REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-115

Withdraw Control Rod Group One to 50%

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Latch Group 7 Control rods and withdraw Safety Rod Group 1 to 50%

Alternate Path:

No

Facility JPM #:

CRO-111

K/A Rating(s):

System: 001
K/A: A4.06
Rating: 2.9/3.2

Task Standard:

Latch Group 7 Control Rod and withdraw Safety Rod Group 1 To 50% in accordance with OP/1/A/1105/019 (Control Rod Drive System) Encl. 4.3 (Withdrawal Of Safety Rod Group 1 To 50%)

Preferred Evaluation Location:

Simulator __X___ In-Plant _____

Preferred Evaluation Method:

Perform __X___ Simulate _____

References:

OP/1/A/1105/019 (Control Rod Drive System) Encl. 4.3 (Withdrawal Of Safety Rod Group 1 To 50%)
OP/1/A/1102/001 (Controlling Procedure For Unit Startup) Enclosure 4.7 (Unit Startup From 532°F/2155 psig to MODE 1)

Validation Time: 20 min. **Time Critical:** No

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

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Comments

SIMULATOR OPERATOR INSTRUCTIONS

1. **RECALL** Snap 213
2. Go To **RUN**

Tools/Equipment/Procedures Needed

OP/1/A./1105/019 (Control Rod Drive System) Encl. 4.3 (Withdrawal Of Safety Rod Group 1 To 50%)

READ TO OPERATOR

DIRECTIONS TO STUDENT

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.

INITIAL CONDITIONS

Unit 1 startup in progress following a 28 day refueling outage

Tc = 536ºF

RCS pressure = 2155 psig

OP/1/A/1102/001 (Controlling Procedure For Unit Startup) Enclosure 4.7 (Unit Startup From 532°F/2155 psig to MODE 1) is in progress at step 2.6.5

OP/1/A/1105/019 (Control Rod Drive System) Encl. 4.3 (Withdrawal Of Safety Rod Group 1 To 50%) is in progress and has been completed through step 4.8 (Groups 1 through 6 have been manually latched).

INITIATING CUE

The Control Room SRO directs you to continue with OP1/A/1105/019 (Control Rod Drive System) Enclosure 4.3 (Withdrawal Of Safety Rod Group 1 To 50%) beginning at Step 4.9.

Latch of groups 1 – 6 is complete. Manual Latch of Group 7 is required.

START TIME: _____

STEP 1: STANDARD: COMMENTS:	Step 4.9 Perform latch and PI alignment of Group 7, as follows: 4.9.1 Ensure GROUP SELECT SWITCH to 7. Ensures Group Select Switch selected to Group 7	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 2: STANDARD: COMMENTS:	Step 4.9.2 Verify only Group 7 CONTROL ON lights are ON. (PI panel) Verifies only Group 7 lights are ON	___ SAT ___ UNSAT
STEP 3: STANDARD: COMMENTS:	Step 4.9.3 **IF** Manual Latch and PI Alignment desired, perform the following: (R.M.) A. *Ensure LATCH MANUAL is ON. B. *Ensure IN LIMIT BYPASS is ON. C. *Insert Group 7 for ≈ 5 seconds. D. Verify all 0% lights ON for Group 7. (PI Panel) E. *Ensure LATCH MANUAL is OFF. F. *Ensure IN LIMIT BYPASS is OFF. G. Select RPI RESET. H. Verify Group 7 API/RPI indications agree. (PI Panel) Candidate performs A – H above to manually latch the Group 7 rods	***CRITICAL STEP** ___ SAT ___ UNSAT

STEP 4:	Step 4.9.4 **IF** Auto Latch and PI Alignment desired…	
STANDARD:	Determine that Auto latch is NOT desired and continue to Step 4.10.	
COMMENTS:		___ SAT ___ UNSAT
STEP 5:	Step 4.10 Reset Group 8 RPI, as follows: 4.10.1 Ensure GROUP SELECT SWITCH to 8.	
STANDARD:	Candidate places the Group Select Switch to Group 8	___ SAT
COMMENTS:		___ UNSAT
STEP 6:	Step 4.10.2 Verify Group 8 CONTROL ON lights are ON. (PI panel)	
STANDARD:	Candidate verifies that only the Group 8 lights are ON	___ SAT
COMMENTS:		___ UNSAT
STEP 7:	Step 4.10.3 Select RPI RESET	
STANDARD:	Candidate depresses the RPI reset selector	___ SAT
COMMENTS:		___ UNSAT

STEP 8: Step 4.10.4 Verify Group 8 API/RPI indications agree. (PI Panel) STANDARD: Candidate uses toggle switch to confirm that API/RPI indications agree. COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 4.11 Select FAULT RESET. STANDARD: Candidate depresses the FAULT RESET selector. COMMENTS:	___ SAT ___ UNSAT
NOTE: For the purpose of this procedure, an extended forced outage is an outage greater than 92 days where the Reactor Vessel Head is **NOT** removed. SR 3.1.4.2 requires the Control Rods to be tested for movement prior to entry into MODE 2. STEP 10: Step 4.12 **IF** OWPG requires the Control Rods to be withdrawn due to an extended forced outage, perform PT/1/A/0600/015 (Control Rod Movement) for testing CRD Groups 1 thru 7 during unit startup. STANDARD: Candidate determines from initiating cue that this startup is not from a forced outage of greater than 92 days and therefore this step is N/A. ***EXAMINER CUE: If asked, this startup is a return to power following a 28 day refueling outage.*** COMMENTS:	___ SAT ___ UNSAT

STEP 11: Step 4.13 Select Group 1, as follows: 4.13.1 Ensure GROUP SELECT SWITCH to 1. STANDARD: Candidate selects Group 1 on GROUP SELECT SWITCH. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 12: Step 4.13.2: Verify only Group 1 CONTROL ON lights are ON. (PI panel) STANDARD: Candidate verifies only the Group 1 lights are ON. COMMENTS:	___ SAT ___ UNSAT
STEP 13: Step 4.13.3: Ensure Group 1 at 50%. STANDARD: Candidate withdraws the Group 1 rods to 50%. **Examiner note: The candidate should update the SRO/crew when starting to withdraw Group 1 control rods. (not critical)** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 14: Step 4.13.4: Place GROUP SELECT SWITCH to OFF. STANDARD: Candidate places the GROUP SELECT SWITCH to OFF. COMMENTS: **END TASK**	___ SAT ___ UNSAT

TIME STOP: _____

CRITICAL STEP EXPLANATIONS

STEP #	Explanation
1	This step is required to latch Group 7 of rods. If performed incorrectly the results would be the inability to withdraw Group 7 during the startup.
3	This step is required to latch Group 7 of rods. If performed incorrectly the results would be the inability to withdraw Group 7 during the startup.
11	This step is required to select the correct group of rods for withdrawal.
13	This step is required withdraw the Group 1 rods to 50% as directed..

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS

Unit 1 startup in progress following a 28 day refueling outage

Tc = 536ºF

RCS pressure = 2155 psig

OP/1/A/1102/001 (Controlling Procedure For Unit Startup) Enclosure 4.7 (Unit Startup From 532°F/2155 psig to MODE 1) is in progress at step 2.6.5

OP/1/A/1105/019 (Control Rod Drive System) Encl. 4.3 (Withdrawal Of Safety Rod Group 1 To 50%) is in progress and has been completed through step 4.8 (Groups 1 through 6 have been manually latched).

INITIATING CUE

The Control Room SRO directs you to continue with OP1/A/1105/019 (Control Rod Drive System) Enclosure 4.3 (Withdrawal Of Safety Rod Group 1 To 50%) beginning at Step 4.9.

Latch of groups 1 – 6 is complete. Manual Latch of Group 7 is required.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-223

BYPASS ES SUBSYSTEM 2

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Remove ES Subsystem 2 from service.

Alternate Path:

No

Facility JPM #:

CRO-223

K/A Rating(s):

System: 013
K/A: A4.02
Rating: 4.3/4.4

Task Standard:

The candidate will remove the ES Subsystem 2 from service in accordance with OP/1/A/1105/014 Enclosure 4.9 (Removal and restoration of ES channels) beginning with step 3.3.

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator __X___ In-Plant _____ Perform __X___ Simulate ____

References:

OP/1/A/1105/014 Enclosure 4.9 (Removal and restoration of ES channels)

Validation Time: 15 min. **Time Critical:** No

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

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Comments

SIMULATOR OPERATOR INSTRUCTIONS:

1. **Recall** IC-41
2. **Verify** the Examiner has the ES cabinet key (#317) and both ES bypass keys (#316).
3. **Ensure** all breaker flags are in the current plant condition.
4. **Go** to **RUN**.

Tools/Equipment/Procedures Needed:

OP/1/A/1105/014 Enclosure 4.9 Removal and restoration of ES channels

READ TO OPERATOR

DIRECTIONS TO STUDENT:

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.

INITIAL CONDITIONS:

The Unit 1 Reactor is at 100% power.

A failure has occurred in ES subsystem 2 that will require **ALL** the subsystem 2 to be removed from service.

The failure did **NOT** result in an actuation of any ES equipment nor did it result in any change in reactor power.

The CRS has determined that Unit 1 ES Subsystem 2 is **NOT** required per Tech Specs

INITIATING CUE:

The CRS directs you to remove ES Subsystem 2 from service using OP/1/A/1105/014 Enclosure 4.9.

START TIME: _____

STEP 1: Step 2.1 **NOTE:** Equipment failure can be indicated by deviation alarm, fault alarm, hardware fail, etc... or notification by Maintenance. Verify **one** of the following: • A procedure requires bypassing Voter(s), tripping of ES channels, bypassing DHPIAS, or bypassing DLPIAS. • Equipment failure requires bypassing Voter(s), tripping of ES channels, bypassing DHPIAS, or bypassing DLPIAS. STANDARD: Determine that the second bullet is satisfied and sign it off. COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 3.1 **IF** removal of both ES subsystems from service is required during outages, perform Section 4 "Removal Of Both ES Subsystems" STANDARD: Determine step does not apply and N/As step. COMMENTS:	___ SAT ___ UNSAT
STEP 3: Step 3.2 **NOTE:** ES Subsystem 1 includes ES Input channels A1, B1, and C1 along with ES Voter Odd 1 and ES Voter Even 1. **IF** removal of any or all of only ES Subsystem 1 channels from service is required, perform Section 5 "Removal Of Only ES Subsystem 1" STANDARD: Determine step does not apply and N/As step. COMMENTS:	___ SAT ___ UNSAT
STEP 4: Step 3.3 If removal of any or all of Only ES subsystem 2 channels from service is required, perform Section 6 “Removal of Only ES Subsystem 2” STANDARD: Candidate proceeds to Section 6 COMMENTS:	___ SAT ___ UNSAT

