Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Both Unit-2 emergency busses are de-energized

Only Unit-2 is in ECA-0.0

Attempts to re-energize either emergency bus have failed

INITIATING CUE

You have been requested to perform the "Turbine Building Operations" attachment of 2-ECA-0.0.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

N1578

TASK

Perform local actions in the turbine building in response to a loss of all AC power (2-ECA-0.0, SOER-99-1).

TASK STANDARDS

Hydrogen was vented from the main generator, the condenser vacuum breaker was opened, nitrogen was isolated to the LP turbines, and the hotwell makeup valves were isolated

K/A REFERENCE:

05EA1.04 (3.5/3.9)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 10 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

N1578

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

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Instructions for In-Plant JPMs

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PREREQUISITES

Before being evaluated on the task, the trainee must have completed the reactor operator's course checkout during which the objectives listed below would have been addressed.

INITIAL CONDITIONS

Both Unit-2 emergency busses are de-energized

Only Unit-2 is in ECA-0.0

Attempts to re-energize either emergency bus have failed

INITIATING CUE

You have been requested to perform the "Turbine Building Operations" attachment of 2-ECA-0.0.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	Open 2-GM-8 to vent hydrogen from the main generator.	Procedure Step 1

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standard	2-GM-8 is simulated to be turned in the counter-clockwise direction until it is full open

Simulation Cue(s)	The valve handwheel has stopped turning

Notes/Comments

2	Open 2-AS-MOV-200 to break vacuum on the condenser.	Procedure Step 2

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standard	Applicant simulates engaging the clutch lever on 2-AS-MOV-200 and turning the handwheel in the counter-clockwise direction.

Simulation Cue(s)	If applicant does not simulate engaging the clutch say, "The handwheel is turning freely and stem is not rising." After MOV clutch is engaged and handwheel turned tell applicant – "You hear noise" The MOV handwheel has stopped turning and the stem is showing full open

Notes/Comments:

3	Close 2-GN-203 to isolate nitrogen injection to the low-pressure turbine exhaust.	Procedure Step 3

SAT [ ] UNSAT [ ]

Standard	2-GN-203 is verified closed by simulating turning in the clockwise direction and checking stem position is down

Simulation Cue(s)	You are unable to turn the handwheel in the clockwise direction and the stem position is as you see it.

Notes/Comments

4	Isolate Hotwell Makeup valves by closing the following: • 2-CN-151, Inlet to Makeup Valve 2-CN-LCV-209-1 Isol Valve • 2-CN-148, Inlet to 2-CN-LCV-209-2 Isol Valve • 2-CN-150, 2-CN-LCV-209-2 Bypass Valve • 2-CN-143, 2-CN-LCV-208 Bypass Valve	Procedure Step 4 & 5

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standard	Applicant simulates turning 2-CN-151 in the clockwise direction-critical Applicant simulates turning 2-CN-148 in the clockwise direction-critical. 2-CN-150 & 143 are verified in the closed position. Each valve is closed or verified closed by simulating turning the handwheel in the clockwise direction and checking that the stem is fully in the down position.

Simulation Cue(s)	2-CN-151 - The valve handwheel has stopped turning and the stem is fully in the down position. 2-CN-148 - The valve handwheel has stopped turning and the stem is fully in the down position. 2-CN-150 - You are unable to turn the handwheel in the clockwise direction and the stem position is as you see it. 2-CN-143 - You are unable to turn the handwheel in the clockwise direction and the stem position is as you see it.

Notes/Comments

5	Close 2-CN-141, Inlet To Hotwell High Level Divert Isol Valve	Procedure Step 6

SAT [ ] UNSAT [ ]

Standard	2-CN-141 is verified closed by simulating turning in the clockwise direction and checking stem position is down

Simulation Cue(s)	You are unable to turn the handwheel in the clockwise direction and the stem position is as you see it.

Notes/Comments

6	Initiate purge of the main generator using CO_2	Procedure Step 7

SAT [ ] UNSAT [ ]

Simulation Cue(s)	Assume that another operator has initiated purging the generator

Notes/Comments

7	Inform the control room operator that all local turbine building operations are complete.	Procedure Step _____

SAT [ ] UNSAT [ ]

Simulation Cue(s)	The control has been notified

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Both MG sets are secured.

Unit 1 is in Mode 3 with preparations being made to withdraw the Shutdown Banks for startup.

All applicable Initial conditions of 1-OP-58.1, Section 3.0 are met.

You have a Synchronizing Switch key.

INITIATING CUE

You are requested to place the initial rod drive MG set in service and parallel the second MG with the running MG set in accordance with 1-OP-58.1.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

TASK

Place both rod control motor generator set in operation with both rod control motor generator sets shut down (1-OP-58.1).

TASK STANDARDS

Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)

K/A REFERENCE:

001A4.08 (3.7/3.4)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 20 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

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Instructions for In-Plant JPMs

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PREREQUISITES

Before being evaluated on the task, the trainee must have completed the reactor operator's course checkout during which the objectives listed below would have been addressed.

INITIAL CONDITIONS

Both MG sets are secured.

Unit 1 is in Mode 3 with preparations being made to withdraw the Shutdown Banks for startup.

All applicable Initial conditions of 1-OP-58.1, Section 3.0 are met.

You have a Synchronizing Switch key.

INITIATING CUE

You are requested to place the initial rod drive MG set in service and parallel the second MG with the running MG set in accordance with 1-OP-58.1.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	Check initial conditions and review precautions and limitations	Procedure Step 5.1.1 & 5.1.2

SAT [ ] UNSAT [ ]

Standards	Initial conditions are checked and precautions and limitations are reviewed

Notes/Comments

2	Ensure all reactor trip breakers and reactor trip bypass breakers are open.	Procedure Step 5.1.3

SAT [ ] UNSAT [ ]

Standards	The position is checked on all four breakers

Simulation Cue(s)	A green OPEN flag is indicating an all of the breakers

Notes/Comments

3	Check that both motor generator set output breakers are racked to CONNECT.	Procedure Step 5.1.4

SAT [ ] UNSAT [ ]

Standards	Output breakers are verified in the connect position

Simulation Cue(s)	1-ED-BKR-01A1 and 01B1 are racked to CONNECT

Notes/Comments

4	Align all switches and devices on the applicable motor generator set control panel.	Procedure Step 5.1.5

SAT [ ] UNSAT [ ]

Simulation Cue(s)	Inform the trainee that each switch or device is in the position specified by the procedure as he checks them: The Generator No. 1 Voltage Adjust potentiometer is set to the mid range position. The Generator No. 2 Voltage Adjust potentiometer is set to the mid range position. The Generator No. 1 Synchronize switch, is OFF. The Generator No. 2 Synchronize switch, is OFF. The Generator No. 1 Ammeter switch is in position A. The Generator No. 2 Ammeter switch is in position A. The Generator No. 1 Voltmeter switch is in position A-B. The Generator No. 2 Voltmeter switch is in position A-B. The 1KS grounding switch is in the OPEN position.**(This switch is inside the control cabinet, DO NOT allow the cabinet to be opened) Provide pictures of inside cabinet and 1KS switch.**

Notes/Comments: **The 1KS grounding switch is inside the control cabinet. DO NOT allow the operator to open the cabinet. Provide pictures of inside cabinet and switch.**

5	Check that each MG set output and supply breaker lights and control switch indications are green.	Procedure Step 5.1.6.a - d

SAT [ ] UNSAT [ ]

Standards	Output and supply breaker lights and control switch indications are checked to be GREEN

Simulation Cue(s)	All breaker lights and control switch indications are green

Notes/Comments

6	Check the applicable relays for red flags.	Procedure Step 5.1.6.e

SAT [ ] UNSAT [ ]

Standards	Relay flags are checked

Simulation Cue(s)	None of the relays listed in the procedure show red flags (No RED flags should be showing)

Notes/Comments

7	Close the motor input circuit breaker for the motor generator set to be started.	Procedure Step 5.1.7

Critical Step	SAT [ ] UNSAT [ ]

Standards	MG set supply breaker is closed

Simulation Cue(s)	There is audible indication that the MG set is accelerating

Notes/Comments: Precaution and Limitation Step 4.5 – When placing the first MG Set in operation, then the preferred MG-Set is "B", because all synchronizing circuitry for both MG sets is located in the "A" Cabinet. If a problem exists synchronizing MG sets and "A" is already In-Service, then when the "A" cabinet is open to work on the "B" Circuitry the "A" MG Set could be tripped.

