Job Performance Measure
Worksheet

Facility: Pilgrim

Task No: 245-01-01-007

Task Title: Connect the Turbine Generator to the Grid

JPM No: 1

K/A Reference: 245000 K4.06 2.7/2.8

Position: RO/SRO

Examinee:

NRC Examiner:

Date:

Method of testing:

Simulated Performance

Actual Performance ✓

Classroom

Simulator ✓ Plant

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Plant conditions are as follows:

- Plant startup is in progress.
- Turbine speed is 1800 rpm and being controlled by the speed load changer.
- Currently on step 134 of PNPS 2.1.1.
- A Turbine Generator hot startup is being performed.

Task Standard: The Turbine Generator is synced to the grid by correctly performing the steps of the procedure. The procedure shall be followed without failure of any critical tasks. Critical steps must be performed in order. Other steps may be performed out of sequence. The operator recognizes the alarms/indications associated with the generator malfunction and takes action to trip the Turbine Generator.

Required Materials: Marked up copy of procedure PNPS 2.1.1, Startup From Shutdown.

General References: PNPS 2.1.1, Rev. 112
PNPS 2.4.158, Rev. 4

Initiating Cue: "[Operator's name], sync the Turbine Generator on the grid per PNPS 2.1.1. Inform me when the task is complete."

Time Critical Task: NO

Validation Time: 15 minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Operator reviews the note contained within step 134 to ensure the voltage regulator is full lower position prior to applying field.

Note
Ensure voltage regulator is adjusted to full lower position prior to applying field. If the lower stop amber light does not illuminate, have Production Maintenance verify locally the regulator is adjusted to the full lower position.

Standard: Manual Voltage Adjuster position verified (Lower stop amber light is on).

Comment:

✓ **Performance Step 2:** Apply Exciter field by closing the Exciter Field Breaker.

Standard: Exciter field applied by pushing in the control switch and taking it to the CLOSE position, Exciter field breaker (Red light on, Green light off).

Comment:

✓ **Performance Step 3:** Apply Generator field by closing the Main Generator Field Breaker.

Standard: Generator field applied by pushing in the control switch and taking it to the CLOSE position, Main Generator field breaker (Red light on, Green light off).

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 4:** Gradually raise the Manual Voltage Adjuster on Panel C3 and slowly build up the Generator voltage to 23kv.

Standard: Generator voltage is 23kV (+/- .2kV).

Comment:

_____ **Performance Step 5:** Verify alarm "Main XFMR undervoltage," (C3L-E8) clears.

Standard: Alarm "Main XFMR Undervoltage" is clear.

Comment:

_____ **Performance Step 6:** Send an Operator to Main Transformer to verify that at least one Cooling Group is operating.

Standard: An Operator is sent to the Main Transformer to verify at least one Cooling Group is operating.

Comment: IF Operator: If asked as the outside operator to verify at least one cooling group is operating, report that one cooling group is operating.

_____ **Performance Step 7:** Test the manual voltage controls by turning control switch to "LOWER" and observe the response on the GENERATOR VOLTAGE meter.

Standard: The manual voltage control switch is taken to "LOWER" and a response is verified on the Generator Voltage meter.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 8:** Readjust the MANUAL VOLTAGE ADJUSTER to approximately 23 kV on GENERATOR VOLTAGE meter.

Standard: Generator voltage is adjusted to 23kV (+/-.2kV).

Comment:

_____ **Performance Step 9:** Test the operability of the auto voltage regulator. Raise, then lower the Main Generator VOLTAGE REGULATOR SETPOINT ADJUSTER C/S and produce a buck-boost indication on the VOLTAGE REGULATOR TRANSFER VOLTMETER.

Standard: The VOLTAGE REGULATOR SETPOINT ADJUSTER C/S is raised and then lowered and a buck-boost indication is produced on the VOLTAGE REGULATOR TRANSFER VOLTMETER.

Comment:

_____ **Performance Step 10:** Readjust the Main Generator VOLTAGE REGULATOR SETPOINT ADJUSTER C/S until a null-zero reading shows on the VOLTAGE REGULATOR TRANSFER VOLTMETER.

Standard: A null-zero reading shows on the VOLTAGE REGULATOR TRANSFER VOLTMETER.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 11:** Place the VOLTAGE REGULATOR TRANSFER SWITCH to the "AUTO" position.

Standard: VOLTAGE REGULATOR TRANSFER SWITCH is in "AUTO."

Comment:

✓ **Performance Step 12:** Prepare to synchronize Generator in accordance with the following: Turn the AUTO SYNC SELECTOR SWITCH on Panel C3 from the "OFF" position to position "ACB-104" or position "ACB-105 for the selected ACB to be used for synchronizing.

Standard: The AUTO SYNC SELECTOR SWITCH on Panel C3 is taken from the "OFF" position to position "ACB-104".

Comment: If asked which breaker was used last to sync to the grid, cue "ACB-105 was used last to sync to the grid".

✓ **Performance Step 13:** Turn to the "ON" position either ACB-104 SYNC switch or ACB-105 SYNC switch, whichever has been selected for synchronizing. If both ACB-104 and ACB-105 are equally available, it may be desirable to alternate ACBs and use a different breaker each time the unit is paralled to the system.

Standard: The ACB-104 SYNC switch is turned to the "ON" position.

Comment: It is not critical which breaker is used to sync to the grid. Either breaker (ACB 104 or ACB 105) can be used.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 14:** Initially adjust the Turbine Generator speed to produce a slow rotation in either direction on the MAIN GENERATOR SYNCHROSCOPE. Use the SPEED/LOAD Changer raise and lower control switch on C3.

Standard: The SPEED/LOAD Changer is used to produce a slow rotation in either direction on the MAIN GENERATOR SYNCHROSCOPE.

Comment:

_____ **Performance Step 15:** Initially adjust the Generator voltage to the 345kV system by matching the INCOMING VOLTAGE Meter indication to the RUNNING VOLTAGE Meter using the AUTO VOLTAGE ADJUSTER raise and lower control switch.

Standard: INCOMING VOLTAGE Meter indication is matched to the RUNNING VOLTAGE Meter (+/- 200 volts).

Comment:

_____ **Performance Step 16:** Repeat voltage and speed adjustments as necessary in order to match INCOMING VOLTAGE and RUNNING VOLTAGE indications while at the same time producing a slow clockwise rotation on the MAIN GENERATOR SYNCHROSCOPE on Panel C3.

Standard: INCOMING VOLTAGE and RUNNING VOLTAGE are matched (+/- 200 volts) and there is a slow clockwise rotation on the MAIN GENERATOR SYNCHROSCOPE on Panel C3.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 17:** Recheck Generator incoming voltage and Generator speed. Readjust as necessary prior to closing ACB.

Standard: Generator incoming voltage and Generator speed are checked and adjusted as necessary prior to closing ACB.

Comment:

_____ **Performance Step 18:** Operator reviews the note following step 136 (f).

Note

With the synchroscope indicating approximately 5 degrees before 12 o'clock position, and the INCOMING and RUNNING VOLTAGES equal, the synchronizer should permit closure of the selected ACB.

Standard: Operator refers to note following step 136 (f)

Comment:

✓ **Performance Step 19:** Turn the selected ACB control switch to CLOSE at 5 degrees before the 12 o'clock position on the MAIN GENERATOR SYNCHROSCOPE.

Standard: The ACB-104 breaker closes (Red light on, Green light off).

