Final Submittal

OCONEE JUNE 2004 EXAM
50-26912004-301,
50-27012004-301, &
50-28712004-301
JUNE 14 - 18 & 25,2004

1. Administrative Questions/JPMs
2. In-plant JPMs
3. Control Room JPMs (simulator JPMs)

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Admin-100

DETERMINE SDM
WITH A DROPPED CONTROL ROD

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

DETERMINE SDM WITH A DROPPED CONTROL ROD

Alternate Path:

Yes, determine that 1% SDM does not exist and boration is required within 15 minutes.

Facility JPM #:

Admin-100

K/A Rating(s):

Gen 2.1.23 3.9/4.0

Task Standard:

PT/1/A/1103/15, Reactivity Balance Procedure is used to verify > 1% SDM with one inoperable (dropped) CR within 1 hour. Determine that 1% SDM does not exist and boration is required within 15 minutes.

Preferred Evaluation Location:

Simulator __X__ In-Plant _____

Preferred Evaluation Method:

Perform __X__ Simulate _____

References:

PT/1/A/1103/15, Reactivity Balance Procedure
AP/1/A/1700/15, Dropped Control Rods
Technical Specifications:
3.1.4, Control Rod Group Alignment Limits
3.2.1, Regulating Rod Position Limits

Validation Time: 10 min.

Time Critical: YES

Candidate: _____
NAME

Time Start:
Time Finish:

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____ _____ _____ / _____
NAME SIGNATURE DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall Snap 205
2. Import Admin-100 Simulator files

Tools/Equipment/Procedures Needed:

PT/1/A/1103/015, Reactivity Balance Procedure
OP/0/A/1105/009, Control Rod Drive System
Technical Specifications:
3.1.4, Control Rod Group Alignment Limits
3.2.1, Regulating Rod Position Limits

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:

You are the Unit 1 OAYC and Group 6 Rod 3 **has** dropped into the core. Reactor power is stable at ≈ 55%. AP/1/A/1700/15, Dropped Control Rods, has been completed up to step 4.5.

INITIATING CUES:

The SRO in the Control Room directs you to continue with AP/1/A/1700/15, Dropped Control Rods.

TIME CRITICAL

START TIME: _____

STEQ: Within one hour verify > 1% SDM with allowance to the inoperable control rod. Perform PT/1/A/1103/15, Reactivity Balance Procedure. STANDARD: Obtain copy of PT/1/A/1103/15, Reactivity Balance Procedure. COMMENTS:	___ SAT ___ UNSAT
STEP 2: Determine proper enclosure to **use.** STANDARD: Enclosure 13.19, Shutdown Margin at Power, **Is** chosen. COMMENTS:	___ **SAT** ___ UNSAT
STEP 3: Refer to the COLR. Use the "Control Rod Position Setpoints 1 inoperable Rod, 4 Pump Flow" curve. Verify SDM **is** ≥ 1% AWK by verifying that the control rod position and power level are within the acceptable region of the curve. STANDARD: SDM is determined to be is ≤ 1% ΔK/K. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 4: Appropriate actions are taken per ITS 3.1.4, 3.1.5 and 3.2.1. STANDARD: Refer to IT§ 3.1.4, 3.1.5 and 3.2.1 and determine that initiation of boration to restore SDM to within limits is required within 15 minutes. ***CUE: Inform student that an RO is commencing boration.*** COMMENTS: **END OF TASK**	**CRITICAL STEP** ___ SAT ___ UNSAT

TIME STOP: _____

STEP ONS:

STEP #	Explanation
3	Step is necessary, the operator must interpret the 4 RCP curve to ensure adequate SDM.
4	Step is necessary; initiation of boration must occur within 15 minutes *to* restore SDM.

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

INITIAL CONDITIONS:

You are the Unit 1 OATC and Group 6 Rod 3 has dropped into the core. Reactor power is stable at ≈ *55%*. AP/1/A/1700/15, Dropped Control Rods, is complete up to step **4.5.**

INITIATING CUES:

The SRO in **the** Control Room directs you to continue with AP/1/A/1700/15, Dropped Control Rods.

TIME CRITICAL

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Admin- 103

PERFORM MANUAL RCS LEAKAGE CALCULATION

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

PERFORM MANUAL RCS LEAKAGE CALCULATION

Alternate Path:

No

Facilitv JPM #:

CRO-43

K/A Rating(s):

Gen 2.1.7 3.7/4.4

Task Standard:

RCS Leakage is correctly calculated within .01 gpm of attached key.

Preferred Evaluation Location:

Simulator _____ In-Plant __X___

Preferred Evaluation Method:

Perform __X___ Simulate ____

References:

PT/O/A/0600/001A, Loss Of Computer
PT/1/A/600/10, Reactor Coolant Leakage

Validation Time: 18 minutes

Time Critical: NO

==========

Candidate: _____
NAME

Time Start: _____
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:

Enclosure 43.3 of PT/1/A/600/10

READ PO 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 computer repairs are expected to be extended through turnover for hardware replacement. The boss of Computer procedure PT/O/A/0600/001A, boss Of Computer, is in progress, however an RCS Leakage Calculation has not been performed during this shift.

INITIATING CUES:

The Control ROOM SRO directs you to perform a manual RCS leakage per PT/1/A/600/10 (Reactor Coolant Leakage). The initial data given was collected one hour previously. Use the final set of leakage data and manually calculate the RCS leakage rate. Enclosure 13.3 of PT/1/A/600/10 (Reactor Coolant Leakage) is complete up to step 2.2.

START TIME: _____

Note: Data cues are only applicable if JPM is performed in *the* control room.

___ SAT

___ UNSAT

STEP 1: Step 2.2
After 1 hour, Record final set of data in "Table #1"

STANDARD: Student enters final set of data into "Table #1" of Enclosure 13.3 (Manual Leakage Calculation Data Sheet).

CUE: Present student with attachment of final data readings.

OR

Student locates Prr level gauge on UB1 and enters value on data sheet.

CUE: Pzr Level 269.0 inches

Student locates Quench Tank level on AB1 and enters value on data sheet.

CUE: Quench Tank Level 84.9 inches

Student locates LDST level gauge on UBI and enters value on data sheet.

CUE: LDST Level 73.4 inches

Student locates Tave meter on UB1 and enters value on data sheet.

CUE: Tave Indication 579.0°F

Student locates Power meters on UBI and enters value on data sheet

CUE: Power Range NI indicates 100.1%

Student locates RCS NR Pressure chart on UBI and enters value on data sheet.

CUE: RCS NR Pressure chart 2450 psig

Student locates Group 7 Control Rod Position on the Computer and enters value on data sheet.

CUE: Group 7 Control Rod Position is 93.6%

COMMENTS:

STEP 2:	Step 2.3 Calculate and record Change values in "Table #1" of Enclosure 13.3 (Manual Leakage Calculation Data Sheet).	___ SAT
STANDARD	Student performs calculation and records Change values in "Table #1" of Enclosure 13.3 (Manual Leakage Calculation Data Sheet).	___ UNSAT
COMMENTS:		
STEP 3:	Step 2.4 Calculated Corrected PZW Level Change:	___ SAT
STANDARD:	(- 6.831 inches/° F X **0.1** ° F) + **1.0** inches = **0.3169 inches**	___ UNSAT
COMMENTS:		
STEP 4:	Step 2.5 Convert Corrected PZR Level Change to gallons:	___ SAT
STANDARD:	**0.3269** inches X 14.364 gallons/inch = **4.552** gallons	___ UNSAT
COMMENTS:		
STEP 5:	Step 2.6 Convert QT Level Change to gallons:	___ SAT
STANDARD:	**- 0.3** inches X 34.94 gallons/inch = **-10.482** gallons	___ UNSAT
COMMENTS:		

STEP 6: Step 4.7
Convert LDST Level Change to gallons:

STANDARD: **- 0.3** inches X 30.956 gallons/inch = **- 9.287** gallons

COMMENTS:

___ SAT

___ UNSAT

STEP 7: Step **2.8**
Calculated Total Volume Change:

STANDARD:

4.552 gallons + **- 10.482** gallons + **(- 9.287 gallons)** = **- 25.247** gallons

COMMENTS:

___ SAT

___ UNSAT

STEP 8: **Step 2.9**
Calculate RCS Leakage **Rate:**

STANDARD: **- 45.217** gallons ÷ **60** minutes = **- 0.254** gpm (± .01 gprn)

COMMENTS:

END TASK

CRITICAL TAS

___ SAT

___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
8	Necessary data calculation to properly determine manual RCS leakage rate.

Note: If complamenery errors occur while performing calculations is steps 3 – 7 they will become critical. Credit will not be given for obtaining the correct answer for the wrong reason.

Manual RCS Leakage Final Data

Parameter	Final
Time	0115
Pzr level	219.8 inches
Quench Tank Level	84.9 inches
LDST Level	73.4 inches
Tave Indication	579.0°F
Power Range NI	100.1%
RCS NR Pressure	2150 psig
G 7 C t I Rod P iti	93.6%

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

INITIAL CONDITIONS:

Unit 1 computer repairs are expected to be extended through turnover for hardware replacement. The Loss of Computer procedure PT/O/A/0600/001A, Loss Of Computer, is in progress, however an RCS Leakage Calculation has not been performed during this shift.

INITIATING CUES:

The Control Room SRO directs you to perform a manual RCS leakage per PT/1/A/600/10 (Reactor Coolant Leakage). The initial data given was collected one hour previously. Use the final set of leakage data and manually calculate the RCS leakage rate. Endosure 13.3 of PT/1/A/600/10 (Reactor Coolant Leakage) is complete up to step 2.2.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE ME/

Admin-1I 0

Determine Minimum Shift Staffing

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Determine MINIMUM staffing requirements for the shift for NEO's, RO's and SRO's

Alternate Path:

NO

Facilitv JPM #:

Admin-110

K/A Rating(s):

Gen 2.1.4 2.3/3.4

Task Standard:

SLC 16.13.1-1 (Minimum Station Staffing Requirements) is used to correctly determine MINIMUM staffing requirements for the shift.

Preferred Evaluation Location:

Simulator _____ in-Plant ___X___

Preferred Evaluation Method:

Perform _____ Simulate __X__

References:

SLC 16.13.1-1 (Minimum Station Staffing Requirements)

Validation Time: 15 min.

Time Critical: NO

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Candidate: _____
NAME

Time Start: _____
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:

SLC 16.13.1-1

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:

Plant conditions are as following:

- Unit **1** *is* in MODE *5* with fuel handling in the SFP in progress
- Unit 2 is in MODE 1 at 73% with 2A HPIP OOS for the last *85* hours
- Unit 3 is in MODE 1 at 700% power

- **2** on-shift NEO's are qualified as fire brigade leader
- **1** RP Tech is fire brigade qualified

INITIATING CUE:

What are the **MINIMUM** staffing requirements for the shift?

Position	Minimum Number
OSM	
STA	
SRO	
RO	
NLO	
SPOC	N/A
Chemistry Technician	**N/A**
RP Technician	N/A

START TIME: _____

STEP 1: Reference SLC 16.13.1 STANDARD: Reference SLC 16.13.1-1 table COMMENTS:	___ SAT ___ UNSAT
STEP 2: Reference SLC 16.13.1-1 for plant conditions STANDARD: Determine correct table to be used: Column for 2 units in MODE 1-4 from two control rooms based on: Unit 1 is in MODE 5 with fuel handling in the SFP in progress • Unit 2 is in MODE 1 at 73% with 2A HPIP OOS for the last 85 hours • Unit 3 is in MODE 1 at 100% power COMMENTS:	___ SAT ___ UNSAT
STEP 3: Determine correct number from column for 2 units in MODE 1-4 from two control rooms STANDARD: 1 OSM, 1 STA. 5 SRO, 5 RO, and 8 NEO COMMENTS:	___ SAT ___ UNSAT
STEP 4: Determine that available NEO is fire brigade leader qualified STANDARD: 2 on-shifi NEO's are qualified as fire brigade leader 1 RP Tech is fire brigade qualified COMMENTS:	___ SAT ___ UNSAT

STEP 5: Adjust total staffing numbers per Step **4** STANDARD: Subtract 1 SRO based on NEO qualified as fire brigade leader: 1 OSM, 1 STA, **4** SRO, 5 RO, and 8 NEO COMMENTS:	___ SAT UNSAT
STEP 6: Reference TS 3.5.2.B STANDARD: Determine that TS 3.5.2.B is applicable: 2A HPIP OOS for > 72 hours COMMENTS:	___ SAT ___ UNSAT
STEP 7: Adjust total staffing numbers per Step 6 STANDARD: Add **1** RO based on TS 3.5.2.B applying **1** OSM, 1 **STA. 4** SRO, **6** RO. and 8 NEO COMMENTS:	___ SAT ___ UNSAT
STEP 8: Adjust total staffing numbers per Step 7 STANDARD: Add 2 NEOs based ***on*** TS 3.5.2.B applying 1 OSM, 1 STA, **4** SRO, 6 RO, and **10** NEO COMMENTS:	___ SAT ___ UNSAT

STEP 9: Determine total staffing requirements

CRITICAL STEP

STANDARD: **1** OSM. **1** STA, **4** SRO, **6** RO, and **10** NEO

___ SAT

___ UNSAT

Position	**Minimum Number**
OSM	1
STA	**1**
SRO	**4**
RO	**6**
NLO	**10**
SPOC	NIA
Chemistry Technician	NIA
RP Technician	NIA

COMMENTS:

TIME STOP: _____

CRITICAL STEP EXPLANATIONS:

STEP #		Explanation
10	Determine staffing requirements	

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

INITIAL CONDITIONS:

Plant conditions are as following:

- Unit 1 *is* in MODE 5 with fuel handling in the SFP in progress
- Unit 2 *is* in MODE 1 at 73% with 2A HPIP OOS for the last 85 hours
- Unit 3 is in MODE 1 at 100% power

- 2 on-shift NEO's are qualified as fire brigade leader
- 1 RP Tech is fire brigade qualified

INITIATING CUE:

What are the MINIMUM staffing requirements for the shift?

Position	Minimum Number
OSM	
STA	
SRO	
RO	
NLO	
SPOC	NIA
Chemistry Technician	N/A
RP Technician	NIA

REGION II
INITIAL LICENSE EXAMINATION
JOB :E MEASURE

Admin-202

Perform surveillance to verify SSF RCMUP Operability

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform surveillance to verify SSF RCMUP Operability

Alternate Path:

No

Facility JPM #:

NEW

K/A Rating(s):

System: GEN
K/A: 2.2.12
Rating: 3.0/3.4

Task Standard:

Verify SSF RCMUP Operability using PT/1/A/0600/001 (Periodic Instrument Surveillance), Encl. 13.1 (Mode 1 & 2)

Preferred Evaluation Location:

Simulator _____ In-Plant __X___

Preferred Evaluation Method:

Perform _____ Simulate __X__

References:

PT/1/A/0600/001 (Periodic Instrument Surveillance), Encl. 13.1 (Mode 1 & 2) Page 35 of 36

Validation Time: 15 minutes

Time Critical: NO

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Candidate: _____
NAME

Time Start: _____
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:

- PT/1/A/0600/001 (Periodic Instrument Surveillance), Encl. 13.1 (Mode 1 & 2) Page 35 of 36
- Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve" of OP/0/A/1108/001 (Curves And General Information)

READ TO OPERATOR

DIRECTION **TO** TRAINEE:

I will explain the initial conditions, and slate 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:

- U2EOC20 outage in progress
- Unit 2 was shutdown (subcritical) **on** 3120104 at 0100
- Unit 2 core is defueled
- Spent Fuel Pool Level = +0.1 feet
- Spent Fuel Pool Temperature = 91°F
- Current date and time: 3/26/04 at 1100
- PT/600/001, Enclosure 13.1 in progress

INITIATING **CUES:**

The SRO instructs you to continue with PT/600/001, Enclosure 13.1 starting at the top of page 35.