8	Flash the field for the generator, and adjust the generator's voltage, as required.	Procedure Step 5.1.8

Critical Step	SAT [ ] UNSAT [ ]

Standards	GEN FIELD FLASH button is depressed and voltage is adjusted to normal

Simulation Cue(s)	Voltage increased and stabilized at approximately 235 volts

Simulation Cue(s)	After adjustment, inform the trainee that voltage now reads 260 volts

Notes/Comments

9	Close the generator output circuit breaker for the motor generator being placed in service.	Procedure Step 5.1.9

Critical Step	SAT [ ] UNSAT [ ]

Standards	1-ED-MG-1A or 1B is closed

Simulation Cue(s)	The output breaker RED light is lit

Notes/Comments

10	If MG set voltage is not at 260 volts, then adjust the voltage adjust potentiometer to 260 volts.	Procedure Step 5.1.10

SAT [ ] UNSAT [ ]

Standards	Voltage is adjusted to approximately 260 volts

Simulation Cue(s)	Voltage is approximately 260 volts

Notes/Comments: The following steps are for paralleling the second MG set IAW section 5.2 of the procedure.

11	Check initial conditions and review precautions and limitations	Procedure Step 5.2.1 & 5.2.2

SAT [ ] UNSAT [ ]

Standards	Initial conditions are checked and precautions and limitations are reviewed (Previously reviewed in section 5.1 of the procedure)

Simulation Cue(s)	Tell applicant – Time compression is being used and Reactor Trip Breakers have been closed IAW Initial Conditions, Step 3.3

Notes/Comments:

12	Ensure that the voltage potentiometer is in mid-position and the synchronize switch is OFF.	Procedure Step 5.2.3.a & b

SAT [ ] UNSAT [ ]

Standards	Voltage potentiometer is verified in mid-position and the synchronize switch is verified OFF

Simulation Cue(s)	Switches are in the desired position

Notes/Comments

13	Reset relay flags or motor generator set breakers, if required.	Procedure Step 5.2.3.c

SAT [ ] UNSAT [ ]

Standards	Relay flags are checked

Simulation Cue(s)	No relays have RED flags

Notes/Comments

14	Close the motor input circuit breaker for the motor generator set to be started.	Procedure Step 5.2.4

Critical Step	SAT [ ] UNSAT [ ]

Standards	MG set supply breaker is closed

Simulation Cue(s)	There is audible indication that the MG set is accelerating

Notes/Comments

15	Flash the field for the generator, and adjust the generator's voltage, as required.	Procedure Step 5.2.5

Critical Step	SAT [ ] UNSAT [ ]

Standards	GEN FIELD FLASH button is depressed and voltage is adjusted to normal

Simulation Cue(s)	Voltage increased and stabilized at approximately 235 volts

Notes/Comments

16	Adjust the voltage potentiometer as required, to match the running voltage.	Procedure Step 5.2.5.e

Critical Step	SAT [ ] UNSAT [ ]

Standards	Voltage is adjusted to approximately +/- 5 volts of running voltage (running voltage is 260 volts)

Simulation Cue(s)	After adjustment, inform the trainee that voltage now reads +/- 5 volts of running voltage

Notes/Comments

17	Turn the synchronize switch to the ON position, and verify that the applicable motor generator set's generator output breaker closes.	Procedure Step 5.2.5.f

Critical Step	SAT [ ] UNSAT [ ]

Standards	Applicant inserts Synchronizing Switch Key and Synchronize switch is placed in ON

Simulation Cue(s)	Inform the trainee that the MG set output breaker has closed

Notes/Comments

18	Turn the synchronize switch to the OFF position.	Procedure Step 5.2.5.h

SAT [ ] UNSAT [ ]

Standards	Synchronize switch is placed in OFF

Notes/Comments

19	Verify voltage indicates approximately the same on each MG set. If not, then notify system engineering.	Procedure Step 5.2.5.i

SAT [ ] UNSAT [ ]

Standards	Voltage is checked the same on both MG sets
Simulation Cue(s)	Voltage indicates approximately the same on each MG set

Notes/Comments

20	Red-flag the motor generator set's generator output circuit breaker.	Procedure Step 5.2.5.j

SAT [ ] UNSAT [ ]

Standards	MG set output breaker control switch is placed in CLOSE

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Equipment rotation is in progress

1-GW-F-1B is running

Equipment status has been reviewed to verify station configuration will support performance of this procedure

INITIATING CUE

You are requested to shift process vent blowers in accordance with 0-OP-23.3 Section 5.3 “Shifting from 1-GW-F-1B, 1B Waste Gas Process Vent Blower, to 1-GW-F-1A, 1A Waste Gas Process Vent Blower”

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

TASK

Shift Process Vent System blowers and isolate the out-of-service blower (0-OP-23.3).

TASK STANDARDS

Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)

Work was performed in compliance with the Radiation Work Permit; exposure to surface and airborne contamination was minimized; and ALARA principles were applied

Final equipment configuration is as follows:

1-GW-F-1A = Running.
1-GW-F-1B = De-energized and Isolated.
Flow = between 270 and 330 scfm.

K/A REFERENCE:

071A1.06 (2.5/2.8)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 10 minutes Start Time = _____
Actual Time = _____ minutes Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / _____

Date _____

EVALUATOR'S COMMENTS

_____

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

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PREREQUISITES

Before being evaluated on the task, the trainee must have completed the reactor operator's course checkout during which the objectives listed below would have been addressed.

INITIAL CONDITIONS

Equipment rotation is in progress

1-GW-F-1B is running

Equipment status has been reviewed to verify station configuration will support performance of this procedure

INITIATING CUE

You are requested to shift process vent blowers in accordance with 0-OP-23.3 Section 5.3 “Shifting from 1-GW-F-1B, 1B Waste Gas Process Vent Blower, to 1-GW-F-1A, 1A Waste Gas Process Vent Blower”

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

Administrative key

PERFORMANCE STEPS

START TIME _____

1	Check initial conditions and review precautions and limitations.	Procedure Step 5.3.1 & 5.3.2

SAT [ ] UNSAT [ ]

Standards	Initial condition is checked and precautions and limitations are reviewed

Notes/Comments

2	Open the following valves for 1-GW-F-1A: • 1-GW-135, 1A Waste Gas Process Vent Blower Suct Isol Valve • 1-GW-138, 1A Waste Gas Process Vent Blower Disch Isol Valve	Procedure Step 5.3.3

Critical Step	SAT [ ] UNSAT [ ]

Standards	The valves are simulated to be turned in the counter-clockwise direction until the handwheel stops turning

Simulation Cue(s)	The handwheel has stopped turning and the position indicating stem is full out. If asked: 1-GW-135 has been independently verified.

Notes/Comments

3	Turn ON 1-EP-BKR-1A2-1 G3, 1A Waste Gas Process Vent Blower Circuit Breaker 1-GW-F-1A.	Procedure Step 5.3.4

Critical Step	SAT [ ] UNSAT [ ]

Standards	The breaker is simulated to be turned to the ON position

Simulation Cue(s)	The breaker indicates in the ON position

Notes/Comments

4	Start 1-GW-F-1A, PROCESS VENT BLOWER, at Waste Disposal Panel in Control Room.	Procedure Step 5.3.5

SAT [ ] UNSAT [ ]

Standards	The operator simulates calling the control room to start 1-GW-F-1A
Simulation Cue(s)	1-GW-F-1A is running

Notes/Comments

5	Stop 1-GW-F-1B, PROCESS VENT BLOWER, at Waste Disposal Panel in Control Room.	Procedure Step 5.3.6

SAT [ ] UNSAT [ ]

Standards	The operator simulates calling the control room to stop 1-GW-F-1B
Simulation Cue(s)	1-GW-F-1B has been stopped

Notes/Comments

6	Verify 1-GW-FI-108, PROCESS VENT FLOW, at Waste Disposal Panel in Control Room, is reading 270-330 scfm.	Procedure Step 5.3.7

SAT [ ] UNSAT [ ]