STEP 5:	Step 6.1: **IF** Unit 1 ES Subsystem 2 is **NOT** required per TS 3.3.5 and 3.3.7, perform the following to remove from service any or all of only Unit 1 ES Subsystem 2 channels. STANDARD: Candidate determines that ES Subsystem 2 is not required by TS 3.3.5 and 3.3.7 COMMENTS:	___ SAT ___ UNSAT
STEP 6:	Step 6.1.1 **IF** Unit 1 ES Subsystem 1 is required per TS 3.3.5 and 3.3.7, verify the following: • Voter Odd 1 **NOT** bypassed (1SA-7) • Voter Even 1 **NOT** bypassed (1SA-7) • ES channel A1 operable or tripped (1SA-7) • ES channel B1 operable or tripped (1SA-7) • ES channel C1 operable or tripped (1SA-7) STANDARD: The candidate determines that the Unit 1 ES Subsystem is required per TS 3.3.5 and 3.3.7 and verifies there are no alarms present on ISA-7. • Voter Odd 1 **NOT** bypassed (1SA-7/D1) • Voter Even 1 **NOT** bypassed (1SA-7/E1) • ES channel A1 operable or tripped (1SA-7/A1) • ES channel B1 operable or tripped (1SA-7/B1) • ES channel C1 operable or tripped (1SA-7/C1) **Examiner cue: Candidate may elect to perform a STAT alarm test to help ensure no alarms are present on 1SA-7. If asked, give him permission (as CR SRO) to perform alarm test. (The other RO will be required to help perform the test).** COMMENTS:	___ SAT ___ UNSAT
STEP 7:	Step 6.1.2.A Declare Unit 1 ES Subsystem 2 channels inoperable STANDARD: Candidate reports that procedure requires declaration of ES Subsystem 2 channels inoperable ***Cue: Acknowledge Unit 1 ES Subsystem 2 channel inoperable.*** COMMENTS:	___ SAT ___ UNSAT

STEP 8: Step 6.1.2.B Obtain MAN BYPASS 2 Key #316 (2 keys are required to bypass both voters). STANDARD: Candidate obtains correct keys (examiner provides) ***Cue: Provide the candidate with the correct keys. Keys are normally kept in the key locker in the WCC.*** COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 6.1.2.C **IF** bypassing Odd Voter 2, place MAN BYPASS 2 keyswitch in "BYP". (Cabinet 12) STANDARD: Candidate places the MAN BYPASS 2 keyswitch in Cabinet 12 in the "BYP" position COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 10: Step 6.1.2.D **IF** bypassing Even Voter 2, place MAN BYPASS 2 keyswitch in "BYP". (Cabinet 14) STANDARD: Candidate places the MAN BYPASS 2 keyswitch in Cabinet 14 in the "BYP" position and returns and signs step 3.3 **Examiner note: When this step is complete, candidate may indicate task is complete. If so, ask that they continue.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 11: Step 3.4 **If** trip of ES input channels is required, perform one of the following: STANDARD: Candidate NA's this step COMMENTS:	___ SAT ___ UNSAT

STEP 12:	Step 3.5 **If** bypassing DHPIAS is required, perform Section 10... STANDARD: Candidate NA's this step COMMENTS:	___ SAT ___ UNSAT
STEP 13:	Step 3.6 **If** bypassing DLPIAS is required, perform Section 11... STANDARD: Candidate NA's this step COMMENTS:	___ SAT ___ UNSAT
STEP 14:	Step 3.7 **If** any ES channel was removed from service due to equipment failure, perform Section 12. STANDARD: Candidate determines that no ES channel was removed and NA's this step COMMENTS:	___ SAT ___ UNSAT
STEP 15:	Step 3.7 **WHEN** notified by I&E, restore ES channels by performing Section 13... STANDARD: NO actions are required ***Cue: Another operator will continue with this procedure.*** COMMENTS:	___ SAT ___ UNSAT

TIME STOP: _____

CRITICAL STEP EXPLANATIONS

STEP #	Explanation
9	This step is critical because it is part 1 of removing all of ES Subsystem 2 from service
10	This step is critical because it is part 2 of removing all of ES Subsystem 2 from service

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The Unit 1 Reactor is at 100% power.

A failure has occurred in ES subsystem 2 that will require **ALL** the subsystem 2 to be removed from service.

The failure did **NOT** result in an actuation of any ES equipment nor did it result in any change in reactor power.

The CRS has determined that Unit 1 ES Subsystem 2 is **NOT** required per Tech Specs

INITIATING CUE:

The CRS directs you to remove ES Subsystem 2 from service using OP/1/A/1105/014 Enclosure 4.9.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-404
Alignment of Condensate Recirc

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Establish Alignment of Condensate Recirc and set flow.

Alternate Path:

Yes

Facility JPM #:

CRO-404

K/A Rating(s):

System: APE054
K/A: G2.1.20
Rating: 4.6/4.6

Task Standard:

Condensate recirculation flow of 2300-6000 gpm is established.

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator __X__ In-Plant _____ Perform __X___ Simulate ____

References:
EP/1/A/1800/001 (Emergency Operating Procedure) Enclosure 5.23 (Alignment of Condensate Recirc).

Validation Time: 10 minutes **Time Critical:** NO

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

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COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. **RECALL** Snap 214
2. **IMPORT** files for CRO-404
3. Go to **RUN**

Tools/Equipment/Procedures Needed:

EP/1/A/1800/001 (Emergency Operating Procedure) Enclosure 5.23 (Alignment of Condensate Recirc)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

Unit 1 was operating at 100% power when a SGTR occurred in the 1B Steam Generator.

During the associated Unit 1 shutdown, a reactor trip occurred due to a loss of all 4 RCP's.

The SGTR tab is in progress and is completed up to step 107.

INITIATING CUES:

The CRS directs you to perform Enclosure 5.23 (Alignment of Condensate Recirc).

START TIME: _____

STEP 1: Step 1. Verify any HWP operating. STANDARD: Determine the 1A HWP is operating (located on 1AB1) by observing the red run light illuminated and pump amps are on scale. Continues to Step 2 COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 24 Verify any CBP operating. STANDARD: Determine that NO CBP is operating by observing the green off lights on 1AB1 are illuminated for each CBP and then perform the RNO. Continues to Step 2 **RNO** COMMENTS:	___ SAT ___ UNSAT
STEP 3: Step 2 **RNO** **GO TO** Step 7. STANDARD: Continues to Step 7 COMMENTS:	___ SAT ___ UNSAT

STEP 4: Step 7 Ensure two HWPs operating STANDARD: Determines that only the 1A HWP is operating, per step 1. Rotates the 1B HWP switch (located on 1AB1) to the START position, verifies the red ON light illuminates, and verifies pump amps increase and return to normal. OR Rotates the 1C HWP switch (located on 1AB1) to the START position, verifies the red ON light illuminates, and verifies pump amps increase and return to normal. Continues to Step 8 COMMENTS:	___ SAT ___ UNSAT
ALTERNATE PATH STEP 5: Step 8 Start the 1C COND BOOSTER PUMP. STANDARD: Rotate the 1C COND BOOSTER PUMP switch (located on 1AB1) to the START position. Observes that the pump does not start by noting the green stop light remains illuminated and the red start light remains OFF. Continues to **RNO** to Step 8 **Note: The 1C Cond Booster Pump will not start.** COMMENTS:	___ SAT ___ UNSAT

STEP 6:	**RNO:** Step 8 Start one available CBP. Rotates the 1A COND BOOSTER PUMP switch (located on 1AB1) to the START position. Observes the pump starts by observing the Red run light illuminated and pump amps increase and then return to normal. OR Rotates the 1B COND BOOSTER PUMP switch (located on 1AB1) to the START position. Observes the pump starts by observing the Red run light illuminated and pump amps increase and then return to normal. Continues to Step 9 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 7:	Step 9 Stop one operating HWP. Rotates the switch for a running HWP (Either 1A, 1B, or 1C) to the OFF position. Verifies the Red run light OFF, and the Green stop light illuminated. **Examiner note: 1SA-8/C-2 (FDW PUMP SEAL DIFFERENCTIAL PRESSURE LOW) will actuate. This is an expected alarm.** Continues to Step 10 COMMENTS:	___ SAT ___ UNSAT
STEP 8:	Step 10 Place the control switch for one secured HWP in AUTO Places a non running HWP switch (1A or 1B) to AUTO. Continues to Step 11 COMMENTS:	___ SAT ___ UNSAT

STEP 9: Step 11 Place the control switch for one secured CBP in AUTO. STANDARD: Places the non running CBP (1A or 1B) switch in AUTO. Continues to Step 12 **NOTE: 1C CBP switch should NOT be selected since the pump will not start.** COMMENTS:	___ SAT ___ UNSAT
STEP 10: Step 12 Perform the following: • Position HWP LOAD SHED DEFEAT switch to a running HWP. • Position CBP LOAD SHED DEFEAT switch to a running CBP STANDARD: Positions the HWP LOAD SHED DEFEAT switch to the running HWP, (1A, 1B, or 1C) Positions the CBP LOAD SHED DEFEAT switch to the running CBP, (1A or 1B) Continues to Step 13 COMMENTS:	___ SAT ___ UNSAT
STEP 11: Step 13 Place the following in MANUAL: • 1FDW-53 • 1FDW-65 STANDARD: Locate the Moore controller on 1VB3 for each valve listed above and determine they are in MANUAL by the MANUAL light being Lit. Continues to Step 14 COMMENTS:	___ SAT ___ UNSAT

STEP 12: Step 14 Establish 2300-6000 gpm total recirc flow with one of the following: • 1FDW-53 • 1FDW-65 STANDARD: Candidate locates the Moore controller for 1FDW-53 or 1FDW-65 and using the manual loader adjusts one to a total recirc flow of 2300-6000 gpm. **Note: Controller must be selected to the "P" position to observe flow.** ***Cue: Inform candidate that another RO will complete this enclosure and this JPM is finished*** . COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
6	Required to properly align Condensate recirc.
12	Required to establish proper flow for Condensate recirc.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Unit 1 was operating at 100% power when a SGTR occurred in the 1B Steam Generator.

During the associated Unit 1 shutdown, a reactor trip occurred due to a loss of all 4 RCP's.

The SGTR tab is in progress and is completed up to step 107.

INITIATING CUES:

The CRS directs you to perform Enclosure 5.23 (Alignment of Condensate Recirc).

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-414

SWAPPING LPI MODES - HIGH PRESSURE MODE TO LPI NORMAL DECAY HEAT MODE

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Swapping LPI Modes - LPI High Pressure Mode to LPI Normal Mode

Alternate Path:

No

Facility JPM #:

CRO-092

K/A Rating(s):
System: 005
K/A: A4.01
Rating: 3.6*/3.4

Task Standard:
Swap LPI from High Pressure Mode to Normal Mode by procedure.

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator __X__ In-Plant ____ Perform __X___ Simulate ____

References:
OP/1/A/1104/004, Enclosure 4.15 (Swapping LPI Modes - LPI High Pressure Mode to LPI Normal Mode)
OP/1/A/1104/004, Enclosure 4.44 (Controlling LPI Cooler Outlet Temperature)

Validation Time: 40 minutes **Time Critical:** NO

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

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COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. **RECALL** SNAP 215
2. Place simulator to **RUN**
3. When asked manipulate the following LP vales using the valve program:
   - **OPEN** 1LP-4
   - **CLOSE** 1LP-73, 1LP-74, and 1LP-75

Tools/Equipment/Procedures Needed:

OP/1/A/1104/004, Enclosure 4.15 (Swapping LPI Modes - High Pressure Mode to LPI Normal Mode)

OP/1/A/1104/004, Enclosure 4.44 (Controlling LPI Cooler Outlet Temperature)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

Unit 1 shutdown in progress

INITIATING CUES:

The CRS directs you to perform OP/1/A/1104/004, Enclosure 4.15 (Swapping LPI Modes - LPI High Pressure Mode to LPI Normal Mode) beginning at Step 2.3.

ALL associated White tags have been removed.