START TIME: _____

STEP 1: Determine if all fuel in SFP subcritical > maximum days specified on Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve" STANDARD: Refer to Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve" of OP/1108/001. Determine that Unit 2's fuel has been subcritical for 6 days and 10 hours. This is < than the maximum days specified on Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve". COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 2: Verify SFP level > specified on appropriate curve of Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve". STANDARD: Determine that the correct curve is " Day > 6 & ≤ 7". NC ~~Determine~~ Spent Fuel Pool water temperature is 98°F by looking on SFP ~~temperature~~ gauge on 2AB3 or on the OAC NC ~~Determine~~ Spent Fuel Pool water level is + 0.10 feet by looking on SFP ~~Level~~ gauge on 2AB3. **Cue: When a SFP temperature indication is located indicate to the candidate that SFP temperature = 98°F** Determine Spent Fuel Pool water level is + 0.10 feet by looking on SFP Level gauge on 2AB3. **Cue: When the Unit 1 & 2 SFP level indication is located indicate to the candidate that SFP Level = + 0.1 feet.** Determine that SFP level is **NOT** > than the appropriate curve. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 3: If limit exceeded, SSF RCMUP is inoperable. STANDARD: Declare the **SSF** RCMUQ inoperable. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Must determine that some fuel has been subcritical < than the maximum days specified on Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve"
2	Required to determine is SFP level is adequate.
3	SSF RCMUP is declared inoperable.

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

INITIAL CONDITIONS:

- U2EOC20 outage in progress
- Unit 2 was shutdown (subcritical) on 3/20/04 at 0100
- Unit 2 core is defueled
- Spent Fuel Pool Level = +0.1 feet
- Spent Fuel Pool Temperature = 91°F
- Current date and time: 3/26/04 at 1100
- PT/600/001, Enclosure 13.1 in progress

INITIATING CUES:

The SRO instructs you to continue with PT/600/001, Enclosure 13.1 starting at the top of page 35.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Admin-300

Calculate the Maximum Permissible Stay Time Within Emergency Dose Limits (EDL)

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Calculate the Maximum Permissible Stay Time Within Emergency Dose Limits

Alternate Path:

NIA

Facility JPM #:

NIA

KIA Rating(s):

Gen 2.3.4 2.5/3.1

Task Standard:

Calculate the Maximum Permissible Stay Time Within Emergency **Dose** Limits (± 5 minutes).

Preferred Evaluation Location:

Simulator _____ In-Plant __X__

Preferred Evaluation Method:

Perform __X__ Simulate _____

References:

NSD-507, Radiation Protection

OMP 1-18, Implementation Standard During Abnormal And Emergency Events

Validation Time: 20 min.

Time Critical: NO

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Candidate: _____
NAME

Time Start: _____

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:

None

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:

1. Steam Generator Tube Rupture has occurred on Unit 3
2. Emergency Dose Limits are in effect
3. NEO "A" has received 2.26 R TEDE this year
4. The following tasks are required to be performed:

#	TASK	TIME REQUIRED	DOSE RATE
1	Closing 3C-573	12 min	5.31 Whr
2	Open 3FDW-313	4 min	19.75 R/hr
3	Open all Unit 3's ADVs		3.65 Whr

Note: **Assume no** dose received **while** travelling between tasks.

INITIATING CUE:

Refer to the above information. NEO "A" has completed tasks 1 and 2 in the time required. How long does **he** have to complete task 3 without exceeding his Emergency Dose Limits?

START TIME: _____

Note: Candidate may perform these steps in a different order however the calculated stay time should be correct.

Note: Candidate should understand the following:
1. EDL is 5 R per event (LOCA or SGTR).
2. Current exposure for the year is not counted toward the Emergency Dose Limit (EDL).

STEP 1:	Determine dose received while performing task 1.	CRITICAL STEP
STANDARD:	Determine dose received while performing task 1. 5.31 Whr X 1hr/60 min X 12 min = 1.06 R	___ SAT UNSAT
COMMENTS:		
STEP 2:	Determine dose received while performing task 2.	CRITICAL STEP
STANDARD:	Determine dose received while performing task 2. 19.75 Whr X 1hr/60 min X 4 min = 1.32 R	___ SAT ___ UNSAT
COMMENTS:		
STEP 3:	Determine dose remaining from EDLs.	CRITICAL STEP
STANDARD:	Determine dose remaining from EDLs. 5R – 1..06R – 1.32R = 2.62 R	___ SAT UNSAT
COMMENTS:		

STEP 4:	Determine time available for the NEO to complete **task** 3 without exceeding EDL.	**CRITICAL STEP**
STANDARD:	Stay time **is** calculated to be:	___ SAT
	Available **Dose** / **Dose** Rate = 2.62 R / 3.65 R/hr = .718 hr X 60 min / 1hr = **43.1 min**	___ UNSAT
	(± 5 minutes)	
COMMENTS:		
	END OF TASK	

TIME STOP: _____

:RIT STEP. EXPLANATIONS:

STEP #	Explanation
1	Required to calculate stay time.
2	Required to calculate stay time.
3	Required to calculate stay time.
4	Required to calculate stay time.

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

INITIAL CONDITIONS:

1. Steam Generator Tube Rupture has occurred on Unit 3
2. Emergency Dose Limits are in effect
3. NEO "A" has received 2.26 R **TEDE** this year
4. The following tasks are required to be performed:

#	TASK	TIME REQUIRED	DOSE RATE
1	Closing 3C-573	12 min	5.31 Rfhr
2	Open 3FDW-313	4 min	19.75 R/hr
3	Open all Unit 3's ADVs		3.65 R/hr

Note: Assume no dose received while traveling between tasks.

INITIATING CUE:

Refer to the above information. NEO "A" has completed tasks 1 and 2 in the time required. How long does he have to complete task 3 without exceeding his Emergency Dose Limits?

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Admin-402

Perform Actions for Medical Emergency

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform Actions for Medical Emergency

Alternate Path:

No

Facility JPM #

NEW

K/A Rating(s):

System: GEN
K/A: 2.4.39
Rating: 3.3/3.1

Task Standard:

Complete RP/1000/016, Encl. 4.1 (Medical Response) as required

Preferred Evaluation Location:

Simulator _____ In-Plant __X__

Preferred Evaluation Method:

Perform _____ Simulate __X__

References:

RP/1000/016, Encl. 4.4 (Medical Response)

Validation Time: 15 minutes

Time Critical: NO

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Candidate: _____
NAME

Time Start: _____
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:

RP/1000/016, Encl. 4.1 (Medical Emergency Action – Routine Operations)

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:

1. You have answered a call on 4911 (emergency line) reporting a medical emergency.

2. The caller is still on the line.

INITIATING CUES:

The SRQ in the control room instructs you perform the required actions for a medical emergency.

START TIME: _____

STEP 1: Determine the appropriate procedure to use. STANDARD: RP/0/B/1000/016 (Medical Response) is referenced **and** Enclosure **4.1** (Medical Emergency Actions - Routine Operations) is determined to be the appropriate procedure to use. Enclosure 4.1 is obtained from notebook located in the front of the control room **desk** or from the cart in the TSC. **Cue: When procedure *is* located *give* candidate a *copy of* Enclosure *4.1.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 2: Step 1.2 Complete the following accident information: Name of person reporting injury Call back number • Name of person injured • Supervisor of injured person • Location injury occurred • Brief description of injury • Time **Note: The evaluator will play the role of the person reporting the injury. Answer questions by referring to the "Medical Emergency Phone Call Information Sheet".** STANDARD: The candidate obtains the above information from the evaluator by asking the appropriate questions and completes step 1.2 correctly. **Note: Refer to the completed procedure as an answer key.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEQ:	Step 1.3 **IF** There is a Security Event in progress, **THEN** Continue with…	**CRITICAL STEP** ___ SAT
STANDARD:	Determine a Security €vent is not in progress and N/A step 1.3.	UNSAT
Cue: If asked, inform candidate a Security Event is not in progress.		
COMMENTS:		
STEP 4:	Step 1.4.1 Use Plant Page to request all MERT members to respond to the incident.	**CRITICAL STEP**
STANDARD:	The phone is used to access the Plant Page and request all MERT members to respond to the incident.	___ SAT
Cue: inform candidate to simulate only.		___ UNSAT
COMMENTS:		
STEP 5:	Step 1.4.2 Use the radio paging system to request MERT members to respond to the incident. • Transmit "Standby for Emergency Message" • Press the "instant Call" button labeled "MERT" • Wait for the red "Transmit" light on the radio to turn off • Transmit message	___ SAT ___ UNSAT
STANDARD:	The radio paging system is used to request MERT members to respond to the incident by: • Transmit "Standby for Emergency Message" • Press the "instant Call" button labeled "MERT" • Wait for the red "Transmit" light on the radio to turn off • Transmit message "MERT members respond to a medical emergency in the Unit 3 clean side of the change room."	
Note:* The *red "Transmit"* light is *normally green and* is *located next* to *the* "MERT" *button* on *the radio.		
Cue: Inform candidate to simulate only.		
COMMENTS:		

STEP 6: Step 1.4.3 Repeat steps 1.4.1 and 1.4.2 STANDARD: The Plant Page and the radio paging system are used a second time to request MERT members to respond to the incident. ***Cue: Inform candidate to simulate only.*** COMMENTS:	___ SAT ___ UNSAT
STEP 7: Step 1.4.4 Call Security at one of the following extensions and request they have security MERT members respond to the emergency • SAS (Secondary Alarm Station) 2205 or 2767 • CAS (Central Alarm Station) 2222 or 2958 STANDARD: Security is notified at one of the above extensions and are requested to have security MERT members respond to the emergency. ***Cue: Inform candidate to simulate only.*** COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 1.4.5 **IF** The incident location is away from the main plant (WOE, Complex, Keowee Hydro, etc.) and incident occurs during normal working hours, **THEN** Notify shuttle Bus... STANDARD: Determine that this step does not apply and N/A step 1.4.5 COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 1.5 IF A mass casualty event has occurred or is suspected, and a centralized treatment area is needed. and plant conditions allow, **THEN** Make a PA Announcement… STANDARD: Determine that this step does not apply and N/A step 1.5 COMMENTS:	___ SAT ___ UNSAT

STEP 10:	Step 1.6 **IF** Hospital evacuation is needed as determined by MERT Command or as indicated by Step 1.6.1, **THEN** Arrange transport of patient to the hospital by one of the following means: • EMS (ambulance) Dial 9-911 from the Operations Shift Manager's phone or Unit 1 Control Room SRO's phone or dial 911 from the bell South line – Unit 1, 2, and 3 Control Rooms. Refer to Step 1.6.2, prior to requesting EMS. • Company vehicle (less serious injury) • Personal vehicle (less serious injury)	**CRITICAL STEP** ___ SAT ___ UNSAT
STANDARD:	Ambulance is requested by calling 9-911. Ambulance is requested to come to Oconee Nuclear Station.	
COMMENTS:		
STEP 11:	Step 1.6.1 **IF** Any of the following illnesses or injuries are reported on the emergency line (491 ❚❯) **THEN** Immediately request EMS (ambulance) to respond to the site: • Unconsciousness	___ SAT ___ UNSAT
STANDARD:	Determine that the injured is unconscious and perform step 1.6.1. (Step 10 above)	
COMMENTS:		
STEP 12:	step 1.6.2 **IF** The patient is known or suspected to be radiologically contaminated, **THEN** Have **the** EMS dispatcher inform the EMS personnel to expect a contaminated person.	___ SAT ___ UNSAT
STANDARD:	Determine that this step does not apply and N/A step 1.6.2	
Cue: ***If asked, inform candidate that the patient is NOT contaminated.***		
COMMENTS:		

STEP 13: Step 1.6.3 Notify Security at 2222 that the ambulance is enroute STANDARD: Security is notified that the ambulance is enroute COMMENTS:	___ SAT ___ UNSAT
STEP 14: Step 1.6.4 Notify MERT Command that the ambulance is enroute. STANDARD: MERT Command **is** notified via radio that the ambulance is enroute. ***Cue: Inforrn candidate to simulate only.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 15: Step 1.6.5 Notify World of Energy Duty Person (Ext. 4602 **or** Pager #777-9414). STANDARD: World of Energy Duty Person is notified by phone. ***Cue: Inforrn candidate to simulate only.*** COMMENTS:	___ SAT ___ UNSAT
STEP 16: Step 1.7 Notify the Occupational Health Unit at ONS during normal working hours (4652). STANDARD; Occupational Health Unit at ONS is notified by phone. ***Cue: Inform candidate to simulate only.*** COMMENTS:	___ SAT ___ UNSAT
STEP 17: Step 1.8 **IF** Radiological contamination is involved and the person is being sent to a hospital. **THEN** Complete... STANDARD: Determine that this step does not apply and N/A step 1.8. COMMENTS:	___ SAT ___ UNSAT

STEP 18: Step 1.9 Remind MERT Command that a Patient Treatment Form needs to be completed for all patients and that the completed form is to be sent to the Medical Unit for inclusion in the patients medical file. STANDARD: MERT Command is informed that a Patient Treatment Form needs to be completed and sent to the Medical Unit. COMMENTS:	___ SAT ___ UNSAT
STEP 19: Step 1.10 After normal working hours the Operations Shift Manager or designee shall report the following incidents to ONS Safety Duty Person who will determine if additional people need to be notified. STANDARD: Determine that this step does not apply and N/A step 1.10. COMMENTS:	___ SAT ___ UNSAT
STEP 20: Step 1.11 Verify the following notification in the event of a fatality or injuries to 3 or more people: STANDARD: Determine that this step does not apply and N/A step 1.11. COMMENTS:	___ SAT ___ UNSAT
STEP 21: Step 1.12 Notify STA to make appropriate notifications of the transport of an employee to an off site medical facility. STANDARD: Notify the STA by phone or in person to make appropriate notifications of the transport of an employee to an off site medical facility. COMMENTS:	___ SAT ___ UNSAT

STEP 22:	Step 1.13 IF A death, near death, or major traumatic injury...	
STANBARD:	Determine step **does** not apply and N/A Step 1.13	___ SAT
COMMENTS:		___ UNSAT
STEP 23:	Step 1.14 The Operations Shifl Manager (OSM) or designee shall ensure notification *of* next of kin, if applicable. • Fatality – Appropriate Division Manager performs notifications • Injury requiring hospitalization – Employee's Supervisor or Manager perform notification	___ SAT
STANBARD:	Inform the OSM to perform this step as required.	___ UNSAT
COMMENTS:		
STEP 24:	Step 2.15 Submit completed Enclosure 4.1, (Medical Emergency Action – Routine Operations) to the Emergency Planning Section	___ SAT
STANDARD:	Indicate that form would be submitted to the Emergency Planning Section.	___ UNSAT
COMMENTS:		

STOP TIME: _____

Medical Emergency Phone Call Information Sheet

1. Name person calling
   John Adams

2. Call back number
   2322

3. Name of injured person
   David Smith

4. Supervisor of injured person
   Allan Jones

5. Location injury occurred
   Unit 3 HPI Pump Room
   The injured is currently located in the clean side of Unit 3's change room (3rd floor Aux Building).
   Injured is NOT contaminated

6. Description of injury
   The injured stood up to put on his hard hat and hit his head on a cable tray resulting in a laceration to tog of head. The wound is continuing to bleed. The injured is unconscious.

7. Time
   Current time

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Need to select ***the*** correct procedure.
2	Need the correct information to ensure proper actions are taken.
3	Need to determine a security event is not in progress **so** that MERT can be called.
4	Need to activate MERT.
10	Ambulance has to be requested.
14	MERT command should be notified so that the injured can be taken to the pickup point.

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

INITIAL CONDITIONS:

1. You have answered a call on **491**1 (emergency line) reporting a medical emergency.

2. The caller is still on the line.

INITIATING CUES:

The SRO in the control room instructs you perform the required actions for a medical emergency.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Admin-403

Determine Emergency Classification and Protective Action Recommendations

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Determine Emergency Classification and Protective Action Recommendations

Alternate Path:

NO

Facility JPM #:

SRO-007A

K/A Rating(s):

Gen 2.4.38 2.2/4.0

Task Standard:

Appropriate classification is determined and associated Protective Action Recommendations are made

Preferred Evaluation Location:

Simulator __X___ In-Plant ___X___

Preferred Evaluation **Method:**

Perform _____ Simulate __X__

References:

RP/0/B/1000/01
RP/0/B/1000/02
BASIS Document (Volume "A". Section "D" of the Emergency Plan)

Validation Time: 20 min.