Standards	The operator simulates calling the control room to verify flow

Simulation Cue(s)	Backboards operator reports flow is 350 scfm

Notes/Comments

7	IF flow is >330 scfm, THEN throttle closed I-GW-I38, 1A Waste Gas Process Vent Blower Disch Isol Valve, as required to obtain 270-330 scfm.	Procedure Step 5.3.7.b

Critical Step	SAT [ ] UNSAT [ ]

Standards	1-GW-138 is simulated to be turned in the clockwise direction

Simulation Cue(s)	Once the trainee throttles closed on the discharge valve, state that flow is now 300 scfm

Notes/Comments

8	Turn OFF breaker 1-EP-BKR-1C2-1 D3, 1B Waste Gas Process Vent Blower Circuit Breaker 1-GW-F-1B.	Procedure Step 5.3.8

SAT [ ] UNSAT [ ]

Standards	The breaker is simulated to be turned to the OFF position

Simulation Cue(s)	The breaker indicates in the OFF position

Notes/Comments

9	Close the following valves for 1-GW-F-1B, 1B Waste Gas Process Vent Blower: • 1-GW-139, 1B Waste Gas Process Vent Blower Suct Isol Valve • 1-GW-142, 1B Waste Gas Process Vent Blower Disch Isol Valve	Procedure Step 5.3.9

SAT [ ] UNSAT [ ]

Standards	The valves are simulated to be turned in the clockwise direction until the handwheel stops turning

Simulation Cue(s)	The handwheel has stopped turning and the position indicating stem is full in. Another operator will be assigned to independently verify the procedure.

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

A LOCA has occurred

1-E-0 has been completed through step 5

INITIATING CUE

You are requested to continue performing 1-E-0, at step 6, Verify SI Flow.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

R730

TASK

Verify safety injection flow (1-E-0).

TASK STANDARDS

Charging suction was aligned to RWST, and SI flow was established to the reactor

K/A REFERENCE:

011EA1.13 (4.1/4.2)

ALTERNATE PATH:

Boron Injection Tank MOVs fail to open requiring alternate flow path to be used

TASK COMPLETION TIMES

Validation Time = 10 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

R730

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

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PREREQUISITES

The trainee has completed the applicable course knowledge training at the Reactor Operator level.

INITIAL CONDITIONS

A LOCA has occurred

1-E-0 has been completed through step 5

INITIATING CUE

You are requested to continue performing 1-E-0, at step 6, Verify SI Flow.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

A copy of 1-E-0 signed off through step 5 is available

PERFORMANCE STEPS

START TIME _____

1	VERIFY HIGH-HEAD COLD LEG SI FLOW-INDICATED	Procedure Step 1-E-0 step 6 & RNO
		SAT [ ] UNSAT [ ]

Standards	• Applicant notes that there is no cold leg SI flow indicated and goes to the RNO to check individual flow transmitters • Attachment 6 is initiated by the step 6 RNO or using CAP item 2
Cue(s)	If the applicants states that another person is required to perform attachment 6 then say ”You are requested to perform attachment 6”

Notes/Comments
The applicant is expected to initiate attachment 6 using either the step 6 RNO or the Continuous Action Page item 2. It would be critical if the candidate fails to initiate attachment 6 and restore SI flow prior to transitioning from 1-E-0 to another procedure.

2	Manually align charging pump suction from the refueling water storage tank.	Procedure Step 1 & 2

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standards	• 1-CH-MOV-1115B and/or 1115D is opened • 1-CH-MOV-1115C and/or 1115E is closed

Notes/Comments

3	Close at least one normal charging isolation valve.	Procedure Step 3

SAT [ ] UNSAT [ ]

Standards	Either 1-CH-MOV-1289A or 1-CH-MOV-1289B is closed

Simulation Cue(s)	1-CH-MOV-1289A or 1-CH-MOV-1289B have green lights lit and red lights not lit

Notes/Comments	

4	Close BIT RECIRC valves.	Procedure Step 4

SAT [ ] UNSAT [ ]

Standards	1-SI-TV-1884A, 1884B, and 1884C are closed

Notes/Comments

5	OPEN AT LEAST ONE BIT OUTLET VALVE - NO. (alt path)	Procedure Step __5__

Standards	OPEN push-buttons for 1-SI-MOV-1867C and/or 1867D are depressed

Notes/Comments - BIT Outlet MOVs will not OPEN. RNO action taken (1-SI-MOV-1836 will not open) Operator will obtain key #21 and open EITHER 1-SI-MOV-1869A OR 1-SI-MOV-1869B and proceed to Step 7.

6	Turn on control power and open 1-SI-MOV-1836 -NO. (alt path)	Procedure Step _5 RNO

Standards	OPEN push-button for 1-SI-MOV-1836 is depressed

Notes/Comments - 1-SI-MOV-1836 will not open

7	Turn on control power and open 1-SI-MOV-1869A or 1869B.	Procedure Step _5 RNO

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standards	EITHER 1-SI-MOV-1869A OR 1-SI-MOV-1869B is opened.
Cue(s)	IF the operator requests that the key be delivered from the WCC then state: **You have permission to use the key from the Appendix R/Vital area key box**.

Notes/Comments – Operator will obtain key #21 and open EITHER 1-SI-MOV-1869A OR 1-SI-MOV-1869B and proceed to Step 7.

8	Verify the charging pumps are running.	Procedure Step __7__

SAT [ ] UNSAT [ ]

Standards	Operator ensures two pumps are running, if available.

Notes/Comments

9	Verify that high-head safety injection flow to the cold-legs is indicated.	Procedure Step _____

SAT [ ] UNSAT [ ]

Standards	Adequate cold-leg safety injection flow is indicated

Cue(s)	Assume that another operator will complete the procedure

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

SIMULATOR SETUP

JOB PERFORMANCE MEASURE
R730

TASK

Verify safety injection flow (1-E-0).

CHECKLIST

_____ Recall IC #1 (100% power)

_____ Enter malfunctions SI 108, 0701, 0702 and RC 04 100% degradation

_____ Enter malfunctions for 1-SI-MOV-1836, 1-SI-MOV-1867C, and 1-SI-MOV-1867D

_____ Go to Run

_____ Perform 1st 4 steps of 1-E-0

_____ Place the simulator in FREEZE

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Unit 1 has been tripped, and steady-state conditions of 2,235 psig and approximately 548°F exist

Both motor-driven auxiliary feedwater pumps are unavailable

Turbine-driven auxiliary feedwater pump is running

All main feedwater pumps, heater drain pumps, and condensate pumps have been stopped due to a feed-line break in the turbine building

An operator is standing by in the AFPH with a copy of 1-AP-22.4

INITIATING CUE

You are requested to respond to a Loss of Both Motor-Driven AFW pumps in accordance with 1-AP-22.4.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

R524

TASK

Supply feedwater to all three steam generators using the HCV header (1-AP-22.4).

TASK STANDARDS

The HCV header has been aligned to feed all SGs from the Terry Turbine and only one RCP is running.

K/A REFERENCE:

061-A2.04 (3.4/3.8)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 15 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

R524

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

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Instructions for In-Plant JPMs

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PREREQUISITES

The trainee has completed the applicable course knowledge training at the Reactor Operator level.

INITIAL CONDITIONS

Unit 1 has been tripped, and steady-state conditions of 2,235 psig and approximately 548°F exist

Both motor-driven auxiliary feedwater pumps are unavailable

Turbine-driven auxiliary feedwater pump is running

All main feedwater pumps, heater drain pumps, and condensate pumps have been stopped due to a feed-line break in the turbine building

An operator is standing by in the AFPH with a copy of 1-AP-22.4

INITIATING CUE

You are requested to respond to a Loss of Both Motor-Driven AFW pumps in accordance with 1-AP-22.4.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	Determine if the Main Feedwater System is in service.	Procedure Step __1__
		SAT [ ] UNSAT [ ]

Standards	Main feed pumps are verified stopped, or initial conditions are reviewed
Simulation Cue(s)	Main feedwater pumps have been stopped

Notes/Comments

2	Stop all but one reactor coolant pump.	Procedure Step RNO 1.a

Critical Step	SAT [ ] UNSAT [ ]

Standards	Exactly two reactor coolant pump control switches are placed in AUTO-AFTER-STOP

Notes/Comments

3	Place spray valve(s) for any idle RCP(s) in manual and close.	Procedure Step RNO 1.a

SAT [ ] UNSAT [ ]

Standards	Spray valve(s) for idle RCP(s) are placed in manual and verified closed

Simulation Cue(s)	After placed in manual: 1-RC-PCV-1455A(B) has red light lit for MANUAL and demand is zero

Notes/Comments

4	Initiate attempts to restore main feedwater.	Procedure Step RNO 1.b

SAT [ ] UNSAT [ ]

Standards	Operator states that he would inform unit supervisor of need to restore main feedwater
Performance Cue(s)	Assume that another operator will perform this step
Simulation Cue(s)	Assume that another operator will perform this step

Notes/Comments

5	Verify that the turbine-driven auxiliary feedwater pump is running.	Procedure Step 2

SAT [ ] UNSAT [ ]

Standards	Verifies that 1-FW-P-2 is running
Simulation Cue(s)	Turbine-driven auxiliary feedwater pump trip valves have red lights LIT and green light NOT lit. Flow is indicated.