START TIME: _____

STEP 1: Step 2.3 Position: • Open 1LP-5 (1A LPI PUMP SUCTION). • Open 1LP-6 (1C LPI PUMP SUCTION (A HDR). • Open 1LP-7 (1C LPI PUMP SUCTION (B HDR). • Open 1LP-8 (1B LPI PUMP SUCTION). STANDARD: Remove the cover from the switches for the following valves and OPEN them by placing their respective switches in the open position. • 1LP-5 (1A LPI PUMP SUCTION) Verify red light illuminates and green light goes off. • 1LP-6 (1C LPI PUMP SUCTION (A HDR) Verify red light illuminates and green light goes off. • 1LP-7 (1C LPI PUMP SUCTION (B HDR) Verify red light illuminates and green light goes off. • 1LP-8 (1B LPI PUMP SUCTION) Verify red light illuminates and green light goes off. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 2: Step 2.4 Position: • Open 1LP-4 (Return Manual Block). (A-61) STANDARD: Dispatch an NEO to open 1LP-4. ***Booth Cue: Open 1LP-4 by using the Valve program and using time compression inform the candidate that 1LP-4 is open.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 3: Step 2.5 Ensure: • Close 1LP-73 (1B LPI Cooler Switchover Disch Block). (A-1-108) • Close 1LP-74 (B Clr Disch Blk To A Pmp). (A-61) • Close 1LP-75 (1B LPI Cooler Disch Block To 1C LPI Pump). (A-61) STANDARD: Dispatch an NEO to CLOSE: • 1LP-73 (1B LPI Cooler Switchover Disch Block). (A-1-108) • 1LP-74 (B Clr Disch Blk To A Pmp). (A-61) • 1LP-75 (1B LPI Cooler Disch Block To 1C LPI Pump). (A-61) ***Booth cue: CLOSE 1LP-73, 1LP-74, and 1LP-75 by using the Valve program and using time compression inform the candidate that the valves are CLOSED.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 4: Step 2.6 Close 1LP-14 (1B LPI Cooler Outlet) STANDARD: CLOSE 1LP-14 it by placing the switch in the close position and observe green closed light lit. **Note: Valve has a long stroke time (1:50 sec)** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 5: Step 2.7 Record 1A LPI cooler outlet temperature _____°F. STANDARD: Locate the 1A LPI cooler outlet temperature indicator on 1UB2 and record 1A LPI cooler outlet temperature on the procedure. COMMENTS:	___ SAT ___ UNSAT

STEP 6: Step 2.8 Ensure open 1LP-9 (1C LPIP DISCH TO 1A LPI HDR). STANDARD: Determine 1LP-9 located on 1UB2 is OPEN by verifying the red OPEN light illuminated. COMMENTS:	___ SAT ___ UNSAT
STEP 7: Step 2.9 Open 1LP-10 (1C LPIP DISCH TO 1B LPI HDR). STANDARD: Open 1LP-10 located on 1UB2 by taking the switch to the OPEN position and verifying the red OPEN light illuminates and the green CLOSE light goes out. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 8: Step 2.10 Open 1LP-14 (1B LPI COOLER OUTLET). STANDARD: Open 1LP-14 located on 1UB2 by taking the switch to the OPEN position and verifying the red OPEN light illuminates and the green CLOSE light goes out. **Note: Valve has a long stroke time (1:50 sec)** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

NOTE: Do **NOT** exceed 6000 gpm LPSW flow per cooler.

STEP 9: Step 2.11
Adjust LPSW flow to 1B LPI Coolers per Enclosure 4.44 "Controlling LPI Cooler Outlet Temperature" to match 1B DH Cooler outlet temperature to 1A DH Cooler outlet temperature.

STANDARD: Refer to Enclosure 4.44 "Controlling LPI Cooler Outlet Temperature".

COMMENTS:

___ SAT

___ UNSAT

STEP 10: Enclosure 4.44 Step 1.1
IF RCS Cooldown in progress, review Section 3.

STANDARD: Candidate reviews section 3.

COMMENTS:

___ SAT

___ UNSAT

STEP 11: Enclosure 4.44 Step 1.2
IF RCS Heatup in progress, review Section 4.

STANDARD: Determine step does not apply and N/A step.

COMMENTS:

___ SAT

___ UNSAT

NOTE:
If in LPI is in SERIES MODE, LPSW flow should be established to both LPI coolers
The following steps may be performed as many times as required.
This enclosure can be performed in any sequence or any order.
The preference of use for LPSW is as follows:
-1LPSW-251 **and/or** 1LPSW-252 in automatic (Step 2.1 **and/or** Step 2.5).
-1LPSW-251 **and/or** 1LPSW-252 in manual (Step 2.2 **and/or** Step 2.6).
-1LPSW-4 **and/or** 1LPSW-5 (Step 2.3 **and/or** Step 2.7).
LPSW Leakage Accumulator level is a function of LPSW System pressure. When LPSW flow to LPI Coolers is significantly changed, LPSW Leakage Accumulator level will increase and may exceed the limits of SR 3.7.7.1 until LPSW system pressure stabilizes. As a result, momentary entry into TS 3.7.7 may be necessary.

___ SAT

___ UNSAT

STEP 12: Enclosure 4.44 Steps 2.1 – 2.4
LPSW to 1A LPI Cooler

STANDARD: Candidate should determine that these steps do NOT apply and continue to Step 2.5.

COMMENTS:

STEP 12: Enclosure 4.44 Step 2.5
IF 1LPSW-252 (1B LPI COOLER LPSW CONTROL) is in "AUTO", position 1LPSW-252 Controller Setpoint as required.

CRITICAL STEP

___ SAT

STANDARD: Adjust LPSW flow to 1B LPI Coolers by positioning 1LPSW-252 Controller Setpoint so that 1B DH Cooler outlet temperature is approaching 1A DH Cooler outlet temperature (Temperature as noted at step 2.7).

___ UNSAT

COMMENTS:

END TASK

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Step is required to provide the correct flow path.
2	Step is required to provide the correct flow path.
3	Step is required to provide the correct flow path.
4	Step is required to provide the correct flow path.
7	Step is required to provide the correct flow path.
8	Step is required to provide the correct flow path.
12	Step is required to ensure proper thermal transition to 1B LPI Cooler.

Note: All valves on the valve lineup may not be needed to successfully complete the task.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Unit 1 shutdown in progress

INITIATING CUES:

The CRS directs you to perform OP/1/A/1104/004, Enclosure 4.15 (Swapping LPI Modes - LPI High Pressure Mode to LPI Normal Mode) beginning at Step 2.3.

ALL associated White tags have been removed.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-508

ES Channels 5 and 6 Recovery

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

ES Channels 5 and 6 Recovery

Alternate Path:

No

Facility JPM #:

New

K/A Rating(s):

System: 103
K/A: A4.04
Rating: 3.5*/3.5*

Task Standard:

ES Channels 5 and 6 are returned to normal using EOP Enclosure 5.41 (ES Recovery).

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator __X__ In-Plant _____ Perform __X___ Simulate ____

References:

EOP Encl. 5.41 (ES Recovery)

Validation Time: 10 minutes **Time Critical:** NO

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. **RECALL** Snap 216
2. **IMPORT** files for CRO-508
3. Go to **RUN**

Tools/Equipment/Procedures Needed:

EOP Encl. 5.41 (ES Recovery)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

A MSLB has occurred.

ES Channels 1 - 6 have actuated on High RB pressure.

EOP Encl. 5.1 (ES Actuation) is complete

ALL ES Channels are being reset

EOP Encl. 5.41 (ES Recovery) is complete through step 40

INITIATING CUES:

The CRS directs you to continue in EOP Encl. 5.41 (ES Recovery) beginning at step 41.

START TIME: _____

STEP 1: Step 41 Verify reset of any of the following is desired: • ES Channel 5 • ES Channel 6 STANDARD: Determines, from Initiating Cue, that reset of ES Channels 5 and 6 is desired. COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 42 Verify Stat Alarms have cleared: • 1SA-7/A-1 (1A1 ES TRIP) • 1SA-7/B-1 (1B1 ES TRIP) • 1SA-7/C-1 (1C1 ES TRIP) • 1SA-7/A-2 (1A2 ES TRIP) • 1SA-7/B-2 (1B2 ES TRIP) • 1SA-7/C-2 (1C2 ES TRIP) STANDARD: Determine that all of the above statalarms on 1SA-7 are clear by observing that their respective window lights are **NOT** illuminated. COMMENTS:	___ SAT ___ UNSAT
STEP 3: Step 43 Perform the following to reset ES (1UB1): • Depress RESET for CH 5. • Depress RESET for CH 6. STANDARD: Candidate depresses the RESET pushbuttons for Channels 5 and 6 located on 1UB1 COMMENTS:	**CRTICAL STEP** ___ SAT ___ UNSAT

STEP 4:	Step 44 Verify: • CH 5 TRIPPED light off • CH 6 TRIPPED light off	___ SAT ___ UNSAT
STANDARD:	Candidate locates ES Channels 5 and 6 and verifies that their respective lights are no longer lit/illuminated.	
COMMENTS:		
STEP 5:	Step 45 Open: • 1CC-7 • 1CC-8	___ SAT ___ UNSAT
STANDARD:	Candidate verifies 1CC-7 and 1CC-8 are OPEN by observing RED lights ON and GREEN lights OFF.	
COMMENTS:		
STEP 6:	Step 46 Ensure one CC pump is running in the ON position.	___ SAT ___ UNSAT
STANDARD:	Candidate verifies only one CC pump is running.	
COMMENTS:		

STEP 7: Step 47 Ensure one CC pump off and in AUTO. STANDARD: Candidate ensures the standby CC pump control switch is in the AUTO position. COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 48 Position the following switches to LOW: • 1A RBCU • 1B RBCU • 1C RBCU STANDARD: Candidate places the speed control switches for RBCUs 1A, 1B, & 1C to the LOW position. COMMENTS:	**CRTICAL STEP** ___ SAT ___ UNSAT
STEP 9: Step 49 Depress the following PUSH TO RET TO NORMAL AFT ES RESET pushbuttons: • 1A RBCU ES RESET • 1B RBCU ES RESET • 1C RBCU ES RESET STANDARD: Candidate depresses the following PUSH TO RET TO NORMAL AFT ES RESET pushbuttons for RBCUs 1A, 1B, & 1C ***Examiners Cue: Another operator will continue with this procedure.*** COMMENTS: **END TASK**	**CRTICAL STEP** ___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
3	This step is required to reset the ES channels 5 & 6 so the associated components can be re-aligned for normal operation.
8	This step is required to return the RBCUs to a normal alignment.
9	This step is required to return the RBCUs to a normal alignment.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

A MSLB has occurred.

ES Channels 1 - 6 have actuated on High RB pressure.

EOP Encl. 5.1 (ES Actuation) is complete

ALL ES Channels are being reset

EOP Encl. 5.41 (ES Recovery) is complete through step 40

INITIATING CUES:

The CRS directs you to continue in EOP Encl. 5.41 (ES Recovery) beginning at step 41.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-606

Energize Main Feeder Busses From CT-5

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Energize Main Feeder Busses From CT-5

Alternate Path:

Yes

Facility JPM #:

CRO-008

K/A Rating(s):

System: 055
K/A: EA2.03
Rating: 3.9/4.7

Task Standard:

Energize Main Feeder Busses from CT-5.

Preferred Evaluation Location:

Simulator __X___ In-Plant _____

Preferred Evaluation Method:

Perform __X__ Simulate _____

References:

EOP, Encl 5.38 (Restoration of Power)

Validation Time: 15 minutes **Time Critical:** No

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. **RECALL** Snap 218
2. **IMPORT** Files for CRO-606
3. Place simulator in **RUN**

Tools/Equipment/Procedures Needed:

EOP, Encl 5.38 (Restoration of Power)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

Unit 1 experienced a unit trip followed by a lockout on CT-1.

Blackout tab of the EOP in progress

The Blackout tab directs the initiation of Encl. 5.38 (Restoration of Power).