Time Critical: NO

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Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Question Grade _____ Performance Time _____

Examiner: _____ _____ _____

NAME SIGNATURE DATE

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Comments

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

RP/0/B/1000/01
RP/0/B/1000/02
BASIS Document (Volume "A, Section "D" of the Emergency Plan)

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:

0800: Civil demonstration occurring at the World of Energy by anti-nuke activists.

0900: Security reports to the OSM that, one or more persons has been observed cutting their way through the double security fences. RP/0/B/1000/007 (Security Event) is being used in conjunction with the Emergency Plan.

0905: intruders have been seen entering the SSF. Security has isolated the area around the SSF.

0910: Security reports that an explosion has occurred on the Keowee Dam and that water is beginning to leak through the dam in several places.

0930: Security reports that no additional bombs were found and that no additional intruders have been located.

NOTE: All three Oconee Units remain in MODE 1 at 100% power during this event.

INITIATING CUE:

You are to perform the required actions of the Emergency Coordinator by referring lo RP/0/B/1000/01, Emergency Classification and determining the emergency classification and any Protective Action Recommendations.

START TIME: _____

STEP 1:	Classify the Event	CRITICAL STEP
STANDARD:	Refer to RP/0/B/1000/01 (Emergency Classification) Enclosure **4.6** (Fires/Explosions and Security Actions. Classify the event **as** a "Site Area **Emergency"** due to following: Bomb detonated in Keowee Dam	___ SAT ___ UNSAT
COMMENTS:		
STEP 2:	Determine Protective Action Recommendations	
STANDARD:	Refer to RP/0/B/1000/002 (Control Room Emergency Coordinator Procedure) and GO TO Enclosure **4.2** (Site Emergency)	___ SAT
COMMENTS:		___ UNSAT
STEP 3:	**IF** It **has** been determined that an Emergency Action bevel for an Initiating Conditions has been met, **THEN** Declare a Site Area Emergency Time of Declaration: _____	___ SAT
STANDARD:	Determine Initiating Conditions have been met and Declare a Site Area Emergency due to: • Bomb detonated in Keowee Dam OR • Imminent/actual failure of the Keowee Hydro dam Determine Time of Declaration is present time.	___ UNSAT
COMMENTS:		

STEP 4: Appoint a person to maintain the Emergency Coordinator Log OR maintain the log yourself. STANDARD: A person is appointed to maintain the Emergency Coordinator Log or indicate that you will maintain the log. ***Cue: Masked, indicate someone is maintaining the Emergency Coordinator Log.*** COMMENTS:	___ SAT ___ UNSAT
STEP 5: Appoint Control Room Offsite Communicator(s). STANDARD: A Control Room Offsite Communicator is appointed. ***Cue: If asked, indicate a Control Room Offsite Communicator has been appointed.*** COMMENTS:	___ SAT ___ UNSAT
STEP 6: Provide the Protective Action Recommendations from Enclosure 4.7. (Condition A / Condition B Response Action). Step 1.0, for use by the Offsite Communicator if a Condition A, Imminent or Actual Dam Failure, exists. STANDARD: Enclosure 4.7, (Condition A I Condition B Response Action) is used to determine that the following protective action recommendations are given to Oconee and Pickens County: 1. Provide the following recommendation for Emergency Notification Form Section 15 (B) Evacuate: • Move residents living downstream of the Keowee Hydro Project dams to higher ground. 2. Provide the following recornmendation for Emergency Notification Form Section 15 (D) Other: • Prohibit traffic flow across bridges identified on your inundation maps until the danger has passed. ***Cue: If asked, inform the candidate that Keowee Dam failure is imminent*** COMMENTS: **END OF TASK**	**CRITICAL STEP** ___ SAT ___ UNSAT

TIME STOP: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	The candidate needs to be able to utilize the procedure and determine that a Site Area Emergency needs to be declared.
6	The candidate must be able to make recommendations to the local agencies **as** to what actions are necessary to protect the health and safety of the public.

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

I INITIAL CONDITIONS:

0800: Civil demonstration occurring at the World of Energy by anti-nuke activists.

0900: Security reports to the QSM that, one or more persons has been observed cutting their way through the double security fences. RP/0/B/1000/007 (Security Event) is being used in conjunction with the Emergency Plan.

0905: Intruders have been seen entering the SSF. Security has isolated the area around the SSF.

0910: Security reports that an explosion has occurred on the Keowee Dam and that water is beginning to leak through the dam in several places.

0930: Security reports that no additional bombs were found and that no additional intruders have been located.

NOTE: All three Oconee Units remain in MODE **1 at 100% power during this event.**

INITIATING **CUE:**

You are to perform the required actions of the Emergency Coordinator by referring to RP/0/B/1000/01, Emergency Classification and determining the emergency classification and any Protective Action Recommendations.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-012A

RECOVER A DROPPED CONTROL ROD

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

RECOVER A DROPPED CONTROL ROD

Alternate Path:

Yes

Facility JPM #

CRO-012A

K/A Rating(s):

System: APE **005**
K/A: **AA2.03**
Rating: 3.5/4.4

Task Standard:

Unit is tripped manually upon receipt of second dropped rod

Preferred Evaluation Location:

Simulator __X__ In-Plant _____

Preferred Evaluation Method:

Perform __X___ Simulate ____

References:

AP/1/A/1700/15 (10/10/02)
OP/0/A/1105/09 (11/21/02)
T.S. 3.1 4
OMP 1-18

Validation Time: 20 minutes

Time Critical: NO

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Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____ _____/_____

NAME SIGNATURE DATE

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COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall Snap 206
2. Import **files** for CRO-12A
3. GotoRUN

Tools/Equipment/Procedures Needed:

Enclosure 5.3 of AP/011 (Recovery From Loss 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 ## dropped a control rod in Group 6 approximately one hour ago and the unit is stable at 55%.

The Subsequent Actions of AP/15, DROPPED CONTROL RODS, have been completed through step **4.9.**

Shutdown Margin calculation has been run to verify that an adequate SDM exists.

Systems Duty Engineer has been notified and no special maneuvering instructions are required,

Enclosure 4.10 of OP/0/A/1105/09 has been completed up tu step 2.0.

INITIATING CUE::

The Control Room SRO informs you that the problem has been corrected and that recovery of the dropped rod can now begin.

START TIME: _____

STEP 1: Step 2.1 Take manual control of rods at the Diamond Control Station: Ensure the SG Master in HAND Ensure the Diamond Station in MANUAL STANDARD: The manual pushbutton for the SG Master handlauto station is depressed. The White Hand light comes ON and the Red Auto light Goes OFF. The AUTO/MANUAL pushbutton on the Diamond Control Panel is depressed; the MANUAL half of the Push Button is back lighted. Location 1UB1 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 2: **Step** 2.2 Ensure group with dropped/misaligned rod selected on the Group Select Switch. STANDARD: GKOUP SELECT SWITCH on 1UB1 is located by the student and rotated to Group 6. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSRT
STEP 3: Step 2.3 Ensure in SEQ OVERRIDE. STANDARD: The SEQ/SEQ OR pushbutton **is** located on the Diamond Control panel on 1UB1 and depressed. "SEQ OR" is backlighted. COMMENTS:	**CRITICAL STEP** ___ SAT ___ **UNSRT**

STEP 4:	Step **2.4** Ensure JOG selected on Speed Selector.	**CRITICAL STEP** ___ SAT
STANDARD:	The SPEED Selector **is** located by the student on the Diamond Control panel on 1UB1 and rotated to the JOG position.	___ UNSAT
COMMENTS:		
STEP 5:	Step 2.5 If Group is at the **OUT** LIMIT: • Depress and hold LATCH switch. • Insert group for approximately 15 seconds or until the group OUT LIMIT lamp on the Diamond Panel goes *off*. • Release LATCH switch.	**CRITICAL STEP** ___ SAT ___ UNSAT
STANDARD:	The IN LIMIT (LATCH) BYPASS pushbutton is located by the student and depressed and held while the INSERT/WITHDRAW joystick **is** used to insert Group 6 until the Group **6** But limit lamp, located on the Diamond Control Panel on 1UBI, extinguishes. The LATCH pushbutton is then released and the INSERT/WITHDRAW joystick returned to neutral.	
COMMENTS:		

		CRITICAL STEP
STEP 6:	Step 2.6 TRANSFER the droppedlmisaligned rod to the Auxiliary Power Supply: • Ensure desired group selected on Group Select Switch. • Ensure dropped/misaligned rod selected on Single Select Switch • Ensure in SEQ OVERRIDE. • Ensure in AUXILIARY. • Verify Manual Transfer Sync light is lit before pressing clamp. • Depress CLAMP. • Depress selector for MANUAL TRANSFER switch until TRANSFER CONFIRM lamp and the CONTROL ON lamp on the PI panel light. • Depress CLAMP RELEASE	___ SAT ___ UNSAT
STANDARD:	On the CRD Panel on 1UB1: Verify Group Select Switch positioned to Group 6. SELECT droppedlmisaligned rod on the SINGLE SELECT SWITCH. VERIFY SEQ OR is backlit **(Not Critical).** Depresses GROUP/AUXIL pushbutton to make transfer to AUXIL. Verifies SYNC is backlit on MAN TRANS/SY/TR CF pushbutton **(Not Critical)** Depresses CLAMPCLAMP REL pushbutton to make transfer to CLAMP. CLAMP will be backlit. Depresses MAN TRANS/SY/TR CF pushbutton. TR CF will become backlit. White CONTROL ON lights will illuminate for the Dropped Rod on the Position Indication panel. Depresses CLAMPCLAMP REL pushbutton and verifies CLAMP REL is backlit.	
COMMENTS:		

STEP 7: Step 2.7 Perform PI alignment on the droppedlmisaligned rod as follows: • Depress and hold LATCH switch. • Insert rod for 15 seconds. • Release LATCH switch STANDARD: Depress and hold LATCH switch and use the INSERT/WITHDRAW joystick *to* insert rod for 15 seconds. Release the LATCH switch. COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 2.8 Perform PI alignment on dropped/misaligned rod as follows: • Compare absolute and relative readings on the PI panel • **Use** PI reset raise/lower switch to match absolute and relative readings. STANDARD: Absolute and relative indications on the PI panel, on 1UBI, are compared using toggle switch to make comparison. RPI is selected with the select toggle switch. The POSITION RESET RAISE/LOWER toggle switch is then placed in the lower position and RPI indication is matched to API position. When matched the RAISE/LOWER toggle is released to neutral. The select toggle switch is returned to the API position. COMMENTS	___ SAT ___ UNSAT

STEQ: Step 2.9 Ensure RUN selected on Speed Selector STANDARD: SPEED SELECTOR is located by the student on 1UB1 and rotated to the run position. **NOTE: Instructor in Booth: at this time fire timer to drop second control rod.** COMMENTS:	___ SAT ___ UNSAT
STEQ10: Manually trip the reactor STANDARD: The student recognizes the second control rod inserting and manually trips the reactor by depressing the Reactor Trip pushbutton and verifies that the reactor is shutdown. COMMENTS: END TASK	**CRITICAL STEP** ___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Step is necessary for the operator to select the single rod and not move the plant around due to power excursions.
2	Step is necessary to instruct the rod logic as to which group the rod is in that the operator wants to recover.
3	Step is necessary to allow the operator to withdraw the dropped rod.
4	Jog is necessary because the rods will not latch with the selector switch in RUN
5	The latching of the group to clear the out limit is necessary so that the individual rod can be withdrawn.
6	Necessary to place the dropped rod on the auxiliary power supply for withdrawal while leaving the group on the group power supply.
10	Necessary because the second dropped rod places the unit in an unanalyzed condition and this is a direction, which is given by OMP 1-18.

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

INITIAL CONDITIONS:

Unit #1 dropped a control rod in Group 6 approximately one hour ago and the unit is stable at 55%.

The Subsequent Actions of AP/1/A/1700115, DROPPED CONTROL RODS, have been completed through step 4.9.

Shutdown Margin calculation has been run to verify that an adequate SDM exists.

Systems Duty Engineer has been notified and no special maneuvering instructions are required.

Enclosure 4.10 of OP/0/A/1105/09 has been completed up to step 2.0.

INITIATING CUE:

The Control Room SRO informs you that the problem has been corrected and that recovery of the dropped rod can now begin.

IO II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-015

ESTABLISH EFDW FLOW THROUGH STARTUP VALVES

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

ESTABLISH EFDW FLOW THROUGH STARTUP VALVES.

Alternate Path:

No

Facilitv JPM #:

CRO-015

KIA Rating(s):

System: APE-054
K/A: AA2.04
Rating: 4.2/4.3

Task Standard:

EFDW flow is established to the affected header through the startup valve

Preferred Evaluation Location:

Simulator __X__ in-Piant _____

Preferred Evaluation Method:

Perform __X___ Simulate ____

References:

EOP Rule **3, (boss** of Main or Emergency **FDW)**
EOP Rule 7, (SG Feed Control)
EOP Enclosure 5.27, (Alternate Methods for Controlling **EFDW** Flow)

Validation Time: 20 minutes

Time Critical: NO

==========

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____ _____ I _____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall Snap 209
2. Import files for CRO-015
3. GotoRUN

Tools/Equipment/Procedures Needed:

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:

The reactor has tripped

Main feedwater is lost

No increase in Reactor Building pressure is occurring and all RCPs are running

Subsequent Actions are complete

Rule 3 is complete up to Step 29.

1FDW-315 is determined to be failed closed.

INITIATING CUES:

The SRO directs you to initiate Enclosure 5.27, Alternate Methods for Controlling EFDW Flow and establish 200 gpm EFBW flow to the 1A SG.