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 20:** Pick up some load immediately after closing-in. Use the SPEED/LOAD CHANGER and bring the unit to its final load.
Cold Startup - 3% -25 MW
Warm Startup - 5% -34 MW
Hot Startup - 15% -100 MW

Standard: The MW meter reads 100 MW (+/- 20 MW).

Comment:

_____ **Performance Step 21:** Place the AUTO SYNC SELECTOR SWITCH on Panel C3 to "OFF".

Standard: The AUTO SYNC SELECTOR SWITCH on Panel C3 is in the "OFF" position.

Comment:

✓ **Performance Step 22:** Close the remaining ACB manually by: At Panel C3 turn ACB-105 SYNC switch to "ON".

Standard: ACB-105 SYNC switch is in the "ON" on position.

Comment:

✓ **Performance Step 23:** Close in the remaining ACB.

Standard: The ACB-105 breaker closes (Red light on, Green light off).

Comment: IF Operator, insert the Core Monitor Malfunction when the ACB-105 breaker closes.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 24:** At Panel C3, turn applicable SYNC switch to "OFF".

Standard: ACB-105 SYNC switch is in the "OFF" on position.

Comment:

_____ **Performance Step 25:** Acknowledges "Core Monitor Trouble" and "Generator Monitor Trouble" alarms and refers to ARP-C3R-A2 and ARP-C3R-B5.

Standard: Acknowledges "Core Monitor Trouble" and "Generator Monitor Trouble" alarms and refers to ARP-C3R-A2 and ARP-C3R-B5.

Comment:

_____ **Performance Step 26:** Enters PNPS 2.4.158, "CORE MONITOR TROUBLE". Performs Immediate Operator Actions. Dispatches an Operator to C100 to investigate and validate alarm.

Standard: PNPS 2.4.158, "CORE MONITOR TROUBLE" entered. Operator dispatched to Panel C100.

Comment:

_____ **Performance Step 27:** Call up/Observe Core Monitor display on Kaye computer.

Standard: The Core Monitor display on the Kaye computer is displayed on the screen.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 28:** The Operator observes the following note:

Note
The Generator must be removed from service in accordance with Step 4.1[2] below within 5 minutes of alarm receipt unless the condition clears or is proven not valid.

Standard: The note is referred to and the time noted.

Comment:

✓ **Performance Step 29:** If a valid Core Monitor alarm exists, Then perform the following actions to remove the generator from service:

If below the Turbine Valve Closure Scram interlock (C905R-E1 and C905-E4 in alarm), then immediately trip the Turbine.

Standard: The Turbine is tripped.

Comment: IF Operator, If asked to investigate the Core Monitor alarm, wait 30 seconds and then call the control room as the Turbine Building Operator and report that the Core Monitor Trouble alarms appears to be a valid alarm.

Terminating Cue: When the candidate has tripped the Turbine the examiner will inform him/her that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Plant conditions are as follows:

- Plant startup is in progress.
- Turbine is at 1800 rpm and being controlled by the speed load changer.
- Currently on step 134 of PNPS 2.1.1.
- A Turbine Generator hot startup is being performed.

Initiating Cue: "[Operator's name], sync the Turbine Generator on the grid per PNPS 2.1.1. Inform me when the task is complete."

Job Performance Measure
Worksheet

Facility: Pilgrim

Task No: 259-04-01-012

Task Title: Transfer FWLC from Manual to Automatic Level Control

JPM No: 2

K/A Reference: 259001 3.7/3.8 A2.07

Position: RO/SRO

Examinee: _____

NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance _____

Actual Performance ✓

Classroom _____

Simulator ✓ Plant _____

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions:

- Power ascension is in progress.
- Rx power is approximately 10%.
- Rx vessel level is currently being controlled on the S/U Feed Reg Valve.
- You are the 905 Panel Operator

Task Standard: The system shall be operated in accordance with all applicable precautions and limitations. The procedure shall be followed without failure of any critical tasks. Critical steps must be performed in order. Other steps may be performed out of sequence. The reactor shall be scrammed when the mode switch is in the "RUN" position and no reactor feed pumps are running.

Required Materials: None

General References: PNPS 2.2.82, Rev. 26 and PNPS 2.4.49, Rev. 26

Initiating Cue: "[Operator's name], you are to place the 'A' Feed Reg Valve in Master Automatic Control in accordance with PNPS 2.2.82. Inform me when you have completed the assigned tasks."

Time Critical Task: NO

Validation Time: 15 Minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Review the applicable sections of the procedure.

Standard: Operator reviews PNPS 2.2.82 Precautions and Limitations and Section 7.1.

Comment: All components are located in the horizontal section of C905 unless otherwise noted.

_____ **Performance Step 2:** Verify the MASTER LEVEL CONTROL in "MANUAL" and the manual control knob is turned FULLY COUNTERCLOCKWISE.

Standard: The Master Level Control is in "MANUAL", and the manual control knob is turned fully counterclockwise.

Comment:

_____ **Performance Step 3:** Verify that the auto setpoint tape on the MASTER LEVEL CONTROL is set between 25" and 30".

Standard: The setpoint tape is between 25-30".

Comment:

_____ **Performance Step 4:** Verify the control switch for LEVEL MODE SELECT is in the "1 ELEM" position.

Standard: The "LEVEL MODE SELECT switch is in the "1 ELEM" position.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 5:** Verify the bias adjustment on FC-642A and FC-642B, FLOW CONTROL VLVs, is set at zero.

Standard: FC-642A and FC-642B, FLOW CONTROL VLVs, bias is set at zero.

Comment:

_____ **Performance Step 6:** Verify each individual FLOW CONTROL VLV controller is in the MANUAL mode AND the Manual Control Knob is turned fully counterclockwise (FULLY CLOSED).

Standard: FC-642A and FC-642B, FLOW CONTROL VLV controller is in the MANUAL mode AND the Manual Control Knob is turned fully counterclockwise (FULLY CLOSED).

Comment:

_____ **Performance Step 7:** The signal to the Feedwater Regulating Valve is a CLOSED signal as verified by the lower meter on the individual flow controller indicating 0%.

Standard: The lower meter on FC-642A and FC-642B is indicating 0%.

Comment:

✓ **Performance Step 8:** When ready to transfer to a FLOW CONTROL VLV, OPEN OR VERIFY OPEN MO-3479 AND MO-3480.

Standard: MO-3479 AND MO-3480 are open (red light on, green light off).

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

____ **Performance Step 9:** Verify the deviation meter (located on top of the individual controllers) for the valve to be placed in service is balanced (needle on RED DOT). IF required, adjust the selected individual FLOW CONTROL VLV manual Control Knob to achieve the balanced condition.

Standard: FC-642-A deviation meter is aligned to the red dot.

Comment: "If Precaution 5.0[4] is referred to, cue "The CRS has EPIC points FWR010 and FWR012 on their screen."

✓ **Performance Step 10:** Switch the Individual Controller for the selected Flow Control Valve to the Auto position. The valve is now under MASTER/MANUAL control.

Standard: FC-642-A switch to the "AUTO" position.

Comment:

____ **Performance Step 11:** Slowly adjust the auto setpoint tape on the MASTER LEVEL CONTROL until the Master Controller deviation meter is just balanced (needle in green band on red line).

Standard: The Master Controller deviation meter is balanced (needle in green band on red line).

Comment:

✓ **Performance Step 12:** Switch the MASTER LEVEL CONTROL to the "AUTO" position. The valve is now under MASTER/AUTO control.

Standard: FC-642-A in MASTER/AUTO control.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 13:** Slowly throttle closed HIC-640-20, STARTUP REG FLOW CONTROL, until the selected FLOW CONTROL VLV opens to control Reactor water level.