INITIATING CUES:

The CRS directs you to initiate Encl. 5.38, Restoration of Power, to regain power to the Main Feeder Buses.

START TIME: _____

STEP 1: Step 1 Verify power has been restored. STANDARD: Determine power has NOT been restored by observing MFB voltage on 1AB1. Perform RNO step. Continue to Step 2 COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 1 **RNO** **GO TO** Step 3. STANDARD: **GO TO** Step 3. COMMENTS:	___ SAT ___ UNSAT
STEP 3: Step 3 Place 1HP-31 in HAND and reduce demand to 0. STANDARD: Place 1HP-31 in HAND and reduce demand to 0 using the toggle switch. Located on 1UB1. Continue to Step 4 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 4: Step 4 Close 1HP-21. STANDARD: Close 1HP-21 by rotating the switch to the closed position on 1UB2. Continue to Step 5 COMMENTS:	___ SAT ___ UNSAT

STEP 5: Step 5 Verify any of the following energized: • MFB1 • MFB2 STANDARD: Observes that zero (0) volts are indicated on both MFBs meters located on 1AB1. Continue to Step 5 **RNO** COMMENTS:	___ SAT ___ UNSAT
STEP 6: Step 5 **RNO** **GO TO** Step 8. STANDARD: **GO TO** Step 8. COMMENTS:	___ SAT ___ UNSAT
STEP 7: Step 8 Verify CT-1 indicates ≈ 4160 volts. STANDARD: Observes that zero (0) volts is indicated on CT-1 on 1AB1. Continue to Step 8 **RNO** COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 8 **RNO** **GO TO** Step 18. STANDARD: **GO TO** Step 18. COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 18 Verify both Standby Bus #1 and Standby Bus #2 are de-energized. STANDARD: Observes that zero (0) volts is indicated both Standby Buses located on 2AB3. Continue to Step 19 COMMENTS:	___ SAT ___ UNSAT

STEP 10: Step 19 Verify all Keowee units operating. STANDARD: Determine that Keowee Unit 2 is Emergency Lockout by observing the Statalarm 2SA-18/A1. Continue to Step 19 **RNO** COMMENTS:	___ SAT ___ UNSAT
STEP 11: Step 19 **RNO** 1. Emergency start Keowee units: • KEOWEE EMER START CHANNEL A • KEOWEE EMER START CHANNEL B 2. **IF NO** Keowee units are operating, **THEN GO TO** Step 38. STANDARD: Place the KEOWEE EMER START CHANNEL A and B switches to start located on 1UB1. COMMENTS:	___ SAT ___ UNSAT
STEP 12: Step 20 Verify both Keowee units in Oconee Control (statalarms on): • UNIT 1 OCONEE CONTROL (2SA-17/E-1) • UNIT 2 OCONEE CONTROL (2SA-18/E-1) STANDARD: Determine neither Statalarm above is actuated. Continue to Step 20 **RNO** COMMENTS:	___ SAT ___ UNSAT
STEP 13: Step 20 **RNO** Notify Keowee Operator to place both Keowee units Master Transfer switches to remote. STANDARD: Call the Keowee Operator and ask that both Keowee units Master Transfer switches be place to remote. Continue to Step 21 COMMENTS:	___ SAT ___ UNSAT

STEP 14: Step 21

Verify both Keowee units operating.

STANDARD: Determine that only KHU 1 is operating.
Continue to Step 21 **RNO**

COMMENTS:

___ SAT

___ UNSAT

STEP 15: Step 21 **RNO**

1. **IF** UNIT 1 EMER FDR ACB 3 is closed, **AND** Unit 1 Keowee is **NOT** operating, **THEN** open UNIT 1 EMER FDR ACB 3.
2. **IF** UNIT 2 EMER FDR ACB 4 is closed, **AND** Unit 2 Keowee is **NOT** operating, **THEN** open UNIT 2 EMER FDR ACB 4.

STANDARD: Determine that BOTH ACB-3 and ACB-4 are OPEN,
Continue to Step 22

COMMENTS:

___ SAT

___ UNSAT

ALTERNATE PATH

STEP 16: Step 22

Ensure one of the following is closed for an operating Keowee unit:

√	Unit 1	√	Unit 2
	UNIT 1 EMER FDR ACB-3		UNIT 1 EMER FDR ACB-4

STANDARD: Attempt to close ACB-3 and determine it did **NOT** close.
Continues to step 23

COMMENTS:

___ SAT

___ UNSAT

STEP 17: Step 23

Verify 4160 volt power has been restored to the MFB.

STANDARD: Determine 4160 volt power has NOT been restored to the MFB by observing the U-1 FDR BUS VOLTS meters on 1AB1.
Continue to step 23 **RNO**

COMMENTS:

___ SAT

___ UNSAT

STEP 18: Step 23 **RNO** **GO TO** Step 25 STANDARD: **GO TO** Step 25 COMMENTS:	___ SAT ___ UNSAT
STEP 19: Step 25 Verify CT-4 indicates ≈ 4160 volts. STANDARD: Determine CT-4 indicates zero volts on meter located on 1AB3. Continue to Step 25 **RNO** COMMENTS:	___ SAT ___ UNSAT
STEP 20: Step 25 **RNO** **GO TO** Step 38. STANDARD: **GO TO** Step 38. COMMENTS:	___ SAT ___ UNSAT
STEP 21: Step 38 **IAAT** CT-5 indicates ≈ 4160 volts, **THEN GO TO** Step 55. STANDARD: Determine that approximately 4160 volts is indicated on the CT-5 voltage meter located on 1AB1 and then **GO TO** Step 55 COMMENTS:	___ SAT ___ UNSAT

STEP 22: Step 55 Place the following switches in MAN: • MFB_1 AUTO/MAN • MFB_2 AUTO/MAN • STANDBY 1 AUTO/MAN • STANDBY 2 AUTO/MAN STANDARD: Rotates the AUTO/MAN selector switch to the MANUAL position for each of the switches listed above. Continue to Step 56 **Examiner note: Various Statalarms will actuate as these switches are manipulated. They are expected.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 23: Step 56 Open the following breakers: • $N1_1$ MFB1 NORMAL FDR • $N2_1$ MFB2 NORMAL FDR • $E1_1$ MFB1 STARTUP FDR • $E2_1$ MFB2 STARTUP FDR STANDARD: Verify each of the above breakers is OPEN by observing the white breaker open light is LIT on 1AB1. Continue to Step 57 COMMENTS:	___ SAT ___ UNSAT
STEP 24: Step 57 Place the following switches in MAN: • *CT4 BUS 1 AUTO/MAN • *CT4 BUS 2 AUTO/MAN • CT5 BUS 1 AUTO/MAN • CT5 BUS 2 AUTO/MAN STANDARD: Rotates the AUTO/MAN selector switch to the MANUAL position for each of the switches listed above located on 2AB3. Continue to Step 58 COMMENTS:	***CRITICAL STEP** ___ SAT ___ UNSAT

STEP 25: Step 58 Open the following breakers: • SK1 CT4 STBY BUS 1 FEEDER • SK2 CT4 STDY BUS 2 FEEDER STANDARD: Verify each of the above breakers is OPEN by observing the white breaker open light is LIT on 2AB3. Continue to Step 59 COMMENTS:	___ SAT ___ UNSAT
STEP 26: Step 59 Close the following breakers: • SL1 CT5 STBY BUS 1 FEEDER • SL2 CT5 STBY BUS 2 FEEDER STANDARD: Go to the CLOSED position for each of the switches listed above located on 1AB3.. Continue to Step 60 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 27: Step 60 Place the following switches in AUTO: • CT5 BUS 1 AUTO/MAN • CT5 BUS 2 AUTO/MAN STANDARD: Rotates the AUTO/MAN selector switch to the AUTO position for each of the switches listed above. Continue to Step 61 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 28: Step 61 Verify Standby Bus #1 energized. STANDARD: Observes that ≈ 4160 volts are indicated for Standby Bus #1 located on 2AB3. Continue to Step 62 COMMENTS:	___ SAT ___ UNSAT
STEP 29: Step 62 Notify CR SRO in each unit where a blackout exists that Standby Bus #1 is energized. STANDARD: Notifies CR SRO that Standby Bus #1 is energized located on 2AB3. Continue to Step 63 ***Cue: If asked, inform candidate that only Unit 1 is affected.*** COMMENTS:	___ SAT ___ UNSAT
STEP 30: Step 63 Close the following breakers: • $S1_1$ STBY BUS 1 TO MFB1 • $S2_1$ STBY BUS 2 TO MFB2 STANDARD: Goes to the CLOSED position for each of the switches listed above. Continue to Step 64 **Note: Only 1 of the Stby Busses must be energized to restore power to MFBs.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 31: Step 64 Verify any of the following energized: • 1TC • 1TD • 1TE STANDARD: Observes that ≈ 4160 volts indicated on either MFB voltmeters or OAC. Continue to Step 65 COMMENTS:	___ SAT ___ UNSAT

STEP 32: Step 65 Notify Unit 1 CR SRO of status of 4160V SWGR. STANDARD: Notifies CR SRO of status of 4160V SWGR COMMENTS: **END TASK**	___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
3	Step is required to protect the RCP seals.
22	Step is required to satisfy power switching logic.
24	Step is required to satisfy power switching logic.
26	Step is required to energize the Main Feeder Bus.
27	Step is required to provide undervoltage protection.
30	Step is required to energize the Main Feeder Bus.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Unit 1 experienced a unit trip followed by a lockout on CT-1.

Blackout tab of the EOP in progress

The Blackout tab directs the initiation of Encl. 5.38 (Restoration of Power).

INITIATING CUES:

The CRS directs you to initiate Encl. 5.38, Restoration of Power, to regain power to the Main Feeder Buses.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-607

Activate the SSF From the SSF Control Room

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Activate The SSF From the SSF Control Room

Alternate Path:

No

Facility JPM #:

CRO-047

K/A Rating(s):

System: 062
K/A: A2.11
Rating: 3.7/4.1

Task Standard:

Power is swapped and the SSF D/G is emergency started. Flow is established to the RCP seals using the SSF-RCMU system. Flow is established to the SGs using the SSF ASW system.

Preferred Evaluation Location:

Simulator _____ In-Plant __X___

Preferred Evaluation Method:

Perform _____ Simulate __X__

References:

AP/0/A/1700/25

Validation Time: 12 minutes **Time Critical:** YES

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. None

Tools/Equipment/Procedures Needed:
AP/0/A/1700/025 (SSF EOP)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

Unit 3 was operating at 100% power

Unit 3 TD EFDWP is out of service

Tornado warnings are in affect

AP/0/A/1700/006 (Natural Disaster) in progress

You are pre-staged in the SSF Control Room and in communication with the Unit 3 Control Room as directed by AP/0/A/1700/006 (Natural Disaster).