START TIME: _____

STEP 1: Step 1 Verify EFDW is being supplied by an alternate unit. **RNO** ***GO* TO** Step 7 STANDARD: Determine EFDW is not being supplied from another unit. Perform RNO step and ***GO* TO** Step 7 ***CUE: EFDW is NOT being supplied by an alternate unit*** COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 7 Stop MD EFWP in all headers with malfunctioning EFDW control valve. STANDARD: Observes 1A steam generator level decreasing below setpoint on the *SG* EXTENDED SU RANGE LEVEL meters (1UB1) or OAC screens. and/or Observes zero flow indicated to the 1A steam generator on the TOTAL EFDW FLOW meters, on 1UBI. Based on these indications. candidate determines that 1A steam generator EFDW header is the affected header. Control switch for the 1A MD EFWP is rotated to the OFF position. Continue to Step 8 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 3: Step 8 Place TD EFDWP in PULL TO LOCK. STANDARD: The TD EFDWP switch is placed in the LOCKOUT position. Continue to Step 9 COMMENTS:	**CRITICAL STEP** ___ SAP ___ UNSAT

STEP 4: Step **9** Place controllers for the following in HAND and set demand to 0% in affected headers: • 1FDW-35 (IA STARTUP FDW Control) STANDARD: Candidate locates 1FDW-35 on 1UB1 and the Bailey control station is placed in Hand by depressing the white HAND pushbutton, and observing the white HAND light ON. Valve position demand is reduced to 0 using the toggle switch to close the valve. Continue to Step 10 **NOTE: Candidate should perform all actions for 1A header because it is the header with the failed valve.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 5: Step 10 Place control switch for the following in CLOSE in all affected headers: • 1FDW-33 (1A SU FDW Block) • 1FDW-372 (1A MDEFWP DISCH BLOCK) STANDARD: Candidate Locates 1FDW-33 control switch on 1UB1 and rotates to the CLOSE position, observing the green CLOSE light ON and red OPEN light **OFF. (NOT CRITICAL IF 1FDW-35 IS CLOSED)** Locates 1FDW-372 Control Switch on 1UB1 and rotates to the CLOSE position, observing the green CLOSE light ***ON*** and the red OPEN light **OFF.** Continue to Step 11 COMMENTS:	**CRITICAL STEP** ___ SAT ___ *UNSAT*

STEP 6:	Step 11 Place control switch for the following in OPEN in all affected headers: • 1FDW-374 (MD EFDWP I A DISCH TO SG A)	**CRITICAL STEP** ___ SAT
STANDARD:	Candidate locates IFDW-374 on 1UB1 and the red OPEN pushbutton is depressed, the red OPEN indication is observed to be ON. Continue to Step 12	___ UNSAT
COMMENTS:		
STEP 7:	Step 12 Place control switch for the following in CLOSE in all affected headers: • 1FDW-36 (1A SG NORM SU FDW HDR)	___ SAT
STANDARD:	Candidate locates 1FDW-36 on 1VB3 places control switch in the CLOSE position and the green CLOSE indication is observed to be illuminated; and the red OPEN indication is observed to be extinguished. Continue to Step 13	___ UNSAT
COMMENTS:		
STEP 8:	Step 13 Place control switch for the following in OPEN in all affected headers: • 1FDW-38 (1A SG EFDW Header)	___ SAT
STANDARD:	Candidate locates 1FDW-38 on 1VB3 places control switch in the OPEN position and the red OPEN indication is observed to be illuminated and the green CLOSE indication is observed to be extinguished. Continue to Step 14	___ UNSAT
COMMENTS:		

STEP 9: Step **14** Verify 1FDW-315 failed STANDARD: Manual Loader Knob is turned counter-clockwise to OPEN valve, on 1UB1. Candidate recognizes that 1FDW-315 is **NOT** responding to manual control. Continue to Step 15 COMMENTS:	___ SAT ___ UNSAT
STEP 10: Step 15 Verify all the following: • 1FDW-38 open • 1FDW-36 closed • 1FDW-35 closed • 1FDW-33 closed STANDARD: Candidate locates 1FDW-38 on 1VB3 and the red OPEN indication is observed to be illuminated and the green CLOSE indication is observed to be extinguished. Candidate locates 1FDW-36 on 1VB3 and the green CLOSE indication is observed to be illuminated; and the red OPEN indication is observed to be extinguished. Candidate locates 1FDW-35 on 1UB1 and observes the Bailey control station position demand is zero. Candidate locates 1FDW-33 control switch on 1UB1 and observes the green CLOSE light **ON** and red OPEN light OFF. Continue to **Step** 16 COMMENTS:	___ SAT ___ UNSAT

STEP 11: Step 16 Verify 1FDW-372 closed. STANDARD: Candidate locates 1FDW-372 Control Switch on 1UB1 and observes the green CLOSE light ON arid the red OPEN light OFF. Continue to Step 17 COMMENTS:	___ SAT ___ UNSAT
STEP 12: Step 17 Verify both of the following: • Verify 1FDW-374 is open. • Verify 1A MDEFDWP available. STANDARD: Candidate locates 1FDW-374 on 1UB1 and the red OPEN indication is observed to be ON. 1A MD EFDWP control switch green OFF light is verified illuminated. This pump was secured by the candidate in a previous step. Continue to Step 18 COMMENTS:	___ SAT ___ UNSAT
STEP 13: Step 18 ***GO* TO** Step 22. STANDARD: Candidate goes to Step 22. COMMENTS:	___ SAT ___ UNSAP

STEP 14:	Step 22 Verify 1FDW-316 failed RNO ***GO*** TO Step 30.	CRITICAL **STEP** ___ SAT
STANDARD:	Candidate verifies 1FDW-316 is controlling SG level @ ≈ 30%. or Manual Loader Knob is turned counter-clockwise to OPEN valve, on 1UB1. Recognizes that 1FDW-316 is responding to manual control. Perform RNO and ***GO* TO** Step 30.	___ UNSAT
COMMENTS:		
STEP 15:	Step 30 Verify AFIS actuation has occurred (either Statalarm on): • AFIS HEADER A INITIATED (1SA-2/C-8) • AFIS **HEADER** B INITIATED (1SA-2/D-8) RNO **GO TO** Step 34.	___ SAT
STANDARD:	Candidate observes indicated Statalarms and verifies that they are **NOT** illuminated. Perform RNO and **GO TO** Step 34.	___ UNSAT
COMMENTS:		

STEP 16: Step 34 Verify an operator has been sent to locally position any FDW valves. • 1FDW-94 • 1FDW-315 **RNO** **GO TO** Step 36. STANDARD: Determine that an operator has NOT been sent to locally position and FDW valve. Perform **RNO** and GO **TO** Step 36. ***CUE: No operators have been dispatched to locally operate any valves.*** COMMENTS:	___ SAT ___ UNSAT
STEP 17: Step 36 Verify 1FDW-315 failed open. **RNO** If lineup to feed through 1A S/U Control Valve was successful. **THEN GO TO** Step 37. STANDARD: Candidate should determine that the Manual Loader on 1UBI indicates 0% and 1FDW-315 has failed dosed. Of Green CLOSED light is ON. Perform **RNO** step 2., 1A S/U control valve lineup has been successful, **THEN GO TO** Step 37 COMMENTS:	___ SAT ___ UNSAT
STEP 18: Step 37 Verify an operator has been sent to locally open 1FDW-94. STANDARD: Determine an operator has NOT been sent to locally open 1FDW-94. ***Perform* RNO** and ***GO* TO** Step 40 ***CUE: No operators have been dispatched to locally operate any valves.*** COMMENTS:	___ SAT ___ UNSAT

STEP 19: Step **40** *Start* 1A MD EFDWP. STANDARD: The 1A MD EFDWP control switch is rotated clockwise to the RUN position and the red RUN light is verified ON. Continue to **Step** 41 COMMENTS:	___ SAT ___ UNSAT
STEP 20: Step 41 Verify 1FDW-316 failed open STANDARD: Verifies 1FDW-316 is controlling SG level @ ≈ 30%. or Manual Loader Knob is turned counter-clockwise to OPEN valve, on 1UB1. Student recognizes that 1FDW-316 &responding to manual control. Perform **RNO** and ***GO* TO** Step 46. COMMENTS:	___ SAT ___ UNSAT
STEP 21: Step 46 Verify HPI forced cooling is in progress. STANDARD: Determine that HPI Forced Cooling is NOT in progress Perform **RNO** and ***GO* TO** Step 48. **CUE: HPI forced cooling is NOT in progress.** COMMENTS:	___ SAT ___ UNSAT

STEP 22: Step 48 Verify LOHT tab is **NOT** in progress STANDARD: Determine LQHT is NOT in progress. Perform **RMO** and ***GO TO*** Step 51. ***CUE: LOHT tab is NOT in progress.*** COMMENTS:	___ SAT ___ UNSAT
STEP 23: Step 51 Verify 1FDW-315 failed. STANDARD: Manual Loader on 1UB1 indicates 0% 1FDW-315 has failed closed. or Green CLOSED light is ON. Continue to Step 52 COMMENTS:	___ SAT ___ UNSAT
STEP 24: Step 52 Verify one of the following: • Lineup to feed through 1A S/U Control Valve was successful • Operator sent to locally throttle 1FDW-315 STANDARD: Determine that Lineup to feed through 1A S/U Control Valve **was** successful. Continue to Step 53 ***CUE: 1A S/U control valve lineup has been successful.*** COMMENTS:	___ SAT ___ UNSAT

STEP 25: Step 53 Verify an operator has been sent to locally control 1FBW-315. STANDARD: Determine that an operator has NOT been sent to locally control 1FDW-315. Perform **RNO** and **GO TO** Step 56 ***CUE: No operators have been dispatched to locally operate any valves.*** COMMENTS:	___ SAT ___ UNSAT
NOTE • Flow from the TDEFDWP through a S/U control valve should be reads on the FDW SU FLOW gauge. • Flow from the MDEFDWP through a S/U control valve should be read on the MDEFDWP DISCH FLOW gauge. STEP 26: Step 56 Throttle 1FDW-35 S/U to obtain desired flow rate and/or SG level per Rule 7 (SG Feed Control). STANDARD: Manually throttle 4FBW-35 on 1UB1. The raise/lower toggle switch is pushed up to increase the valve position demand signal to throttle open the valve. Flow is maintained within allowable limits. If flow exceeds pump runout limits, action must be taken to reduce flow to within limits prior to completing the task. When feeding through the S/U Control Valves with the MDEFW Pumps, the MDEFDWP DISCH FLOW gauge should be used to verify flow within limits. **NOTE: *When* flow has been established *and level is increasing in* the 1A *SG*, the JPM is complete.** COMMENTS: **END TASK**	**CRITICAL STEP** ___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
2 & 3	Necessary because the MD EFWP in the affected header needs to be secured so that the header can be isolated and valves repositioned. Step is necessary because the TD EFWP needs to be secured so that the header can be isolated and valves repositioned.
4 & 5	Necessary to prevent the EFDW flow, which is meant for 1A SG from getting to other portions of the system.
6	Aligns the emergency feed water to the 1A SG through the startup valves.
19	Restarts the MD EFDWP, which was stopped to reduce the DIP for the closure of valves to isolate the affected header.
26	Actually establishes flow to the 1A SG to establish required SG levels.

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

INITIAL CONDITIONS:

The reactor **has** tripped

Main feedwater is lost

No increase in Reactor Building pressure is occurring and all RCPs are running

Subsequent Actions are complete

Rule **3** is complete up to Step 29.

1FDW-315 ***is*** determined to be failed closed.

INITIATING CUES:

The SRO directs you to initiate Enclosure 5.27, Alternate Methods for Controlling EFDW Flow and establish 200 gpm EFDW flow to the 1A SG.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-053

BYPASS COOLANT PUMP STARTING INTERLOCKS

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

BYPASS COOLANT BUMP STARTING INTERLOCKS

Alternate Path:

No

Facility JPM #:

CRO-053

K/A Rating(s):

System: EPE-074
K/A: A3.04
Rating: 3.6/3.9

Task Standard:

Reactor Coolant Pump starting interlocks are correctly bypassed

Preferred Evaluation Location:

Simulator ____ In-Plant __X__

Preferred Evaluation Method:

Perform ____ Simulate __X__

References:

Validation Time: 7 minutes

Time Critical: NO

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Candidate: _____
NAME

Time Start: _____
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:

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:

An accident has occurred on Unit 3 in which the EQP is being used.

All RCPs are off and full HPI has been initiated.

Inadequate core cooling exists with Core Exit Thermocouples > 700°F but < 1200°F and not decreasing.

INITIATING CUE:

The Procedure Director directs you to bypass Reactor Coolant Pump starting interlocks per Enclosure 5.14, "Jumper Contacts for RCP Starting interlocks" of the EOP.

START TIME: _____

STEP 1: Obtain Reactor Coolant Pump Motor starting interlock jumper cables for affected unit(s), per Endosure 5.14 of EP/1,2,or 3/A/1800/01, Emergency Operating Procedure. STANDARD: Jumper cables are obtained from the key locker *located* in the Work Control Center. **NOTE:** Jumper cables for unit #1 **and** unit **#2 RCPs** are located in the same key locker. Ensure correct set of jumper cables are identified and obtained. CUE: *After* correct *jumpers* have *been* located, inform student that he may leave jumpers in the key locker. COMMENTS:	**CRITICAL STEP** ____ SAT ___ UNSAT
STEP 2: LOCATE Terminal Cabinet MTC3 for the affected unit(s) STANDARD: Terminal Cabinet MTC3 is correctly located: 3MTC3 is located in Unit #3 Cable Room near south Cable Room door. COMMENTS:	**CRITICAL STEP** ____ SAT ___ UNSAT

STEP 3: BYPASS the Reactor Coolant Pump Motor starting interlocks on the affected unit(s), as listed on Enclosure 5.14 of EP/ 3/A/1800/01, Emergency Operating Procedure. RCP Contacts A I A3PA to A305 A2 B8PB to B805 B I A4PA to A405 B2 B9PB to B905 STANDARD: MTC3 cabinet door is opened and the following steps are performed for EACH Reactor Coolant Pump Motor: The first contact is located and identified on the terminal board One end of the jumper cable is simulated to be clipped to this contact. The second specified contact is located and identified on the terminal board. The other end of the jumper cable is simulated to be clipped to the second contact. **NOTE:** End task when you **have** determined that student **is** proficient **at** identifying RCP jumper contacts. COMMENTS: **END TASK**	**CRITICAL STEP** ___ SAT UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Necessary because the cables must be obtained to jumper the interlocks.
2	Necessary because the operator must locate the correct cabinet for the correct unit
3	Necessary because the operator must be able to identify the correct contacts for each RCP or the interlocks will not be bypassed as required.

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

INITIAL CONDITIONS:

An accident has occurred on Unit 3 in which the EOP is being used.

All RCPs are off and full HPI has been initiated.

Inadequate core cooling exists with Core Exit Thermocouples > 700°F but < 1200°F and not decreasing.

INITIATING CUE:

The Procedure Director directs you *to* bypass Reactor Coolant **Pump** starting interlocks per Enclosure 5.14, "Jumper Contacts **for** RCP Starting interlocks" of the **EOQ.**

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-060

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:

NO

Facility JPM #:

CRO-060

K/A Rating(s):

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

Task Standard:

Preferred Evaluation Location:

Simulator __X__ In-Plant _____

Preferred Evaluation Method:

Perform __X___ Simulate ____

References:

AP/10, Uncontrollable Flooding of Turbine Building

Validation Time: 7 minutes

Time Critical: NO

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Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT ——— UNSAT _____

Performance Time _____

Examiner: _____ _____ / _____
NAME SIGNATURE DATE

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COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall Snap **212**
2. Import **files** for CRO-060
3. Go to RUN

Tools/Equipment/Procedures Needed:

READ TO OPERATOR

DIRECTION **TO** TRAINEE:

I wiil 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 108% power with no known problems.

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 Control Room SRO directs you to refer to AP/10, Uncontrollable Flooding of Turbine Building, and perform required actions.

START TIME: _____

STEP 1: Step 4 Ensure Rx is tripped. STANDAKD: Determine RX has tripped by observing all control rods inserted and power is < 1%. Continue to Step 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 2 Ensure all CCW pumps are shutdown. STANDARD: The 1A, 1B, and I C CCW pump switches are rotated to the TRIP position. (located on 1AB3) Continue to Step 3. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 3: Step 3 Press both of the following on the TURB BLDG FLOOD EMER CLOSING ALL CCWP DISCH VALVES control switch: • CLOSE 1 • CLOSE2 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 COMMENTS:	**CRITICAL STEP** ___ **SAT** ___ UNSAT

STEP 4: Step 4 Verify all CCW pump discharge valves are closed STANDARD: The green CLOSED lights for 1CCW-10, 11, 12 & 13 are verified illuminated and the red OPEN lights for the same valves are verified extinguished. (located on 1AB3) Continue to Step 5. COMMENTS:	___ SAT ___ UNSAT
NOTE Field tasks that may affect multiple units should be coordinated with Unit 2 and Unit 3. STEP 5: Step 5 Dispatch operators to ensure all three flood doors are closed and in the SECURED position from the AB side (A-I, at Unit 1, 2, and 3 stairwell entrances to TB): {2} • Unit 1 Flood Door • Unit 2 Flood Door • Unit 3 Flood Door STANDARD: Candidate should dispatch and NEO to ensure all three flood doors are closed and in the SECURED position from the AB **side.** Continue to Step 6. ***Cue: An operator has been dispatched.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 6: Step 6 Verify LPI decay heat removal is **NOT** in progress STANDARD: Determine LPI pumps are not operating by observing pumps switch indications on 1UB2. Continue to Step 7. COMMENTS:	___ SAT ___ ***UNSP***

STEP 7: Step 7 Dispatch an operator to place the following waterbox discharge valve switches to HAND and CLOSE ***(T-3,*** East of condenser catwalk): • 1CCW-20 (1A1) • 1CCW-21 (1A2) • 1CCW-22 (1B1) • 1CCW-23 (1B2) • 1CCW-24 (1C1) • 1CCW-25 (1C2) STANDARD: Candidate should dispatch an operator to place the above valves to HAND and CLOSE. Continue to Step 8 Cue: ***Operator*** has been dispatched. COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 8 Make a **PA** announcement of the event including restrictions on entry into TB basement due to electrical hazard. STANDARD: FA announcement is made using the Control Room phone Continue tu Step 9. COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 9 Attempt to locate and isolate the source of the flooding STANDARD: Dispatch operators to locate and isolate the source of the flooding Continue to Step 10. Cue: Operators have been dispatched. COMMENTS:	___ SAT ___ UNSAT

STEP 10: Step 10 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 OFF. (located on 1AB3) Continue to Step 11 COMMENTS:	___ SAT ___ UNSAT
STEP 11: Step 11 Verify **all** CCW pump discharge **valves** were successfully closed in earlier steps. STANDARD: Continue to Step 12 COMMENTS:	___ SAT ___ UNSAT
STEP 12: Step 12 Dispatch an operator to perform Encl 5.1 (Isolation of SSW to CCW Pumps). STANDARD: Candidate should dispatch an operator to perform Encl 5.1 (Isolation of SSW to CCW Pumps). Continue to Step 13 ***Cue: Operator is dispatched.*** COMMENTS:	___ SAT ___ UNSAT

STEP 53: Step 13 **IAAT** HPSW **is NOT** available, **THEN** ensure Encl **5.31** (Temporarily Charging the HPSW System) of EP/1 has been initiated. STANDARD: Determine that HPSW is available by observing the HPSW Jockey pump operating and level in the EWST. (located on 1AB3) Continue to Step 14 COMMENTS:	___ SAT ___ UNSAT
STEP 14: Step 14 Notify a SRO to evaluate de-energizing electrical components in the flooded areas. STANDARD: Candidate should inform a SRO to evaluate de-energizing electrical components in the flooded areas. **Cue: SRO will** evaluate which electrical equipment to de-energize. 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.
5	Necessary to prevent the waters **from** the flooding from entering the **Aux.** Bldg., causing more problems and the spread of contamination,

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

INITIAL CONDITIONS:

Unit 1 was operating at 100% power with no known problems.

