations.**

**Item 6** (\*) Exiting of the CAA the candidate enters the  
control point area and enters a PCM-1 Monitor.

**Standard:** Candidate clears PCM-1 Monitor and exits.

**Comments:** **If candidate shows radon contamination portions of  
apparel may be left with Health Physics for decay.  
This is NORMAL. If paper suits are used and found  
to have radon, they may be left in HP.**

SEQUENCE for ITEMS 5 and 6 are **NOT CRITICAL.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
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SAT        UNSAT       

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

JPM No. GG-1-JPM-OP-ADM26 Rev. 00 Page 12 of 13

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NOTE: **Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 7** (\*) If hand carried materials were carried into the  
CAA they will be cleared through the Tool  
Contamination Monitor (TCM).

**Standard:** Candidate will place hand carried items in the TCM  
for counting.

**Comments:** If candidate has no hand carried items this item  
is N/A.

SEQUENCE for ITEMS 5 and 6 are **NOT CRITICAL**.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 8** (\*) After clearing the PCM-1 the candidate exits  
through the Portal Monitor.

**Standard:** Candidate clears Portal Monitor and exits.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

JPM No. GG-1-JPM-OP-ADM26 Rev. 00 Page 13 of 13

---

NOTE: **Critical items** denoted by (\*). Sequence is assumed unless  
denoted in the **Comments**.

---

**Item 9** (\*) Deactivates Merlin Guerlin at terminal at final  
exit of session.

**Standard:** Candidate will deactivate his Merlin Guerlin and  
return it to Health Physics rack.

**Comments:**

SAT        UNSAT       

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

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**TERMINATING CUE(s):**

Entry and exit of Controlled Access Area is completed.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No      Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title : Entry and Egress from the Controlled Access Area  
(CAA) with entry requirements for accessing a High  
Radiation Area.

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GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-RO-ADM22  
Revision: 00  
Page: 1 of 8  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**PERFORM AC/DC SURVEILLANCE FOR LCO ACTION  
FOLLOWING DIVISION III DIESEL GENERATOR  
FAILURE**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PERFORM AC/DC SURVEILLANCE FOR LCO ACTION  
FOLLOWING DIVISION III DIESEL GENERATOR FAILURE

JPM No. GG-1-JPM-RO-ADM22 Rev. 00 Page 2 of 8

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Task List No: CRO-R20/27-008

K/A Reference and Importance Factors (RO/SRO):

K/A 2.1.31 - 4.2/3.9; 2.1.20 - 4.3/4.2

Time Required for Completion: 15 Minutes (approximate).

If candidate is unable to complete task within one (1) Hour, JPM performance will be considered UNSATISFACTORY.

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate X Actual X\*

Setting: Classroom \_\_\_\_\_ Plant X Simulator X\*

**X\* SHOULD BE PERFORMED IN THE SIMULATOR**

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PERFORM AC/DC SURVEILLANCE FOR LCO ACTION  
FOLLOWING DIVISION III DIESEL GENERATOR FAILURE

JPM No. GG-1-JPM-RO-ADM22 Rev. 00 Page 3 of 8

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**DISCUSSION**

Performance of this JPM will demonstrate the ability of an Operator to perform the Plant AC/DC Electrical Power Distribution Weekly Lineup. Performance can be performed in the simulator. If JPM is administered in the plant the communications are to be SIMULATED. **DO NOT ALLOW CANDIDATE TO LIFT THE RECIEVER ON THE CONTROL ROOM DISPATCHER TELEPHONE.**

**A Simulator Operator or the Evaluator may be used to act as the Dispatcher.**

---

Required Material(s):

- 01 Surveillance 06-OP-1R20-W-0001, Plant AC and DC Electrical Power Distribution Weekly Lineup

General Reference(s):

- 01 Surveillance 06-OP-1R20-W-0001, Plant AC and DC Electrical Power Distribution Weekly Lineup

Safety Consideration(s):

- 01 **DO NOT ALLOW CANDIDATE TO LIFT THE RECIEVER ON THE CONTROL ROOM DISPATCHER TELEPHONE.**
  - 02 If simulated in the Control Room, obtain permission from the Shift Superintendent prior to beginning.
  - 03 Ensure the candidate does not manipulate any control room switches.
-



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title:   PERFORM AC/DC SURVEILLANCE FOR LCO ACTION  
                  FOLLOWING DIVISION III DIESEL GENERATOR FAILURE

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**NOTE:**   **Critical items** denoted by (\*).   Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 (\*)**   Perform Attachment II Data Sheet I of 06-OP-1R20-W-0001.

**Standard:**   Candidate performs Attachment II Data Sheet I completing the appropriate items as denoted on the EVALUATOR COPY of the surveillance.

**Comments:**   **Simulator Operator pickup on the Dispatcher telephone and report the BAXTER WILSON, FRANKLIN and PORT GIBSON Offsite transmission lines are energized and the 500 KV grid is reading 500 KV.**

Items that are Highlighted on the Data Sheets are Critical, the candidate need only sign, date and time the coversheet.

SAT            UNSAT         

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PERFORM AC/DC SURVEILLANCE FOR LCO ACTION  
FOLLOWING DIVISION III DIESEL GENERATOR FAILURE

JPM No. GG-1-JPM-RO-ADM22 Rev. 00 Page 6 of 8

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**TERMINATING CUE(s):**

Plant AC and DC Electrical Distribution Weekly Lineup 06-OP-1R20-W-0001 Attachment II data sheet I, and Attachment III data sheet III have been completed.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PERFORM AC/DC SURVEILLANCE FOR LCO ACTION  
FOLLOWING DIVISION III DIESEL GENERATOR FAILURE

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO  
CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is operating at 100% power. The Division III Diesel Generator Lube Oil System has been declared INOP. The Shift Supervisor has initiated an LCO per Tech Spec 3.8.1 Action B. All other systems are operable.  
Division III Diesel Generator LCO# 2000-0450.

Initiating Cue(s):

The Plant Supervisor has directed you to complete 06-OP-1R20-W-0001 Attachment II Data Sheet I. The Plant Supervisor has an Authorized to Start copy of the Surveillance.



GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-RO-ADM23  
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QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

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Task List No: CRO-ADMIN-005

K/A Reference and Importance Factors (RO/SRO):

K/A 2.2.13 - 3.6/3.8; 2.1.24 - 2.8/3.1

Time Required for Completion: 20 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

**MAY BE PERFORMED BY MANUALLY FILLING IN FORM**

---

EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

JPM No. GG-1-JPM-RO-ADM23 Rev. 00 Page 3 of 12

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**DISCUSSION**

Performance of this JPM will demonstrate the ability of an Operator to generate a protective tagout using the Tagging Computer.

---

Required Material(s):

- 01 Facility prints (M-1085C & M-1096 & E-1181-45, 46)
- 02 01-S-06-1, Protective Tagging System
- 03 SOI 04-1-01-E12-1, Residual Heat Removal System
- 04 01-S-06-1 ATTACHMENT III FOR CANDIDATE

General Reference(s):

- 01 01-S-06-1, Protective Tagging System
- 02 SOI 04-1-01-E12-1, Residual Heat Removal System
- 03 Facility prints (M-1085C & M-1096 & E-1181-45, 46)

Safety Consideration(s):

- 01 NONE
-



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

JPM No. GG-1-JPM-RO-ADM23 Rev. 00 Page 5 of 12

---

**NOTE:** Critical items denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1** ( ) Review the procedure for Protective Tagging 01-S-06-1.

**Standard:** Candidate reviews the Protective Tagging Procedure.

**Comments:** If Candidate indicates he is going to retrieve the procedure you may give the candidate a copy of the procedure. 01-S-06-1 is an Information Use Procedure. Obtaining a copy of the procedure is NOT required.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**Item 2** ( ) Review the P & ID M-1085C and M-1096 and Electrical Prints E-1181-45 & 46 for boundaries for the 1E12-C003B RHR 'C' Jockey pump.