Unit 3 Reactor has just tripped and the unit has experienced a complete loss of all AC power

AP/0/A/1700/025 (SSF EOP) has been initiated

INITIATING CUES:

The CRS calls and informs you of the following:

- Unit 3 has lost all AC power
- SSF RCMU feed and SSF ASW feed to the SGs are required
- The breaker transfers have NOT been performed
- Begin AP/25 actions starting at Step 4.5

THIS JPM IS TIME CRITICAL

START TIME: _____

TIME CRITICAL TIME STARTS _____ STEP 1: Step 4.5 Perform the following on the affected unit: • Open 3XSF-F5A (3XSF NORM FDR BKR FROM 3X8) and remove Kirk Key • Using Kirk Key, close 1, 2, 3XSF-F3A (1, 2, 3XSF EMERG FDR BKR FROM OXSF) STANDARD: Student: Locates and opens NORMAL FDR BKR FROM 1, 2, 3X8 is by rotating breaker switch to the OFF position and removes the Kirk Key. Student locates EMERG FDR BKR FROM OXSF inserts the Kirk Key and closed the breaker by rotating breaker switch to the ON position. Continues to Step 4.6 ***Cue: As operator performs the key/breaker operation, indicate to operator the appropriate component positions.*** **NOTE: Kirk Key must be rotated ½ turn to be removed.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 2: Step 4.6 Verify SSF D/G is operating STANDARD: Determines the D/G is not operating and continues to step 4.6 **RNO** (**GOTO** to Step 4.8) Continues to step 4.8 COMMENTS:	___ SAT ___ UNSAT

STEP 3: Step 4.8 Depress DIESEL EMERGENCY START push button. STANDARD The SSF Control Room DIESEL EMERGENCY START pushbutton is pressed. Continues to Step 4.9 **Cue: Allow ≈ 12 sec for the D/G to reach rated speed.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 4: Step 4.9 Verify SSF D/G operating. STANDARD: Candidate reports by indications and sound that D/G is operating. Continues to Step 4.10 COMMENTS:	___ SAT ___ UNSAT
STEP 5: Step 4.10 Open breaker OTS1-1 (SSF NORMAL POWER SUPPLY BREAKER B2T). STANDARD: The green TRIP pushbutton on the SSF OTS1-1 (SSF NORMAL POWER SUPPLY BREAKER B2T) control switch is pressed. Continues to Step 4.11 ***Cue: Inform student that the green light for OTS1-1 (SSF NORMAL POWER SUPPLY BREAKER B2T) is on and the red light is off.*** COMMENTS:	___ SAT ___ UNSAT

STEP 6: Step 4.11 Verify open OTS1-0 (SSF ALT. POWER SUPPLY BKR OTS1-0). STANDARD: Determine that OTS1-0 (SSF ALT. POWER SUPPLY BKR OTS1-0) is open by verify that the green open light is lit and the red closed light is off. Continues to Step 4.12 COMMENTS:	___ SAT ___ UNSAT
STEP 7: Step 4.12 **WHEN** 3 seconds have elapsed **THEN** continue. STANDARD: Wait three (3) seconds after OTS1-1 is opened and continue. Continues to Step 4.13 COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 4.13 Close breaker OTS1-4 (DIESEL GEN BREAKER). STANDARD: The red CLOSE pushbutton on the SSF Control Room OTS1-4 (DIESEL GEN BREAKER) switch is depressed. Continues to Step 4.14 ***Cue: After student closes in diesel generator breaker, inform him/her that red light is on and green light is off.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 9: Step 4.14 Verify Diesel Engine Service Water Pump operating. STANDARD: Determine that the Diesel Engine Service Water Pump operating by observing the red ON light lit. Continues to Step 4.15 ***Cue: Indicate that the Diesel Engine Service Water Pump red light is on.*** COMMENTS:	___ SAT ___ UNSAT
STEP 10: Step 4.15 Start the SSF ASW Pump. STANDARD: SSF ASW PUMP red ON pushbutton is depressed. Continues to Step 4.16 ***Cue: After ASW pump ON pushbutton is pressed, inform student of the following:*** • ***ASW pump red light is on and green light is off.*** • ***SSF Control Room AUX SER WTR PUMP AMPS meter indicates on scale.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 11: Step 4.16 Verify any of the following required: • SSF RCMU feed • SSF ASW feed to SGs STANDARD: Determine that SSF RCMU and SSF ASW are still required. Continues to Step 4.17 COMMENTS:	___ SAT ___ UNSAT

STEP 12: Step 4.17 **PERFORM** the following on all affected units: • Encl 5.1A (Emergency Operation of SSF Systems Unit 1) (**PS**) • Encl 5.1B (Emergency Operation of SSF Systems Unit 2) (**PS**) • Encl 5.1C (Emergency Operation of SSF Systems Unit 3) (**PS**) STANDARD: Obtains Control room copy of Encl 5.1C (Emergency Operation of SSF Systems Unit 3). Continues to Step 1 of Encl 5.1C. COMMENTS:	___ SAT ___ UNSAT
STEP 13: Step 1 Verify SSF RCMU is required for Unit 3. STANDARD: Determine that SSF RCMU is required for Unit 3. Continues to step 3. COMMENTS:	___ SAT ___ UNSAT
STEP 14: Step 2. Position OVERRIDE RC MAKEUP PUMP switch to START. STANDARD: OVERRIDE RC MAKEUP PUMP switch is rotated to the START position. Continues to step 3. **NOTE: Allow ≈ 9 seconds for the following valves to stroke from the time the OVERRIDE switch is operated, and then as soon as the 9 second stroke time is complete the time-critical time #1 is complete.** **CRITICAL TIME #1 _____ 20 minutes** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 15: Step 3 Select CLOSE for the following valves: • 3HP-3 • 3HP-20 • 3HP-4 STANDARD: Student: Presses the green CLOSE button for the following: • 3HP-3 • 3HP-20 • 3HP-4 Continues to step 6. ***Cue: Initial indication for valve position is red light is on and green light is off for all valves. During valve travel, both the red and green lights are on.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 16: Step 4 Verify SSF ASW is required to feed Unit 3 SGs. STANDARD: Determine that SSF ASW is required to feed Unit 3 SGs. Continues to step 5. COMMENTS:	___ SAT ___ UNSAT

STEP 17: Step 5 Open the following valves: • 3CCW-287 • 3CCW-269 (throttle valve) STANDARD: Red OPEN button is pressed for 3CCW-287. Red OPEN button is pressed and held (throttle valve) for 3CCW-269 Continues to Step 6 ***Cue: After allowing ≈ 25 seconds for valve stroke time, inform the student the Red light is ON and the Green light is OFF.*** ***Cue: After allowing ≈ 12 seconds for valve stroke time inform student the Green light is OFF and the Red light is ON.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
NOTE • For high decay heat cores, aggressive feeding up to a maximum of 425 gpm may be required. • For very low decay heat cores, no feeding may be required. • SSF ASW flow gauge has a 60 gpm low flow cut off. STEP 18: Step 6 **IAAT** RCS pressure is **NOT** within 1950 - 2250 psig, **THEN** throttle 3CCW-268, as necessary, to maintain RCS pressure 1950 - 2250 psig. STANDARD: ASW Pump to SG Supply, 3CCW-268, is THROTTLED OPEN and RCS pressure is monitored. Continues to Step 7 ***Cue: Indicate that RCS pressure is 2375 psig*** ***Cue: After allowing ≈ 14 sec for valve stroke time, indicate to operator that ASW flow is ≈ 400 gpm and RCS pressure is 2235 slowly decreasing.*** **CRITICAL TIME #2 _____ 14 minutes** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 19: Step 7 **WHEN** RCS pressure ≤ 2350 psig, **THEN** select CLOSE on 3RC-4. STANDARD: Determine that RCS pressure is < 2350 and select CLOSE on 3RC-4. ***Cue: Indicate that RCS pressure is 2330 psig*** ***Cue: When 3RC-4 has been closed, inform the candidate that another operator will complete this procedure.*** COMMENTS: **END TASK**	___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Must be performed to power the SSF from the Diesel/Generator.
3	Must be performed to start the diesel and get power for the SSF.
8	Necessary to power the SSF loads.
10	Starts the SSF ASWP
14	Starts the SSF RCMU pump (**TCA 20 minutes**)
15	Necessary to achieve RCS pressure control.
17	Necessary to lineup the SSF ASW to supply the SGs.
18	Necessary to lineup the SSF ASW to supply the SGs. (**TCA 14 minutes**)

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Unit 3 was operating at 100% power

Unit 3 TD EFDWP is out of service

Tornado warnings are in affect

AP/0/A/1700/006 (Natural Disaster) in progress

You are pre-staged in the SSF Control Room and in communication with the Unit 3 Control Room as directed by AP/0/A/1700/006 (Natural Disaster).

Unit 3 Reactor has just tripped and the unit has experienced a complete loss of all AC power

AP/0/A/1700/025 (SSF EOP) has been initiated

INITIATING CUES:

The CRS calls and informs you of the following:

- Unit 3 has lost all AC power
- SSF RCMU feed and SSF ASW feed to the SGs are required
- The breaker transfers have NOT been performed
- Begin AP/25 actions starting at Step 4.5

THIS JPM IS TIME CRITICAL

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-803

Perform Required Actions For A Turbine Building Flood

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform Required Actions For A Turbine Building Flood

Alternate Path:

Yes

Facility JPM #:

CRO-060

K/A Rating(s):

System: APE BW/A07
K/A: AA1.3
Rating: 3.3/3.5

Task Standard:
Perform required actions for a Turbine Building Flood in accordance with AP/10, Uncontrollable Flooding of Turbine Building

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator __X__ In-Plant _____ Perform __X___ Simulate ____

References:
AP/10, Uncontrollable Flooding of Turbine Building

Validation Time: 15 minutes **Time Critical:** NO

==========

Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. **RECALL** Snap 219
2. **IMPORT** files for CRO-803
3. Go to **RUN**

Tools/Equipment/Procedures Needed:

AP/10, Uncontrollable Flooding of Turbine Building

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

Unit 1 was operating at 100% power

Unit 2 is in cold shutdown.

The 2A1 condenser inlet expansion joint has ruptured and Turbine Building Basement water level is rising.

Unit 1 has been tripped and the EOP is being completed by other team members.

INITIATING CUES:

The CRS directs you to refer to Unit 1 AP/10, Uncontrollable Flooding of Turbine Building, and perform required actions.

START TIME: _____

STEP 1: Step 4.1 Trip the Rx. STANDARD: Depress the Rx trip pushbutton on 1UB1. Verify the RX is tripped by observing all control rods are inserted. Continue to Step 4.2. COMMENTS:	___ SAT ___ UNSAT
NOTE Tripping the CCW pumps will cause loss of condenser vacuum which will result in TBVs failing closed and trip of the MFDWPs. STEP 2: Step 4.2 Ensure all CCW pumps are shutdown. STANDARD: The 1A, 1B, and 1C CCW pump switches are rotated to the TRIP position and verify the red close lights extinguish and the white open lights illuminate. (located on 1AB3) Continue to Step 4.3. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 3: Step 4.3 Press both of the following on the TURB BLDG FLOOD EMER CLOSING ALL CCWP DISCH VALVES control switch: • CLOSE 1 • CLOSE 2 STANDARD: "CLOSE 1" and "CLOSE 2" on the TURB BLDG FLOOD EMER CLOSING ALL CCWP DISCH VALVES control switch are both depressed. (located on 1AB3) Continue to Step 4.4. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 4: Step 4.4 Verify all CCW pump discharge valves are closed. STANDARD: The green CLOSED lights for 1CCW-10, 11, and 13 are verified illuminated and the red OPEN lights for the same valves are verified extinguished. (located on 1AB3) Determine that 1CCW-12 is NOT closed by observing the red open light is lit on 1AB3. Continue to Step 4.4 RNO. COMMENTS:	___ SAT ___ UNSAT

ALTERNATE PATH

NOTE
The control switches for the CCW pump discharge valves do not seal-in. The valves act as throttle valves unless the associated CCW pump switch is in the TRIP position.