Notes/Comments

6	Verify that emergency condensate storage tank level is greater than 40%.	Procedure Step 3

SAT [ ] UNSAT [ ]

Standards	Operator checks ECST indicators are > 40%
Simulation Cue(s)	Emergency condensate storage tank level is 90%

Notes/Comments

7	Perform attachment 5 to align HCV header for feeding all SGs.	Procedure Step 4

SAT [ ] UNSAT [ ]

Standards	Operator checks with SRO for header to align
Performance Cue(s)	The SRO directs that the HCV header be used

Notes/Comments

8	Open the auxiliary feedwater HCV header to "A" steam generator 1-FW-HCV-100A.	Procedure Step Att. 5 step 1

Critical Step	SAT [ ] UNSAT [ ]

NOTE TO THE EVALUATOR	OPERATOR MAY NOT NEED TO OPEN 1-FW-HCV-100A DUE TO HAVING SUFFICIENT LEVEL IN THE "A" SG. MAY ALSO OPEN AND THEN RECLOSE THE VALVE.

Standards	Potentiometer for 1-FW-HCV-100A is turned in the clockwise direction

Notes/Comments
At some point in the JPM, this valve must be opened – sequence is not critical.

9	Open the auxiliary feedwater HCV header to "B" steam generator 1-FW-HCV-100B.	Procedure Step Att. 5 step 1

Critical Step	SAT [ ] UNSAT [ ]

Standards	Potentiometer for 1-FW-HCV-100B is turned in the clockwise direction

Notes/Comments
At some point in the JPM, this valve must be opened – sequence is not critical.

10	Open the auxiliary feedwater HCV header to "C" steam generator 1-FW-HCV-100C.	Procedure Step Att. 5 step 1

SAT [ ] UNSAT [ ]

Standards	Potentiometer for 1-FW-HCV-100C verified at 100%

Notes/Comments This valve should already be fully open (full clockwise position).

11	Close the auxiliary feedwater MOV header to "B" steam generator 1-FW-MOV-100B.	Procedure Step Att. 5 step 2

Standards	Control switch for 1-FW-MOV-100B is placed in CLOSE and held there until valve indicates closed

Simulation Cue(s)	1-FW-MOV-100B has red light LIT and green light NOT lit After switch has been held in CLOSE for some period of time: 1-FW-MOV-100B has green light LIT and red light NOT lit

Notes/Comments

12	Request the safeguards operator to unlock and close the discharge valve for 1-FW-P-3A to the HCV header, 1-FW-172.	Procedure Step Att. 5 step 3.a

SAT [ ] UNSAT [ ]

Standards	Operator in AFW pump house is contacted to perform step

Simulation Cue(s)	1-FW-172 is closed

Notes/Comments:
Candidate may instruct Safeguards operator to perform all of step 3.

13	Request the safeguards operator to unlock and open the following valves. • Turbine-driven auxiliary feedwater pump to the steam generator HCV header outlet isolation valve 1-FW-155 • Auxiliary feedwater "A" HCV 1-FW-HCV-100A outlet isolation valve 1-FW-64 • Auxiliary feedwater "B" HCV 1-FW-HCV-100B outlet isolation valve 1-FW-96	Procedure Step Att. 5 step 3.b

Critical Step	SAT [ ] UNSAT [ ]

Standards	Safeguards operator is requested to unlock and open 1-FW-155, 64, and 96

Simulation Cue(s)	1-FW-155, 1-FW-64, and 1-FW-96 are open

Notes/Comments
There will be a 2 minute delay until manual valves are repositioned. Safeguards operator will call to inform candidate that step 3 is complete.

14	Slowly close the turbine-driven auxiliary feedwater pump to "A" steam generator valve 1-FW-MOV-100D.	Procedure Step Att. 5 step 4

Critical Step	SAT [ ] UNSAT [ ]

NOTE TO THE EVALUATOR	OPERATOR MAY HAVE CLOSED THIS VALVE EARLIER TO CONTROL STEAM GENERATOR LEVEL

Standards	Control switch for 1-FW-MOV-100D is placed in CLOSE

Simulation Cue(s)	1-FW-MOV-100D has red light LIT and green light NOT lit After switch has been held in CLOSE for some period of time: 1-FW-MOV-100D has green light LIT and red light NOT lit

Notes/Comments

15	Notify control room that Attachment 5 is complete and return to 1-AP-22.4, step in effect.	Procedure Step Att. 5 step 5

SAT [ ] UNSAT [ ]

Standards	Operator returns to step 5 of procedure

Performance Cue(s)	Assume another operator will continue with 1-AP-22.4

Simulation Cue(s)	Assume another operator will continue with 1-AP-22.4

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

SIMULATOR SETUP

JOB PERFORMANCE MEASURE
R524

TASK

Supply feedwater to all three steam generators using the HCV header (1-AP-22.4).

CHECKLIST

_____ Recall IC #332

_____ Place 1-FW-P-3A in PTL, rack out the breaker, and place sticker on switch

_____ Close 1-FW-172 using ExtremeView

_____ Enter malfunction FW2302; Delay time = 60, Trigger = 1

_____ Enter malfunction FW1301, Delay time = 0, Severity = 50, Trigger = 1

_____ Place the following on triggers:
FW_155, Delay time = 10, Ramp = 20, Trigger 2
FW_64, Delay time = 30, Ramp = 20, Trigger 2
FW_96, Delay time = 50, Ramp = 20, Trigger 2

_____ Go to RUN, insert Trigger 1, manually trip reactor and turbine, and close the reheater FCVs

_____ Place the following pumps in PULL-TO-LOCK: condensate pumps and main feedwater pumps

_____ Establish RCS pressure and temperature per initial conditions and place the simulator in freeze

_____ When called to do local lineup, insert Trigger 2
(Can report that 1-FW-172 is closed and tagged, if necessary)

_____ Once the triggers time out, report that attachment 5 step 3 lineup is complete

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Unit is stable at 100% power.

INITIATING CUE

You are requested to respond to plant conditions.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

R724

TASK

Respond to a loss of reactor coolant pump seal cooling (1-AP-33.2).

TASK STANDARDS

Reactor manually tripped, "C" RCP stopped, seal return isolated, and 1-RC-PCV-1455B is placed in manual and closed.

K/A REFERENCE:

015-AA1.07 (3.5/3.4)

ALTERNATE PATH:

1-CH-MOV-1381 fails to close requiring use of alternate MOV to isolate

TASK COMPLETION TIMES

Validation Time = 10 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

R724

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

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PREREQUISITES

The trainee has completed the applicable course knowledge training at the reactor operator level.

INITIAL CONDITIONS

Unit is stable at 100% power.

INITIATING CUE

You are requested to respond to plant conditions.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s)).

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s)).

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	Operator responds to annunciators 1C-C4 and 1C-G6 illuminating. The operator will diagnose the event in accordance with the annunciator response and enter 1-AP-33.2, Loss of RCP Seal Cooling.	AR 1C-C4 AR 1C-G6

SAT [ ] UNSAT [ ]

Standards	Operator verifies that 1-CC-FI-116C and 1-CH-FI-1124 both indicate 0 gpm. Based on loss of seal cooling to the 'C' RCP, operator enters 1-AP-33.2

Simulation Cue(s)	

Notes/Comments

2	Verify that the affected reactor coolant pump(s) stopped.	Procedure Step 1 of 1-AP-33.2

SAT [ ] UNSAT [ ]

Standards	Operator verifies that all RCPs are running and applies RNO step to trip the reactor.