**Standard:** Candidate locates the RHR 'C' Jockey Pump on M-1085C and M-1096 and Electrical Prints E-1181-45 & 46 and identifies boundaries.

**Comments:**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

JPM No. GG-1-JPM-RO-ADM23 Rev. 00 Page 6 of 12

---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 3 (\*)** Identifies the following valves as boundaries, drains, or vents.

\_\_\_\_\_ E12-F082C RHR JCKY PMP C SUCT ISOL VLV - CLOSED

\_\_\_\_\_ E12-F278 C JOCKEY PMP MIN FLOW STOP CHECK - CLOSED

\_\_\_\_\_ E12-F084C C JOCKEY PMP DISCH STOP CHECK TO C LOOP - CLOSED

\_\_\_\_\_ E12-F324 C RHR JKY PMP TEST CONN - OPEN

\_\_\_\_\_ E12-F325 DRAIN VALVE - OPEN

\_\_\_\_\_ E12-F326 DRAIN - OPEN

**Standard:** Candidate identifies above listed boundaries.

**Comments:** Other boundary could be E12-F085C instead of E12-F084C. Any other lineups would require evaluation on a case by case basis. The order of operations is ONLY critical in that Discharge valves are closed before suction valve being closed, and drain valves open before vent valves opened.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

JPM No. GG-1-JPM-RO-ADM23 Rev. 00 Page 7 of 12

---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 4 (\*)** Align the following handswitches.

  \*\*   E12-C001C RHR PUMP C – **AUTO AFTER STOP** (E12-M600C)

       E12-C003C RHR JOCKEY PMP C – **STOP** (E12-M601C)

**Standard:** Candidate indicates the above listed handswitches.

**Comments:** **\*\* NOTE: Tagout of the RHR C Pump is NOT Critical.  
The assignment was for the Jockey Pump.**

SAT        UNSAT       

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

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---

**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 5 (\*)** Indicates the following electrical lineup.

\*\* RHR PUMP C 16AB BREAKER 152-1609 - **RACKED OUT OPEN**

       RHR JOCKEY PUMP C 16B11 Breaker 52-161135 - **OFF**

**Standard:** Candidate indicates the above listed breakers are to be opened.

**Comments:** **\*\* NOTE: Tagout of the RHR C Pump is NOT Critical. The assignment was for the Jockey Pump.**

SAT        UNSAT       

---

**Item 6 (\*)** Sequence for hanging of tags is indicated

**Standard:** See next page for sequence.

**Comments:**

SAT        UNSAT       

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

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---

SEQUENCE FOR HANGING

1. E12-M600C RHR JOCKEY PUMP C HS – AUTO AFTER STOP
2. 152-1609 RHR PUMP C CIRCUIT BREAKER – RACKED OUT OPEN
3. E12-M601C RHR JOCKEY PMP C HS –NEUT AFTER STOP
4. 52-161135 RHR C JOCKEY PUMP CIRCUIT BREAKER - OFF
5. E12-F084C (or F085C) C JOCKEY PUMP DISCH STOP CK TO C LOOP – CLOSED  
(**CRITICAL**)
5. E12-F278 C JOCKEY MIN FLOW STOP CHECK – CLOSED (**CRITICAL**)
6. E12-F082C SUCTION TO RHR JOCK PUMP C003C – CLOSED (**CRITICAL**)
7. E12-F325 DRAIN – OPEN (**CRITICAL**)
7. E12-F326 DRAIN – OPEN (**CRITICAL**)
8. E12-F324 C RHR JOCKEY PMP TEST CONN – OPEN (**CRITICAL**) (VENT)

**Note:** Handswitches should be before breakers. Discharge valves before suction valve. Drains before vent. The above underlined should be the last two operations in that order.

**SEE ATTACHED COPY OF TAGOUT.**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

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**TERMINATING CUE(s):**

Protective Tag generated for the RHR 'C' Jockey Pump.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: PREPARE A PROTECTIVE TAGOUT FOR A COMPONENT

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is operating at 100% power. The RHR 'C' Jockey Pump has failed with a seizure of its shaft resulting in the pump motor shorting phase to phase. Maintenance has requested the pump and motor be tagged out to replace the entire unit with one from the warehouse. RHR 'C' Pump is being tagged out with a separate clearance.

Initiating Cue(s):

The Plant Supervisor has requested you prepare a Protective Clearance for RHR 'C' Jockey Pump (1E12-C003C) and motor removal.



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: WRITE LCO FOR INOP CONTROL ROOM AIR CONDITIONING  
SYSTEM

JPM No. GG-1-JPM-SRO-ADM26 Rev. 00 Page 2 of 9

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Task List No: SRO-ADMIN-038

K/A Reference and Importance Factors (RO/SRO):

K/A 2.1.12 4.0

Time Required for Completion: 15 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate X Actual       

Setting: Classroom X Plant X Simulator X

---

EVALUATION

Date Performed:                   

Performer:                    SSN:                    License: RO/SRO

Score: PASS        FAIL        Time to complete:                   

Evaluator Signature:                    Date:                   

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: WRITE LCO FOR INOP CONTROL ROOM AIR CONDITIONING  
SYSTEM

JPM No. GG-1-JPM-SRO-ADM26 Rev. 00 Page 3 of 9

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**DISCUSSION**

Performance of this JPM will demonstrate the ability of a Senior Reactor Operator to properly fill out an LCO form per Operations Department Section Procedure 02-S-01-17. Performance can be simulated in the simulator, plant or in a classroom setting provided candidate has access to 02-S-01-17 and a set of Tech. Specs.

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Required Material(s):

- 01 02-S-01-17, Control of Limiting Conditions for Operation
- 02 Technical Specifications

General Reference(s):

- 01 02-S-01-17, Control of Limiting Conditions for Operation
- 02 Technical Specifications

Safety Consideration(s):

- 01 None
-



**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: WRITE LCO FOR INOP CONTROL ROOM AIR CONDITIONING  
SYSTEM

JPM No. GG-1-JPM-SRO-ADM26 Rev. 00 Page 5 of 9

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1** ( ) Obtain a controlled copy of 02-S-01-17, "Control of Limiting Conditions for Operation"

**Standard:** Candidate obtains a controlled copy of 02-S-01-17.

**Comments:** This is an Information Use procedure and is NOT required to be obtained.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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**Item 2** (\*) Fills in the blanks on the LCO form.

**Standard:** Candidate fills in all applicable blanks on the LCO form. See the attached LCO form for correct answer. Blanks marked with \*\* are critical.

**Comments:** IF ASKED, CUE THE CANDIDATE PRESENT TIME IS WHEN IT WAS DECLARED INOP.

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

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GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET

Task Title: WRITE LCO FOR INOP CONTROL ROOM AIR CONDITIONING  
SYSTEM

JPM No. GG-1-JPM-SRO-ADM26 Rev. 00 Page 6 of 9

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**TERMINATING CUE(s):**

LCO form filled out properly for Tech. Spec. 3.7.4 action  
Condition A. required action 1.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: WRITE LCO FOR INOP CONTROL ROOM AIR CONDITIONING  
SYSTEM

JPM No. GG-1-JPM-SRO-ADM26 Rev. 00 Page 7 of 9

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY  
THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s): (The location for the initial conditions to be given is \_\_\_\_\_\*\_\_\_\_\_.)

The plant was operating at 100 % power. The Unit I Control Room Air Conditioner has been declared inoperable due to a freon leak on the air conditioner evaporator. Unit II Control Room Air Conditioner is in operation. No other plant equipment is inoperable.

The MAI number is xxxxxx1

Initiating Cue(s):

You are the Shift Supervisor. Take the necessary actions for this condition.





GRAND GULF  
NUCLEAR STATION

JOB PERFORMANCE  
MEASURE

Number: GG-1-JPM-SRO-ADM27  
Revision: 00  
Page: 1 of 8  
Rtype:  
QA Record  
Number of pages \_\_\_\_\_  
Date \_\_\_\_\_ Initials \_\_\_\_\_

TRAINING PROGRAM:

**OPERATOR TRAINING**

TITLE:

**REVIEW AND APPROVE COMPLETED SURVEILLANCE**

REASON FOR REVISION: NEW JPM.