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 Control Room SRO directs you to refer to AP/10, Uncontrollable Flooding of Turbine Building, and perform required actions.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-067

Perform Required Actions far ES Actuation (> 3psig)

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform Required Actions for ES Actuation (> 3psig)

Alternate Path:

Yes

Facilitv JPM #:

CRO-067

K/A Rating(s):

System: EPE-009
K/A: E.41.13
Rating. 4.4/4 4

Task Standard:

Proper E$ conditions are verified using the appropriate procedures and re-start the 1A and 1B LPI pump when required.

Preferred Evaluation Location:

Simulator __X__ In-Piant _ ___

Preferred Evaluation Method:

Perform __X___ Simulate ___

References:

EOP Enclosure 5.1, ES ACTUATION

Validation Time: 6 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 207
2. Import files for CRO-067
3. Goto RUN

Tools/Equipment/Procedures Needed:

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:

Small Break **LOCA** is in progress.

Rule 2 in progress

RCS is saturated and RCPs are off.

ES Channels 1 - 6 have actuated.

INITIATING CUES:

The Control Room SRO instructs **you** to perform EOP Enclosure 5.1, ES Actuation.

START TIME: _____

STEP 1: Step 1

Determine all ES channels that should have actuated based on RCS pressure and RB pressure:

Actuation Setpoint (psig)	ES Channel
1600 (RCS)	1 & 2
550 (RCS)	3 & 4
3 (RB)	1 & 2, 3 & 4, 5 & 6
10 (RB)	7 & 8

STANDARD: Candidate should monitor the existing RCS Pressure, using valid pressure indication, ICCM Train A or B, OAC, RCS Pressure (NR), RCS Pressure (WR) on 1UB1 and 1UB2 to verify RB pressure is > 3 psig.

Determines that ES Channels 1-6 should be actuated

Continue to Step 2

COMMENTS:

___ SAT

___ UNSAT

STEP 2: Step 2

Verify all ES channels associated with actuation setpoint have actuated:

STANDARD: Ensure ES digital channels 1-6 are actuated by observing "Tripped" lights on 1UB1.

Continue to Step 3

COMMENTS:

___ §AT

___ UNSAT

STEP 3: Step 3 IAAT additional ES actuation setpoints are exceeded. THEN perform Steps 1 – 2. Continue to Step 4 STANDARD: IAAT additional ES actuation setpoints are exceeded candidate perform Steps 1 – 2. Note: During the performance of this JPM ES Channels 7 and 8 will actuate. COMMENTS:	___ SAT ___ UNSAT
STEP 4: Step 4 Place HPI in manual control STANDARD: Go to RZ modules on 1VB2 and select manual for the HPI components. Continue to Step 5 COMMENTS:	___ SAT ___ UNSAT
STEP 5: Step 5 Verify Rule 2 in progress or complete. STANDARD: Determine Rule 2 in progress by referring to the Initial Conditions. Continue to Step 6 COMMENTS:	___ SAT ___ UNSAT

STEP 6: Step 6 Open the following: • 1BS-1 • 1BS-2 STANDARD: At the ES RZ modules an 1AB2, OPEN 1BS-1 and 1BS-2 by depressing the open pushbutton. Continue to Step 7 COMMENTS:	___ SAT ___ UNSAT
STEP 7: Step 7 Verify any RCP operating STANDARD: Determine NO RCP is operating. Perform RNO step and **GO TO** Step 9. COMMENTS:	___ SAT ___ UNSAT
STEP 8: Step 9 IAAT any RCP is operating **AND** ES Channels 5 and 6 actuate THEN perform Steps 10 and 11 STANDARD: Determine **NO** RCP is operating. Perform RNO step and ***GO* TO** Step 12. COMMENTS:	___ SAT ___ UNSAT

STEP 9:	Step 12 **IAAT** ES Channels 3 & **4** are actuated, **THEN *GO* TO** Step 13	___ §AT
STANDARD:	Determine ES Channels 3 & 4 are actuated **by** one of the following: • Statalarms: 1SA-1/C-10 (ES Channel **3** Trip) and 1SA-1/D-10 (ES Channel 4 Trip) • ES Channel 3 and Channel **4** Tripped lights lit on 1UBI. ***GO* TO** Step 13	___ UNSAT
COMMENTS:		
STEP 10:	Step 13 Place the following in manual control: • 1A LPI Pump • 1B LPI Pump • 1LP-17 ■ 1LP-18	___ SAT ___ UNSAT
STANDARD:	Go to the ES RZ modules on 1VB2 and place the above components in manual by depressing each components manual pushbutton. Continue to Step 14	
COMMENTS:		

CAUTION LPI pump damage may occur if operated in excess of 30 minutes against a shutoff head. STEP 8: Step 14 **IAAT** any LPI pump is operating against a shutoff head, **THEN** at the CR SRO's discretion stop affected LPI pumps. STANDARD: Determine RCS pressure is above LPI pump discharge head **and** then ask for SRO direction. When directed by the SRO secure both the ' "A and "B" LPI pump. Continue to Step 15 ***Cue: When asked inform candidate that the SRO desires to stop BOTH LPI pumps.*** COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 15 **IAAT** RCS pressure is < LPI pump shutoff head. **THEN** perform Steps **46** – 17. STANDARD: Determine RCS pressure is NOT < LPI pump shutoff head **(≈200 psig)** Perform **RNO** step and ***GO* TO** Step 18. COMMENTS:	___ SAT ___ UNSAT

STEP 10: Step 18 IAAT 1A and 1B LPI pumps are off / tripped, AND ail the following conditions exist: RCS pressure < LPI pump shutoff head 1LP-19 closed 1LP-20 closed 1BS-1 open OR throttled open 1BS-2 open OR throttled open **THEN** perform Steps 19 - 21 STANDARD: Determine conditions of step NOT met because RCS pressure is not < LPI pump shutoff head **(≈200 psig).** Perform **RNO** Step and **GO TO** Step 22 COMMENTS:	___ §AT ___ UNSAT
Note: After Step 18 is completed RCS pressure will decrease to < LPI pump shutoff head. The candidate should determine that IAAT step 15 is mat and transfer to step 15. STEP 11: Step 15 **IAAT** RCS pressure is < LPI pump shutoff head, **THEN** perform Steps 16 - 17. STANDARD: Determine that RCS pressure is < LPI pump shutoff head **(≈200 psig)**. Continue to Step 16 COMMENTS:	___ SAT ___ UNSAT
STEP 12: Step 16 Perform the following: • Open 1LP-17 **(already open)** • Start I A LPI pump STANDARD: Verify 1LP-17 is open **by** observing the open light on the ES RZ module. Start the 1A LPI pump by using the pump switch on 1UB2. Continue to Step 17 COMMENTS:	**CRITICAL STEP** ___ SAT ___ **UNSAT**

STEP 13:	Step *17* Perform the following: • Open 1LP-18 **(already open)** • *Start* 1B LPI pump	**CRITICAL STEP** ___ **SAT**
STANDARD:	Verify 1LP-18 is open **by** observing the open light on the ES RZ module. *Start the* 1B *LPI* pump **by** *using* !he pump switch on 1UB2.	___ UNSAT
COMMENTS:		
	END TASK	

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
12	The " A LPI pump must **be** started when RCS pressure is less than LPI pump head to ensure LPI flow into the core.
13	The " B LPI pump **must** be started when RCS pressure is less than LPI pump head **to** ensure LPI flew into the core.

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

INITIAL CONDITIONS:

Small Break LOCA is in progress.

Rule 2 in progress

RCS is saturated and RCPs are off.

ES Channels 1 - 6 have actuated.

INITIATING CUES:

The Control Room SRO instructs you to perform EOP Enclosure 5.1, ES Actuation.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-097

Transfer ECCS Suction to the Emergency Sump
(1LP-15 **Failed** Closed)

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Transfer **ECCS** Suction to the Emergency Sump (1LP-15 Failed Closed)

Alternate Path:

Yes

Facility JPM #:

CRO-097

KIA Rating(s):

System: BW/E08
K/A: EA1.1
Rating. 4.0/3.7

Task Standard:

Steps of EOP are properly completed by the student to align HPI/LPI piggyback mode

Preferred Evaluation Location:

Simulator __X__ In-Plant _____

Preferred Evaluation Method:

Perform __X___ Simulate ____

References:

EOP Enclosure 5.12, (ECCS Suction Swap to RBES)

Validation Time: 9 minutes **Time Critical:** NO

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

Performance Rating: SAT _____ UNSAT _____ Performance Time _____

Examiner: _____ _____ I _____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall Snap 208
2. Import **files** for CRO-097
3. GotoRUN

Tools/Equipment/Procedures Needed:

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 small break LOCA has occurred which is depleting the BWST.

Core SCM = 0°F.

The BWST level is 19 feet and RB level is increasing.

LOCA CD tab has been completed up to step 7.

"1A" LPI header indicates no flow

"1B" LPI header indicates no flow

INITIATING CUES:

The Procedure Director directs you to perform IAAT Step 1; Initiate Enclosure 5.12, (ECCS Suction Swap to RBES).

START TIME: _____

STEP 1:	Step ▮ Start both of the following: • 1A LPI Pump • 1B LPI Pump STANDARD: The candidate rotates the control switches on 1UB2 for "1A" and "▮B LPI Pumps clockwise to the CLOSE position and verifies that the Red TRIP COIL lights illuminate and the White CLOSE COIL light is OFF and the ammeter responds. Continue to Step 2 COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 2:	Step 2 Verify either of the foliowing exist: • LPI FLOW TRAIN A plus LPI FLOW TRAIN B ≥ 3300 gpm • Only one LPI header is operating AND flow in that header is ≥ 2850 gpm STANDARD: The candidate locates the flow instrumentation (on 1UB1) for the LPI headers and determines that no flow is indicated in either header. Perform RNO Step and **GO P0** Step 4 COMMENTS:	___ SAT ___ UNSAT

STEP 3: Step **4** Verify < three HPI pumps operating **RNO** STOP "1B" HPI pump STANDARD: Candidate observes the indications for the HPI Pump controls on 1UB1 and determines that all 3 HPI Pumps are operating. The candidate locates the control switch for the 1B HPI Pump and rotates it *to* OFF position **and** verifies that the white OFF light comes on and the red RUN lights go off. Continue to Step 5 COMMENTS:	___ SAT ___ UNSAT
STEP 4: Step 5 Dispatch an operator to perform Encl. 5.37 (Isolation of HPI Pump Reeirc) without dressing out. (**PS**) STANDARD: Candidate should dispatch NEO(s) to perform Encl. 5.37. Continue to Step ***6*** ***CUE: inform candidate operator(s) dispatched as requested.*** COMMENTS:	___ SAT ___ UNSAT
STEP 5: Step 6 Notify Control Room personnel that the 170 gpm/pump minimum HPI flow requirement is in effect. STANDARD: Candidate informs control room personnel of HPI minimum flow requirements for HPI. Continue to Step 7 ***CUE: inform student the control mom has been notified.*** COMMENTS:	___ SAT ___ VNSAT

CAUTION

ECCS pump damage may occur if LPI pumps are operated below the following minimum flows:

Any LPI pump operated at < 100 gprn for > 30 minutes

Two LPI pumps operating in piggyback with **NO** LPI flow and total HPI flow < 500 gpm

___ SAT

___ UNSAT

STEP 6: Step 7
Verify two LPI pumps operating.

STANDARD: The candidate locates the controls for "1A" and "1B" LPI pumps on 1UB2 and determines that both LPI pumps are running.

Continue to Step 8

COMMENTS:

STEP 7: Step 8
Verify total HPI flow including seal injection is > 500 gpm.

STANDARD: Observe HPI headers flows on 1UB1 and determine total HPI flow including seal injection is > 500 gpm.

Continue to Step 9

COMMENTS:

___ SAT

___ UNSAT

STEP 8: Step 9 Simultaneously open the following: • 1LP-15 • 1LP-16 **RNO** Limit total HPI flow to < 750 gpm including seal injection STANBARD: Candidate locates the control switches and light indication for 1LP-15 and 1LP-16 on 1UB2 and determines that the valves are closed. 1LP-15 and 1LP-16 switches are rotated to the OPEN direction and the student verifies that the green CLOSED light goes out and the red OPEN light comes on. The candidate identifies that 1LP-15 did not open when its control switch was placed in the OPEN position and performs RNO. Throttle 1HP-26 and 1HP-27 to limit total HPI flow to < 750 gpm including **seal** injection. Continue to Step 10 **NOPE: 1LP-15 ('1A' LPI TO HPI AND RBS) will NOT respond, and will not be operable during this JPM.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 9: Step 10 **GO** TO Step 14 STANDARD: Candidate goes to step 14 COMMENTS:	___ SAT ___ UNSAT

STEP 10:	Step 14 Place the "LDST LEVEL INTERLOCK switch in the "DISABLE" position. STANDARD: The candidate locates the "LDST LEVEL INTERLOCK"switch and places it in the "DISABLE" position. Continue to Step 15 COMMENTS:	___ SAT ___ UNSAT
STEP 11:	Step 15 Position the following valves switches to close until valve travel is initiated: • 1HP-23 • 1HP-24 • 1HP-25 STANDARD: The controls for 1HP-23, 24 and 25 are located by the candidate on 1UB1. The switches are rotated to the CLOSE position and the green CLOSED lights are observed to come on and the red OPEN lights are observed to go off. Continue to Step 16 COMMENTS:	___ SAT ___ UNSAT
STEP 12:	Step 16 Verify any of the following are open: • 1LPSW-4 • 1LPSW-5 Continue to Step 17 STANDARD: Verify any of the above valves are open by observing their open indications on 1VB2. COMMENTS:	___ SAT ___ UNSAT

STEP 13: Step **17** GO TO Step 22 STANDARD: Candidate goes to Step 22. COMMENTS:	___ SAT ___ UNSAT
STEP **14:** Step 22 Verify both LPI coolers available for LPI and LPSW. STANDARD: Determine both LPI coolers available for LPI and LPSW Continue to Step 23 COMMENTS:	___ SAT ___ UNSAT
STEP 15: Step 23 Verify any LPI pump has been secured in this enclosure due to low flow conditions. STANDARD: Determine BOTH LPI pumps are operating and perform **RNO** and ***GO TO*** Step 25. Continue to Step 25 COMMENTS:	___ SAT ___ UNSAT

NOTE RB level of ≥ 2' is expected when BWST level reaches 9'. STEP 16: Step 25 **WHEN** BWST level is ≤ 9'. **AND** RB level is rising, **THEN** continue in this enclosure. STANDARD: Monitor EWST level and RB level and determine that this step **is** satisfied and continue to Step 26. ***Cue:* If required, inform candidate time compression will be used and the BWST level will be lowered.** COMMENTS:	___ SAT ___ UNSAT
STEP 17: Step ***26*** Simultaneously open the following: • 1LP-19 • 1LP-20 STANDARD: The candidate locates the controls for 1LP-19 (1A RX BLDG SUCTION) AN5 1LP-20 (1E RX BLDG SUCTION) on UB2. The switches **are** placed in the OPEN position and the valves are verified to open. COMMENTS: **END TASK**	**CRITICAL STEP** ___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Required to provide HPI pump suction
8	Necessary to allow the flow from the LPI headers to the HPI pump suctions. Candidate must determine that 1LP-15 did not open and then throttle HPI flow to protect the HPI pumps.
16	Necessary to allow the suction source for the LPI system to **be** the WBES and not the BWST, which is almost depleted.