Simulation Cue(s)	All reactor coolant pumps are currently running.

Notes/Comments

3	Go to 1-E-0 while continuing with this procedure.	Procedure Step 1 RNO a of 1-AP-33.2 RNO

Critical Step	SAT [ ] UNSAT [ ]

Standards	Reactor trip switches on benchboard 1-1 and/or 1-2 momentarily placed in the TRIP position

Simulation Cue(s)	Reactor trip breakers have green lights LIT and red lights NOT lit.

Notes/Comments

4	Verify reactor tripped.	Procedure Step 1 of 1-E-0

SAT [ ] UNSAT [ ]

Standards	Operator verifies reactor is tripped (RTBs open, rod bottom lights on, flux decreasing).

Notes/Comments

5	Verify turbine trip	Procedure Step 2 of 1-E-0

Standards	Operator verifies turbine stop valves closed, resets Reheater FCVs, and verifies G-12 open (30 sec TD).

Notes/Comments

6	Verify both ac emergency busses energized – yes.	Procedure Step 3 of 1-E-0

SAT [ ] UNSAT [ ]

Standards	Verifies 1H and 1J busses both energized by observing volt meters on 1H and 1J EDG control panels.

Notes/Comments

7	Check if SI is actuated	Procedure Step 4 of 1-E-0

SAT [ ] UNSAT [ ]

Standards	• Checks low head pumps running- NO. • Any first out annunciator lit – NO.

Performance Cue(s)	Additional crew members will continue with 1-E-0. The Unit Supervisor directs you to continue performance of 1-AP-33.2.

Simulation Cue(s)	Additional crew members will continue with 1-E-0. The Unit Supervisor directs you to continue performance of 1-AP-33.2.

Notes/Comments

8	Stop the affected reactor coolant pump(s).	Procedure Step 1.RNO b of 1-AP-33.2

Critical Step	SAT [ ] UNSAT [ ]

Standards	Control switch for reactor coolant pump 1C is placed in AUTO-AFTER-STOP or PULL-TO-LOCK.

Simulation Cue(s)	Reactor coolant pump 1C indicates stopped.

Notes/Comments

9	Close the affected reactor coolant pump's spray valve.	Procedure Step 1.RNO c of 1-AP-33.2

Critical Step	SAT [ ] UNSAT [ ]

Standards	Controller for 1-RC-PCV-1455B is placed in MANUAL and the lower push-button is momentarily depressed until the controller output indicates zero.

Notes/Comments

10	Check “A” or ”B” RCP affected - NO	Procedure Step 2 of 1-AP-33.2

Standards	Operator proceeds to step 3.

Notes/Comments

11	Verify RCP seal cooling isolated – Check “C” RCP affected	Procedure Step 3.a of 1-AP-33.2

Standards	Operator checks “C” RCP affected

Notes/Comments

12	Close 1-CH-MOV-1381 - NO. **(alternate path step – valve open and cannot be closed)**	Procedure Step 3.b of 1-AP-33.2

SAT [ ] UNSAT [ ]

Standards	Operator recognizes that 1-CH-MOV-1381 is still open (after momentarily depressing close pushbutton) and applies RNO to close 1-CH-MOV-1380.

Simulation Cue(s)	Reactor coolant pump seal water return valve, 1-CH-MOV-1381, is open.

Notes/Comments
Valve is open and will not close requiring operator to take action and close alternative valve 1-CH-MOV-1380.

13	Close reactor coolant pump seal water return valve 1-CH-MOV-1380. **(alternate path step)**	Procedure Step 3.b RNO of 1-AP-33.2

Critical Step	SAT [ ] UNSAT [ ]

Standards	Close push-button for reactor coolant pump seal water return valve, 1-CH-MOV-1380, is momentarily depressed.

Simulation Cue(s)	Reactor coolant pump seal water return valve, 1-CH-MOV-1380, is closed.

Notes/Comments

14	Affected RCP Seal injection isolation valve is CLOSED	Procedure Step 3.c of 1-AP-33.2

Standards	

Simulation Cue(s)	Assume another operator will continue with this procedure.

Notes/Comments

END OF EVALUATION

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

SIMULATOR SETUP

JOB PERFORMANCE MEASURE
R724

TASK

Respond to a loss of reactor coolant pump seal cooling (1-AP-33.2).

CHECKLIST

_____ Recall IC #333

_____ Do Simspray and check recorders

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Unit is stable at 100% power

Annunciator window 1-AR-9 (1J-D8) ACCUM 1A-1B-1C HI-LO PRESS is illuminated

Pressure in safety injection accumulator 1-SI-TK-1C is < 600 psig

The nitrogen system is not aligned to supply the PORV N_2 accumulators

Equipment status has been reviewed and supports the performance of this procedure

The outsides operator has verified an adequate source of nitrogen is available and has started the nitrogen system pump

INITIATING CUE

You are requested to increase pressure in safety injection accumulator 1-SI-TK-1C to between 630 and 640 psig in accordance with 1-OP-7.3, "Filling, Draining, Pressurizing, and Venting SI Accumulators."

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

R589

TASK

Pressurize a safety injection accumulator (1-OP-7.3).

TASK STANDARDS

Specified accumulator was pressurized with nitrogen and lineup secured.

Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)

K/A REFERENCE:

006A4.07 (4.4/4.4)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 15 Start Time = _____
Actual Time = _____ minutes Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

R589

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

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PREREQUISITES

The trainee has completed the applicable course knowledge training at the Reactor Operator level.

NOTE – Pre-brief required prior to entering the simulator.

INITIAL CONDITIONS

Unit is stable at 100% power

Annunciator window 1-AR-9 (1J-D8) ACCUM 1A-1B-1C HI-LO PRESS is illuminated

Pressure in safety injection accumulator 1-SI-TK-1C is < 600 psig

The nitrogen system is not aligned to supply the PORV N_2 accumulators

Equipment status has been reviewed and supports the performance of this procedure

The outsides operator has verified an adequate source of nitrogen is available and has started the nitrogen system pump

INITIATING CUE

You are requested to increase pressure in safety injection accumulator 1-SI-TK-1C to between 630 and 640 psig in accordance with 1-OP-7.3, "Filling, Draining, Pressurizing, and Venting SI Accumulators."

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	Verify that initial conditions are satisfied.	Procedure Step 5.4.1
		SAT [ ] UNSAT [ ]

Standards	Initial conditions are verified to be satisfied
Performance Cue(s)	If asked: RWST boron concentration is 2700 ppm
Simulation Cue(s)	If asked: RWST boron concentration is 2700 ppm

Notes/Comments

2	Review precautions and limitations.	Procedure Step 5.4.2
		SAT [ ] UNSAT [ ]

Standards	Precautions and limitations have been reviewed

Notes/Comments

3	Place 1-SI-HIC-100 at zero percent output.	Procedure Step 5.4.3
		SAT [ ] UNSAT [ ]

Standards	1-SI-HIC-100 output is decreased to zero

Notes/Comments

4	Open 1-SI-TV-100.	Procedure Step 5.4.4
	Critical Step	SAT [ ] UNSAT [ ]

NOTE TO THE EVALUATOR	**Must press open buttons on both panels simultaneously for 1-SI-TV-100 to open**

Standards	1-SI-TV-100 is opened

Performance Cue(s)	If asked: The outsides operator reports the nitrogen system pump is running.