THIS DOCUMENT REPLACES N/A.

REVIEW / APPROVAL:

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Facility Representative

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)

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: REVIEW AND APPROVE COMPLETED SURVEILLANCE

JPM No. GG-1-JPM-SRO-ADM27 Rev. 00 Page 2 of 8

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Task List No: SRO-M&S-014

K/A Reference and Importance Factors (RO/SRO):

K/A 2.2.12 - 3.4

Time Required for Completion: 30 Minutes (approximate).

Time Critical: YES/NO

Faulted JPM: YES/NO

---

APPLICABLE METHOD OF TESTING

Performance: Simulate \_\_\_\_\_ Actual X

Setting: Classroom \_\_\_\_\_ Plant \_\_\_\_\_ Simulator X

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EVALUATION

Date Performed: \_\_\_\_\_

Performer: \_\_\_\_\_ SSN: \_\_\_\_\_ License: RO/SRO

Score: PASS \_\_\_\_\_ FAIL \_\_\_\_\_ Time to complete: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: REVIEW AND APPROVE COMPLETED SURVEILLANCE

JPM No. GG-1-JPM-SRO-ADM27 Rev. 00 Page 3 of 8

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**DISCUSSION**

Performance of this JPM will demonstrate the review for approval a completed surveillance.

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Required Material(s):

01 06-OP-1E12-Q-0006, LPCI/RHR Subsystem B MOV Functional Test

General Reference(s):

01 06-OP-1E12-Q-0006, LPCI/RHR Subsystem B MOV Functional Test

02 01-S-06-12, GGNS Surveillance Program

Safety Consideration(s):

01 None

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**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: REVIEW AND APPROVE COMPLETED SURVEILLANCE

JPM No. GG-1-JPM-SRO-ADM27 Rev. 00 Page 5 of 8

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**NOTE:** **Critical items** denoted by (\*). Sequence is assumed unless denoted in the **Comments**.

---

**Item 1 (\*)** Review the completed Attachment II of 06-OP-1E12-Q-0006.

**Standard:** Candidate reviews the completed Surveillance data package noting the following information.

\_\_\_\_\_ Page 5 Item 5.2.3d(5) stroke time of 75.6 seconds is above the Limiting Value, Maximum acceptable, and TRM Limit.

\_\_\_\_\_ Page 7 Item 5.2.4b stroke time of 11.6 seconds is above the Limiting Value and Maximum acceptable.

\_\_\_\_\_ Page 12 Item 5.2.8d stroke time of 121.5 seconds is above the Limiting Value and Maximum acceptable.

\_\_\_\_\_ Page 22 Item 5.2.13e stroke time of 63.1 seconds is above the Limiting Value, Maximum acceptable, and TRM Limit.

The candidate should reviews the entire surveillance, any of the above will result in a failed surveillance and that various LCOs must be entered. These LCOs include applicable RHR System and Primary Containment Isolation Valves.

**Comments:** Candidate should indicate the failure of the surveillance with at least 3 of 4 items. If required, request the candidate to review all data on surveillance.

**Identification of all LCOs is NOT CRITICAL, recognition of RHR 'B' being INOP IS CRITICAL.**

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

---

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: REVIEW AND APPROVE COMPLETED SURVEILLANCE

JPM No. GG-1-JPM-SRO-ADM27 Rev. 00 Page 6 of 8

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**TERMINATING CUE(s):**

Surveillance 06-OP-1E12-Q-0006 has been reviewed and the candidate denotes the discrepancies and identifies that surveillance cannot be satisfactory and that RHR B and one or more Primary Containment Valves are INOP.

**STOP TIME:** \_\_\_\_\_

**OVERALL COMMENTS:**

**GRAND GULF NUCLEAR STATION  
JOB PERFORMANCE MEASURE WORKSHEET**

Task Title: REVIEW AND APPROVE COMPLETED SURVEILLANCE

JPM No. GG-1-JPM-SRO-ADM27 Rev. 00 Page 7 of 8

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**ADDITIONAL QUESTION ASKED AFTER THE PERFORMANCE OF THE JPM TO CLARIFY THE TRAINEE'S ACTION OR UNDERSTANDING OF TASK PERFORMED:**

Question \_\_\_\_\_ K/A \_\_\_\_\_ Rating \_\_\_\_\_

Expected Response Time \_\_\_\_\_

Reference(s) Required: Yes / No Reference(s):

**Question:**

**Trainee's Response / Comments:**

**Correct Response:**

THIS PAGE MAY BE GIVEN TO THE TRAINEE

Initial Condition(s):

The plant is operating at 100 % power. An operator has just completed the performance of surveillance LPCI/RHR Subsystem B MOV Functional Test 06-OP-1E12-Q-0006 Attachment II.

Initiating Cue(s):

You are the Shift Supervisor. Perform the review and approval of the surveillance.

Facility: **GRAND GULF NUCLEAR STATION** Scenario No.: **1** Op-Test No.: **Day 1**

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

1. Shift Recirculation Pump 'B' to fast speed.
2. *Raise Recirculation flow to 60 % core flow.*
3. Raise Reactor Power by withdrawing control rods, Perform operator actions for a stuck control rod per ONEP.
4. Analyze the impact of a failure of the reference leg of instruments connected to D004A and apply Technical Specifications.
5. Initiate a reactor scram based on rising Drywell Pressure.
6. Respond to a failure of Division 1 ECCS failure to initiate.
7. With a failure of Feedwater Line in the Turbine Building and reduced injection systems maintain reactor level per the EOPs.

**Initial Conditions:** Reactor Power is at 34 % bringing the plant up following an outage; Reactor Recirculation pump 'A' in fast speed and 'B' is in Slow Speed; a single Reactor Feed Pump in single element Master Level Control.

**INOPERABLE Equipment**

APRM 'F' is INOP due to a failed power supply card  
 ESF 12 Transformer is tagged out of service for maintenance  
 CCW Pump 'C' is tagged out of service for pump seal replacement  
 RHR 'C' Pump is tagged out of service for motor oil replacement  
 Appropriate clearances and LCOs are written.

**Turnover:** Continue to bring the plant to full power per IOI-2. There are scattered thunder showers reported in the Tensas Parish area.

Event No.	Malf. No.	Event Type*	Event Description
1		N (RO)	Shift Reactor Recirculation Pump 'B' to Fast Speed (SOI 04-1-01-B33-1)
2		R (RO)	<i>Raise Total Core Flow to &gt; 67.5 Mlbm/hr (IOI 03-1-01-2)</i>
3	z022022_32_09	C (RO, BOP)	Withdraw control rods to increase power. (Control Rod Pull Sheet) Control Rod 32-09 is stuck, un-stick control rod per ONEP. (ONEP 05-1-02-IV-1)

## Scenario 1 Day 1 (Continued)

Event No.	Malf. No.	Event Type*	Event Description
4	rr188a rr188e rr063a@ 0.5% (ramp to 3% after scram)	I (RO, BOP)	Respond to a failure of the reference leg of D004A level instrument. (Tech Specs)
5			Initiate manual reactor scram in response to rising Drywell pressure. (05-1-02-I-1)
6	rr040a @0	I (BOP)	Failure of Division 1 ECCS to automatically initiate on High Drywell Pressure
7	fw070a @100	M (ALL)	Feedwater Line rupture in the Turbine Building with leakage from the reactor
8	e22052  e51044 @25	C (BOP)  C (BOP)	HPCS pump trip on initiation  RCIC fails to achieve rated conditions for injection

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

**Critical Tasks**

- Recognize failure of Division 1 to initiate and manually initiate Division 1
- Lower reactor pressure to allow injection from low pressure systems

Scenario 1 Day 1 (Continued)

Crew Turnover:

Rx at 36% CTP.