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

INITIAL CONDITIONS:

A small break LOCA has occurred which is depleting the BWST

Core SCM = 0°F

The BWST level is 19 feet and RB level is increasing.

LOCA CD tab has been completed up to step 7.

"1A" LPI header indicates no flow

"1B" LPI header indicates no flow

INITIATING CUES:

The Procedure Director directs you to perform IAAT Step 1; Initiate Enclosure 5.12, (ECCS Suction Swap to RBES).

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-600

RECOVER FROM SWITCHYARD ISOLATION

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Recover from Switchyard Isolation

Alternate Path:

No

Facility JPM #:

CRO-600

K/A Rating(s):

System: BW/A05
K/A: AA1.l
Rating: 4.3/4.2

Task Standard:

Recovery from Switchyard Isolation is performed correctly including manually synchronizing the overhead Keowee Unit onto the 230 KV Red Bus.

Preferred Evaluation Leeation:

Simulator __X__ In-Plant_____

Preferred Evaluation Method:

Perform __X___ Simulate ___

References:

Enclosure 5.3 of AP/011 (Recovery From Loss of Power)

Validation Time: 15 minutes

Time Critical: NO

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____ _____ I _____
NAME SIGNATURE BATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall Snap 210
2. Import files for CRO-600
3. Go to RUN
4. Use the Speed Change Motor on Keowee Unit **1** to ensure the unit is out of sync.
5. Timer 2 will reset the SWYD Isolation
6. Timer 3 will give remote control of Keowee

Tools/Equipment/Procedures Needed:

Enclosure 5.3 ***of*** AP/011 (Recovery From **Loss** 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:

1. A switchyard Isolation has occurred

2. Unit 1 and Unit 2 reactors have tripped

3. Unit 3 remains online at 100% power

4. Power has been restored to Unit 1 and Unit 2's Main Feeder Buses from Keowee Unit **1** via the overhead power path

5. The TCC has notified Oconee that the 230 KV transmission system voltage and frequency has returned to normal and recovery from switchyard isolation may be initiated.

INITIATING CUES:

1. The SRO in the control room instructs you utilize Enclosure 5.3 of AP/011 (Recovery From Loss of Power) to recover from the Switchyard Isolation.

2. Procedure steps **1** and 2 have been completed. Begin on step 3.

START TIME: _____

STEP 1: Step 3

Verify **NO** ES 1 or 2 actuation on any Oconee unit:

- Unit 1
- Unit 2
- Unit 3

STANDARD: Verify ES 1 or 2 has NOT actuated on Unit 1 by observing the RZ modules and/or statalarms. Contact Unit 2 and 3 to determine if ES 1 or 2 has actuated.

Continue to Step **4.**

Cue: Unit 2 and 3 have not had an ES actuation.

COMMENTS:

___ SAT

___ UNSAT

STEQ: Step **4**

Ensure all of the following AUTO/MAN transfer switches in MAN:

✓ U1	✓ U2	✓ U3	Transfer Switch
			TA AUTO/MAN
			TB AUTO/MAN

STANDARD: Place the Unit 1 TA and TB AUTO/MAN transfer switches in MAN. Contact Unit 2 and 3 by phone and have them ensure TA and TB AUTO/MAN transfer switches in MAN.

Continue to Step 5.

Cue: Unit 2 and 3 TA and TB AUTO/MAN transfer switches are in MANUAL.

COMMENTS:

___ SAT

___ UNSAT

STEP 3: Step 5

Depress all of !he following RESET pushbuttons:

- GRID TROUBLE PROTECTIVE SYSTEM U.V. CHANNEL 1 RESET
- GRID TROUBLE PROTECTIVE SYSTEM U.V. CHANNEL 2 RESET
- 'GRID TROUBLE PROTECTIVE SYSTEM U.F. CHANNEL 1 RESET
- *GRID TROUBLE PROTECTIVE SYSTEM U.F. CHANNEL 2 RESET

STANDARD: The following RESET pushbuttons are depressed:

- GRID TROUBLE PROTECTIVE SYSTEM U.V. CHANNEL 1 RESET
- GRID TROUBLE PROTECTIVE SYSTEM U.V. CHANNEL 2 RESET
- GRID TROUBLE PROTECTIVE SYSTEM U.F. CHANNEL 1 RESET
- GRID TROUBLE PROTECTIVE SYSTEM U.F. CHANNEL 2 RESET

Continue to Step 6.

Note: Buttons are located electrical mimic board.

* Not critical

COMMENTS:

CRITICAL STEP

___ SAT

UNSAT

STEP 4: Step 6

Verify the following statalarms are off:

- SA-15/A-2 (CHANNEL #1 UNBERFREBUENCY)
- SA-138-4 (CHANNEL #2 UNDERFREQUENCY)
- SA-15/C-1 (CHANNEL #1 UNDERVOLTAGE)
- SA-15/C-3 (CHANNEL #2 UNDERVOLTAGE)

STANDARD: The above Statalarms are verified to be off. Statalarms are located on SA-I5.

Continue to Step 7

COMMENTS:

___ SAT

___ UNSAT

STEP 5: Step 7

Notify Keowee Qperator to transfer control of both Keowee units to Oconee.

STANDARD: Contact Keowee Operator, by phone, to transfer control of both Keowee units to Oconee.

Continue to Step 8.

NOTE: Simulator instructor will transfer control of both Keowee units to Oconee.

COMMENTS:

CRITICAL STEP

___ SAT

___ UNSAT

STEP 6: Step 8
Verify both channels of all Oconee units Main Feeder **Bus** Monitor Relay Panels reset as indicated by the following statalarms off:

✓ U1	✓ U2	✓ U3	Statalarms
			1(2)(3)SA-15/D-4 (LOAD SHED CHNL A LOGIC INITIATE)
			1(2)(3)SA-14/D-4 (LOAD SHED CHNL B LOGIC INITIATE)
			1(2)(3)SA-15/D-6 (TRANS TO SB CHNL A LOGIC INITIATE)
			1(2)(3)SA-14/D-6 (TRANS TO SB CHNL B LOGIC INITIATE)

___ SAT

___ UNSAT

STANDARD: Both channels of Oconee unit 1 Main Feeder Bus Monitor Relay Panel is verified reset **as** indicated by observing the above statalarms off. Contact Unit 2 and 3 and have them verify their Main Feeder Buses are reset.
Continue to Step 9.

Cue: Unit 2 and 3 Main Feeder Bus Monitor Panels are reset as indicated by the above alarms are off.

Note:* Unit 1's Main *Feeder Bus* Monitor *Panel* has *not actuated.

COMMENTS:

STEP 7: Step 9
Verify overhead Keowee unit energizing any Oconee unit MFB

CRITICAL STEP

___ SAT

___ UNSAT

STANDARD: Determine that Kecwee Unit 1 is energizing Oconee Unit 1 **MFBs** via the overhead path, by observing Keowee Unit 1 has emergency started and ACB-1 is closed energizing unit 1's MFBs.
Continue to Step 10.

COMMENTS:

STEP 8: Step 10 **GO TO** Step 23 STANDARD: Candidate goes to Step 23 COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 23 Verify Keowee overhead unit is energizing any Oconee unit MFB. STANBARD: Determine that Keowee Unit 1 is energizing Oconee Unit 1 MFBs via the overhead path, by observing Keowee Unit 1 has emergency started and ACB-1 is closed energizing Unit 1's MFBs. Continue to Step 24. COMMENTS:	___ SAT ___ UNSAT
STEP 10: Step 24 Notify Emergency Coordinator to determine which of the following is desired: • Manually synchronize overhead Keowee unit onto the 230 KV Red Bus • Disconnect overhead Keowee unit from the 230 KV Yellow Bus and reconnect (dead bus transfer) 230 KV Yellow Bus to the System Grid STANDARD: Call Emergency Coordinator and ask which of the above methods is desired. Continue to Step 25 ***Cue: The Emergency Coordinator determines that manually synchronizing the overhead Keowee unit onto the 230 KV Red Bus is desired.*** COMMENTS:	___ SAT ___ UNSAT

STEP 11: Step 25 Verify manual Synchronization of the overhead Keowee Unit onto the System Grid via the 230 KV Red Bus is desired. STANDARD: Determine from previous discussion with the Emergency Coordinator that manual synchronization of the overhead Keowee Unit onto the System Grid via the 230 KV Red Bus is desired. Continue to Step 26. COMMENTS:	___ **SAT** ___ UNSAT
STEP 12: Step 26 Obtain permission from TCC to connect overhead Keowee unit (230 KV Yellow Bus Supply) to the System Grid. ***Cue: The TCC gives permission to connect overhead Keowee unit (230 KV Yellow Bus Supply) io the System Grid.*** STANDARD: Call the permission from TCC to connect overhead Keowee unit (230 KV Yellow Bus Supply) to the System Grid. Continue *to* Step 27. COMMENTS:	___ SAT ___ UNSAT

STEP 13: Step 27 Perform the following to sync and tie overhead Keowee unit (Yellow Bus Supply) to 230 KV Red Bus: • Establish communications with Keowee Operations • Depress and hold PCB-8 SYNC push button • Adjust overhead Keowee unit SPEED CHANGER MOTOR to Synchronize overhead Keowee unit to 230 KV Red Bus. • **WHEN** synchronization is achieved, **THEN** perform the following: ➢ Close PCB-8. ➢ Release PCB-8 SYNC push button	**CRITICAL STEP** ___ SAT ___ UNSAT
STANDARD: The overhead Keowee unit (Yellow Bus Supply) is synced and tied to the 230 KV Red Bus by: • Establishing communications with Keowee Operations. • Depressing and holding the PCB-8 SYNC push button. ***Cue: The simulator operator will act as a second operator and operate the PCB-8 SYNC butfon. After synchronization is achieved (slow in the fast direction), inform the candidate to close the PCB.*** • Adjusting the overhead Keowee unit SPEED CHANGER MOTOR to synchronize overhead Keowee unit to 230 KV Red Bus. • WHEN synchronization is achieved, THEN perform the following: ➢ **Close PCH-8** (Red closed light illuminated). ➢ Release PCB-8 SYNC push button. ***Note: The SYNC* CHECK *provides only indication,* NOT *protection against* out of *phase closure.*** ***Cue: Inform candidate that this task is complete.*** COMMENTS: **END TASK**	

STOP **TIME:** _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
3	Reset buttons must be pushed to reset the Switchyard Isolation circuit to allow PCBs to be repositioned.
5	Oconee must have Keowee control to operate any Keowee Unit.
7	Must recognize power is coming from a Keowee Unit via the overhead path in order to transfer power back to the switchyard.
13	Manually syncing of the Keowee Unit is required to put the Oconee axillaries on the switchyard.

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

INITIAL CONDITIONS:

1. A switchyard Isolation has occurred

2. Unit **1** and Unit **2** reactors have tripped

3. Unit 3 remains online at 100% power

4. Power has been restored to Unit 1 and Unit 2's Main Feeder Buses from Keowee Unit 1 via the overhead power path

5. The TCC has notified Oconee that the 230 KV transmission system voltage and frequency has returned to normal and recovery from switchyard isolation may be initiated.

INITIATING CUES:

1. The SRO in the control room instructs you utilize Enclosure 5.3 of AP/011 (Recovery From boss of Power) to recover from the Switchyard Isolation.

2. Procedure steps 1 and 2 have been completed. Begin on step 3.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-700

Place ICS In Auto following Loss Of Auto Power

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Place ICS In Auto following **Loss** Of Auto Power

Alternate Path:

Yes

Facility JPM #:

NEW

K/A Rating(s):

System' BW/A02
WA. AA1.1
Rating: 4.0/3.8

Task Standard:

Use AP/23 (**boss** Of ICS Power) Enclosure 5 5 (Placing ICS In Auto) *to* place the ICS *in* AUTO following a **Loss** Of Auto Power.

Preferred Evaluation Location:

Simulator __X__ In-Plant_____

Preferred Evaluation Method:

Perform __X___ Simulate ____

References:

AP/23 (Loss Of ICS Power) Enclosure 5.5 (Placing ICS In Auto)

Validation Time: 20 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** 211
2. Import files **for** CRO-700
3. GotoRUN

Tools/Equipment/Procedures Needed:

AP/23 (boss Of ICS Power) Enclosure 5.5 (Placing ICS In Auto)

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 lo 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:

1. ICS AUTO power lost

2. AP/23 (Loss of ICS Power) in progress

3. ICS AUTO power has been restored

INITIATING CUES:

The SRO directs you to perform Enclosure 5.5 (Placing ICS in AUTO) to place ALL ICS H/A stations in AUTO.

START TIME: _____

Note: All operations will be performed on the ICS stations located on 1UB1.