Simulation Cue(s)	If asked: The outsides operator reports the nitrogen system pump is running. **Must press open buttons on both panels for 1-SI-TV-100**

Notes/Comments

5	Slowly increase the output of 1-SI-HIC-100 to pressurize the accumulator supply header	Procedure Step 5.4.5
	Critical Step	SAT [ ] UNSAT [ ]

Standards	Output on 1-SI-HIC-100 is raised above 0%
Performance Cue(s)	If asked: The outsides operator reports the nitrogen system pump is running. If asked: US desires 100% output on 1-SI-HIC-100
Simulation Cue(s)	If asked: The outsides operator reports the nitrogen system pump is running. If asked: US desires 100% output on 1-SI-HIC-100

Notes/Comments

6	Open N2 valve for the desired accumulator - 1-SI-HCV-1853C.	Procedure Step 5.4.6
	Critical Step	SAT [ ] UNSAT [ ]

Standards	1-SI-HCV-1853C is opened and pressure in 1-SI-TK-1C is increasing
Simulation Cue(s)	

Notes/Comments

7	When the desired pressure has been reached, then do the following: • Close 1-SI-HCV-1853C, the nitrogen supply valve to accumulator 1-SI-TK-1C. • Close nitrogen supply trip valve 1-SI-TV-100. • Increase the output of 1-SI-HIC-100 to 100%.	Procedure Step 5.4.7

Critical Step	SAT [ ] UNSAT [ ]

Standards	1-SI-HCV-1853C is closed
Standards	Pressure in 1-SI-TK-1C has stopped increasing

Performance Cue(s)	**After accumulator pressure has been verified to be increasing:** Use pen to indicate that pressure is between 630 and 640 psig on both "C" accumulator pressure indicators. (If asked: PCS indication is 635 psig) If needed: US requires you to return the accumulator nitrogen lineup to normal

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

SIMULATOR SETUP

JOB PERFORMANCE MEASURE
R589

TASK

Pressurize a safety injection accumulator (1-OP-7.3).

CHECKLIST

_____ Recall 100% power IC #334

_____ Slowly reduce pressure in "C" accumulator using tanksnstuff until J-D8 is illuminated (~1178 LM)

_____ Place simulator in freeze

Dominion
North Anna Power Station

LICENSED OPERATOR REQUALIFICATION PROGRAM

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS

The unit is at 100% power

INITIATING CUE

You are requested to respond to plant conditions.

Dominion
North Anna Power Station

LICENSED OPERATOR REQUALIFICATION PROGRAM

JOB PERFORMANCE MEASURE

R675 / 13341

TASK

Respond to a failure of main generator voltage regulator high (1-AP-26).

TASK STANDARDS

Voltage regulator was turned off, reactor was manually tripped, and both G12 and the Exciter Field Breaker were manually opened.

K/A REFERENCE:

077AA1.03 (3.8/3.7)

ALTERNATE-PATH TOPIC

BASE ADJUST switch fails to operate requiring unit trip
G12 Breaker does not open automatically

TASK COMPLETION TIMES

Validation Time = 4 minutes
Actual Time = _____ minutes
Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

_____

Dominion
North Anna Power Station

LICENSED OPERATOR REQUALIFICATION PROGRAM

JOB PERFORMANCE MEASURE

R675 / 13341

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

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INITIAL CONDITIONS

The unit is at 100% power

INITIATING CUE

You are requested to respond to plant conditions.

EVALUATION METHOD

Perform if conducted in the simulator or in the electrical laboratory (use Performance Cue(s))

Simulate if conducted in the station (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	Operator refers to the following annunciators and determines that entry into 1-AP-26 (immediate operator actions) is required.	Procedure Step 1

SAT [ ] UNSAT [ ]

Standards	Operator enters 1-AP-26 to perform immediate operator actions.
Simulation Cue(s)	Annunciators received for voltage regulator failure.
Notes/Comments	

2	Check the status of the main generator.	Procedure Step 1

SAT [ ] UNSAT [ ]

Standards	Main generator output voltage and MVARs are verified increasing, and generator MW is verified stable
Simulation Cue(s)	Main generator voltage is slowly going up
Simulation Cue(s)	Megawatts are stable
Simulation Cue(s)	MVARs are slowing going to the outside
Notes/Comments	

3	Turn the voltage regulator switch to OFF.	Procedure Step 2

SAT [ ] UNSAT [ ]

Standards	Voltage regulator control switch is placed in OFF

Simulation Cue(s)	Main generator output voltage is stable at 22.5 KV, reactive load is 230 MVARSs IN (or use pen to show)

Notes/Comments	Will cause damage to main generator components if no action taken.

4	Adjust the main generator's output voltage into the normal range using the base adjust switch.	Procedure Step 3

SAT [ ] UNSAT [ ]

Standards	Base adjust switch is placed in the RAISE position and reactive load is verified to remain greater than 200 MVARs IN **(alt path – MVARS cannot be raised above 200 MVARS IN)**

Simulation Cue(s)	Before adjustment: Reactive load is 230 MVARS IN After adjustment: Reactive load has remained 230 MVARS IN

Notes/Comments	

5	Go to 1-E-0	Procedure Step 3 RNO a of 1-AP-26

Critical Step	SAT [ ] UNSAT [ ]

Standards	Reactor trip switches on benchboard 1-1 and/or 1-2 momentarily placed in the TRIP position

Simulation Cue(s)	Reactor trip breakers have green lights LIT and red lights NOT lit.

Notes/Comments

6	Verify reactor tripped.	Procedure Step 1 of 1-E-0

SAT [ ] UNSAT [ ]

Standards	Operator verifies reactor is tripped (RTBs open, rod bottom lights on, flux decreasing).

Notes/Comments

7	Verify turbine trip	Procedure Step 2 of 1-E-0

Critical Step	SAT [ ] UNSAT [ ]

Standards	Operator verifies turbine stop valves closed, resets Reheater FCVs, and manually opens both the G12 and Exciter Field Breaker.

Notes/Comments G12 breaker will not open after 30 seconds. 1-E-0 Step 2.a RNO will require the operator to manually open G12 AND the Exciter Field Breaker.

8	Verify both ac emergency busses energized – yes.	Procedure Step 3 of 1-E-0

SAT [ ] UNSAT [ ]

Standards	Verifies 1H and 1J busses both energized by observing volt meters on 1H and 1J EDG control panels.

Notes/Comments

9	Check if SI is actuated	Procedure Step 4 of 1-E-0

SAT [ ] UNSAT [ ]

Standards	• Checks low head pumps running- NO. • Any first out annunciator lit – NO.

Performance Cue(s)	Additional crew members will continue with 1-E-0. The Unit Supervisor directs you to continue performance of 1-AP-33.2.

Simulation Cue(s)	Additional crew members will continue with 1-E-0. The Unit Supervisor directs you to continue performance of 1-AP-33.2.

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

R675 / 13341

NORMAL TASK

Respond to a failure of main generator voltage regulator high (1-AP-26).

ALTERNATE-PATH TOPIC

BASE ADJUST switch fails to operate
G12 fails to automatically open

CHECKLIST

_____ Recall IC (100% power) (IC 335)

_____ Place simulator in RUN

_____ Do the following to ensure reactive load decreases to greater than 200 MVARs IN when voltage regulator is placed in OFF (ensures step 3 is critical):

Lower voltage using voltage regulator until reactive load is 150 MVARS IN

Meter override (GM): Generator MVAR = 0.3, Ramp = 5, Trigger = 2

Set up Trigger 2 on trigger screen as VOLT_REG_OFF ==1

_____ Switch override: V REG_BAS1_OFF = ON, V_REG_BAS1_RAISE = OFF, V_REG_BAS@_LOWER = OFF

_____ Enter malfunction EL09, trigger = 1, delay time = 0, ramp = 70, severity = 35

_____ Enter malfunction g12fail_ovrrelay = true

NOTE: Tested to be sure reactor would not trip if operator did not do actions. Will cause damage to main generator components if no action taken.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Reactor is at 98% power.

Daily feedwater flow calorimetric heat balance is required to be performed

Unit-1 PCS is operable

All Nuclear Instruments (NIs) are operable

1-PT-24.1, CALORIMETRIC HEAT BALANCE (COMPUTER CALCULATION), has been completed up to Step 6.2.2.

INITIATING CUE

You are requested to adjust the power-range NIs in accordance with 1-PT-24.1.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

R710

TASK

Adjust the power-range NIs (1-PT-24.1).

TASK STANDARDS

Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)

K/A REFERENCE:

015A1.01 (3.5/3.8)

ALTERNATE PATH:

Control rods step uncontrollably when placed in auto requiring operator action

TASK COMPLETION TIMES

Validation Time = 20 minutes Start Time = _____
Actual Time = _____ minutes Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

R710

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

Instructions for In-Plant JPMs

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be simulated for this JPM. Under no circumstances are you to operate any plant equipment. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

PREREQUISITES

The trainee has completed the applicable course knowledge training at the Reactor Operator level.