___ SAT

___ UNSAT

STEP 5: Step 4.4 RNO
Dispatch an operator to ensure all CCW pump discharge valves are closed (Equipment Rm):

- 1XS1-F2C (1CCW-10 Bkr 1A CCW Pump Disch)
- 1XS1-F3C (1CCW-13 Bkr 1D CCW Pump Disch)
- 1XS2-F2D (1CCW-11 Bkr 1B CCW Pump Disch)
- 1XS3-2E (1CCW-12 Bkr 1C CCW Pump Disch)

STANDARD: An operator is dispatched to the Equipment Room to ensure 1CCW-12 is closed.

Continue to Step 4.5.

Booth cue: After 2 minutes call as the NEO and inform candidate that 1CCW-12 will NOT close.

COMMENTS:

NOTE
Field tasks that may affect multiple units should be coordinated with Unit 2 and Unit 3.

___ SAT

___ UNSAT

STEP 6: Step 4.5
Dispatch operators to ensure all three flood doors are closed and in the SECURED position from the AB side (A-1, at Unit 1, 2, and 3 stairwell entrances to TB): {2}

- Unit 1 Flood Door
- Unit 2 Flood Door
- Unit 3 Flood Door

STANDARD: Dispatch an NEO to ensure all three flood doors are closed and in the SECURED position from the AB side.

Continue to Step 4.6.

Booth cue: When called, inform candidate that an operator has been dispatched.

COMMENTS:

STEP 7: Step 4.6 Verify LPI decay heat removal is in progress. STANDARD: Determine LPI pumps are NOT operating by observing pumps switch indications on 1UB2. Continue to Step 4.6 **RNO GO TO** Step 4.8. COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 4.8 Dispatch an operator to position the waterbox discharge valve switches (T-3, East of condenser catwalk): • 1CCW-20 (1A1) switch to HAND • 1CCW-20 (1A1) switch to CLOSE • 1CCW-21 (1A2) switch to HAND • 1CCW-21 (1A2) switch to CLOSE • 1CCW-22 (1B1) switch to HAND • 1CCW-22 (1B1) switch to CLOSE • 1CCW-23 (1B2) switch to HAND • 1CCW-23 (1B2) switch to CLOSE • 1CCW-24 (1C1) switch to HAND • 1CCW-24 (1C1) switch to CLOSE • 1CCW-25 (1C2) switch to HAND • 1CCW-25 (1C2) switch to CLOSE STANDARD: Candidate should dispatch an operator to place the above valves to HAND and CLOSE. Continue to Step 4.9. ***Booth Cue: When called, inform candidate that an operator has been dispatched.*** COMMENTS:	___ SAT ___ UNSAT

STEP 9: Step 4.9 Make a PA announcement of the event including restrictions on entry into TB basement due to electrical hazard. STANDARD: PA announcement is made using the Control Room phone. Continue to Step 4.10. COMMENTS:	___ SAT ___ UNSAT
STEP 10: Step 4.10 Begin attempts to locate and isolate the source of the flooding. STANDARD: Dispatch operators to locate and isolate the source of the flooding. Continue to Step 4.11. ***Booth Cue: When called, inform candidate that an operator has been dispatched.*** COMMENTS:	___ SAT ___ UNSAT
STEP 11: Step 4.11 Ensure all Unit 1 ESV pumps are shutdown: • 1A ESV Pump • 1C ESV Pump • 1B ESV Pump STANDARD: Stop ALL Unit 1 ESV pumps by rotating their pumps switches to stop and verify that the red on light extinguishes and the white open light illuminates. (located on 1AB3) Continue to Step 4.12. COMMENTS:	___ SAT ___ UNSAT

ALTERNATE PATH

STEP 12: Step 4.12
Verify all CCW pump discharge valves were successfully closed in earlier steps.

STANDARD: Verify that 1CCW-10, 11, and 13 are closed by observing that the green closed light is lit for each valve. (located on 1AB3)

Determine that 1CCW-12 is still open by observing red open indication light is lit on 1AB3 or observing open indication on the OAC.

Continue to Step 4.12 RNO.

COMMENTS:

___ SAT

___ UNSAT

CRITICAL STEP

STEP 13: Step 4.12 **RNO**
Dispatch an operator to perform the following (ESV Trench, Intake):

- Remove pipe cap at 1CCW-26 (CCW Inlet High Point Vent). {4}
- Open 1CCW-26 (CCW Inlet High Point Vent).
- Remove pipe cap at 1CCW-28 (CCW Inlet High Point Vent). {4}
- Open 1CCW-28 (CCW Inlet High Point Vent).

STANDARD: Candidate should dispatch an operator to position the above valves as directed.

Continue to Step 4.13

Booth Cue: When called, inform candidate that an operator has been dispatched.

COMMENTS:

___ SAT

___ UNSAT

STEP 14: Step 4.13 Dispatch an operator to perform Encl 5.1 (Isolation of SSW to CCW Pumps). STANDARD: Dispatch an operator to perform Encl 5.1 (Isolation of SSW to CCW Pumps). Continue to Step 4.14. ***Booth Cue: When called, inform candidate that an operator has been dispatched.*** COMMENTS:	___ SAT ___ UNSAT
STEP 15 Step 4.14 **IAAT** HPSW is **NOT** available, **THEN** ensure Encl 5.31 (Temporarily Charging the HPSW System) of Unit 1 EOP has been initiated. STANDARD: Determine that HPSW is available by observing the HPSW Jockey pump operating and level in the EWST. Continue to Step 4.15. COMMENTS:	___ SAT ___ UNSAT
STEP 16: Step 4.15 Coordinate with WCC/TSC to perform the following: • Recover damaged equipment. • Remove water from accessible sumps. STANDARD: Candidate should call the WCC/TSC and discuss the following: • Recover damaged equipment. • Remove water from accessible sumps. ***Cue: Inform candidate that another RO will complete this procedure. This task is complete*** COMMENTS: **END TASK**	___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
2	Necessary to attempt to terminate the flooding and not contribute to the water level in the TB basement.
3	Necessary to attempt to terminate the flooding and not contribute to the water level in the TB basement.
13	Necessary to ensure CCW inlet piping is vented to break siphon.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Unit 1 was operating at 100% power

Unit 2 is in cold shutdown.

The 2A1 condenser inlet expansion joint has ruptured and Turbine Building Basement water level is rising.

Unit 1 has been tripped and the EOP is being completed by other team members.

INITIATING CUES:

The CRS directs you to refer to Unit 1 AP/10, Uncontrollable Flooding of Turbine Building, and perform required actions.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-903

Release GWD Tank

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Release GWD Tank

Alternate Path:

Yes

Facility JPM #:

CRO-903

K/A Rating(s):

System: 071
K/A: A4.26
Rating: 3.1/3.9

Task Standard:

Release a GWD tank correctly using OP/1&2/A/1104/018 Encl. 4.9 (GWD Tank Release) and terminate the release when unexpected results are noted.

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator __X__ In-Plant _____ Perform __X___ Simulate ____

References:

OP/1&2/A/1104/018 Encl. 4.9 (GWD Tank Release)

Validation Time: 30 minutes **Time Critical:** NO

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. **RECALL** SNAP 201
2. Go to **RUN**

Tools/Equipment/Procedures Needed:

OP/1&2/A/1104/018, Enclosure 4.9 (GWD Tank Release) & 4.10 (GWD Tank Sample Request)

PT/0/A/230/001 (Radiation Monitor Check)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

Release of “D” GWD tank is desired

No other GWRs in progress.

OP/1&2/A/1104/018, Enclosure 4.9 (GWD Tank Release) is in progress and completed up to step 3.9

INITIATING CUES:

CRS directs you to complete the release of the “D” GWD tank beginning at step 3.9 of Enclosure 4.9 (GWD Tank Release).

START TIME: _____

NOTE: If N2 was added to the most recently released GWD tank until 1RIA-37 indicated < 700 cpm, OR if the tanks' radioactivity was < 2.1E-05 µCi / ml when it was released, the GWD piping is considered "purged".

CRITICAL STEP

___ SAT

___ UNSAT

STEP 1: Step 3.9

3.9 Adjust 1RIA-37 setpoints for release as follows:
3.9.1 Perform **one** of the following:

A. **IF** all of the following:
- Calculated setpoints are < 1E+07 CPM
- 1RIA-37 operable
- GWD piping purged {15}

set alarms as follows:

- Set 1RIA-37 Alert setpoint at _____cpm per PT/0/A/0230/001 (Radiation Monitor Check). (from Step 3.7.1)
- Set 1RIA-37 High setpoint at _____cpm per PT/0/A/0230/001 (Radiation Monitor Check). (from Step 3.7.1)

NOTE: If GWD piping **NOT** purged on most recent release, RP independently verifies release data and 1RIA-37 setpoint is set at zero to allow the tank to be released. {15}

B. **IF** any of the following:
- Calculated setpoints are > 1E+07 CPM
- 1RIA-37 out-of-service
- GWD piping **NOT** purged {15}

over-ride 1RIA-37 setpoints as follows:

- Set 1RIA-37 Alert setpoint at zero per PT/0/A/0230/001 (Radiation Monitor Check).
- Set 1RIA-37 High setpoint at zero per PT/0/A/0230/001 (Radiation Monitor Check).

STANDARD: Refer to PT/0/A/0230/001 (Radiation Monitor Check) Encl. 13.6 (1RIA-37 and 1RIA-38 Setpoints) and using the RIA Screen insert the calculated 1RIA-37 setpoint of **2.73 E5** CPM

Continue to Step 3.10

COMMENTS:

STEP 2: Step 3.10 3.10 Adjust 1RIA-38 setpoints for release as follows: 3.10.1 Perform **one** of the following: A. **IF** calculated setpoints are < 1E+06 CPM **AND** 1RIA-38 operable, set alarms as follows: • Set 1RIA-38 Alert setpoint at _____cpm per PT/0/A/0230/001 (Radiation Monitor Check). (from Step 3.8) • Set 1RIA-38 High setpoint at _____cpm per PT/0/A/0230/001 (Radiation Monitor Check). (from Step 3.8) **NOTE:** Due to type of radiation 1RIA-38 monitors, it is **NOT** sensitive enough to perform an adequate N2 purge. B. **IF** calculated setpoints are > 1E+06 CPM **OR** 1RIA-38 out of service, over-ride 1RIA-38 setpoints as follows: • Set 1RIA-38 Alert setpoint at zero per PT/0/A/0230/001 (Radiation Monitor Check). • Set 1RIA-38 High setpoint at zero per PT/0/A/0230/001 (Radiation Monitor Check). STANDARD: Refer to PT/0/A/0230/001 (Radiation Monitor Check) Encl. 13.6 (1RIA-37 and 1RIA-38 Setpoints) and using the RIA Screen insert the calculated 1RIA-38 setpoint of **324** CPM. Continue to Step 3.11 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 3: Step 3.11 Ensure GWR DISCHARGE FLOW CONTROL in "HAND". STANDARD: Ensure GWR DISCHARGE FLOW CONTROL in "HAND" located on 1AB3. Continue to Step 3.12 COMMENTS:	___ SAT ___ UNSAT

STEP 4: Step 3.12 Verify GWR DISCHARGE FLOW CONTROL "CLOSED" STANDARD: Verify GWR DISCHARGE FLOW CONTROL CLOSED located on 1AB3. Continue to Step 3.13 COMMENTS:	___ SAT ___ UNSAT
STEP 5: Step 3.13 Remove "Purged / Not Purged" CR tag from GWR DISCHARGE FLOW CONTROL. STANDARD: Remove "Purged / Not Purged" CR tag from GWR DISCHARGE FLOW CONTROL located on 1AB3. Continue to Step 3.14 COMMENTS:	___ SAT ___ UNSAT
STEP 6: Step 3.14 Notify Unit 3 CR to perform the following: • Begin periodically monitoring all three Unit 3 GWD tanks to determine if pressure in any tank is decreasing unexpectedly. {12} • Place a note on turnover sheet "If 3RIA-45 alarms or GWD tank pressure in any tank is decreasing unexpectedly, notify Unit 1 CR to terminate GWD tank release". STANDARD: Notify Unit 3 CR to begin periodically monitoring all three Unit 3 GWD tanks to determine if pressure in any tank is decreasing unexpectedly Notify Unit 3 CR to place above note on the turnover sheet Continue to Step 3.15 COMMENTS:	___ SAT ___ UNSAT