Standard: HIC-640-20, STARTUP REG FLOW CONTROL is slowly throttle closed and FC-642A opens to control Reactor water level.

Comment:

_____ **Performance Step 14:** When the FLOW CONTROL VLV begins to control the water level, THEN GRADUALLY FULLY CLOSE HIC-640-20 (STARTUP REG FLOW CONTROL).

Standard: HIC-640-20 (STARTUP REG FLOW CONTROL) is fully closed. (Output of controller is zero)

Comment:

_____ **Performance Step 15:** Recognizes the RFP trip and enters 2.4.49, Feedwater malfunction.

Standard: Recognizes the RFP trip and enters 2.4.49, Feedwater Malfunction.

Comment: IF Operator: Insert the RFP trip malfunction.

✓ **Performance Step 16:** Immediate Operator Action of 2.4.49, IF any of the following conditions occur, THEN manually scram the reactor AND concurrently perform PNPS 2.1.6, Reactor Scram.

- All reactor feed pumps trip with the reactor mode select switch in the "RUN" position.

Standard: Mode switch on C-905 is in the "shutdown" position.

Comment:

_____ **Performance Step 17:** Verify and announce the status of APRM downscales.

Standard: APRM downscales (C-905 apron section) are verified and announcement is made.

Comment:

Terminating Cue: When the candidate has announced APRM downscales, the examiner will inform him/her that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions:

- Power ascension is in progress.
- Rx power is approximately 10%.
- Rx vessel level is currently being controlled on the S/U Feed Reg Valve.
- You are the 905 Panel Operator.

Initiating Cue: "[Operator's name], you are to place the 'A' Feed Reg Valve in Master Automatic Control in accordance with PNPS 2.2.82. Inform me when you have completed the assigned tasks."

Job Performance Measure
Worksheet

Facility: Pilgrim

Task No: 223-01-01-017

Task Title: Reset Group V Isolation Signal and Use RCIC for Injection

JPM No: 3

K/A Reference: 223002 A4.03 3.6/3.5

Position: RO/SRO

Examinee:

NRC Examiner:

Date:

Method of testing:

Simulated Performance

Actual Performance: ✓

Classroom

Simulator ✓ Plant

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Plant conditions are as follows:

- The Reactor is shutdown
- HPCI and RCIC have isolated on Torus Cavity Exhaust Duct High temperature due to a HPCI steam line break
- HPCI is now isolated and the temperature in the Torus Cavity Exhaust Duct has dropped below the high temperature isolation setpoint
- The MSIVs are closed
- RPV water level is slowly lowering and RCIC is needed for RPV level control
- RCIC trip throttle valve is reset

Task Standard: The Group V isolation is reset and RCIC is starting up. The procedure shall be followed without failure of any critical tasks. Critical steps must be performed in order. Other steps may be performed out of sequence.

Required Materials: None

General References: PNPS 2.2.125.1, Rev. 11
PNPS 2.2.22, Rev. 57
PNPS 2.2.22.5, Rev. 8

Initiating Cue: "[Operator's name], You are to reset the Group V isolation using PNPS 2.2.125.1 and inject with RCIC per section 1.0 of 2.2.22.5. Restore and maintain RPV level +20 to +40 inches.

Time Critical Task: NO
Validation Time: 15 minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Operator locates 2.2.125.1 and reviews the Precautions and Limitations.

Standard: The Precautions and Limitations are reviewed.

Comment:

_____ **Performance Step 2:** Verify the following valves are are as indicated below:

Panel C904

MO-1301-16 (RCIC Inboard Isolation Valve)	CLOSE
MO-1301-17 (RCIC Outboard Isolation Valve)	CLOSE

Standard: The valves are verified closed, (Red Light OFF, Green Light ON)

Comment:

_____ **Performance Step 3:** The following note is referred to:

NOTE

It is desirable to reset Channel B prior to resetting Channel A to verify both channels tripped on the isolation signal.

Standard: The note is referred to.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 4:** When the cause of the isolation has been corrected, then depress "PCIS GRP V ISOL CHANNEL B" reset push button on Panel C904 and watch the white light go off.

Standard: "PCIS GRP V ISOL CHANNEL B" White Light is OFF.

Comment:

_____ **Performance Step 5:** Depress "PCIS GRP V ISOL CHANNEL A" reset push button on Panel C904 and watch the white light go off.

Standard: "PCIS GRP V ISOL CHANNEL A" White Light is OFF.

Comment:

_____ **Performance Step 6:** Refer to PNPS 2.2.22 for restoring RCIC system to service.

Standard: Reference to 2.2.22 noted.

Comment: The instructions for re-opening the RCIC steam isolation valves contained in 2.2.22 Attachment 7 are identical to the instructions in 2.2.125.1 Attachment 5. The operator can use either procedure.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 7:** Verify both MO-1301-16 and MO-1301-17 are closed.

Standard: MO-1301-16 and MO-1301-17 are closed, (Red Light OFF, Green Light ON.)

Comment: This has been done in an earlier step.

_____ **Performance Step 8:** Fully open MO-1301-17.

Standard: MO-1301-17 is open, (Red Light ON, Green Light OFF)

Comment:

_____ **Performance Step 9:** The following caution is noted:

CAUTION

During the execution of the following step, excessive opening of MO-1301-16 without adequate steam line pressurization may result in a RCIC Hi steam supply flow condition that could initiate a PCIS Group V Isolation (ESF actuation). Prior to repeating jog opening attempts, ensure sufficient time is provided to adequately monitor for a pressure response. Additionally, experience has shown that this evolution becomes increasingly sensitive at lower Reactor pressures. (PR 99.9539)

Standard: The caution is noted.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 10:** Crack open MO-1301-16, Inboard Steam Valve.

Standard: MO-1301-16 is cracked open, (Red Light ON, Green Light ON).

Comment:

_____ **Performance Step 11:** Observe RCIC steam line pressure on Panel C904 at PI-1340-6.

Standard: PI-1301-6 is checked.

Comment:

_____ **Performance Step 12:** Allowing steam line pressure to slowly increase to Reactor Pressure.

Standard: PI-1340-6 equals reactor pressure.

Comment:

✓ **Performance Step 13:** Fully open MO-1301-16.

Standard: MO-1301-16 is fully open, (Red Light ON, GREEN light OFF)

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 14:** Momentarily Depress the RCIC System Injection pushbutton.

Standard: RCIC System Injection pushbutton depressed.

Comment:

_____ **Performance Step 15:** Verify the MANUAL START SEQUENCE indicating light is energized.

Standard: MANUAL START SEQUENCE indicating light is on. (White Light ON)

Comment:

Terminating Cue: When the RCIC turbine begins to startup, the examiner shall inform the candidate that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Plant conditions are as follows:

- The Reactor is shutdown.
- HPCI and RCIC have isolated on Torus Cavity Exhaust Duct High temperature due to a HPCI steam line break.
- HPCI is now isolated and the temperature in the Torus Cavity Exhaust Duct has dropped below the high temperature isolation setpoint.
- The MSIVs are closed.
- RPV water level is slowly lowering and RCIC is needed for RPV level control.
- RCIC trip throttle valve is reset

Initiating Cue: "[Operator's name], You are to reset the Group V isolation using PNPS 2.2.125.1 and inject with RCIC per section 1.0 of 2.2.22.5. Restore and maintain RPV level +20 to +40 inches.