STEP 1: Step 1 Perform a pre-job briefing for AP/1/A/1700/023 from the pra-job briefing database. STANDARD: State that a pre-job briefing should be performed. Continue to Step 2. **Cue: Inform candidate that the *pre-job* briefing has been performed.** **Note: Candidate will obtain setpoint information from the OAC during this JPM.** COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 2 Ensure RATE SET to 0.0. STANDARD: Ensure RATE SET thumbwheel located is set to 0.0 Continue to Step 3. COMMENTS:	___ SAT ___ UNSAT

STEQ:	Step **3** Verify THP setpoint at ≈ THP by comparing the following, • 0 1E2089 (TURB HDR PRESS SETPOINT) • O1 E2088 (ICS SELECTED TURB HDR PRESS) **RNQ** Ensure the following in HAND: • TURBINE MASTER • 1A TURBINE BYPASS VALVES • 1B TURBINE BYPASS VALVES • Adjust THP setpoint to ≈ THP at the TURBINE MASTER. STANDARD Call up the appropriate OAC display (enter GD AP28) and determine THP setpoint NOT at ≈ THP **and** perform **RNO.** Verify the above stations are in HAND. Use the Setpoint knob on the TURBINE MASTER to match THP setpoint to ≈ THP while monitoring on the OAC. Continue to Step **4.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 4:	Step **4** Place TURBINE MASTER in AUTO STANDARD: TURBINE MASTER is placed in AUTO by depressing the Auto pushbutton on the TURBINE MASTER Bailey station. Continue to Step 5 COMMENTS:	**CRITICAL STEP** ___ SAT UNSAT
STEP 5:	Step 5 Verify Main Turbine controlling THP. STANDARD: Verify Main Turbine controlling THP by observing THP being maintained at setpoint. Continue to Step 6. COMMENTS:	___ SAT ___ UNSAT

STEP 6:	*Step 6* Verify all TBVs are closed.	___ SAT
STANDARD:	Verify all TBVs closed by observing the Green closed indication Continue to Step 7.	___ UNSAT
COMMENTS:		
STEP 7:	Step 7 Ensure all TBVs in AUTO: 1A TURBINE BYPASS VALVES • 1B TURBINE BYPASS VALVES	**CRITICAL STEP** ___ SAT
STANDARD:	Place TBVs in AUTO by depressing the red AUTO pushbutton and verify the red AUTO light illuminates and the white HAND light extinguishes. Continue to Step ***8.***	___ UNSAT
COMMENTS:		
STEP 8:	Step 8 Verify Tave setpoint at ≈ Tave by comparing the following: • O1E2087 (ICS TAVE SETPOINT) • O1E2086 (ICS SELECTED TAVE) **RNO** Ensure the following: • DIAMOND in HAND • 1A FDW MASTER in HAND • 1B FBW MASTER in HAND	**CRITICAL STEP** ___ SAT ___ UNSAT
STANDA..	Call up the appropriate OAC display (enter GC AP28) and determine Tave setpoint NOT at ≈ Tave and perform **RNO.** Verify the above stations are in HAND. Adjust Tave setpoint to ≈ Tave at the REACTOR MASTER while monitoring on the OAC. Continue to Step 9	
COMMENTS:		

STEP 9:	Step **9** Ensure DIAMOND in MANUAL.	___ SAT
STANDARD:	Verify DIAMOND in MANUAL by observing MANUAL light illuminated **on** DIAMOND panel. Continue to Step 10.	___ UNSAT
COMMENTS:		
STEP 10:	Step 10 Place REACTOR MASTER in AUTO.	**CRITICAL STEP**
STANDARD:	REACTOR MASTER is placed in AUTO by depressing the Auto pushbutton on the REACTOR MASTER Bailey station and verify the red AUTO light illuminates and the white HAND light extinguishes. Continue to Step 11.	___ SAT ___ UNSAT
COMMENTS:		
STEP 11:	Step 11 Verify Neutron Error is 0 ± 1%.	___ SAT
STANDARD:	Verify Neutron Error is 0 ± 1% by observing Neutron Error meter on 1UB1. Continue to Step ***52***	___ UNSAT
COMMENTS:		

STEP 12:	Step 12 Place DIAMOND in AUTO	CRITICAL **STEP**
STANDARD:	Place DIAMOND in AUTO by depressing the AUTO pushbutton on the DIAMOND panel pushbutton and verify the AUTO light illuminates and the HAND light extinguishes. Verify plant parameters do not change. Continue to Step 13	___ SAT ___ UNSAT
COMMENTS:		
STEP 13:	Step 13 Verify STM GENERATOR MASTER Measured Variable is on the caret.	
STANDARD;	Place selector switch to Measured Variable and verify the pointer on the STM GENERATOR MASTER **is** on the caret. Continue to Step 14.	___ SAT ___ UNSAT
COMMENTS:		
STEP 14:	Step 14 Place STM GENERATOR MASTER in AUTO.	CRITICAL STEP
STANDARD:	STM GENERATOR MASTER is placed in AUTO by depressing the Auto pushbutton on the STM GENERATOR MASTER Bailey station and verify the red AUTO light illuminates and the white HAND light extinguishes. Continue to Step 15	___ SAT ___ UNSAT
COMMENTS:		

STEP 15:	Step 15 Verify Delta Tc setpoint at ≈ Delta Tc by comparing the following: • O1E2091 (ICS DELTA TC SETPOINT) • O1P1608 (RCS NARROW RANGE DELTA TC)	___ SAT
STANDARD:	Verify Delta Tc setpoint at ≈ Delta Tc by comparing the above points on the OAC. Continue to Step 16	___ UNSAT
COMMENTS:		
STEP 16:	Step 16 Place DELTA Tc station in AUTO.	**CRITICAL STEP**
STANDARD:	The DELTA Tc station is placed in AUTO by depressing the Auto pushbutton on the DELTA Tc Bailey station and verifying the red AUTO light illuminates and the white HAND light extinguishes. Continue to Step 17.	___ SAT ___ UNSAT
COMMENTS:		
STEP 17:	Step 17 Verify 1A FDW MASTER Measured Variable is on the caret.	___ SAT
STANDARD:	Place selector switch to Measured Variable and verify the pointer on the 1A FDW MASTER is on the caret. Continue to Step 18.	___ UNSAT
COMMENTS:		

STEP 18: Step 18 Verify 1B FDW MASTER Measured Variable is on the caret. STANBARD: Place selector switch to Measured Variable and verify the pointer on the 1B FDW MASTER is on the caret. Continue to Step 19. COMMENTS:	___ SAT ___ UNSAT
NOTE 1A FDW MASTER and 1B FDW MASTER should both be placed in AUTO simultaneously. STEP **19:** Step 19 Place the following in AUTO: • 1A FDW MASTER • I B FDW MASTER STANDARD: The 1A FDW MASTER and 1B FDW MASTER is placed in AUTO simultaneously by depressing the Auto pushbuttons on both the 1A FDW MASTER and B FDW MASTER Bailey stations and verifying the red AUTO lights illuminate and the white HAND lights extinguish. Continue *to* Step 20. ***Note: Simultaneous operation is not critical.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

CAUTION Changing Total FDW flow will result in Rx power change. Total FDW flow should be maintained as near constant as possible by adjusting FDW pump speed and FDW control valve positions. STEP 20: Step 20 Verify lowest FDW VALVE AP ≈ 35 psid STANDARD: Verify lowest FDW VALVE ΔP ≈ 35 psid by observing the FBW VALVE ΔP gauge. Continue to Step 21 COMMENTS:	___ SAT ___ UNSAT
STEP 21: Step 21 Verify 1A MAIN FDW PUMP Measured Variable *is* on the caret. STANDARD: Place selector switch to Measured Variable and verify the pointer on the 1A MAIN FDW PUMP is on the caret. Continue to Step 22. COMMENTS:	___ SAT ___ UNSAT
STEP 22: Step 22 **IAAT** 1A MAIN FDW PUMP Measured Variable is on the caret, **AND** desired in AUTO, **THEN** place 1A MAIN FDW PUMP in AUTO. STANDARD: Place I A MAIN FDW PUMP in AUTO by depressing the AUTO pushbutton and verify the red AUTO light illuminates and the white HAND light extinguishes. Continue to Step 23. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSA?

STEP 23:	Step 23 Verify 1B MAIN FDW PUMP Measured Variable is on the caret.	___ SAT
STANDARD:	Place selector switch to Measured Variable and verify the pointer on the I B MAIN FDW PUMP is on the caret. Continue to Step 24.	___ UNSAT
COMMENTS:		
STEP 24:	Step 24 **IAAT** 1B MAIN FDW PUMP Measured Variable is on the caret, **AND** desired in AUTO. **THEN** perform the following: • Adjust 1B MAIN FDW PUMP bias as required using 0 1E2092 (FWT 1B BIAS). ▪ Place 1B MAIN FDW PUMP in AUTO.	**CRITICAL STEP** ___ SAT ___ UNSAT
STANDARD:	Place 1B MAIN FDW PUMP in AUTO by depressing the AUTO pushbutton and verify the red AUTO light illuminates and the white HAND light extinguishes. Continue to Step 25	
COMMENTS:		
STEP 25:	Step 25 Verify 1FDW-32 Measured Variable is on the caret	___ SAT
STANDARD:	Place selector switch to Measured Variable and verify the pointer on the 1FDW-32 controller is on the caret. Continue to Step 26	___ UNSAT
COMMENTS:		

STEP 26: Step 26 Verify 1FDW-35 Measured Variable is on the caret. STANDARD: Place selector switch to Measured Variable and verify the pointer on the 1FDW-35 controller is on the caret. Continue to Step 27. COMMENTS:	___ SAT ___ UNSAT
NOTE" 1FDW-32 and 1FDW-35 should both be placed in AUTO simultaneously. STEP 27: Step 27 Place the following in AUTO: • 1FDW-32 • 1FDW-35 STANDARD: The 1FDW-32 and 1FDW-35 is placed in AUTO simultaneously by depressing the Auto pushbuttons on both the 1FDW-32 and 1FDW-35 Bailey stations and verifying the red AUTO lights illuminate and the white HAND lights extinguish. Continue to Step 28. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 28: Step 28 Verify IFDW-41 Measured Variable is on the caret STANDARD: Place selector switch to Measured Variable and verify the pointer on the 1FDW-41 controller is on the caret. Continue to Step 29. COMMENTS:	___ SAT ___ UNSAT

STEP 29: Step 29 Verify 1FDW-44 Measured Variable is on the caret. STANDARD: Place selector switch to Measured Variable and verify the pointer on the 1FDW-44 controller is on the caret. Continue to Step 30. COMMENTS:	___ SAT ___ UNSAT
NOTE 1FDW-41 and 1FDW-44 should both be placed in AUTO simultaneously. STEP 30: Step 30 Place the following in AUTO: • 1FDW-41 • 1FDW-44 STANDARD: The 1FDW-41 and 1FDW-44 is placed in AUTO simultaneously by depressing the Auto pushbuttons on both the 1FDW-41 and 1FDW-44 Bailey stations and verifying the red AUTO lights illuminate and the white HAND lights extinguish. Continue to Step 31. COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 31: Step 31 Slowly adjust the following as required by unit operation: • Tave • THP • Delta Tc STANDARD: Adjust the above on 1UBI as required by unit operation. Continue to Step 32. COMMENTS:	___ SAT ___ UNSAT

STEP 32: Step 32 Ensure CTPD SET at desired value STANDARD Ensure CTPD SET at desired value on 1UBI. COMMENTS: **END TASK**	____ SAT ____ UNSAT

STOP TIME: _____

CRI AL STEP EXPLANATIONS:

STEP #	Explanation
3	The setpoint and the parameter have to be matched to prevent a plant transient as the ICS is place in AUTO.
4	Required to place the ICS in AUTO.
7	Required to place the ICS in AUTO.
8	The setpoint and the parameter have to be matched to prevent a plant transient as the ICS is place in AUTO.
10	Required to place the ICS in AUTO.
12	Required to place the ICS in AUTO.
14	Required to place the ICS in AUTO.
16	Required to place the ICS in AUTO.
19	Required to place the ICS in AUTO.
22	Required to place the ICS in AUTO.
24	Required to place the ICS in AUTO.
27	Required to place the ICS in AUTO.
30	Required to place the ICS in AUTO.

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

INITIAL CONDITIONS:

1. ICS AUTO power lost
2. AP/23 (Loss of ICS Power) in progress
3. ICS AUTO power has been restored

INITIATING CUES:

The SRO directs you to perform Enclosure 5.5 (Placing ICS *in* AUTO) to place ALL ICS H/A stations in AUTO.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

CRO-900

Release GWD Tank

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Release GWD Tank

Alternate Path:

No

Facility JPM #:

NEW

K/A Rating(s):

System: 071
WA: A426
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)

Preferred Evaluation Location:

Simulator __X__ In-Piant _____

Preferred Evaluation Method:

Perform __X___ Simulate ____

References:

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

Validation Time: 15 minutes

Time Critical: NO

==========

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____ _____/_____
NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall IC-30
2. GotoRUN

Tools/Equipment/Procedures Needed:

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 "B" GWD tank *is* desired

OP/1&2/A/1104/018, Enclosure 4.9 (GWD Tank Release) is in progress and completed up to step 2.3.

INITIATING CUES:

SRO directs you to complete the release of the "B" **GWD** tank at step 2.3 of Enclosure 4.9.

START TIME: _____

STEP 1: Step 2.3 Determine any other GWR(s) are in progress at station. STANDARD: Determine that no other GWR(s) are in progress at ONS Continue to Step 2.4 ***Cue: No* other *GWRs* are *in* progress.** COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 2.4 IF release will be made at 1/3 station release limit, verify 1RIA-45 High and Alert Alarm setpoints set per PT/0/A/0230/001 (Radiation Monitor Check). STANDARD: Refer to PT/0/A/0230/001 (Radiation Monitor Check) and verify 1RIA-45 High and Aiert Alarm setpoints using the RIA View Node. Continue to Step **2.5** **Note: The setpoints will not be correct and will require the candidate to reset them per PT/0230/001.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 3: Step 2.5 **IF** release will **be** made at 2/3 station release limit: STANDARD Determine that this release will be made a 1/3 station limit N/A steps 2.5.1 - 2.5.5. Continue to Step 3.1 ***Cue: If* asked *inform the* candidate *as the SRO that this* release *will* be *at 1/3 station limit.*** COMMENTS:	___ SAT ___ UNSAT

STEP 4: Step 3.1 Record background readings for 1RIA-37 & 1RIA-38 on Enclosure 4.10 "GWD Tank Sample Request". STANDARD: Determine background readings for 1RIA-37 & 1RIA-38 by observing the RIA readings on the RIA View Node and record on Enclosure 4.10. Note: The background readings should be as **follows:** **1RIA-37** Background reading *is:* **45 cps** **1RIA-38** Background reading **is: 6.6** cps Continue to Step 3.2 COMMENTS:	___ SAT ___ UNSAT
NOTE: The RIA required to terminate release (RIA within range) must be operable or two independent samples must be taken (SLG 16.11.3). STEP 5: Step 3.2 Recommended 1RIA-37 and 38 **High** and Alert setpcints: • 1RIA-37 **4.75 E3** cpm above background • 1RIA-38 **3.13 E2** cpm above background STANDARD: Obtain this information from the sample request and record on form. Continue to Step 3.3 COMMENTS:	___ SAT ___ UNSAT

STEP 6:	Step 3.3 Adjust 1RIA-37 setpoints for release per on6 of the foliowing: 3.3.1 **IF** above instrument range over-ride 1RIA-37 setpoints: • Set 1RIA-37 Alert setpoint at zero • Set 1RIA-37 High setpoint at zero Or 3.3.2 **IF** required to set alarms: • Set 1RIA-37 Alert setpoint at **4795** cpm • Set 1RIA-37 High setpoint at **4795** cpm	**CRITICAL STEP** ____ SAT ____ UNSAT
STANDARD:	Determine setpoints for release are NOT above instrument range and NIA step 3.3.1. Determine required setpoints by adding background to data from the sample request and enter it on this form. Continue to Step 3.4	
COMMENTS:		
STEP 7:	Step 3.4 Adjust 1RIA-38 setpoints for release per one of the following: 3.4.1 **IF** above instrument range over-ride 1RIA-38 setpoints: • Set 1RIA-38 Alert setpoint at zero • Set 1RIA-38 High setpoint at zero Or 3.4.2 **IF** required to set alarms: • Set 1RIA-38 Alert setpoint at **319.6** cpm • Set 1RIA-38 High setpoint at **319.6** cpm	**CRITICAL STEP** ____ SAT ____ UNSAT
STANDARD:	Determine setpoints for release are NOT above instrument range and N/A step 3.3.1. Determine required setpoints by adding background to data from the sample request and enter it on this form. Continue to Step 3.5	
COMMENTS		

STEP 8: Step 3.5 Reset WASTE GASTANK DISCH integrator to zero. STANDARD: Reset WASTE GASTANK DISCH integrator located on 1AB3 to zero by depressing the reset button. Continue to Step 3.6 COMMENTS:	___ SAT ___ UNSAT
STEP 9: Step 3.6 Ensure GWW DISCHARGE FLOW CONTROL in "HAND". • Verify GWR DISCHARGE FLOW CONTROL "CLOSED" STANDARD: Ensure GWR DISCHARGE FLOW CONTROL in "HAND" and CLOSED located on 1AB3. Continue to Step 3.7 COMMENTS:	___ SAT ___ UNSAT
STEP 10: Step 3.7 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*** 3.8 ***Cue: inform candidate that GWD-100 is open.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 11: Step 3.8 IF releasing GWD Tank B perform the following: • Open GWD-99 (Decay Tank 1B Discharge Block) • Place GWD-5 (5 GWD TANK DISCHARGE) switch to "AUTO STANDARD: Dispatch NEO to open GWD-99 (Decay Tank 15 Discharge Block). ***Cue: Inform candidate that GWD-99 is open.*** Located GWD-5 (B GWD TANK DISCHARGE) on 1AB3 and place switch to "AUTO" Continue to Step 3.9 COMMENTS:	CRITICAL **STEP** ___ SAT ___ UNSAT
STEP 12: Steps 3.9 – 3.11 IF releasing GWD Tank B perform the following… STANDARD: Determine NOT releasing GWD Tank A, C, D and N/A steps 3.8. 3.10, and 3.11. Continue to Step 3.12 COMMENTS:	___ 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. • Limit and Precautions have required approval levels for release. STEP 13: Step 3.12 Approval granted for release. STANDARD: Obtain approval for release. Continue to Step 3.13 ***Cue: Approval is granted for release by Trac; Lemons at current Date/Time.*** COMMENTS:	___ SAT ___ UNSAT