The plant is raising power following an outage. Reactor Recirculation Pump 'A' is in fast speed and 'B' is operating in Slow Speed. The 'A' Reactor Feed Pump is operating in Single Element Master Level Control.

APRM 'F' is failed due to a failed power supply card and bypassed.

ESF 12 Transformer is tagged out of service for maintenance.

CCW Pump 'C' is tagged out of service for pump seal replacement.

RHR 'C' Pump is tagged out of service for motor oil replacement.

Appropriate clearances and LCOs are written.

Continue to bring the plant to full power per IOI-2 step 5.11.

Startup Pull Sheet Step 117.

Fraction of Core Boiling Boundary is < 1.0.

There are scattered thunderstorms reported in the Tensas Parish area.

Simulator Setup:

Start the process from a new simulator load.

Reset to IC-13.

Run BAT file setup1 and verify or perform the following:

IC: 13

OOS: ESF Transformer 12 (Place tags on 152-1903, 1904, 1905, 1511, 1611, and 1704)  
CCW C Pump (Place tag on start HS)  
RHR C Pump (Place tag on start HS)

Active malfunctions: **z022022\_32\_09** Control Rod 32-09 stuck  
**rr040a @ 0** Drywell Pressure Transmitter B21-N094A  
**e22052** HPCS Pump Trip on start  
**e51044 @ 25** RCIC Turbine Speed Control Failure

Active overrides None

Pending overrides None

Pending malfunctions:                    **rr188a** Upscale Failure D004A Narrow Range (TRG 1)  
   **rr188e** Upscale Failure D004A Wide Range (TRG 1)  
   **rr063a @ 0.5%** Recirc Loop A leak (TRG 1) ramp to 3%  
   after scram  
   **fw070a @ 100%** Feedwater Rupture Turb Bldg (TRG 2)  
   **c11028a** CRD A Pump Trip (TRG 3)  
   **c11028b** CRD B Pump Trip (TRG 4)

Pending component malfunctions:    None

Trigger files:                            Trigger 1        D004A Instrument Failure  
   Trigger 2        Feedwater Rupture in Turbine Building  
   Trigger 3        CRD A pump trip after LSS sequence  
                      (will not restart after shed)  
   Trigger 4        CRD B will NOT be able to be started after  
                      LSS actuation.

(Triggers 3 and 4 are to simulate a common mode failure of LSS Sequencing.)

Place RHR C OOSVC handswitch to OOSVC.

Bypass Division 2 APRM Bypass Joystick to APRM F position.

Open Circuit Breakers 152-1903, 1904, 1905, 1511, 1611, and 1704

Place CCW pump B to STOP (to clear Standby light) then to START, stop CCW pump C.

***Shift Reactor Recirculation Pump 'A' to Fast Speed and return transformer taps to 7.0 KV.***

Startup all PDS / SPDS screens. Clear any graphs and trends off of SPDS.

Setup the presently used cyclops display and verify it is functional.

Ensure the correct startup sequence is available at the P680 for the present IC.

Install turnover guide, red tag, and LCO paperwork as applicable.

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.

Crew will prepare to and shift Recirc Pump 'B' to Fast Speed.

Cues:

If asked, report as Auxiliary Building Operator – Recirc Pump Seal Purge flow is 1.8 gpm.

If asked, report as Reactor Engineer – Core Thermal power is indicating 34 % (~1303 MWth).

The Crew will raise Recirc Total Core Flow to ~ 67.5 Mlbm/hr using flow control valves.

After Recirc Pumps are in Fast Speed, the SS should request FCTR switches be placed in NORMAL.

**Remote Action page NEUTRON MONITOR C51309 to NORM  
C51310 to NORM**

The Crew should note Feedwater flow is not sufficient to transfer to Three Element Control.

If asked, as Reactor Engineer report sufficient margin to withdraw control rods starting at step 117 to achieve 6.6 Mlbm/hr Feed flow. Withdrawal is allowed in either gang or individual at SS and ACRO discretion.

**The Crew when Control Rod 32-09 is attempted to be withdrawn will note its inability to move. After the second time to raise CRD Drive Water Pressure remove malfunction z022022 32 09.**

Once CRD Drive Pressure is returned to normal **activate TRIGGER 1.**

On Scram, **activate TRIGGER 2.**

**When Manual Scram inserted, Raise leak rr063a to 3%.**

***After LSS actuation, trigger events on Triggers 3 & 4.***

If required to cause Reactor level to begin to lower rr063a may be raised to 5%.

EP Attachments which may be requested:

Attachment 12 Defeat RHR Shutdown Cooling interlocks.

Attachment 26 Align Fire Water makeup to the Reactor (no simulator modeling)

Attachment 25 Align Condensate Transfer makeup to the Reactor (no simulator modeling)

If asked, report as Electrical Supervisor – HPCS Pump Breaker has Motor overcurrent lockout further investigation required.

If asked, report as I & C Supervisor – RCIC speed controller has failed.

*If CRD Pump Breakers are checked indicate there are no apparent reasons for the CRD Pumps*

Crew may request Circ Water Pump A cooling be transferred to pump discharge. Remote Function page Circulating Water N71195 to pump discharge.

### **TERMINATION**

Once Reactor Water Level is being restored using LPCS or LPCI and the Lead Evaluator concurs the scenario may be terminated.

### **Critical Tasks**

- Recognize failure of Division 1 to initiate and manually initiate Division 1.
- Lower reactor pressure to allow injection from low pressure systems.

Op-Test No.: _____ Scenario No.: <u>  1  </u> Event No.: <u>  1  </u>		
Event Description: <b>Shift Recirc Pump B to Fast Speed. Then raise total Recirc flow to 67.5 Mlbm/hr. (04-1-01-B33-1)</b>		
Time	Position	Applicant's Actions or Behavior
	SS	Provides Reactivity brief to crew.
	RO	Verifies position on Power to Flow Map (Operating in Region III).
	RO	Closes Flow Control Valve in manual to ~ 6% valve position (Min valve position) for the Recirc Pump 'B'.
	BOP	Raise Taps on Transformers to raise voltage on 12HE bus to 7.2 KV.
	RO	Start the Recirc 'B' Pump in Fast Speed.
	RO	Closes Flow Control Valve in manual to ~ 6% valve position (Min valve position) for the second Recirc Pump.
	RO	Start the second Recirc Pump in Fast Speed.
	BOP	Lower Taps on Transformer 11B to lower voltage on 12HE bus to 7.0 KV.
	BOP	Monitor Power, Level, Pressure, and Turbine Loading during the evolution.

Op-Test No.: _____ Scenario No.: <u>  1  </u> Event No.: <u>  2  </u>		
Event Description: <b>Raise Total Core Flow to 67.5 Mlbm/hr using Recirc Flow Control. (This will raise Reactor Power from ~ 37% to ~43% power and Total Core Flow from ~ 52 to ~ 67.5 Mlbm/hr.)</b>		
Time	Position	Applicant's Actions or Behavior
	RO	Raise both Recirc Flow Control Valves positions to achieve 67.5 Mlbm/hr Total Recirc Flow. (The RO may elect to use both hands to adjust core flow by raising both Recirc Flow Control Valves at the same time to maintain the loops balanced. This is acceptable.)
	BOP	Monitors Pressure, Level, Power, and Turbine Loading.
	RO & BOP	Monitor operation on the Power to Flow Map.