Job Performance Measure
Worksheet

Facility: Pilgrim

Task No: 215-02-01-013

Task Title: Perform an APRM Setdown Functional Test

JPM No: 4

K/A Reference: 215005 A4.06 3.6/3.8

Position: RO/SRO

Examinee: _____

NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance _____

Actual Performance: ✓

Classroom _____

Simulator ✓

Plant _____

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Plant conditions are as follows:

- The mode switch is in the "REFUEL" position.
- All control are inserted.
- The weekly APRM Setdown Functional needs to be performed. The PNPS 8.M.1-3.1 has been completed up to step [3] (a) for B-B1.

Task Standard: Perform APRM Setdown Function test on the 'B' APRM. There shall be no failure of critical elements. Critical steps must be performed in order. Other steps may be performed out of sequence.

Required Materials: Caution Tag
Copy of 8.M.1-3.1, completed through step [3] (a) for B-B1.

General References: PNPS 8.M.1-3.1, Rev. 26

Initiating Cue: "[Operator's name], you are to continue with the APRM Setdown Functional test IAW 8.M.1-3.1, Attachment 1. 'A' APRM is complete. 'B' APRM is the next APRM to be tested. An Operator is stationed at C905. An I&C tech is available. Inform me when the test is complete".

Time Critical Task: NO

Validation Time: 20 minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Operator reviews the applicable sections of the procedure.

Standard: Operator reviews the applicable sections of the procedure.

Comment:

✓ **Performance Step 2:** Set the selected APRM channel to be tested in BYPASS and verify that the BYPASS indication lights at Panels C905 and C937 are ON.

Standard: Operator calls the RO and direct him/her to place APRM 'B' in the bypass position and then asks him/her to verify the BYPASS light on at C905. Verifies the bypass light on at C937.

Comment:

_____ **Performance Step 3:** Verify that the SETDOWN white light for the selected APRM channel at Panel C937 is ON and CRD Scram Solenoid Group 1-4 lights at Panels C915 and Panel C917 are ON.

Standard: SETDOWN white light for 'B' APRM and CRD Scram Solenoid Group 1-4 lights are verified ON

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 4:** Position meter function switch to "COUNT".

Standard: 'B' APRM function switch is in the "COUNT" position.

Comment:

_____ **Performance Step 5:** Verify that all LPRM card switches are in the "OP" position.

Standard: All LPRM card switches are in the "OP" position.

Comment:

✓ **Performance Step 6:** Bypass the number of required LPRM card switches in accordance with the APRM channel being tested.

Standard: 4 LPRM card switches are in the "BY" position.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 7:** Verify local INOP light is ON and APRM meter indicates correct number of operable LPRM inputs (5% per LPRM).

Standard: INOP light is ON and meter reads 50%.

Comment:

✓ **Performance Step 8:** Return previously selected LPRM card switches to the "OPERATE" position and actuate the trip reset switch. Verify the local INOP light is OFF.

Standard: All LPRM card switches are in the "OP" position and the local INOP light is OFF.

Comment:

✓ **Performance Step 9:** Place the APRM mode switch in the "STANDBY" position. Verify the local INOP light is ON.

Standard: APRM mode switch in "STANDBY" and local INOP light ON.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 10:** Place the APRM mode switch in the "TEST POWER" position. Reset trips. Verify local alarm lights are clear. (Power potentiometer may need to be adjusted to clear local alarms).

Standard: APRM mode switch is in the "TEST POWER" position and local alarms are clear.

Comment:

✓ **Performance Step 11:** Position the meter function switch to the "AVERAGE" Position.

Standard: Meter function switch is in the "AVERAGE" Position

Comment:

✓ **Performance Step 12:** Adjust the POWER potentiometer until the HIGH light comes ON indicating the value of power signal that will initiate a Rod Block function.

Standard: HIGH light is ON.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 13:** Record this "As-Found value of power. The setpoint for the HIGH or ROD BLOCK function is 11 (10.5 to 11.5) percent power.

Standard: 'As-Found' value of 11 (+/- .5) is recorded on Attachment 1.

Comment:

✓ **Performance Step 14:** Adjust the POWER potentiometer until the HIGH HIGH light indicating the value of power signal that will initiate a Scram function.

Standard: Hi-Hi light is ON.

Comment:

_____ **Performance Step 15:** Record this "As-Found value of power. The setpoint for the HIGH HIGH or Scram function is 13 (12.5 to 13.5) percent power.

Standard: As-Found' value of 13 (+/- .5) is recorded on Attachment 1.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 16:** Lower the POWER adjustment to approximately 5 percent power.

Standard: Meter reading is approximately 5%.

Comment: Reading cannot be below 3% and low enough for the trips to be reset.

_____ **Performance Step 17:** Reset the trip functions.

Standard: All trips are clear. (Alarm lights off)

Comment:

✓ **Performance Step 18:** Lower the POWER level adjustment until the local DNSCL light comes on indicating the value of power signal that will initiate a downscale function.

Standard: DNSCL light is ON.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 19:** Record this "As-Found value of power. The setpoint for the downscale is 3 (3.0 to 4.0) percent power.

Standard: "As-Found" value of 3 (+ 1.0) is recorded on Attachment 1.

Comment:

_____ **Performance Step 20:** Raise the POWER adjustment to approximately 5 percent power.

Standard: Meter reading is approximately 5%.

Comment: Reading cannot be below 3% and low enough for the trips to be reset.

_____ **Performance Step 21:** Reset the APRM channel trip functions and verify local alarms are CLEAR.

Standard: Local alarms are clear (Alarm lights off)

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 22:** Place the APRM mode switch in the "OPERATE" position.

Standard: APRM mode switch is in the "OPERATE" position.

Comment:

✓ **Performance Step 23:** Remove bypass from the tested channel by placing channel bypass switch in "NEUTRAL" position (Panel C905)

Standard: Operator calls the RO and direct him/her to take APRM 'B' out of bypass and then asks him/her to verify the BYPASS light off at C905. Verifies the bypass light off at C937.

Comment:

Terminating Cue: When the APRM switch is placed in the Normal position and the lights verified, the examiner shall inform the candidate that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Plant conditions are as follows:

- The mode switch is in the "REFUEL" position.
- All control are inserted.
- The weekly APRM Setdown Functional needs to be performed. The PNPS 8.M.1-3.1 has been completed up to step [3] (a) for B-B1.

Initiating Cue: "[Operator's name], you are to continue with the APRM Setdown Functional test IAW 8.M.1-3.1, Attachment 1. 'A' APRM is complete. 'B' APRM is the next APRM to be tested. An Operator is stationed at C905. An I&C tech is available. Inform me when the test is complete.

Job Performance Measure
Worksheet

Facility: Pilgrim

Task No: 223-04-01-001

Task Title: Manually Start SGBT and Vent the Torus

JPM No: 5

K/A Reference: 261000 A404 3.3/3.4

Position: RO/SRO

Examinee: _____

NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance _____

Actual Performance ✓

Classroom _____

Simulator ✓ Plant _____

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Plant conditions are as follows:

- The plant is at power with the mode switch in "RUN."
- The OSS has determined that a reduction in torus airspace pressure will restore the drywell-to-torus differential pressure to within specification.

Task Standard: The torus is initially aligned correctly for the torus venting evolution. The operator recognizes the alarms/indications associated with a leak in the drywell and takes action to secure the torus venting lineup. The primary containment atmosphere control and standby gas treatment systems shall be operated in accordance with all applicable system precautions and limitations. The system procedure shall be followed without failure of critical tasks. Critical steps must be performed in order. Other steps may be performed out of sequence.

Required Materials: None

General References: PNPS 2.2.70, Rev. 67

Initiating Cue: "[Operator's name], vent the torus using the 'B' train of Standby Gas Treatment in accordance with PNPS 2.2.70, Section 7.3 and 7.3.3. Inform me when the task is complete."