NOTE – Pre-brief required prior to entering the simulator.

INITIAL CONDITIONS

Reactor is at 98% power.

Daily feedwater flow calorimetric heat balance is required to be performed

Unit-1 PCS is operable

All Nuclear Instruments (NIs) are operable

1-PT-24.1, CALORIMETRIC HEAT BALANCE (COMPUTER CALCULATION), has been completed up to Step 6.2.2.

INITIATING CUE

You are requested to adjust the power-range NIs in accordance with 1-PT-24.1.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	IF the Power Range NI channels are within 2 percent of the Power, Calorimetric (U0980) AND the SRO has directed that adjustments be made, THEN adjust the channels as directed using Attachment 3.	Procedure Step 6.2.3

SAT [ ] UNSAT [ ]

Performance Cue(s)	N-44 adjustment is desired

Notes/Comments

2	Review steps 1-9 of attachment 3	Procedure Step Att 3: 1 - 9

SAT [ ] UNSAT [ ]

Standards	Steps 1 through 9 are reviewed

Notes/Comments
Steps 1-6 of Attachment 3 are instructions on how to perform the attachment. Steps 7-9 will be marked “N/A” due to the conditions of the JPM

3	Verify that no trip signals are present on the NI power-range channels.	Procedure Step Att 3: 10

SAT [ ] UNSAT [ ]

Standards	NIs and/or status lights are checked to verify no trip signals

Notes/Comments
Step 11 will be N/A as noted in initial JPM conditions

4	IF adjusting Channel N44, THEN place the following equipment in MANUAL control: • Bypass Feedwater Regulating Valves • Rod Control System	Procedure Step Att 3: 12

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standards	Bypass feedwater regulating valves are verified in manual and the Rod Control System is placed in MANUAL

Notes/Comments

5	Check present NI readings have not changed significantly (Approximately 0.5 %) from the “As Found” NI readings on Attachment 2.	Procedure Step Att 3: 13.1 & 13.2

SAT [ ] UNSAT [ ]

Standards	NIs are verified within 0.5% of the as-found indications

Notes/Comments
Step 13.2 is N/A
Operator may choose to establish a trend graph.

6	IF sufficient adjustments can be made, THEN individually adjust the gain potentiometer on the front panel of each Power Range NI channel to within 2 percent of the Power, Calorimetric (U0980).	Procedure Step Att 3: 13.3

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standards	Gain potentiometer for N-44 is increased to match the calorimetric within 2% of the Power Calorimetric (U0980)

Notes/Comments
Step 13.4 and step 14 are N/A

7	IF Channel N44 was adjusted, THEN wait at least 1 minute before returning the equipment listed in Step 12 to AUTO control.	Procedure Step Att 3: 15

SAT [ ] UNSAT [ ]

Standards	Rod Control System is placed in AUTO

Performance Cue(s)	If asked: It is desired to place rod control in AUTO

Notes/Comments
Alt path – Rods will insert when rod control switch is placed in AUTO requiring entry into 1-AP-1.1

8	Put Control Rod Bank Selector switch to MANUAL	Procedure Step AP-1.1: 1

SAT [ ] UNSAT [ ]

Standards	Rod Control System is placed in MANUAL

Notes/Comments

9	Verify Rod motion – STOPPED - NO	Procedure Step AP-1.1: 2

SAT [ ] UNSAT [ ]

Standards	Rods motion is noted to not be stopped and the operator transitions to 1-E-0

Notes/Comments

10	Perform Immediate Actions of 1-E-0	Procedure Step 1-E-0

CRITICAL STEP	SAT [ ] UNSAT [ ]

Standards	Reactor trip switches on benchboard 1-1 and/or 1-2 are momentarily placed in the TRIP position

Performance Cue(s)	Assume that another operator is continuing with E-0

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

Recall IC #336

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Unit 1 is at 100%.

Flooding has occurred in the turbine building.

TURB BLD FLOOD ALARM TROUBLE annunciator (1D-G7) has just alarmed.

Circulating Water System rupture has been reported on Unit 1.

Liquid waste discharge is aligned to the Unit 1 discharge tunnel.

INITIATING CUE

You are requested to respond to circulating water flooding in the turbine building in accordance with 0-AP-39.1, Turbine Building Flooding.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

13355

TASK

Respond to turbine building flooding with Circulating water pump fails to trip (0-AP-39.1).

TASK STANDARDS

All waterbox inlets were closed, 15G10 was defeated, 15G1 was opened, all waterbox outlets were closed, and 1-LW-PCV-115 was placed in HAND.

K/A REFERENCE:

075A2.03 (2.5/2.7)

ALTERNATE PATH:

Waterbox inlet MOVs fail to close requiring additional actions in response to failure

TASK COMPLETION TIMES

Validation Time = 10 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

13355

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

Instructions for In-Plant JPMs

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be simulated for this JPM. Under no circumstances are you to operate any plant equipment. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

PREREQUISITES

The trainee has completed the applicable course knowledge training at the reactor operator level

INITIAL CONDITIONS

Unit 1 is at 100%.

Flooding has occurred in the turbine building.

TURB BLD FLOOD ALARM TROUBLE annunciator (1D-G7) has just alarmed.

Circulating Water System rupture has been reported on Unit 1.

Liquid waste discharge is aligned to the Unit 1 discharge tunnel.

INITIATING CUE

You are requested to respond to circulating water flooding in the turbine building in accordance with 0-AP-39.1, Turbine Building Flooding.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

Note: Operator will read the following procedure caution and note:

CAUTION: Auxiliary Building flooding could carry over into the Turbine Building through the Service Water Tunnel into the Turbine Building Valve Pit.

NOTE: If a Reactor trip occurs, then, in order to recover the plant from the flooding, this procedure should be performed in conjunction with Emergency Operating Procedures.

1	Identify source of the flooding	Procedure Step 1 of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator initials step and continues with Step 2. (source, Unit 1 Circ Water, was provided by initial conditions)

Notes/Comments

2	Determine if reactor should be tripped - YES. (based on initial conditions provided – circ water system rupture)	Procedure Step 2.a,b, &c of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Reactor trip switch on benchboard 1-1 and or 1-2 momentarily placed in TRIP. Reheater Reset pushbutton momentarily depressed.

Performance Cue(s)	**After immediate operator actions are done:** The remaining crew members will perform 1-E-0, you are directed to continue performance of 0-AP-39.1

Notes/Comments

3	Check if Bearing Cooling System status is abnormal - NO.	Procedure Step 3 of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator goes to RNO column and continues with Step 4.

Notes/Comments This step is intended to initiate additional actions IF the leak were in the bearing cooling (BC) system, based on the initial conditions of the JPM the leak is in the Circ Water System. The candidate may elect to check items such as BC system annunciators, basin level, makeup valve postion, etc. to satisfy themselves, but these actions are not required based on the initial conditions provided.

Note: Operator will read the following procedure note:

NOTE: • If a G-Bus is de-energized because of a CW system rupture, then a reduced Bearing Lube flow condition could result on the opposite unit. The de-energized bus should be re-energized as soon as possible.
• When the waterbox inlet box valves start to close, then the CW pumps for the affected unit should trip.

4	Check CW system abnormal - YES.	Procedure Step 4a of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator continues to substep 4b based on initial conditions provided.

Notes/Comments

5	Place all Unit 1 circulating water motor-operated valve interlock defeat switches in NORMAL.	Procedure Step 4.b.1 of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Circulating water motor-operated valve switches are verified to be in NORMAL

Notes/Comments

6	Close the following water box inlet motor-operated valves. • 1-CW-MOV-101A • 1-CW-MOV-101B • 1-CW-MOV-101C • 1-CW-MOV-101D	Procedure Step 4.b.2 of 0-AP-39.1

NOTE TO THE EVALUATOR	1-CW-MOV-101C and 1-CW-MOV101D cannot be closed but will close once the pumps have tripped. (1-CW MOV-102C and 1-CW MOV-102D will also not close if attempted but will close on subsequent steps) **There is no RNO for this step.**

Standards	CLOSE push-button is depressed for the following motor-operated valves • 1-CW-MOV-101A • 1-CW-MOV-101B • 1-CW-MOV-101C • 1-CW-MOV-101D

Notes/Comments

7	Verify that the Unit1 Circulating Water pumps are tripped - NO. **(Alternate path step)**	Procedure Step 4.b.3 of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator determines that Unit 1 CW pumps are **NOT** tripped (by observing breaker indication on Circ Water panel) and implements step 4.b.3) RNO

Notes/Comments

8	De-energize the unit-1 "G" bus.	Procedure Step 4.b.3 RNO a,b,&c of 0-AP-39.1

Critical Step	SAT [ ] UNSAT [ ]

Standards	1) 15G10 transfer switch is placed in DEFEAT. 2) 15G10 status checked as open. 3) 15G1 is opened. **ONLY elements 1&3 are critical since 15G10 is already open (normal alignment)**

Notes/Comments: 1-CW-MOV-101C & D will start to close when 15G1 is opened.