Op-Test No.: _____ Scenario No.: <u>  1  </u> Event No.: <u>  3  </u>		
Event Description: <b>Withdraw control rods to increase power. (Control Rod Pull Sheet)</b> <b>Control Rod 32-09 is stuck, un-stick control rod per ONEP. (ONEP 05-1-02-IV-1)</b>		
Time	Position	Applicant's Actions or Behavior
	SS	Provides Reactivity brief to crew.
	RO	Verifies control rods and positions per Pull Sheet and selects control rods per next gang of control rods. ( May select Individual or Gang movement and may select any Control Rod in the Gang.)
	BOP	Act as Verifier for Control Rod movements.
	RO	Moves Control Rods from Position 04 to position 08. Once Control Rod 32-09 is attempted to be moved will recognize control rod is immovable.
	SS	Obtains CRD Malfunctions ONEP 05-1-02-IV-1 and verifies action per section 3.5, orders CRD Drive pressure raised ~25 psid.
	BOP	Raises CRD Drive pressure ~ 25 psid using C11-F003 Pressure Control Valve on H13-P601.
	RO	Attempts to move the Control Rod and reports no movement.
	BOP	Raises CRD Drive pressure ~25 psid using C11-F003 Pressure Control Valve on H13-P601.
	RO	Attempts to move the Control Rod and reports movement and positions Control Rod 32-09 at position 08.

Op-Test No.: _____ Scenario No.: <u>  1  </u> Event No.: <u>  4  </u>		
Event Description: <b>Respond to a failure of the reference leg of D004A Reactor Level Instrument.</b>		
Time	Position	Applicant's Actions or Behavior
	RO	Announces and acknowledges alarms on H13-P680. <ul style="list-style-type: none"> <li>- RPS scram (1/2 scram signal on RPS A)</li> <li>- Main Turb/RFPT Level 8 trip (1 of 3; 2 of 3 required for trip)</li> <li>- Level 8 Scram signal</li> </ul>
	RO	Observes Level Instruments and determines common indication of D004A failure on reference leg side.
	BOP	Observes Level Instruments on H13-P601 off the same condensing pot and determines upscale indication for confirmation.
	RO	Confirms with ARI actions correct and the Main Turbine and Reactor Feed Pumps should NOT have tripped and there should only be a ½ scram signal.
	SS	Verifies Technical Specifications. See attached Attachment from 04-1-01-B21-1 for LCOs associated with D004A. (Based on Drywell Conditions the SS may require a followup question to cover this action.)
	CREW	Determines Drywell Pressure is rising and failure is most likely from an instrument line break. (May be a followup question.)

Op-Test No.: _____ Scenario No.: <u>  1  </u> Event No.: <u>  5  </u>		
Event Description: <b>Manual scram the reactor based on rising Drywell Pressure.</b>		
Time	Position	Applicant's Actions or Behavior
	SS	Based on rising Drywell Pressure due to the Instrument Line break, orders manual scram of the Reactor
	RO	Places the Reactor Mode Switch to Shutdown or arms and depresses at least one Manual Scram Pushbutton per RPS Division (A & B).
	RO	Verifies All Control Rods have fully inserted to position 00 and reports to the SS "All Rods Inserted".
	RO	If the Manual Scram Pushbuttons utilized confirms stable reactor pressure and places the Reactor Mode Switch in Shutdown.

Op-Test No.: _____ Scenario No.: <u>  1  </u> Event No.: <u>  6  </u>		
Event Description: <b>Respond to a failure of Division 1 ECCS to automatically initiate on High Drywell Pressure.</b>		
Time	Position	Applicant's Actions or Behavior
	BOP **	Observes Initiation of ECCS on High Drywell Pressure and observes Division 1 ECCS failed to initiate automatically. Reports failure of Division 1 to the SS.
	BOP **	Manually initiates Division 1 ECCS using the Division 1 (LPCS/LPCI A Manual Initiation Pushbutton).
	BOP	Reports operation of Division 1 ECCS to the SS.
	SS	Enters Emergency Procedure 3 Containment Control.

Op-Test No.: _____ Scenario No.: <u>1</u> Event No.: <u>7</u>		
Event Description: <b>Feedwater Line Rupture in the Turbine Building with leakage from the Reactor.</b>		
Time	Position	Applicant's Actions or Behavior
	RO	Announces loss of the ability to feed the Reactor and observes the following: <ul style="list-style-type: none"> <li>- Lowering Reactor Water Level</li> <li>- Turbine Building Sump Level alarms</li> <li>- Reactor Feed Pump Suction flow without Feed flow to Reactor</li> </ul>
	SS	Enters Emergency Procedure 2.
	SS	Determines systems for injection into the Reactor and prioritizes system use for injection into the reactor Reactor Core Isolation Cooling (RCIC) High Pressure Core Spray (HPCS)
	BOP	Initiates RCIC either using the Manual Initiation Pushbutton or manual realignment. Determines RCIC will NOT develop enough pressure to inject into the Reactor and reports failure to SS.
	RO	Secures the Condensate and Feedwater System after determination of unisolable rupture.
	BOP	Observes HPCS has tripped on initiation and reports failure to SS.
	SS	Orders injection from Control Rod Drive (CRD) system with maximized flow.
	BOP	Attempts to start CRD pumps A and B following LSS actuation and observes trip on both then reports failure to the SS.

Op-Test No.: _____ Scenario No.: <u>  1  </u> Event No.: <u>  8  </u>		
Event Description: <b>Respond to degraded high pressure injection systems and lowering Reactor level.</b>		
Time	Position	Applicant's Actions or Behavior
	SS	Determine available high pressure injection systems and orders injection from Standby Liquid Control (SLC) from either the boron or test tank.
	SS **	Determines Reactor level continuing to lower with SLC injection and orders reduction of Reactor pressure using either Main Steam Bypass Valves or Safety Relief Valves. Pressure reduction should be sufficient to allow injection with Low Pressure Core Spray (LPCS) or Low Pressure Coolant Injection (LPCI A or B). (LPCI may be through E12-F042 or E12-F053 with Attachment 12.)
	RO **	Lowers Reactor pressure using the Main Steam Bypass Valves on the jack or lowering pressure set to the pressure band specified by the SS. (This action may be N/A if Safety Relief Valves are used.)
	BOP **	If ordered lowers RPV pressure using Safety Relief Valves to the band specified by the SS. (This action may be N/A if Main Steam Bypass Valves are used.)
	SS	Orders alignment of Systems for injection to the Reactor: LPCS LPCI A or B (may order alignment of Fire Water (Att 26) and Condensate Transfer (Att 25))
	BOP	Aligns systems for injection to the vessel and when Reactor pressure allows injection informs the SS of injection and Reactor level recovery.

Facility: **GRAND GULF NUCLEAR STATION** Scenario No.: **3** Op-Test No.: **Day 2**

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

2. Place Standby Service Water 'B' in operation *for retest following repairs.*
1. Lower Reactor Power using Reactor Recirculation Flow Control.
4. Respond to a trip of the Standby Service Water Pump 'B' and apply Technical Specifications.
3. Respond to a failure of the *Main Generator Hydrogen Temperature Controller.*
5. Respond to a steam leak in the Auxiliary Building Steam Tunnel which will not completely isolate.
6. Respond to ATWS (no challenge to Containment).
7. Respond to plant parameters per EOP-4 Secondary Containment Control.

**Initial Conditions:** Reactor Power is at 100 %

**INOPERABLE Equipment**

APRM 'F' is INOP due to a failed power supply card

ESF 12 Transformer is tagged out of service for maintenance

CCW Pump 'C' is tagged out of service for pump seal replacement

RHR 'C' Pump is tagged out of service for motor oil replacement

Appropriate clearances and LCOs are written.

**Turnover:** Start Standby Service Water 'B' for a retest of ESF Room Cooler T46-B001B-B following cleaning. There are scattered thunder showers reported in the Tensas Parish area.