Time Critical Task: NO

Validation Time: 15 minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Operator reviews PNPS 2.2.70, Section 7.3 and Section 7.3.3.

Standard: PNPS 2.2.70, Section 7.3 and 7.3.3 reviewed.

Comment:

_____ **Performance Step 2:** Operator refers to Technical Specifications 3.7.A.1.k.

Standard: Operator references T.S. Section 3.7.A.1.k.

NOTE: T.S. 3.7.A.1.k – The differential pressure may be reduced to less than 1.17 psid for a maximum of four (4) hours for maintenance activities on the differential pressure control system and during required operability testing of the HPCI system, the relief valves, the RCIC system and the drywell suppression chamber vacuum breakers.

Comment:

_____ **Performance Step 3:** Operator references Section 7.10 of PNPS 2.2.70 to determine conditions which may indicate a leak in containment and require securing venting.

Standard: Operator references the following "NOTE" of Section 7.10:

The following alarms may be indicative of a reactor coolant leak inside containment:

- "C19A/B TROUBLE" (C904LC-B3)
- "DRYWELL EQUIPMENT/FLOOR DRAIN SUMP HIGH FLOW" on Panel C20
- Any drywell cooler leaking alarm on Panel C7L

The purpose of this section is to specify the actions required when indication of a reactor coolant leak exists.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 4:** Operator rotates "AO-5041A, Torus Normal Exhaust Isolation Valve", control switch to the "OPEN" position.

Standard: Red light on, green light off.

Comment:

✓ **Performance Step 5:** Operator rotates "AO-5041B, Torus Normal Exhaust Isolation Valve", control switch to the "OPEN" position.

Standard: Red light on, green light off.

Comment:

✓ **Performance Step 6:** Operator rotates "AO-N-98, Contaminated Exhaust to SGTS Inlet Plenum", control switch to the "OPEN" position.

Standard: Red light on, green light off.

Comment:

✓ **Performance Step 7:** Operator rotates "AO-N-101, Refuel Floor Exhaust to SGTS Inlet Plenum", control switch to the "OPEN" position.

Standard: Red light on, green light off.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 8:** Operator rotates "AO-N-112, Train 'B' Outlet Damper", control switch to the "OPEN" position.

Standard: Red light on, green light off.

Comment:

_____ **Performance Step 9:** Operator verifies "VEX-210A, Standby Gas Fan 'A'", control switch in "AUTO" position.

Standard: VEX-210A control switch in "AUTO".

Comment:

✓ **Performance Step 10:** Operator rotates "AO-N-106, Train 'B' Inlet Damper", control switch to the "OPEN" position.

Standard: Damper AO-N-106 has red light on, green light off. Fan VEX-210B is red light on, green light off.

Comment:

_____ **Performance Step 11:** Operator proceeds to the main control room to report start time to CRS for recording in the CRS log.

Standard: Operator reports VEX-210B start time to CRS.

Comment: IF Operator: When the operator goes to report the start time, insert the malfunction that brings in the alarms.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 12:** Operator acknowledges annunciators C7L-C5 & C6 and C904LC-B3.

Standard: Operator references ARP for alarms received after pressing alarm acknowledge PB on C7 and C904.

Comment:

_____ **Performance Step 13:** Operator reports receipt of annunciators to CRS.

Standard: Operator reports alarming conditions and ARP actions for C904LC-B3 and C7L-C5 & C6.

Comment:

_✓_ **Performance Step 14:** Operator exits procedure 2.2.70, Section 7.3.3 and enters Section 7.10.

Standard: Operator exits Section 7.3.3 and enters Section 7.10.

Comment:

_____ **Performance Step 15:** Operator verifies "SV-5030A, N_2 Makeup Supply Block Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 16:** Operator verifies "AO-5035A, Drywell Purge Supply Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

_____ **Performance Step 17:** Operator verifies "AO-5036A, Torus Purge Supply Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

✓ **Performance Step 18:** Operator rotates "AO-5041A, Torus Normal Exhaust Isolation Valve", control switch to the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

✓ **Performance Step 19:** Operator rotates "AO-5041B, Torus Normal Exhaust Isolation Valve", control switch to the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 20:** Operator verifies "AO-5042A, Torus Purge Exhaust Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

_____ **Performance Step 21:** Operator verifies "AO-5042B, Torus Purge Exhaust Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

_____ **Performance Step 22:** Operator verifies "AO-5043A, Drywell Normal Exhaust Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

_____ **Performance Step 23:** Operator verifies "AO-5043B, Drywell Normal Exhaust Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 24:** Operator verifies "AO-5044A, Drywell Purge Exhaust Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

_____ **Performance Step 25:** Operator verifies "AO-5044B, Drywell Purge Exhaust Isolation Valve", control switch in the "CLOSE" position.

Standard: Green light on, red light off.

Comment:

✓ **Performance Step 26:** Operator rotates "AO-N-106, Train 'B' Inlet Damper", control switch to the "AUTO" position.

Standard: Green light on, red light off.

Comment:

_____ **Performance Step 27:** Operator verifies "AO-N-99, Train 'A' Inlet Damper", control switch to the "AUTO" position.

Standard: Green light on, red light off.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 28:** Operator verifies "AO-N-108, Train 'A' Outlet Damper", control switch to the "AUTO" position.

Standard: Green light on, red light off.

Comment:

✓ **Performance Step 29:** Operator rotates "AO-N-112, Train 'B' Outlet Damper", control switch to the "AUTO" position.

Standard: Green light on, red light off.

Comment: Procedurally, AO-N-98, Contaminated Exhaust to SGTS Inlet Plenum, and AO-N-101, Refuel Floor Exhaust to SGTS Inlet Plenum, are not required to be closed. However, if the candidate asks permission to close these valves give direction to do so.

Terminating Cue: When 'B' SBGT has been started and subsequently secured due to the drywell leak, the candidate should inform the examiner that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Plant conditions are as follows:

- The plant is at power with the mode switch in "RUN."
- The OSS has determined that a reduction in torus airspace pressure will restore the drywell-to-torus differential pressure to within specification.

Initiating Cue: Vent the torus using the 'B' train of Standby Gas Treatment in accordance with PNPS 2.2.70, Section 7.3 and 7.3.3. Inform me when the task is complete."

Job Performance Measure
Worksheet

Facility: Pilgrim

Task No: 202-04-01-005

Task Title: Respond to a Failure of Reactor Recirc Pump Seals

JPM No: 6

K/A Reference: 202001 3.5/3.9 A2.10

Position: RO/SRO

Examinee: _____

NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance _____

Actual Performance ✓

Classroom _____

Simulator ✓ Plant _____

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Plant conditions are as follows:

- The plant is operating at 100% power.
- All equipment is operating normally.
- You are the 905 operator.
- I will perform the functions of the control room personnel as deemed necessary.

Task Standard: The immediate action of procedure 2.4.17 and the subsequent actions of procedure 2.4.22 without failure of any critical steps. Critical steps must be performed in order. Other steps may be performed out of sequence. Trip and isolate the recirc pump prior to reaching 2.2 psig drywell pressure.

Required Materials: None

General References: PNPS 2.4.22, Rev. 13, PNPS 2.2.84, Rev. 64, PNPS 2.4.17, Rev. 23

Initiating Cue: "[Operator's name], you are to monitor and respond to the Recirculation System indications. Notify me when you have the watch". **Note:** (Approximately 30 seconds after the operator has assumed the watch, TRIGGER the Recirc. pump seal failures.)