STEP 7: Step 3.15 Notify Unit 2 CR to place a note on turnover sheet "If 2RIA-45 alarms, notify Unit 1 CR to terminate GWD tank release". STANDARD: Notify Unit 2 CR to place above note on the turnover sheet. Continue to Step 3.16 COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 3.16 Begin monitoring all four Unit 1 GWD tanks to determine if pressure in any tank is decreasing unexpectedly. STANDARD: Begin monitoring GWD tank pressures on chart recorder on 1VB2 or OAC. Continue to Step 3.17 COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 3.17 **IF** 1RIA-37 **NOT** in service **AND** the tank being released is ≥ 2.1E-05 µCi / ml, notify RP to prepare to survey GWD piping at 1RIA-37. {15} _____ _____ Person Notified Date STANDARD: Determine 1RIA-37 is in service and N/A step 3.17. Continue to Step 3.18 COMMENTS:	___ SAT ___ UNSAT

STEP 10: Step 3.18 **IF AT ANY TIME** any tank is decreasing unexpectedly, perform the following: 3.18.1 Close GWR DISCHARGE FLOW CONTROL. 3.18.2 Notify RP to initiate SRPMP 8-02 (Investigation of Unusual Radiological Occurrences) due to potential unplanned radioactive effluent release. _____ _____ Person Notified Date 3.18.3 Go To Section 4 (GWR Termination). STANDARD: Determine IAAT step is not met at this time. Continue to Step 3.19 COMMENTS:	___ SAT ___ UNSAT
STEP 11: Step 3.19 **IF AT ANY TIME** desired to terminate release, perform the following: 3.19.1 Close GWR DISCHARGE FLOW CONTROL. 3.19.2 Go To Section 4 (GWR Termination). STANDARD: Determine IAAT step is not met at this time. Continue to Step 3.20 COMMENTS:	___ SAT ___ UNSAT

STEP 12: Step 3.20 Open GWD-100 (Decay Tanks Discharge Header Block). (A-2-209/E 13' N of Door) STANDARD: Dispatch NEO to Open GWD-100 (Decay Tanks Discharge Header Block). Continue to Step 3.21 **Booth Note: GWD-100 is OPEN.** ***Cue: Inform candidate that GWD-100 is open.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 13: Steps 3.21 – 3.23 **IF** releasing GWD Tank A, perform the following… STANDARD: Determine NOT releasing GWD Tank A, B, and C and N/A steps 3.21, 3.22, and 3.23. Continue to Step 3.24 COMMENTS:	___ SAT ___ UNSAT
STEP 14: Step 3.24 **IF** releasing GWD Tank 'D' perform the following: • Open GWD-205 (Decay Tank 1D Discharge Block) (IRW Building) • Place GWD-207 ('D' INTERIM GWD TANK DISCH) switch to "OPEN" STANDARD: Dispatch NEO to open GWD-205 (Decay Tank 1D Discharge Block). ***Cue: Inform candidate that GWD-205 is open.*** Locate GWD-207 ("D" INTERIM GWD TANK DISCH) on 1AB3 and place switch to "OPEN" Continue to Step 3.25 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

NOTE: Station Limit release rates, per SLC 16.11, will **NOT** be exceeded if recommended release rates per Enclosure 4.10 (GWD Tank Sample Request) are followed.

The following approval levels are required for releases: {10}{13}

All Station Releases in Progress (including this one)	Required Level of Approval
1 GWR in progress through P/A/C filter at 1/3 Station Limit (≥ 30 day holdup)	SRO
1 GWR in progress at 1/3 Station Limit (< 30 day holdup **OR** released without P/A/C filter)	OSM
1 GWR in progress at 2/3 Station Limit	OSM
2 GWRs in progress at 1/3 Station Limit each	OSM
3 GWRs in progress at 1/3 Station Limit each	OSM

___ SAT

___ UNSAT

STEP 15: Step 3.25
Circle Required Level of Approval above based on Release Conditions.

STANDARD: Circle SRO on enclosure.
Continue to Step 3.26

COMMENTS:

STEP 16: Step 3.26
Record approval granted for release:

_____ _____ / _____
Approval Date Time

___ SAT

___ UNSAT

STANDARD: Place approval name and date and time on enclosure.
Continue to Step 3.27

Cue: Approval is granted for release by Tracy Lemons at current Date/Time.

COMMENTS:

STEP 17: Step 3.27 **IF** tank holdup < 30 days, perform the following… STANDARD: Determine tank has been held up greater than 30 days and N/A steps 3.27.1 – 3.27.2. Continue to Step 3.28 COMMENTS:	___ SAT ___ UNSAT
STEP 18: Step 3.28 **IF** tank is released without processing through a P/A/C filter **AND** Projected 31 day average gaseous effluent organ dose > limit, perform the following… STANDARD: Determine tank is being released through a P/A/C filter and N/A steps 3.28.1 – 3.28.4. Continue to Step 3.29 COMMENTS:	___ SAT ___ UNSAT
STEP 19: Step 3.29 Record recommended Release Rate from Enclosure 4.10 (GWD Tank Sample Request): _____ cfm STANDARD: Record recommended Release Rate from Enclosure 4.10 (GWD Tank Sample Request): __**4.19 E4**____ cfm Continue to Step 3.30 COMMENTS:	___ SAT ___ UNSAT

NOTE: With Unit 1 PRV system shutdown, RIA-32 sample point for '1 PRV System Filter Discharge' is sampling air in piping between Unit 1 PRV discharge and Unit Vent, **NOT** the general area {2}

During or just after GWD Release RIA-32 counts may increase while selected to '1 PRV System Filter Discharge' causing 1SA-8/B-9 "Process Monitor Radiation High" to alarm.

___ SAT

___ UNSAT

STEP 20: Step 3.30
Place the following note on Unit 1 Turnover sheet:

"Just after or during a GWD release, 1SA-8/B-9 may alarm from RIA-32 sample point selected to '1 PRV System Filter Discharge'. **IF** 1SA-8/B-9 is due to RIA-32 - '1 PRV System Filter Discharge', it can be considered an expected alarm".

STANDARD: Candidate should indicate that the above note will be placed on the turnover sheet.

Continue to Step 3.31

COMMENTS:

STEP 21: Step 3.31
Adjust GWR DISCHARGE FLOW CONTROL to obtain desired release rate.

CRITICAL STEP

___ SAT

STANDARD: Slowly adjust the manual loading knob to obtain the desired release rate.

Continue to Step 3.32

___ UNSAT

Note: Actual release rate will be much less than the maximum flow rate allowed by the release permit. Flow is monitored on VB1 recorder 1MSCCR0001

COMMENTS:

ALTERNATE PATH

STEP 22: Step 3.32
Record "Begin GWR # _____" in Unit Log.

___ SAT

___ UNSAT

STANDARD: Candidate should indicate a Unit log entry would be made.

Note: The "B" GWD tank will decrease instead of the D. The candidate should note this while monitoring the tank pressures and then perform IAAT Step 3.18. Candidate may also perform the IAAT because he notes that a release is occurring but the "D" tank pressure is not decreasing. In both cases unexpected results were noted.

COMMENTS:

STEP 23: Step 3.18

*__CRITICAL STEP__

IF AT ANY TIME any tank is decreasing unexpectedly, perform the following:

3.18.1 Close GWR DISCHARGE FLOW CONTROL.

3.18.2 Notify RP to initiate SRPMP 8-02 (Investigation of Unusual Radiological Occurrences) due to potential unplanned radioactive effluent release.

_____ _____
Person Notified Date

3.18.3 **Go To** Section 4 (GWR Termination).

___ SAT

___ UNSAT

STANDARD: Determine IAAT step is met because the "B" GWD Tank pressure is decreasing.

*Close GWR DISCHARGE FLOW CONTROL.

Notify RP initiate SRPMP 8-02 (Investigation of Unusual Radiological Occurrences)

Go To Section 4 (GWR Termination).

Cue: Another operator will complete this procedure.

COMMENTS:

END TASK

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Required to set RIA to prevent station release above limits.
2	Required to set RIA to prevent station release above limits.
12	Required to align release flow path.
14	Required to align release flow path.
21	Required to align release flow path.
23	Required to stop the release of the wrong tank.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Release of “D” GWD tank is desired

No other GWRs in progress.

OP/1&2/A/1104/018, Enclosure 4.9 (GWD Tank Release) is in progress and completed up to step 3.9

INITIATING CUES:

CRS directs you to complete the release of the “D” GWD tank beginning at step 3.9 of Enclosure 4.9 (GWD Tank Release).

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

NLO-400
Station ASW Pump Alignment

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Align and start the Station ASW Pump

Alternate Path:

No

Facility JPM #:

NLO-017

K/A Rating(s):
System: B/WE04
K/A: EA1.1
Rating: 4.4/4.2

Task Standard:
Perform EOP Encl. 5.10 "Station ASW Pump Alignment" for valve and breaker alignment required to provide Station ASW to the SGs.

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator ____ In-Plant __X___ Perform _____ Simulate __X__

References:
EOP Encl. 5.10 Station ASW Pump Alignment
OP/0/A/1107/011 Removal And Restoration Of Auxiliary Electrical Equipment

Validation Time: 16 minutes **Time Critical:** NO

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

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COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS

None

Tools/Equipment/Procedures Needed:
600 volt breaker rackout tool
EP/1/A/1800/001 Enclosure 5.10 Station ASW Pump Alignment
OP/0/A/1107/011 Removal And Restoration Of Auxiliary Electrical Equipment
Enclosure 4.5 Rack In 600 Volt Breaker

READ TO OPERATOR

DIRECTION TO TRAINEE

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.

INITIAL CONDITIONS

Unit 1 was operating at 100% power

The SSF is OOS

BOTH Standby Buses are energized from CT-5

Unit 1 trips due to a loss of all Main and Emergency Feedwater

HPI Forced Cooling is established

The EOP HPI CD Tab in progress

HPI forced cooling flow is determined to be inadequate

INITIATING CUES

The CRS directs you to perform EOP Enclosure 5.10 “Station ASW Pump Alignment” to align and then start the Station ASW Pump.