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP)	Place Standby Service Water Pump 'B' in operation <i>for retest following repairs.</i> (SOI 04-1-01-P41-1)
2		R (RO)	Lower Reactor power using Recirculation Flow Control <i>by 150 MWe</i>
3	p41148b	C (BOP)	Respond to a trip of Standby Service Water Pump 'B' and apply Technical Specifications.
4	N41107 @0%	I (RO)	Respond to a failure of <i>the Main Generator Hydrogen Temperature Regulator.</i>

## Scenario 3 Day 2 (Continued)

Event No.	Malf. No.	Event Type*	Event Description
5	epatt09 ms183b ms184b ms066b @0.2%	M (ALL)	Respond to steam leak in the Auxiliary Building Steam tunnel (unisolable – failure of MSIVs to completely isolate).
	ms067b @20%		Initiate manual reactor scram due to Steam Leak in the Auxiliary Building. (05-1-02-I-1)
	z022022 _08_29 _12_09 _20_61	C (RO)	ATWS (three control rods stuck full out)

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

**Critical Tasks**

- Manually scram the reactor
- Isolate the main steam lines

Scenario 3 Day 2 (Continued)

Crew Turnover:

Rx at 100% CTP.

ESF Room Cooler T46-B001B-B has been cleaned and engineering requires operation of Standby Service Water 'B' to check flow balancing. Pre-start checks are complete.

APRM 'F' is failed due to a failed power supply card and bypassed.

ESF 12 Transformer is tagged out of service for maintenance.

CCW Pump 'C' is tagged out of service for pump seal replacement.

RHR 'C' Pump is tagged out of service for motor oil replacement.

Appropriate clearances and LCOs are written.

There are scattered thunderstorms reported in the Tensas Parish area.

Simulator Setup:

Start the process from a new simulator load.

Reset to IC-15.

Run BAT file setup1 and verify or perform the following:

IC:	15
OOS:	ESF Transformer 12 (Place tags on 152-1903, 1904, 1905, 1511, 1611, and 1704) CCW C Pump (Place tag on start HS) RHR C Pump (Place tag on start HS)
Active malfunctions:	<b>z022022_08_29</b> Control Rod 08-29 stuck <b>z022022_12_09</b> Control Rod 12-09 stuck <b>z022022_20_61</b> Control Rod 29-61 stuck <b>ms183b as-is</b> MSIV B21-F022B failed OPEN <b>ms184b as-is</b> MSIV B21-F028B failed OPEN
Active overrides	<b>epatt09</b> EP Attachment 9 Defeat MSIV and drains isolations
Pending overrides	None

Pending malfunctions:

**p41148b** SSW Pump B trip (TRG 1)  
**n41107@ 0%** Main Generator Hydrogen Temperature Controller Failure Ramp over 2 minutes (control valve closed) (TRG 2)  
**ms066b@0.2%** Main Steam Line B in Aux Bldg Tunnel (TRG 3) ramp to 20% over 6 minutes  
**ms067b@20%** Main Steam Line B rupture ramp to 40% over 7 minutes (TRG 4)

Pending component malfunctions:

Trigger files:

**TRIGGER 1** SSW 'B' Pump Trip  
**TRIGGER 2** Gen Hydrogen Temperature Controller Fail  
**TRIGGER 3** Main Steam Line 'B' Leak  
**TRIGGER 4** Main Steam Line 'B' Rupture in Stm Tunnel

Place RHR C OOSVC handswitch to OOSVC.

Bypass Division 2 APRM Bypass Joystick to APRM F position.

Open Circuit Breakers 152-1903, 1904, 1905, 1511, 1611, and 1704

Place CCW pump B to STOP (to clear Standby light) then to START, stop CCW pump C.

Startup all PDS / SPDS screens. Clear any graphs and trends off of SPDS.

Setup the presently used cyclops display and verify it is functional.

Ensure the correct shutdown sequence is available at the P680 for the present IC.

Install turnover guide, red tag, and LCO paperwork as applicable.

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

### **SIMULATOR OPERATION Scenario 3**

Once simulator is reinitialized and setup complete take the simulator out of Freeze.

Once the Crew has taken control note the simulator time.

BOP operator will startup Standby Service Water 'B'.

After SSW 'B' is operating, Contact the SS as the System Dispatcher request the unit be reduced in power by 150 MWe to allow a fossil plant to be brought up in power for a test following repairs.

As soon as power is reduced, **activate TRIGGER 1.**  
SSW Failure

If dispatched place Division 2 Diesel Generator in Maintenance, Remote Function Action P75 ESF PWR Dist. Div I & II, **P75058\_MAINT.**

If dispatched to 16AB, report the SSW 'B' Pump Breaker on 16AB has an Overcurrent Trip.

If dispatched to the SSW pump, report a strange odor around the SSW Pump.

If dispatched, rackout the breaker for Drywell Purge Compressor 'B'.

Eight (8) Minutes after SSW 'B' failure, **activate TRIGGER 2.**  
Generator Hydrogen Temperature Controller Failure

If dispatched, report Temperature Control Valve is indicating closed locally.

If asked to open the Bypass Valve P43-F042, report the valve is open partially.

Five (5) Minutes after the Hydrogen Temperature Controller alarms are received, **activate TRIGGER 3.**

When Crew initiates Manual scram, **activate TRIGGER 4.**

Two (2) Minutes after Reactor Scram, report as Security white smoke or steam is coming out of the top of the Auxiliary Building.

If contacted, report as Health Physics there are NO abnormal radiation surveys of the Auxiliary Building.

If contacted, report as Chemistry there are NO verified leaking fuel bundles in the reactor.

## **TERMINATION**

Once reactor pressure has lowered to < 600 psig and a system is aligned for RPV level control and the Lead Evaluator concurs the scenario may be terminated.

### **Critical Tasks**

- Manually scram the reactor
- Isolate the main steam lines

Op-Test No.: \_\_\_\_\_ Scenario No.: **3** Event No.: **1**

Event Description: **Place Standby Service Water 'B' in operation for retest following repairs. (SOI 04-1-01-P41-1)**

Time	Position	Applicant's Actions or Behavior
	BOP	Place SSW 'B' MOV Test Switch in TEST.
	BOP	Start SSW 'B' Cooling Tower Fans (Optional per SS.)
	BOP	Start SSW 'B' Pump.
	BOP	Align SSW 'B' system per SOI.
	BOP	Place SSW 'B' MOV Test Switch in NORM.

Op-Test No.: \_\_\_\_\_ Scenario No.: **3** Event No.: **2**Event Description: **Lower Reactor Power using Recirculation Flow Control by 150 MWe.**

Time	Position	Applicant's Actions or Behavior
	SS	Conducts Reactivity Briefing.
	RO	Using Recirc Flow Control, slowly closes the Recirc Flow Control Valves monitoring Reactor Power, Recirc Flow, and Reactor Level.
	BOP	Monitors Pressure, Reactor Power, and Turbine Loading.

Op-Test No.: _____ Scenario No.: <b>3</b> Event No.: <b>3</b>		
Event Description: <b>Respond to a trip of Standby Service Water Pump 'B' and apply Technical Specifications.</b>		
Time	Position	Applicant's Actions or Behavior
	BOP	Determines the SSW 'B' Pump has tripped and reviews Alarm Response Instruction (H13-P870-7A-A1).
	BOP or SS	Dispatches building operator to investigate SSW 'B' locally and the circuit breaker on 16AB.
	BOP or SS	Dispatches building operator to place Division 2 Diesel Generator in Maintenance.
	BOP	Coordinates with building operator to place Div 2 Diesel in Maintenance.
	SS	Reviews Technical Specifications and identifies LCO 3.7.1 and TR 3.7.1
	BOP or SS	Dispatches building operator to rack out Drywell Purge Compressor 'B' 52-16204.

Op-Test No.: _____ Scenario No.: <b>3</b> Event No.: <b>4</b>		
Event Description: <b>Respond to a failure of the Main Generator Hydrogen Temperature Regulator (Valve fails closed – Hydrogen Temperature rises)</b>		
Time	Position	Applicant's Actions or Behavior
	RO	Determines the Main Generator Hydrogen Temperature Regulator has failed and reviews Alarm Resonse Instruction (H13-P680-7A-A1).
	RO	Attempts to place Controller in manual and open valve. Determines no response from the valve.
	RO or SS	Dispatches building operator to determine the status of the Temperature Control Valve.
	SS	Order Reactor Power reduction to reduce Generator Load.
	RO	Reduces Reactor Power using Recirc Flow Control. May adjust Generator Load Demand.
	SS	May order Reactive Load reduction on the Main Generator.
	RO	If ordered, reduce the Reactive Load on the Main Generator by adjusting field excitation with the Voltage Regulator.