Time Critical Task: NO
Validation Time: 6 Minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Monitor alarms and instrumentation and determine the type of system malfunction that has occurred.

Standard: Responds to the annunciator "Pump B Seal Leakage Hi" (C904R-C5) and "Pump B Seal Staging Flow Hi" (C904R-D5) and looks at seal #1 and #2 pressure on PI-262-18B on C904 and informs the CRS of the #1 and #2 seal failures.

Comment:

✓ **Performance Step 2:** Trips the 'B' recirc pump.

Standard: The 'B' recirc pump drive motor breaker is open (red light off, green light on).

Comment:

✓ **Performance Step 3:** Places the C/S for AO-5150B Seal Water Block Valve to "CLOSE".

Standard: AO-5150 is closed (red light off, green light on).

Comment:

✓ **Performance Step 4:** Places the C/S for MO-202-4B Pump Suction Valve to "CLOSE".

Standard: MO-202-4B is closed (red light off, green light on).

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 5:** Verify MO-202-4B indicates closed.

Standard: Waits until MO-202-4B is fully closed before closing MO-202-5B.

Comment:

✓ **Performance Step 6:** Places the C/S for MO-202-5B, Pump Discharge Valve, to "CLOSE".

Standard: MO-202-5B is closed (red light off, green light on).

Comment:

_____ **Performance Step 7:** Requests that an operator close F-008B, Recirc Pump Purge Block Valve.

Standard: Call Reactor Building Operator and requests that he/she close F-008B.

Comment: IF Operator, if asked to close F-008B, wait 30 seconds and then call back and report that the valve is closed.

Terminating Cue: When the following is true:

- 'B' recirc pump is isolated
- Drywell pressure is decreasing

The examiner will inform the candidate that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Plant conditions are as follows:

- The plant is operating at 100% power.
- All equipment is operating normally.
- You are the 905 operator.
- I will perform the functions of the control room personnel as deemed necessary.

Initiating Cue: "[Operator's name], you are to monitor and respond to the Recirculation System indications. Notify me when you have the watch."

Job Performance Measure
Worksheet

Facility: Pilgrim | Task No: 241-01-01-028

Task Title: Transfer From the EPR to the MPR | JPM No: 7

K/A Reference: 241000A103 3.9/3.8 | Position: RO/SRO

Examinee: _____ | NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance _____ | Actual Performance ✓

Classroom _____ | Simulator ✓ | Plant _____

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions:

- You are the ATC operator.
- The plant is operating at approximately 50% power.
- Plant pressure control is currently on the EPR.
- The MPR must be placed in service to facilitate a short vendor inspection of the EPR.
- Another operator is standing by to tag the EPR as soon as it is removed from service.
- Reactor Engineering has performed an evaluation that allows operation for 24 hours with the EPR out of service.

Task Standard: The system shall be operated in accordance with all applicable precautions and limitations. The system procedure and the immediate actions of the off-normal procedure shall be followed without failure of critical elements. Critical steps must be performed in order. Other steps may be performed out of sequence.

Required Materials: None

General References: PNPS 2.2.99, Rev. 26, PNPS 2.4.37, Rev. 13, and PNPS 2.1.6, Rev. 45

Job Performance Measure
Worksheet

Initiating Cue: "[Operator's name], you are to remove the EPR from service in accordance with procedure 2.2.99, notify the field operator to tag out the EPR and then stand by to place the EPR back in service once the inspection is complete. Inform me when the EPR is returned to service."

Time Critical Task: NO

Validation Time: 15 Minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Review the applicable sections of the procedure.

Standard: Operator reviews Precautions and Limitations and Section 7.4.2 of PNPS 2.2.99. Operator may also review 2.4.37, "Turbine Control Systems Malfunctions".

Comment: All components are located in control room panel C-2 horizontal section unless otherwise noted.

✓ **Performance Step 2:** Place the MPR setpoint control switch to "LOWER" to adjust to a setpoint slightly below the EPR setpoint, per ZI-3021 and ZI-3013.

Standard: Operator rotates the "MPR SETPT" control switch to the "LOWER" position until the "MPR SETPOINT" (ZI-3021) indication is below the "EPR SETPOINT" (ZI-3013) indication.

Comment:

_____ **Performance Step 3:** Verify that the MPR has taken control by response of regulator instruments, steam pressure and MPR setpoint pressure control red light.

Standard: Operator observes that "MPR CONTROL POSITION" (ZI-3020) indicator rises and "EPR CONTROL POSITION" (ZI-3014) drops off to minimum. Operator looks at PR- 3050 (or other reactor/main steam pressure) and observes a slight decrease in main steam pressure. MPR red light on; EPR green light on.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 4:** Adjust the EPR setpoint to obtain 980 psig according to ZI-3013.

Standard: ZI-3014 reads 980 psig (+/- 2 psig)

Comment:

_____ **Performance Step 5:** Place the MPR setpoint to control reactor pressure at less than or equal to 1035 psig according to ZI-3021.

Standard: Reactor pressure approximately equals the pressure prior to the change to MPR control. The candidate should then contact the field operator (IF Operator) when the EPR is removed from service so he/she can start the tagout.

Comment: Simulator operator should:

1) Remove power to the EPR, and hang the "Danger" tag.
2) Tell the candidate via CRS that work has begun.
3) Insert pressure oscillations.

__✓__ **Performance Step 6:** Operator identifies that RPV pressure is oscillating.

Standard: Operator observes ZI-3020 pointer oscillating or observes reactor pressure indication is oscillating.

Comment:

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 7:** If reactor pressure approaches 1060 psig or 810 psig during a pressure control malfunction event, then scram the reactor and enter PNPS 2.1.6.

Standard: Operator checks reactor pressure indications.

Comment:

_____ **Performance Step 8:** Operator recognizes that reactor pressure is oscillating and enters Section 4.2 of PNPS 2.4.37.

Standard: Section 4.2 of PNPS 2.4.37 is entered.

Comment:

_____ **Performance Step 9:** Operator observes APRM's or asks another operator to do so, and determines that reactor power is less than 90%.

Standard: Operator looks at the APRM recorders on 905 panel, or asks another operator to do so.

Comment: Reactor power was turned over as being at 50%.

_____ **Performance Step 10:** Operator rotates the MPR switch to the lower position to take control with the MPR.

Standard: MPR red light on, green light off.

Comment: This step may be omitted since the MPR is already in control.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

____ **Performance Step 11:** Operator rotates the MPR switch to the raise position to allow the EPR to take control.

Standard: MPR red light off, green light on.

Comment: Not performed since the EPR is tagged off.

_✓_ **Performance Step 12:** Operator determines that pressure oscillations are still occurring.

Standard: Operator notifies CRS that pressure is still oscillating.

Comment: If the operator does not recommend scramming the reactor when he reports oscillations are continuing, ask him what action is dictated by the procedure.

_✓_ **Performance Step 13:** If unable to control reactor pressure after following the above steps, then place the reactor mode switch to "SHUTDOWN" and enter PNPS 2.1.6, "Reactor Scram."

Standard: Mode switch on C-905 is in "SHUTDOWN".

Comment:

_✓_ **Performance Step 14:** Verify and announce the status of APRM downscales.

Standard: APRM downscales (C905 Apron Section) are verified and announcement is made.

Comment:

Terminating Cue: When the candidate has announced APRM downscales, the examiner will inform him/her that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions:

- You are the ATC operator.
- The plant is operating at approximately 50% power.
- Plant pressure control is currently on the EPR.
- The MPR must be placed in service to facilitate a short vendor inspection of the EPR.
- Another operator is standing by to tag the EPR as soon as it is removed from service.
- Reactor Engineering has performed an evaluation that allows operation for 24 hours with the EPR out of service.