START TIME: _____

NOTE All equipment operated in the following steps is located in A-1-128, ASW Pump Rm. STEP 1: Step 1 Obtain racking equipment and pipe wrench from EOP equipment locker U2AB1 (A-1, hallway near U2 elevator lobby). STANDARD: Student locates the equipment locker containing the required racking and protective equipment. • Safety glasses • Face shield • Hard hat • Rubber gloves with leather protectors • Flame-resistant clothing • Pipe wrench • Breaker racking tool Continue to Step 2 **NOTE: This step may be simulated and discussed, at the discretion of the evaluator.** ***Cue: Inform the student that for this JPM, it is not necessary to break the security seal on the locker for demonstrating equipment to be utilized.*** COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 2 Open CCW-99 (Aux Service Water Pump Suction). STANDARD: Candidate locates CCW-99 and simulates rotating handwheel counterclockwise to the open position. Continue to Step 3 ***Cue: After the student locates and simulates placing CCW-99 in the open position, inform student CCW-99 position indicator is pointing to the "open" position.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 3: Step 3 Open CCW-247 (Aux Service Water Pump Recirc). STANDARD: Candidate locates CCW-247 and simulates rotating chain operator in the counterclockwise direction by pulling chain operator until handwheel comes to a hard stop. Continue to Step 4 ***Cue: After student locates and simulates placing CCW-247 in the open position, inform student that CCW-247 is at a counterclockwise hard stop position.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 4: Step 4 Open CCW-308 (Aux Service Water Pump Vent). STANDARD: Candidate locates CCW-308 on top of the Station ASW pump, removes pipe cap with simulated wrench from EOP Locker, pulls the locking pin and simulates rotating the 90° valve until the lever is parallel to the vent piping to the open position. Continue to Step 5 ***Cue: After student simulates opening CCW-308, inform him/her that a solid stream of water is issuing from the valve.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 5: Step 5 **WHEN** all air is vented from Station ASW Pump, **THEN** close CCW-308. STANDARD: Candidate recognizes from previous instructor cue that all air is vented from Station ASW pump and simulates rotating CCW-308 clockwise to the closed position. Continue to Step 6 ***Note: Replacing the pipe cap in not critical.** ***Cue: After student simulates closing CCW-308, inform him/her that water flow has stopped and CCW-308 is at a clockwise hard stop position.*** COMMENTS:	***CRITICAL STEP** ___ SAT ___ UNSAT

STEP 6: Step 6 Rack in ASWS-6B (STATION ASW PUMP BKR) (ASW 4160/600V SWGR ASWS-6). STANDARD: Candidate simulates donning protective clothing/equipment and simulates racking in ASW pump breaker (ASWS-6B). Continue to Step 7 ***Cue: After the student simulates racking in the breaker, inform student that the STATION AUX SERVICE WATER PUMP Switch green "Trip" indicating light is ON.*** ***Cue: If the candidate asks, provide him/her with a copy of OP/0/A/1107/011 Enclosure 4.5 (not critical)*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 7: Step 7 Close ASW SWGR FDR (ASW Swgr Fdr From B1T- Unit 10) (ASW 4160/600V Swgr ASWS-5). STANDARD: Candidate verifies that "ASW SWGR FDR From B1T- Unit 10" is closed. Continue to Step 8 **NOTE: This breaker is normally closed.** ***Cue: After student locates breaker, inform student that the two red CLOSED lights are lit and that the white OPEN light is off.*** COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 8 **IAAT** AP/6 (Natural Disaster) directs restoring the Station ASW pump to standby, **THEN GO TO** Step 14. STANDARD: Candidate determines from cue that this step does not apply and continues to Step 9. ***Cue: If the candidate asks, inform him/her that AP/06 is <u>NOT</u> in progress.*** COMMENTS:	___ SAT ___ UNSAT

STEP 9: Step 9 **WHEN** notified that Standby Bus #1 is energized, **AND** notified to start the Station ASW pump, **THEN** perform the following (ASW 4160/600V SWGR ASWS-5): A. Close ASW TRANSFORMER FDR (ASW SWITCHGEAR TRANSFORMER FEEDER). B. Close STATION ASW PUMP SW (STATION ASW PUMP CONTROL SWITCH) (ASW 4160V SWGR ASWX-5). STANDARD: Candidate should recognize from the Initial Conditions that Standby Bus #1 is energized and the CRS has directed him/her to start the Station ASW Pump. Candidate locates and closes ASW Switchgear Transformer Feeder breaker on ASWS-5 by simulating rotating the handle to the closed position. ***Cue: After candidate simulates closing the breaker, inform him/her that the red "closed" light is ON and the green "trip" light is OFF.*** Candidate locates Station ASW Pump Switch on ASWS-5 and simulates rotating the handle to the CLOSED position. Continue to Step 10 ***Cue: After candidate simulates closing the breaker, inform him/her that the Station ASW Pump Switch red CLOSED light is ON and the green TRIP light is OFF.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 10: Step 10 Close CCW-309 (Aux Service Water Pump Disch Drain) (12' West of ASW pump). STANDARD: Candidate locates CCW-309 and simulates closing CCW-309 by rotating the valve handwheel in a clockwise direction to a hard stop. Continue to Step 11 ***Cue: Inform candidate that CCW-309 handwheel is fully clockwise and at a hard stop position.*** COMMENTS:	___ SAT ___ UNSAT

STEP 11: Step 11 Perform the following: A. Position CCW-101 (Aux Service Water Pump Discharge) only one turn open. B. Open CCW-101 an additional one turn open at a rate of one quarter turn every 15 seconds. C. WHEN 5 minutes have elapsed, THEN slowly open CCW-101 until full open STANDARD: Candidate locates CCW-101 and simulates opening the valve one turn by rotating the valve operator in the counterclockwise direction by pulling on the chain operator. Candidate opens CCW-101 an additional on turn open at a rate of one quarter turn every 15 seconds. When 5 minutes have elapsed, candidate slowly opens CCW-101 until full open. Continue to Step 12 ***Cue: After the candidate has correctly explained how to perform steps A & B, inform him her that 5 minutes have elapsed (time compression).*** ***Cue: Inform candidate that CCW-101 handwheel is at a hard stop after following the sequence correctly.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 12: Step 12 Verify Turbine Building flood is in progress. STANDARD: Candidate determines from the Initial Conditions that a Turbine Building flood is NOT in progress. Continue to Step 12 R**N**O COMMENTS:	___ SAT ___ UNSAT

STEP 13:	Step 12 **RNO** Notify CRO that Station ASW Pump is operating.	___ SAT
STANDARD:	Candidate contacts the Unit 1 Control Room by radio or phone and informs them that the Station ASW Pump is operating.	___ UNSAT
COMMENTS:		
	END TASK	

STOP TIME: _____

CRITICAL STEP EXPLANATIONS

STEP #	Explanation
2	Necessary to align flowpath
3	Necessary to align flowpath
4	Necessary to vent the pump
5	Necessary to stop venting the pump
6	Necessary to provide power to the pump.
9	Necessary to provide power to the pump.
11	Necessary to provide flowpath.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS

Unit 1 was operating at 100% power

The SSF is OOS

BOTH Standby Buses are energized from CT-5

Unit 1 trips due to a loss of all Main and Emergency Feedwater

HPI Forced Cooling is established

The EOP HPI CD Tab in progress

HPI forced cooling flow is determined to be inadequate

INITIATING CUES

The CRS directs you to perform EOP Enclosure 5.10 “Station ASW Pump Alignment” to align and then start the Station ASW Pump.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

NLO-700

Restoration of ICS Auto Power

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Restoration of ICS AUTO Power

Alternate Path:

Yes

Facility JPM #:

NLO-700

K/A Rating(s):

System: BW/A02
K/A: AA1.3
Rating: 3.4/3.6

Task Standard:

ICS AUTO power is restored per AP/1/A/1700/023, Loss of ICS Power.

Preferred Evaluation Location: **Preferred Evaluation Method:**

Simulator ____ In-Plant __X___ Perform _____ Simulate __X_

References:

AP/1/A/1700/023 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power) Rev. 20

Validation Time: 16 minutes **Time Critical:** NO

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Candidate: _____ Time Start: _____
NAME Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time: _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

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COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

AP/1/A/1700/023 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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.

INITIAL CONDITIONS:

Unit 1 operating at 100% power

1SA-2/B-11 (ICS AUTO POWER FAILURE) is actuated

INITIATING CUES:

The CRS directs you to use AP/1/A/1700/023 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power) to restore ICS AUTO power on Unit 1.

START TIME: _____

STEP 1: Step 1 Verify the following breakers closed (Unit 1 Cable Rm): • 1KRA breaker #1 (100A 1P, POWER PANELBOARD 1KI) • 1KI BREAKER #1 (30A 1P, AUTO POWER (ICS)) STANDARD: Locate 1KRA panel board and breaker #1 and verify it is closed. ***Cue: Indicate to the candidate that 1KRA breaker #1 is CLOSED.*** Locate 1KI panel board and breaker #1 and verify it is closed. ***Cue: Indicate to the candidate that 1KI breaker #1 is tripped OPEN.*** Continue Step 1 RNO. COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 1 RNO 1. Reset and close the affected breakers (Unit 1 Cable Rm): _____1KI BREAKER #1 (30A 1P, AUTO POWER (ICS)) 2. **IF** either of the above breakers fail to close… 3. **WHEN** both of the above breakers are closed **THEN** continue. STANDARD: 1. Resets and closes 1KI BREAKER #1 by taking the breaker to the open position and then closing it. 2. Step does not apply. Both breakers are closed. 3. Determine both breakers are closed and continue. ***Cue: Indicate to the candidate that 1KI breaker #1 is CLOSED.*** Continue to Step 2. COMMENTS:	___ SAT ___ UNSAT

ALTERNATE PATH

STEP 3: Step 2
Contact Unit 1 CR to verify ICS AUTO power has been restored as indicated by 1SA-2/B-11 (ICS AUTO POWER FAILURE) off.

___ SAT

___ UNSAT

STANDARD: Contacts Unit 1 CR to verify ICS AUTO power has been restored as indicated by 1SA-2/B-11 (ICS AUTO POWER FAILURE) off.

Cue: Inform candidate that 1SA-2/B-11 (ICS AUTO POWER FAILURE) remains actuated.

Continue to Step 2 **RNO**.

COMMENTS:

STEP 4: Step 2 **RNO**
IF ICS AUTO power has **NOT** been restored,
THEN bypass 1KI inverter as follows: (BYP SW 1KI cabinet, Unit 1 Equip Rm, Southwest of col Q72):

___ SAT

STANDARD: Determine ICS AUTO power has **NOT** been restored by actuation of 1SA-2/B-11 (ICS AUTO POWER FAILURE) in previous step
THEN bypasses 1KI inverter as follows: (BYP SW 1KI cabinet, Unit 1 Equip Rm, Southwest of col Q72): (steps 5, 6, & 7 below)

___ UNSAT

COMMENTS:

STEP 5: Step 2 **RNO** A
A. Position SW#1 OFF(left switch).

CRITICAL TASK

___ SAT

STANDARD: Positions SW#1 OFF (left switch).

Cue: Indicate to the candidate that SW#1 is OFF.

___ UNSAT

COMMENTS:

STEP 6: Step 2 **RNO** B B. Position SW#3 OFF (right switch). STANDARD: Positions SW#3 OFF (right switch). ***Cue: Indicate to the candidate that SW#3 is OFF.*** COMMENTS:	**CRITICAL TASK** ___ SAT ___ UNSAT
STEP 7: Step 2 **RNO** C C. Position SW#2 ON (center switch). STANDARD: Positions SW#2 ON (center switch). ***Cue: Indicate to the candidate that SW#2 is ON.*** Continue to Step 3. COMMENTS:	**CRITICAL TASK** ___ SAT ___ UNSAT
STEP 8: Step 3 Notify Unit 1 CR that all applicable steps of this enclosure have been completed. STANDARD: Using a phone or radio, Notify Unit 1 CR that all applicable steps of this enclosure have been completed. ***Cue: Inform candidate that the Control Room has been notified.*** COMMENTS: **END TASK**	___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
5	Step is required in proper sequence to align power to the 1KI bus.
6	Step is required in proper sequence to align power to the 1KI bus.
7	Step is required in proper sequence to align power to the 1KI bus.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Unit 1 operating at 100% power

1SA-2/B-11 (ICS AUTO POWER FAILURE) is actuated

INITIATING CUES:

The CRS directs you to use AP/1/A/1700/023 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power) to restore ICS AUTO power on Unit 1.