STEP **14:** Step 3.43 **IF** releasing at 2/3 Station Limit: STANDARD: Determine NOT releasing at 2/3 Station Limit by previous cue. Continue to Step 3.14 COMMENTS:	___ SAT ___ UNSAT
STEP 15: Step 3.14 Recommended Release Rate from Enclosure **4.10** "GWD Tank Sample Request": **5.97 E7** cfm. STANDARD: Record Recommended Release Rate from Enclosure 4.10 "GWD Tank Sample Request". Continue to Step 3.15 COMMENTS:	___ SAT ___ UNSAT
NOTE: • If U1 Penetration Room Ventilation (PRV) system is shutdown, RIA-32 U1 Penetration Room sample point does **NOT** sample general area air properly. • With U1 PRV system shutdown. RIA-32 sample point for U1 Penetration Room is sampling air in piping between U1 Unit Vent and PRV discharge. • RIA-32 counts may increase when selected to U1 Penetration Room while making a GWD Release. STEP 16: Step 3.15 Place **a** note on Turnover sheet that RIA-32 Penetration Room sample point may alarm when selected to U1 Penetration Room during GWD release. STANDARD: Candidate should indicate a note should be placed on the Turnover sheet indicating that RIA-32 Penetration Room sample point may alarm when selected to U1 Penetration Room during GWD release. Continue to Step 3.16 COMMENTS:	___ SAT ___ UNSAT

STEP 17: Step 3.16 Adjust GWR DISCHARGE FLOW CONTROL to obtain desired release rate. STANDARD: Slowly adjust the manual loading knob to obtain the desired release rate. Continue to Step 3.17 **Note:** Although **the maximum rate** is high the **actual release rate will be low.** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 18: Step 3.17 Record "Begin GWR # _____" in Unit Log. STANDARD: Candidate should indicate a Unit log entry would be made. COMMENTS: **END TASK**	___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	**Explanation**
2	Required to set **RIA** to prevent station release above limits.
6	Required to set **RIA** to prevent station release above limits.
7	Required to set **RIA** to prevent station release above limits.
10	Required to align release flow **path.**
11	Required to align release flow path.
17	Required to align release flow path.

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

INITIAL CONDITIONS:

Release of "B" GWD tank is desired

OP/1&2/A/1104/018, Endosure 4.9 (GWD Tank Release) is in progress and completed up to step 2.3.

INITIATING CUES:

SRQ directs **you** to complete the release of the "B" GWD tank at step 2.3 of Enclosure 4.9.

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

NLO-036

STARTUP A VITAL BUS INVERTER

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

STARTUP A VITAL BUS INVERTER

Alternate Path:

NO

Facility JPM #

NLO-036

K/A Rating(s):

System: 062
K/A: A3.04
Rating: 2.7/2.9

Task Standard:

Vital Bus Inverter placed in service correctly

Preferred Evaluation Location:

Simulator ____ In-Plant __X____

Preferred Evaluation Method:

Perform _____ Simulate __X__

References:

OP/1,2,3/A/1107/04, Enclosure 4 2 (Startup of The Vital Bus Inverters)

Validation Time: 9 minutes

Time Critical: NO

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Candidate: _____
NAME

Time Start, _____
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:

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:

Earlier today the **1DIB** Vital Bus Inverter was shutdown for maintenance. I & E personnel have just notified the Control Room SRO that they have completed their work on the inverter. The affected 120VAC Vital Instrumentation Power Panelboard is being supplied by Regulated **AC** Panelboard KRA.

INITIATING CUE:

The Control Room SRO directs you to startup **1DIB** Vital Bus Inverter per OP/1/A/1107/04 (Enclosure **4.2).** DC Power to the inverter has not been isolated.

Begin at Step 2.1.

START TIME: _____

STEP 1: Step 2.1 IF DC power to the inverter has been isolated, close breaker #33 on the associated DC panelboard. STANDARD: Determine that DC power to the inverter has not been isolated by referring to the initial conditions. Continue to Step 2.2. **CUE: *Indicate to candidate that breaker #33* is *closed.*** COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 2.2 Press the PRECHARGE SWITCH pushbutton until the PRECHARGE light comes on. STANDARD: The candidate depresses the PRECHARGE SWITCH pushbutton untii the PRECHARGE light comes on. **CUE: *Indicate to* the *student that the PRECHARGE light is ON.*** Continue to Step 2.3. COMMENTS:	**CRITICAL TASK** ___ SAT ___ UNSAT

STEP 3: Step 2.3 CLOSE the DC INPUT circuit breaker and verify Vital **Bus** INVERTER OUTPUT voltage increases to approximately 120 volts AC. STANDARD: The DC INPUT circuit breaker **is** CLOSED ***Cue: indicate to the student that the DC INPUT breaker is in the ON position.*** INVERTER OUTPUT voltmeter, AC volts, is observed and verified to indicate approximately 120 volts **AC.** ***Cue: indicate to student that inverter voltage INCREASES from 0 to 120 volts AC, as indicated on the INVERTER OUTPUT voltmeter.*** Continue to Step 2.4. COMMENTS:	**CRITICAL TASK** ___ SAT ___ UNSAT
STEP 4: Step 2.4 CLOSE the INVERTER OUTPUT circuit breaker. STANDARD: The INVERTER OUTPUT circuit breaker is CLOSED ***CUE: indicate to the student that the INVERTER OUTPUT breaker is in the ON position.*** Continue to Step 2.5. COMMENTS:	**CRITICAL TASK** ___ SAT UNSAT

STEP 5: Step 2.5 VERIFY the IN SYNC light is on. STANDARD: Green IN SYNC light is verified ON. **CUE:** ***indicate to student that IN SYNC light is ON.*** Continue to Step 2.6. COMMENTS:	___ SAT ___ UNSAT
STEP 6: Step 2.6 POSITION the MANUAL BYPASS SWITCH to the "NORMAL SOURCE position. STANDARD: Student rotates the Manual Bypass Switch from the ALTERNATE SOURCE position to the NORMAL SOURCE position. **Cue:** ***Indicate to the student that the Manual Bypass Switch is in the NORMAL SOURCE position.*** Continue to Step 2.7. COMMENTS:	**CRITICAL TASK** ___ SAT ___ UNSAT

STEP 7: Step 2.7

VERIFY the following indications:

INVERTER OUTPUT volt meter ≈ 120 volts

- Inverter Output frequency meters 60 Hz
- INVERTER OUTPUT amp meter increases and stabilizes to match SYSTEM OUTPUT amp meter.

___ SAT

___ UNSAT

STANDARD: The following indications are verified:

INVERTER OUTPUT volts ≈ 120

INVERTER OUTPUT frequency ≈ 60 Hz.

INVERTER OUTPUT amp meter increases and stabilizes to match SYSTEM OUTPUT amp meter.

Cue: Provide the following indications to the student:

- ***INV. OUTPUT volts 120.***
- ***INV. OUTPUT freq. 60.***

INV. OUTPUT amps 20 - 40.

SYS. OUTPUT amps 20 - 40.

COMMENTS:

END TASK

STOP TIME: _____

;RITICAL STEP EXPLANATIONS:

STEP #	Explanation
2	Precharge input filter capacitor prevents a large increase in current when the inverter is placed on line.
3	Closing the DC input breaker supplies DC input to the inverter.
4	Closing this breaker connects the inverter output to the input of the autotransformer.
6	Selecting NORMAL Source with the Manual Bypass Switch causes ***a*** make before break transfer to the inverter output placing the inverter in service.

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

INITIAL CONDITIONS:

Earlier today the **1DIB** Vital Bus Inverter was shutdown *for* maintenance. I & **E** personnel have just notified the Control Room SRO that they have completed their work on the inverter. The affected 120VAC Vital Instrumentation Power Panelboard is being supplied by Regulated AC Panelboard KKA.

INITIATING CUE:

The Control Room SRQ directs you to startup **1DIB** Vital Bus Inverter per OP/1/A/1107/04 (Enclosure 4.2). DC Power to the inverter has not been isolated.

Begin at Step 2.1

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

NLO-039

PRIME THE SPENT FUEL POOL FILL LINE

CANDIDATE _____

EXAMINER _____

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

PRIME THE SPENT FUEL POOL FILL LINE

Alternate Path:

No

Facility JPM #:

NLO-039

K/A Rating(s):

System: APE022
KIA: AK3.02
Rating. 3.5/3.8

Task Standard:

SFP Priming Pump is aligned and started

Preferred Evaluation Location:

Simulator ____ In-Plant __X__

Preferred Evaluation Method:

Perform _____ Simulate __X_

References:

EOP Enclosure "HPI Pump Operations from ASW Pump Switchgear"

Validation Time: 16 minutes

Time Critical: NO

==========

Candidate: _____

NAME

Time Start: _____

Time **Finish:** _____

Performance Rating: SAT ——— UNSAT _____

Performance Time _____

Examiner: _____ _____ I _____

NAME SIGNATURE DATE

==========

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

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 tornado has struck Unit 2 Turbine Building and destroyed the 4160 volt switchgear TC, TD, and TE.

it also struck the Unit 2 BWST, rupturing and draining it.

The SSF Reactor Coolant Makeup Pump failed to start.

2A HPIP has been powered from the ASW switchgear.

The Spent Fuel Pool level is currently +1.0 feet.

INITIATING CUES:

The EOP directs the operator to perform "HPI Pump Operation From ASW Pump Switchgear" Enclosure to align HPIPs to the SFP.

Another operator is aligning the HPI Suction from the SFP.

The Control Room SRO directs you to prime the Spent Fuel Pool fill line on Unit 2 per this Enclosure, beginning at Step 20.

START TIME: _____

STEP 1: Step 20 Obtain bucket and rope from EOP equipment locker U2AB5. (A-5 U2 elevator lobby) STANDARD: Locate EOP equipment locker U2AB5 located at A-5, U2 elevator lobby and idcaite that you would obtain a bucket and rope from the locker. Continue to Step 21. ***Cue: Inform candidate that opening the docker is not required.*** COMMENTS:	___ SAT ___ UNSAT
STEP 2: Step 21A Connect SF priming pump suction hose to quick disconnect fitting at SF-86 (SF PRIMING PUMP SEAL WATER INLET) STANDARD: Candidate connects suction hose to quick disconnect fitting at SF-86, or verifies it is connected Continue to Step 21B. COMMENTS:	___ SAT ___ UNSAT
STEP 3: Step 21B Connect ths Spent Fuel Priming Pump suction hose to the Spent Fuel Pool Fill line connection tap on SF-85 (SF PRIMING PUMP UNDERWATER SUPPLY BLOCK). STANDARD: Verify the Spent Fuel Priming Pump suction hose to the Spent Fuel Pool Fill line connection *tap* on SF-85 (SF PRIMING PUMP UNDERWATER SUPPLY BLOCK) is connected. Continue to Step 21C COMMENTS:	___ SAT ___ UNSAT

STEP 4: Step 21C Open SF-85 (SF PRIMING PUMP UNDERWATER SUPPLY BLOCK). STANDARD: The student locates and opens **SF-85** (Pool Underwater Supply Block to Priming Pump) by rotating valve operator until handle is parallel with pipe. Continue to Step 21D. **Note: There is a special tool for operating SF-85 and SF-84 hanging at the South end of the Spent Fuel Pool.** COMMENTS:	**CRITICAL TASK** ___ SAT ___ UNSAT
STEP 5: Step 21D Place the flex hose on the discharge of the SF Priming Pump into the SFP. STANDARD: The student (simulates) placing the free end of discharge hose into the Spent Fuel Peel. Continue to Step 21E. COMMENTS:	___ SAT ___ UNSOT
STEP 6: Step 21E CLOSE SF-84 (SF POOL UNDERWATER *SUPPLY* VENT) STANDARD: SF-84 (SF Pool Underwater Supply Vent) is CLOSED by rotating valve operator until handle is perpendicular to pipe. Continue to Step 21F. **Note: There is a special tool for operating SF-85 and SF-84 hanging at the South end of the Spent Fuel Pool.** COMMENTS:	___ SAT ___ *UNSAT*

STEQ: Step 21F Fill the SF Priming Pump Seal Tank to at least half-full with DW or water from SFP using bucket. STANDARD: The candidate fills the SF Priming Pump Seal Tank at least half-full using DW from the North-West end of the SFP or by using the rope and bucket to dip out of the SFP. ***Note: It will take several buckets of water to fill the SF Priming Pump Seal Tank half-full.*** Continue to Step 22 ***CUE: Communications have been established with operators at the ASW Pump Room and East Penetration Room.*** COMMENTS:	***CRITICAL TASK*** ___ SAT ___ UNSAT
STEP 8: Step 22 ***WHEN*** communication is established with operators in the following locations: • ASW Pump Room • East Pen Room ***THEN*** open SF-86 (SF PRIMING PUMP SEAL WATER INLET) STANDARD: Determine communications have been established with the above locations and then open SF-86 (SF PRIMING PUMP SEAL WATER INLET). Continue to Step 23. ***Cue: Communications have been established.*** COMMENTS:	***CRITICAL TASK*** ___ SAT ___ UNSAT

STEP 9: Step 23 Notify operator in ASW pump Rm to start U1/2 SF PRIMING PUMP (remote starter on S wall) STANDAKD: Notify operator in ASW pump Rm to start U1/2 SF PRIMING PUMP Continue to Step **24.** ***Cue: The U1/2 SF PRIMING PUMP is operating.*** COMMENTS:	***CRITICAL* TASK** ___ SAT ___ UNSAT
STEP 10: Step 24 **IAAT** seal tank level begins to rise, **THEN** close SF-86 (SF PRIMING PUMP SEAL WATER INLET) STANDARD: Monitor seal tank level and determine it is NOT rising Continue to Step 25. ***Cue: Seal tank level* is *NOT rising.*** COMMENTS:	___ SAT ___ UNSAT
STEP 11: Step 25 **WHEN** SFP fill line is primed (as indicated by a steady discharge stream from the SF priming pump), **THEN** notify Control Room of **the** following: • HPI suction aligned to SFP fill line • HPI pump cooling water status • An operator is available in the E Pen Rm to throttle 1HP-26 STANDARD: Monitor the hose attached to the SF priming pump discharge and determine the SFP line **is** primed. **THEN** Notify the Control Room the HPI suction **is** aligned **to** SFP fill line. ***Cue: The SF priming pump has steady discharge stream.*** ***Cue: Notifying the Control of the last* two *bulleted items is not required for this JPM.*** COMMENTS: **END TASK**	___ SAT ___ UNSAT

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	**Explanation**
4	Necessary to provide suction to **the** priming pump.
7	Tank must be ½ full to provide adequate water for priming
8	Required **to** provide flow path.
9	Priming pump must operate to fill the line.

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

INITIAL CONDITIONS:

A tornado has struck Unit *2* Turbine Building and destroyed the 4160 volt switchgear TC, TD, and TE.

it also struck the Unit 2 BWST, rupturing and draining it.

The SSF Reactor Coolant Makeup Pump failed to start.

2A HPIP has been powered from the **ASW** switchgear.

The Spent Fuel Pool level is currently +1.0 feet.

INITIATING CUES:

The EOP directs the operator to perform "HPI Pump Operation From **ASW** Pump Switchgear" Enclosure to align HPIPs to the SFP.

Another operator is aligning the HPI Suction from the SFP.

The Control Room SRO directs you to prime the Spent Fuel Pool fill line on Unit 2 per this Enclosure, beginning at Step 20.