Initiating Cue: Remove the EPR from service in accordance with procedure 2.2.99, notify the field operator to tag out the EPR and then stand by to place the EPR back in service once the inspection is complete. Inform me when the EPR is returned to service."

Job Performance Measure
Worksheet

Facility: Pilgrim | Task No: 201-01-04-012

Task Title: Shift CRD Flow Control Valves | JPM No: 8

K/A Reference: 201001 3.2/3.1 A2.07 | Position: RO/SRO

Examinee: _____ | NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance ✓ | Actual Performance _____

Classroom _____ | Simulator _____ | Plant ✓

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Plant conditions are as follows:

- The reactor is at power.
- The in-service CRD Flow Control Valve, FCV-302-6A has failed closed.

Task Standard: The 'B' CRD Flow Control Valve will be placed into service in accordance with procedure 2.2.87. The valve shall be placed in service without causing inadvertent actuations, in accordance with all system precautions and limitations and without failure of any critical elements. Critical steps must be performed in order. Other steps may be performed out of sequence.

Required Materials: None

General References: PNPS 2.2.87, Rev. 70

Initiating Cue: "[Operator's name], you are to changeover to the 'B' CRD Flow Control Valve in accordance with 2.2.87. Inform me when you have completed this task".

Time Critical Task: NO

Validation Time: 10 Minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Review the applicable sections of the procedure.

Standard: Reviews procedure precautions and limitations and the applicable section of the procedure.

Comment: Task is covered in 2.2.87, Section 7.8.5, Steps [1] – [9]. All controls are located on the Reactor Building CRD mezzanine. **Hearing protection is required.** All critical steps must be performed in order written unless otherwise noted.

_____ **Performance Step 2:** Establish communications between Control Room and the master control station.

Standard: Establishes communication with the Control Room.

Comment: When the candidate simulates calling the Control Room, cue, "Communications have been established with the Control Room."

_____ **Performance Step 3:** Place FIC-340-1, CRD Flow Control, setpoint to 0 GPM (controller may be left on automatic) at Panel C905.

Standard: Calls the Control Room and requests that FIC-340-1 be set at 0 GPM.

Comment: Cue the candidate, "FIC-340-1 is set at zero."

✓ **Performance Step 4:** Slowly open 301-40B, Standby Flow Control Inlet Valve.

Standard: Simulates turning the handwheel for 301-40B in the counterclockwise direction.

Comment: Cue the candidate, "the handwheel is turning in the counterclockwise direction, the stem is rising, now the stem is stopped."

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 5:** Slowly open 301-41B, Outlet Valve from standby Flow Control Valve.

Standard: Simulates turning the handwheel for 301-41B in the counterclockwise direction.

Comment: Cue the candidate, "the handwheel is turning in the counterclockwise direction, the stem is rising, now the stem is stopped."

✓ **Performance Step 6:** Close 301-41A, Outlet Valve from in service Flow Control Valve.

Standard: Simulates turning the handhweel for 301-41A in the clockwise direction.

Comment: Cue the candidate, "the handwheel is turning in the clockwise direction, the stem is moving inward and it stops."

✓ **Performance Step 7:** Close 301-40A, Inlet Valve for the previously in service Flow Control Valve.

Standard: Simulates turning the handhweel for 301-40A in the clockwise direction.

Comment: Cue the candidate, "the handwheel is turning in the clockwise direction, the stem is moving inward and it stops."

✓ **Performance Step 8:** On local valve control panel, swap Selector Switch 3B-S1, for electrical signal to E/P unit, from valve in-service to standby valve position.

Standard: Simulates turning selector switch 3B-S1 clockwise to the 'B' position.

Comment: Cue the candidate, "the switch is in the 'B' position."

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 9:** Swap valve 301-29, CRD Air Diversion Valve to Selected Flow Control Valve, from valve in-service position to that of standby valve.

Standard: Simulates turning valve 301-29 counterclockwise to the #1 position.

Comment: Cue the candidate, "the switch is in the #1 position."

____ **Performance Step 10:** Notify Control Room that flow control valves have been "swapped over" locally.

Standard: Operator notifies the Control Room that the flow control valves have been "swapped over" locally.

Comment: Cue the candidate, "the Control Room acknowledges that the 'B' CRD FCV is in service."

Terminating Cue: After the candidate has called the Control Room to report the FCV's have been swapped over locally , the examiner shall inform him/her that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

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_____

Response: _____

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Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

1. ✓ Be supported by facility licensee's job task analysis.

2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

   d. ✓ Validated time limits (average time allowed for completion) and specific designation of those JPMs that are deemed to be time-critical by the facility operations department

   e. ✓ Specific performance criteria that include:

      (1) ✓ Expected actions with exact control and indication nomenclature and criteria (switch position, meter reading), even if these criteria are not specified in the procedural step

      (2) ✓ System response and other cues that are complete and correct so that the examiner can properly cue the examinee, if asked

      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Plant conditions are as follows:

- The reactor is at power.
- The in-service CRD Flow Control Valve, FCV-302-6A has failed closed.

Initiating Cue: "[Operator's name], you are to changeover to the 'B' CRD Flow Control Valve in accordance with 2.2.87. Inform me when you have completed this task".

Job Performance Measure
Worksheet

Facility: Pilgrim

Task No: 264-02-04-019

Task Title: Local Operation of the SBODG During Station Blackout

JPM No: 9

K/A Reference: 264000 3.4/3.4 A2.03

Position: RO/SRO

Examinee: _____

NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance ✓

Actual Performance _____

Classroom _____

Simulator _____

Plant ✓

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Plant conditions are as follows:

- A station blackout has occurred.
- Attempts to start the SBODG from the control room have failed.
- You have a cell phone and an operator is standing by C3.

Task Standard: The operator locally starts the SBODG per PNPS 2.2.146. There shall be no failure of critical elements. Critical steps must be performed in order. Other steps may be performed out of sequence.

Required Materials: None

General References: PNPS 2.2.146, Rev. 23

Initiating Cue: "[Operator's name], locally start the station blackout diesel generator in accordance with procedure 2.2.146. Inform me when you have completed the assigned task."

Time Critical Task: NO

Validation Time: 10 Minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Review the applicable sections of the procedure.

Standard: Reviews procedure precautions and limitations and the applicable section of the procedure.

Comment: This task is covered in 2.2.146, Section 7.2.

If an operator performs verifications personally, the evaluator will provide proper cues. This JPM assumes that the operator calls the control room for all verifications.

_____ **Performance Step 2:** Verify open or open breaker A600 at Panel C3.

Standard: Calls control room for correct breaker and checks open.

Comment: Cue the candidate, "Breaker A600 is open."

_____ **Performance Step 3:** Verify open or open 24kV Incoming Circuit Switcher at Panel C3.

Standard: Calls control room to check circuit switcher open at C3.

Comment: Cue the candidate, "The 24kV incoming circuit switcher is open."

___ **Performance Step 4:** Verify tripped or trip Shutdown XMFR Breaker A802 on Panel C3.

Standard: Calls control room to check Shutdown XFMR Breaker A802 tripped.

Comment: Cue the candidate, "Breaker A802 is tripped."

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 5:** Check the Shutdown Transformer lockout relay on Panel C5.

Standard: Control room operator asked to check shutdown transformer lockout relay.

Comment: Cue the candidate, "The Shutdown Transformer Lockout Relay is not tripped."