Op-Test No.: _____ Scenario No.: <b>3</b> Event No.: <b>5</b>		
Event Description: <b>Respond to a Main Steam Line 'B' failure in the Auxiliary Building Steam Tunnel.</b>		
Time	Position	Applicant's Actions or Behavior
	BOP	Responds to Main Steam Tunnel Differential Temperature High alarm and checks back panel indication on Riley Temperature indicators and reviews Alarm Response Instruction (H13-P601-19A-F3 and E3 when received).
	RO	Checks Steam Tunnel Temperature indications on PDS Computer.
	SS **	Orders manual scram of the reactor on Steam Leak.
	RO **	Places the Reactor Mode Switch to Shutdown or arms and depresses at least one Manual Scram Pushbutton per RPS
	RO	Verifies All Control Rods have fully inserted to position 00 and reports to the SS "All Rods Inserted". Identifies three (3) Control Rods have NOT fully inserted.
	RO	If the Manual Scram Pushbuttons utilized confirms stable reactor pressure and places the Reactor Mode Switch in Shutdown.
	BOP **	Upon receipt of MSL Pipe Tunnel Temperature High alarms, recognizes MSIV failure to isolate and manually isolates Group 1 valves, and informs SS. (Recognizes failure of MSL 'B' to isolate via manual isolation.)
	SS	Enters EP-2A and EP-4.

	SS	Dispatches BOP operator to check for other Secondary Containment Alarms on temperature, sump levels and radiation.
	BOP	Reports Main Steam Tunnel Temperature Alarms are the only EP-4 entry conditions. (may report temperature above 250 °F)
	SS	If BOP operator has NOT already performed action on his own, should order B21-F098A, B, C, D closed.
	BOP	Closes B21-F098A, B, C, D motor operated Main Steam Isolation Valves.
	SS	May elect to lower reactor pressure by opening SRVs.
	BOP	If ordered, open SRVs to lower Reactor Pressure.
	BOP	If ordered, starts High Pressure Core Spray, recognizes failure of HPCS pump breaker.
	BOP	If ordered, starts Reactor Core Isolation Cooling, recognizes failure of Flow Transmitter.
	BOP or RO	If ordered, maximizes Control Rod Drive Flow.
	RO	Aligns Condensate System for feeding the Reactor on Startup Level Control.
	SS	May elect to inject Standby Liquid Control. (This is acceptable based on withdrawn control rods and reduced high pressure injection.)
	SS	Orders Attachments 18, 19, and 20 installed to insert remaining three control rods. (may elect to wait and send personnel to attempt local scrams of rods per Attachment 22.)
	BOP & RO	Monitor and control Reactor Pressure and Temperature as directed.

Facility: **GRAND GULF NUCLEAR STATION** Scenario No.: **5** Op-Test No.: **DAY 2**

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

1. Reduce power with Recirc flow
2. Respond to a Feedwater flow element failure that causes a feed pump trip.
3. Implement the AOP (ONEP) for a Feed Pump trip that places the plant in the increased operator awareness region (Region 4).
4. Reduce power by inserting control rods.
5. Respond to overcurrent trip of a load center that causes entry into several LCO's
6. Execute the EOPs to respond to a feedwater line break in the Turbine Building with failure to scram that requires emergency depressurization on low reactor water level.

**Initial Conditions:** Rx at 100% CTP, earthquake just occurred.

**INOPERABLE Equipment**

APRM 'F' is INOP due to a failed power supply card  
 ESF 12 Transformer is tagged out of service for maintenance  
 CCW Pump 'C' is tagged out of service for pump seal replacement  
 RHR 'C' Pump is tagged out of service for motor oil replacement  
 RCIC tagged due to steam leak on turbine casing  
 Appropriate clearances and LCOs are written.

**Turnover:** Commence controlled plant shutdown (no apparent earthquake damage). There are scattered thunder showers reported in the Tensas Parish area.

Event No.	Malf. No.	Event Type*	Event Description
1		N (RO)	Discernible power reduction with recirc flow.
2	FTN21N 088B_B p680_4 a1_b_1	I (RO)	Respond to RFPT trip due to flow instrument failure (minimum flow element for 'B' RFP)

## Scenario 5 DAY 2 (Continued)

Event No.	Malf. No.	Event Type*	Event Description
3		R (RO)	Power reduction of >5% using control rods
4	R21142S	C (BOP)	ESF Load Center 15BA2 Trip
5	FW070A	M (ALL)	Feedwater line break in turbine building
6	C11164 @ 30%	M (ALL)	ATWS

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

**Critical Tasks**

- Insert control rods by scrambling and/or driving.
- Inject SLC when suppression pool temperature cannot be maintained below 110°F.
- Terminate and prevent injection from Condensate / Feedwater, RHR A, RHR B, RHR C, and LPCS when RPV level cannot be maintained above -192”.
- Open at least five SRVs when when RPV level cannot be maintained above -192”.
- When reactor pressure drops to MARFP, restore injection from RHR A through E12-F053A, or RHR B through E12-F053B, and restore RPV level above -192”.

Scenario **5 DAY 2** (Continued)

Crew Turnover:

Rx at 100% CTP.

An earthquake occurred on the New Madrid Fault. No plant monitors indicated any problems. The duty manager has decided to perform a normal plant shutdown for inspections.

APRM 'F' is failed due to a failed power supply card and bypassed.

ESF 12 Transformer is tagged out of service for maintenance.

CCW Pump 'C' is tagged out of service for pump seal replacement.

RHR 'C' Pump is tagged out of service for motor oil replacement.

Appropriate clearances and LCOs are written.

There are scattered thunderstorms reported in the Tensas Parish area.

Simulator Setup:

Start the process from a new simulator load.

Reset to IC-15.

Run BAT file setup1 and verify or perform the following:

IC:	15
OOS:	ESF Transformer 12 (Place tags on 152-1903, 1904, 1905, 1511, 1611, and 1704) CCW C Pump (Place tag on start HS) RHR C Pump (Place tag on start HS)
Active malfunctions:	<b>c11164 @ 30%</b> SDV Hydraulic Block
Active overrides	None
Pending overrides	<b>p680_4a1_b_1</b> H22 P171 INFI 90 Trouble (TRG 1)
Pending malfunctions:	<b>ftn21n088b_b</b> Minimum Flow Element failure RFP B (TRG 1) <b>r21142s</b> ESF LCC 15BA2 trip (TRG 2) <b>fw070a @ 100%</b> Feedwater Line A rupture in Turbine Building (TRG 3)
Pending component malfunctions:	None
Trigger files:	<b>TRIGGER 1</b> Feedwater Minimum Flow Element failure <b>TRIGGER 2</b> Loss of LCC 15BA2 <b>TRIGGER 3</b> Feedwater Rupture in Turbine Building.

Place RHR C OOSVC handswitch to OOSVC.

Bypass Division 2 APRM Bypass Joystick to APRM F position.

Open Circuit Breakers 152-1903, 1904, 1905, 1511, 1611, and 1704

Place CCW pump B to STOP (to clear Standby light) then to START, stop CCW pump C.

Startup all PDS / SPDS screens. Clear any graphs and trends off of SPDS.

Setup the presently used cyclops display and verify it is functional.

Ensure the correct startup sequence is available at the P680 for the present IC.

Install turnover guide, red tag, and LCO paperwork as applicable.

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

## **SIMULATOR OPERATION Scenario 5**

Once simulator is reinitialized and setup complete take the simulator out of Freeze.

Once the Crew has taken control note the simulator time.

Crew will review procedures for power reduction.

Shift Supervisor will notify the following of the plant shutdown:

Chemistry

System Dispatcher

Health Physics

Radwaste

Shift Technical Advisor/Reactor Engineering

Respond that you understand the plant is shutting down.