9	Place the unit-1 circulating water pumps in PULL-TO-LOCK.	Procedure Step 4.b.3. RNO d of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator places all four (4) CW pump switches in PTL

Notes/Comments

10	Verify that all circulating water pump breakers are open.	Procedure Step 4.b.3 RNO e of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator verifies CW pump breakers open prior to placing switches in pull-to-lock, or locally, or using PCS.

Notes/Comments
Control room breaker light indication was available when the previous step was performed (placing pump breakers in pull-to-lock).

11	Re-energize the unit-1 "G" bus..	Procedure Step 4.b.3. RNO f of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator acknowledges that another operator will re-energize the bus.
Performance Cue(s)	Another operator will re-energize the bus

Notes/Comments

12	Close the following water box outlet motor-operated valves. • 1-CW-MOV-102A • 1-CW-MOV-102B • 1-CW-MOV-102C • 1-CW-MOV-102D	Procedure Step 4.b.4 of 0-AP-39.1

Critical Step	SAT [ ] UNSAT [ ]

Standards	CLOSE push-button is momenetarily depressed for the following motor-operated valves • 1-CW-MOV-102A • 1-CW-MOV-102B • 1-CW-MOV-102C • 1-CW-MOV-102D

Notes/Comments
Operator will most likely be waiting on inlet valves to stroke fully closed

13	Request the turbine building operator to secure the unit-1 High-capacity Steam Generator Blowdown System.	Procedure Step 4.b.5 of 0-AP-39.1

SAT [ ] UNSAT [ ]

Standards	Operator calls Turbine bldg. operator to secure HCBD per the OP

Notes/Comments
When requested, Booth operator will acknowledge operators direction and call back and report action is complete

---

14	Check if liquid waste releases can be continued -NO.	Procedure Step 4.b.6 RNO of 0-AP-39.1

Critical Step	SAT [ ] UNSAT [ ]

Standards	Operator determines that LW releases **cannot** be continued. (Loss of the CW pump violates the Liquid QW).

Performance Cue(s)	

Notes/Comments
If operator calls HP, booth operator will respond that the release permit requires 3 CW pumps to be running on the tunnel that LW is discharging to.

15	Check if liquid waste releases can be continued -NO.	Procedure Step 4.b.6 RNO of 0-AP-39.1

Critical Step	SAT [ ] UNSAT [ ]

Standards	Operator places 1-LW-PCV-115 in HAND and verifies it is closed (status of LW aligned to Unit 1 tunnel provided by initial conditions).

Performance Cue(s)	**Another operator will complete 0-AP-39.1.** **This completes JPM.**

Notes/Comments
If operator calls HP, booth operator will respond that the release permit requires 3 CW pumps to be running on the tunnel that LW is discharging to.

END OF EVALUATION

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

SIMULATOR SETUP

JOB PERFORMANCE MEASURE
13355

TASK

Respond to turbine building flooding with Circulating water pump fails to trip (0-AP-39.1).

CHECKLIST

_____ Recall IC # 337 (100% power)

_____ Do simspray and check recorders

Step 4.b.5) ➔ when called acknowledge as turbine operator to secure high capacity blowdown in accordance with 1-OP-32.3

If called as outsides operator report that all 4 Unit 1 CW pump breakers are verified open locally

If called as HP report that the release permit requires 3 CW pumps running.

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

The "A" waste gas decay tank (WGDT) is on holdup and is ready for release

The "A" WGDT has been sampled and a release permit has been issued by Health Physics

The tagout has been cleared on "A" WGDT

Purging or venting either unit's reactor head, pressurizer, or PRT is not in progress

The Nitrogen Gas System is operable.

All charts have been marked, and the procedure has been completed up to step 5.3.11

INITIATING CUE

You are requested to place waste gas decay tank 1-GW-TK-1A on bleed from the backboards using 0-OP-23.2 Section 5.3, "Placing 1-GW-TK-1A on Bleed".

Dominion
North Anna Power Station
JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

R717

TASK

Place a waste gas decay tank on bleed from the backboards (0-OP-23.2).

TASK STANDARDS

"A" Waste Gas Decay Tank is discharging per 0-OP-23.2

K/A REFERENCE:

071A4.27 (3.0/2.7)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 15 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

_____

Dominion
North Anna Power Station

JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

R717

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

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Instructions for In-Plant JPMs

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PREREQUISITES

The trainee has completed the applicable course knowledge training at the Reactor Operator level.

NOTE – Pre-brief required prior to entering the simulator.

INITIAL CONDITIONS

The "A" waste gas decay tank (WGDT) is on holdup and is ready for release

The "A" WGDT has been sampled and a release permit has been issued by Health Physics

The tagout has been cleared on "A" WGDT

Purging or venting either unit's reactor head, pressurizer, or PRT is not in progress

The Nitrogen Gas System is operable.

All charts have been marked, and the procedure has been completed up to step 5.3.11

INITIATING CUE

You are requested to place waste gas decay tank 1-GW-TK-1A on bleed from the backboards using 0-OP-23.2 Section 5.3, “Placing 1-GW-TK-1A on Bleed”.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	Notify Health Physics that the decay tank release is starting.	Procedure Step 5.3.11.a

SAT [ ] UNSAT [ ]

Standards	Operator notifies the Health Physics Department

Notes/Comments

2	Ensure 1-GW-FCV-101 controller is at 0% demand.	Procedure Step 5.3.11.b

SAT [ ] UNSAT [ ]

Standards	Operator ensures the demand output of the flow controller associated with 1-GW-FCV-101 is 0%

Notes/Comments

3	Open decay tank outlet valve 1-GW-FCV-101, and adjust the controller to obtain the desired flow.	Procedure Step 5.3.11.c & d

Critical Step	SAT [ ] UNSAT [ ]

Standards	MODULATE push-button for 1-GW-FCV-101 is depressed

Standards	Controller for 1-GW-FCV-101 is adjusted to establish a flow rate that does not exceed the maximum flow rate of 2 scfm for a sustained period of time with no adjustments.

Performance Cue(s)	Concur with PEER CHECKS required by procedure

Simulation Cue(s)	

Notes/Comments

4	Place 1-GW-FCV-101 in AUTO, and check proper operation.	Procedure Step 5.3.11.e

Critical Step	SAT [ ] UNSAT [ ]

Standards	Operator places the controller associated with 1-GW-FCV-101 in AUTO and checks for proper operation

Performance Cue(s)	Concur with PEER CHECKS required by procedure

Notes/Comments

5	Securing lineup of the Waste Gas Decay Tank.	Procedure Step 5.3.12

Critical Step	SAT [ ] UNSAT [ ]

Performance Cue(s)	***"The SRO has determined that it is desired to secure the Waste Gas Decay Tank release at this time."***

Standards	Operator calls the local operator to close 1-GW-16 and 1-GW-15.

Performance Cue(s)	Local Operator reports that 1-GW-16 and 1-GW-15 have been closed.

Standards	Operator verifies that 1-GW-PI-103 indicates 0 psi, and places 1-GW-FCV-101 controller to Manual and reduces output to 0%

Standards	Operator depressed the CLOSED pushbutton for 1-GW-FCV-101, and checks that 1-GW-FCV-101 is closed.

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

SIMULATOR SETUP

JOB PERFORMANCE MEASURE
R717

TASK

Place a waste gas decay tank on bleed from the backboards (0-OP-23.2).

CHECKLIST

Set up "A" WGDT level so that it requires discharge