✓ **Performance Step 6:** Place the LOCAL/REMOTE switch on Diesel Control Panel C190 to "LOCAL".

Standard: Locates correct switch and motions in the proper direction.

Comment: Cue the candidate, "The green local light is illuminated, red remote light is extinguished."

✓ **Performance Step 7:** Start the engine at Panel C190.

Standard: Locates start button and motions to initiate start.

Comment: Cue the candidate, "You can hear the engine accelerating and now running at a constant speed. Now, 30 seconds have elapsed."

Terminating Cue: When the candidate informs the examiner that the task is complete, the examiner shall inform him/her that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

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Response: _____

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_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

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2. ✓ Be operationally important (meets NRC K/A Catalog threshold criterion of 2.5 (3 for requalification exams) or as determined by the facility and agreed to by the NRC).

3. ✓ Be designed as either SRO only, RO/SRO or AO/RO/SRO.

4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

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      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Plant conditions are as follows:

- A station blackout has occurred.
- Attempts to start the SBODG from the control room have failed.
- You have a cell phone and an operator is standing by C3.

Initiating Cue: "[Operator's name], locally start the station blackout diesel generator in accordance with procedure 2.2.146. Inform me when you have completed the assigned task."

Job Performance Measure
Worksheet

Facility: Pilgrim | Task No: 200-05-04-072

Task Title: Cross-tie Fire Water with RHR | JPM No: 10

K/A Reference: 295031A108 3.8/3.8 | Position: RO/SRO

Examinee: _____ | NRC Examiner: _____

Date: _____

Method of testing:

Simulated Performance ✓ | Actual Performance _____

Classroom _____ | Simulator _____ | Plant ✓

Read to the Examinee:

"I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied."

Initial Conditions: Due to a large LOCA, the need exists to cross-tie Fire Water to RHR. PNPS 5.3.26 is complete through Step 2.1[1](a)(4).

Task Standard: The Fire Water System is lined up to the RHR System in accordance with PNPS 5.3.26. The procedure shall be followed without failure of any critical elements. Critical steps must be performed in order. Other tasks may be performed out of sequence.

Required Materials: Locked valve key (for 1001-53 valve).

General References: 5.3.26, Rev. 8

Initiating Cue: "[State the operator's name], you are to continue lining up to crosstie Fire Water with RHR leaving the 'B' RHR loop isolated. Inform the control room when ready to start the motor driven fire water pump. Inform me when the task is complete".

Time Critical Task: NO

Validation Time: 20 minutes

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 1:** Review the applicable sections of the procedure.

Standard: PNPS 5.3.26 reviewed.

Comment:

_____ **Performance Step 2:** Obtain locked valve key for 1001-53.

Standard: Locked valve key in candidates possession. Key may be obtained from Control Room Annex.

Comment:

_____ **Performance Step 3:** Locate valve 1-DR-121 and simulate checking valve closed.

Standard: Operator locates 1-DR-121, and simulates taking the valve handwheel in the closed direction.

Comment: Cue the candidates that the handwheel will not move in the clockwise direction.

Note: 1-DR-121 is located approximately 3' South of the West corner of MCC-B15.

_____ **Performance Step 4:** Locate, remove the locking tie wrap, and simulate closing valve 10-HO-516.

Standard: Operator locates valve 10-HO-516, simulates removing the tie wrap, and closes the valve.

Comment: Cue the candidate that the tie wrap is removed and the valve is rotating in the clockwise direction. The valve stops and will not move any further in the clockwise direction.

Note: 10-HO-516 and 10-HO-517 are located adjacent to valve 1-DR-121.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

_____ **Performance Step 5:** Locate, remove the locking tie wrap, and simulate closing valve 10-HO-517.

Standard: Operator locates valve 10-HO-517, and simulates removing the tie wrap and closing the valve.

Comment: Cue the candidate that the tie wrap is removed and the valve is rotating in the clockwise direction. The valve stops and will not move any further in the clockwise direction.

✓ **Performance Step 6:** Locate, remove the locking tie wrap, and simulate opening valve 10-HO-511.

Standard: Operator locates valve 10-HO-511, simulates removing the tie wrap, and using the installed chain operator, opens the valve.

Comment: Cue the candidate that the tie wrap is removed and the chain is pulled, causing the valve to rotate in the counterclockwise direction. The chain stops and will not move any further. The valve stem is fully extended from the valve.

Note: 10-HO-511 is located slightly south and 5' above MCC-B15.

✓ **Performance Step 7:** Locate, remove the locking tie wrap, and simulate opening valve 8-I-56.

Standard: Operator locates valve 8-I-56, simulates removing the tie wrap, and using the installed chain operator, opens the valve.

Comment: Cue the candidate that the tie wrap is removed and the chain is pulled, causing the valve to rotate in the counterclockwise direction. The chain stops and will not move any further. The valve stem is fully extended from the valve.

Note: 8-I-56 is located above the RHR/Fire Water spool piece on the 23' level of the Aux Bay.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance Step 8:** Locate, remove the locking tie wrap, and simulate opening valve 3-I-57.

Standard: Operator locates valve 3-I-57, simulates removing the tie wrap, and using the installed chain operator, opens the valve.

Comment: Cue the candidate that the tie wrap is removed and the chain is pulled, causing the valve to rotate in the counterclockwise direction. The chain stops and will not move any further. The valve stem is fully extended from the valve.

Note: 3-I-57 is located below valve 8I-56.

_____ **Performance Step 9:** Locate and simulate opening valve ¾-TT-103.

Standard: Operator locates valve ¾-TT-103, and simulates opening the valve.

Comment: Cue the candidate that the valve handwheel is moving in the counterclockwise direction, and then stops.

Note: 3/4-TT-103 is located above the spool piece.

_____ **Performance Step 10:** Locate and simulate opening valve ¾-RT-5.

Standard: Operator locates valve ¾-RT-5, and simulates opening the valve.

Comment: Cue the candidate that the valve handwheel is moving in the counterclockwise direction, and then stops.

Note: 3/4-RT-5 is located adjacent to ¾-TT-103.

PERFORMANCE INFORMATION
(Critical steps denoted with a check mark)

✓ **Performance step 11:** Locate and simulate closing HO-1001-53, RHR Manual Cross-tie Valve.

Standard: Operator locates HO-1001-53, simulates unlocking the handwheel and closing the valve.

Comment: Cue the candidate that the lock is removed, the valve handwheel is moving in the clockwise direction, and then stops.

Terminating Cue: When Fire Water has been crosstied to the RHR system (with the 'B' RHR loop isolated) and the control room has been informed to start the motor driven fire water pump the candidate should inform the examiner that the task is complete.

VERIFICATION OF COMPLETION

JPM No.: _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

Result: **SAT** or **UNSAT**

Examiner's signature and date: _____ _____

Job Performance Measure
Quality Checklist

Every JPM should:

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4. Include the following, as applicable:

   a. ✓ Initial conditions

   b. ✓ Initiating cues

   c. ✓ References and tools, including associated procedures

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      (3) ✓ Statements describing important observations that should be made by the examinee

      (4) ✓ Criteria for successful completion of the task

      (5) ✓ Identification of those steps that are considered critical

      (6) ✓ Restrictions on the sequence of steps

Information Provided to Candidate

Initial Conditions: Due to a large LOCA, the need exists to cross-tie Fire Water to RHR. PNPS 5.3.26 is complete through Step 2.1[1](a)(4).

Initiating Cue: "Continue lining up to crosstie Fire Water with RHR leaving the 'B' RHR loop isolated. Inform the control room when ready to start the motor driven firewater pump. Inform me when the task is complete".