If asked, respond as Reactor Engineer to begin at step 1 of the Shutdown Sequence Pull Sheet when core flow is 67.5 Mlbm/hr.

When dispatched to open N35-F015A & B on the Turbine Deck, respond as Turbine Building Operator N35-F015A & B are open. (There are no console actions for this.)

Crew will begin power reduction. When Lead Evaluator or reactor power is < 97 % power (whichever comes first), **activate TRIGGER 1.**

If dispatched to H22-P171, report Turbine Building Operator the Minimum Flow Controller for RFPT 'B' is in automatic and the N21-F503B is indicating full open.

The RFPT 'B' will trip resulting in a Recirc Flow Control Valve Runback, Power to Flow should still be in a region to allow continued operation. The Crew should reset the Runback and adjust core flow to allow continued plant shutdown.

If asked, respond as Reactor Engineer to insert control rods to move reactor power out of any undesired regions. Stress to the crew control rods need to be inserted prior to any Condensate or Feedwater evolutions.

After first two gangs of Control Rods are fully inserted and power has dropped by 5 % or Lead Evaluator cue, **activate TRIGGER 2.**

Loss of LCC 15BA2 – See attached Load List from 04-1-01-R21-15 for 15BA2, 15B21 and 15P21.

If dispatched, report as Auxiliary Building Operator the feeder breaker for LCC 15BA2 has an overcurrent trip and will NOT reset.

If dispatched, report as Electrical Supervisor that a spare breaker should be racked out and tested and the trip setpoints adjusted to replace the LCC Feeder Breaker.

Ten (10) Minutes after loss of LCC 15BA2 or on Lead Evaluator cue, **activate TRIGGER 3**

Condensate and Feedwater are lost.  
Standby Liquid Control Pump 'A' is lost.

After the ATWS is detected, perform the following attachments when requested.

Attachment 18	3 minutes to DONE
Attachment 19	4 minutes to DONE
Attachment 20	5 minutes to DONE
Attachment 12	6 minutes to DONE
Attachment 8	9 minutes to DONE

### **Termination**

Once Control Rods are being inserted and the Lead Evaluator concurs the scenario may be terminated.

### **Critical Tasks**

- Insert control rods by scrambling and/or driving.
- Inject SLC when suppression pool temperature cannot be maintained below 110°F.
- Terminate and prevent injection from Condensate / Feedwater, RHR A, RHR B, RHR C, and LPCS when RPV level cannot be maintained above -192".
- Open at least five SRVs when when RPV level cannot be maintained above -192".
- When reactor pressure drops to MARFP, restore injection from RHR A through E12-F053A, or RHR B through E12-F053B, and restore RPV level above -192".

Op-Test No.: _____ Scenario No.: <b>5</b> Event No.: <b>1</b>		
Event Description: <b>Reduce Reactor power using Recirculation Flow Control</b>		
Time	Position	Applicant's Actions or Behavior
	SS	Conduct reactivity manipulation brief.
	RO	Reduces Total Core Flow by throttling closed on the Recirc Flow Control Valves.
	BOP	Monitors Pressure, Level, Power, and Turbine Loading.

Op-Test No.: _____ Scenario No.: <b>5</b> Event No.: <b>2</b>		
Event Description: <b>Respond to the Reactor Feed Pump Turbine 'B' Minimum Flow Valve Failure and trip.</b>		
Time	Position	Applicant's Actions or Behavior
	RO	Recognizes opening of RFPT Min Flow Valve and subsequent trip of RFPT 'B'; observes the Recirc Flow Control Valve Runback due to the loss of RFPT and Low Reactor Water Level and Recirc Pumps in Fast Speed.
	RO	Plots Total Core Flow and Reactor Power on the Power to Flow Map to determine core stability.
	BOP	Monitors Pressure, Level, Power, and the core for Thermal Hydraulic Instability.
	SS	Verifies actions per "Decrease in Recirculation System Flow Rate ONEP 05-1-02-III-3.
	SS	Consults with Reactor Engineer on actions to be taken raise Core Flow or insert Control Rods to attain a more stable configuration.
	RO	If directed, resets Recirc Flow Control Valve Runback.

Op-Test No.: _____ Scenario No.: <b>5</b> Event No.: <b>3</b>		
Event Description: <b>Reduce Reactor power using by inserting Control Rods (Control Rod Shutdown Sequence Pull Sheet)</b>		
Time	Position	Applicant's Actions or Behavior
	SS	Conduct reactivity manipulation brief. (optional)
	RO	Inserts control rods in individual or gang per control rod pull sheet to lower reactor power.
	BOP	Assists RO in Control Rod selection verification, monitors Pressure, Level, Power, and Turbine Loading.

Op-Test No.: _____ Scenario No.: <b>5</b> Event No.: <b>4</b>		
Event Description: <b>Respond to loss of Load Control Center 15BA2</b>		
Time	Position	Applicant's Actions or Behavior
	BOP	Determines and reports that LCC 15BA2 has tripped.
	SS	Dispatches an operator and electricians to investigate loss of 15BA2.
	SS	Obtains SOI 04-1-01-R21-15 for load list for LCC 15BA2 and directs operators to review panels to determine equipment lost.
	BOP	Obtains Alarm Response Instruction for LCC 15BA2.
	SS	Reviews Technical Specifications for Equipment lost. (multiple Tech Specs See attached load list)

Op-Test No.: _____ Scenario No.: <b>5</b> Event No.: <b>5</b>		
Event Description: <b>Feedwater Break in the Turbine Building</b>		
Time	Position	Applicant's Actions or Behavior
	RO	Responds to annunciators and Reactor Scram and loss of Reactor Level.
	RO	Reports rupture of Feedwater in the Turbine Building and is unisolable.
	RO	Trips running Condensate, Condensate Booster, Reactor Feed and Heater Drain Pumps.

Op-Test No.: _____ Scenario No.: <b>5</b> Event No.: <b>6</b>		
Event Description: <b>ATWS</b>		
Time	Position	Applicant's Actions or Behavior
	RO	Reports ALL Control Rods NOT fully inserted.
	RO	Places Reactor Mode Switch in SHUTDOWN.
	SS	Enters EP-2A and EP-3.
	RO	Reports downshift of Recirc Pumps to Slow Speed.
	RO	On orders initiates ARI/RPT.
	BOP	On orders inhibits ADS.
	BOP	On orders initiates and overrides HPCS.
	BOP	Initiates RCIC for level control if it has not initiated automatically.
	SS	Orders CRD Flow Maximized.
	BOP or RO	Maximizes CRD Flow to the Reactor.

	RO	When ordered by SS, attempts to set Pressure Control to close any cycling SRVs.
	BOP	When ordered by SS, maintains pressure band using SRVs.
	SS **	Orders injection of Standby Liquid Control prior to 110 °F Suppression Pool Temperature.
	BOP **	When ordered by SS, initiates Standby Liquid Control and identifies the failure of SLC to inject.
	BOP **	When ordered by SS, restores Auxiliary Building, Containment, and Drywell isolation (Instrument Air, Plant Service Water, Drywell Chilled Water)
	SS **	Orders installation of Attachments 12, 18, 19, and 20 of EP-2.
	SS **	Based on conditions, orders Terminate and Prevent step to lower RPV Level to reduce power/ preparation for Emergency Depressurization.
	BOP/RO **	Terminates and prevents systems ordered by SS.
	SS **	Orders Emergency Depressurization by opening 8 ADS Valves.
	BOP or RO **	Opens 8 ADS SRVs using handswitches (may manually initiate ADS with pushbuttons and follow with handswitches, this is acceptable.)
	RO **	On orders of SS, initiates flow to the RPV from RHR 'A' and /or 'B' through Shutdown Cooling if possible.
	BOP/RO **	Insert Control Rods by scrambling rods and inserting rods using CRD/RCIS. CRD Drive Pressure, Instrument Air to Containment and Auxiliary Building, RPS reset