

Final Submittal

**OCONEE JUNE 2005 EXAM
50-269, 270, & 287/2005-301**

**JUNE 20 - 24, 2005
JUNE 30, 2005 (WRITTEN)**

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

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-112

Calculate requirements to makeup to the BWST

CANDIDATE

EXAMINER

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Task:

Calculate requirements to makeup to the BWST

Alternate Path:

No

Facility JPM #:

NEW

K/A Rating(s):

System: GEN
K/A: 2.1.25
Rating: 2.8/3.1

Task Standard:

Calculate volume of CBAST and DW needed to yield the proper volume at the correct Boron concentration to makeup to the BWST.

Preferred Evaluation Location:

Simulator _____ In-Plant X

Preferred Evaluation Method:

Perform _____ Simulate X

References:

EOP Enclosure 5.4, Makeup to the BWST

Validation Time: 12 minutes

Time Critical: NO

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

- EOP Enclosure 5.4, Makeup to the BWST
- OP/0/A/1108/001, Curves and General Information
- COLR

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

- Unit 1 shutdown and cool down in progress due to a tube rupture in the 1A SG
- SGTR tab in progress at step 112
- Unit 1 BWST level = 38 feet
- Unit 1 BWST Boron concentration = 2500 ppm
- 1A BHUT level = 40 inches
- 1A BHUT Boron Concentration = 240 ppm
- CBAST Boron Concentration = 12,501 ppm

INITIATING CUES:

The SRO instructs you to initiate EOP Enclosure 5.4 (Makeup to the BWST) to determine the required volumes of CBAST and DW to begin makeup to the BWST from 1A BHUT by filling the 1A BHUT to 180 inches and matching the BWST Boron concentration.

START TIME: _____

<p><u>STEP 1:</u> Step 1 Determine current volume in 1A BHUT using any of the following:</p> <ul style="list-style-type: none"> • OAC graphic CS01 • BHUT Volume vs Level Curve in OP/0/A/1108/001 (Curves and General Information) <p><u>STANDARD:</u> Refer to BHUT Volume vs Level Curve in OP/0/A/1108/001 (Curves and General Information) and determine that the volume of water in the 1A BHUT is ≈ 13,900 gallons.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p><u>STEP 2:</u> Step 2 Determine volume of CBAST and DW required per the following to yield a volume in 1A BHUT of 80,000 to 82,000 gals at a concentration that complies with COLR requirements for the BWST:</p> $\frac{(BHUT_{vf} \times BHUT_{cf}) - (BHUT_{vi} \times BHUT_{ci})}{CBAST_c} = \# \text{ gallons of CBAST needed}$ $\frac{(81,000 \times 2,500) - (13,900 \times 240)}{12,501} = \underline{15,932}$ <p style="text-align: right;"># gallons of CBAST needed</p> <p>BHUT_{vf} - BHUT_{vi} - # gallons CBAST needed = # gallons of DW needed</p> $81,000 - 13,900 - 15,930 = \underline{51,170}$ <p style="text-align: center;"># gallons of DW needed</p> <p><u>STANDARD:</u> Candidate calculates the required volumes from CBAST and DW within 500 gallons of the above calculated values.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
2	These calculations are required for determining the correct water volumes.

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

INITIAL CONDITIONS:

- Unit 1 shutdown and cool down in progress due to a tube rupture in the 1A SG.
- SGTR tab in progress at step 112.
- Unit 1 BWST level = 38 feet
- Unit 1 BWST Boron concentration = 2500 ppm
- 1A BHUT level = 40 inches
- 1A BHUT Boron Concentration = 240 ppm
- CBAST Boron Concentration = 12,501 ppm

INITIATING CUES:

The SRO instructs you to initiate EOP Enclosure 5.4 (Makeup to the BWST) to determine the required volumes of CBAST and DW to begin makeup to the BWST from 1A BHUT by filling the 1A BHUT to 180 inches and matching the BWST Boron concentration.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

CRO-037

**CALCULATE AN ESTIMATED CRITICAL ROD
POSITION**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Calculate an Estimated Critical Rod Position

Alternate Path:

No

Facility JPM #:

CRO-037

K/A Rating(s):

System: GEN
K/A: 2.1.19
Rating: 3.0/3.0

Task Standard:

Calculated inserted rod worth must agree within $\pm 5\%$ of attached example.

Preferred Evaluation Location:

Simulator X In-Plant _____

Preferred Evaluation Method:

Perform X Simulate _____

References:

PT/1/A/1103/15 (Reactivity Balance Procedure), Encl. 13.4 (Computerized ECP Calculation)

Validation Time: 17 minutes

Time Critical: NO

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

None

Tools/Equipment/Procedures Needed:

PT/1/A/1103/15 (Reactivity Balance Procedure), Encl. 13.4 (Computerized ECP Calculation)
Computer

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

Unit 1 operated from 1/15/05 – 4/3/05 at 100% power

4/3/05 1000 - Reactor shutdown is commenced at 10%/hr

EFPD = 127

PRESENT CONDITIONS:

4/10/05 1400 Unit #1 Startup in progress

RCS Boron = 1417

RCS Temperature = 532°F.

Group 8 positioned at 35% withdrawn

Computer network is down

INITIATING CUES:

The Control Room SRO directs you to calculate an original estimated critical rod position for 3 hours from the present time per PT/1/A/1103/15, Reactivity Balance Procedure.

START TIME: _____

<p><u>STEP 1:</u> Step 2.1 This enclosure must be performed twice – the second is the separate verification. Circle whether this is the original or the verification.</p> <p><u>STANDARD:</u> Candidate should circle “original” and N/A the bullet step.</p> <p><u>COMMENTS:</u> Continue to Step 2.2</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 2.2 OBTAIN the power history back to the last time of Xenon equilibrium to perform the Xenon calculation form a source such as PI Server, OAC, RO Log, etc.</p> <p><u>STANDARD:</u> The candidate will indicate that he/she will obtain a power history from one of the listed sources.</p> <p> Continue to Step 2.3</p> <p><i>Cue: Direct the candidate to obtain power history form the JPM initial conditions.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>CAUTION: IF the power history information from the last equilibrium Xe/Sm condition is NOT input into the code, significant error may result.</p> </div> <p><u>STEP 3:</u> Step 2.3 ATTACH actual power history to Enclosure 13.3</p> <p><u>STANDARD:</u> Student indicates that he/she will attach the power history to Enclosure 13.4</p> <p> Continue to Step 2.4</p> <p>NOTE: This step is not necessary for the purposes of this JPM.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 4:</u> Step 2.4 SELECT the RhoCalc icon on the Control Room PC.</p> <p><u>STANDARD:</u> Student locates the RhoCalc icon on the Control Room PC and opens the program. Continue to Step 2.5</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Choose ECP</p> <p><u>STANDARD:</u> Student selects the ECP button</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> Step 2.5 Choose whether to obtain data from the network or disk.</p> <p><u>STANDARD:</u> Student selects to run the data from the Disk. Continue to Step 2.6</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 7: Step 2.6 INPUT appropriate data for the estimated critical rod position calculation.</p> <p>STANDARD: Candidate inserts the data given to him into the program.</p> <ul style="list-style-type: none"> • Name • Power History • Current Boron Concentration • EFPD • Group 8 position <p>NOTE: The student must also select the desired unit. This may be done before or after entering the other data</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 8: CALCULATE the Estimated Critical Rod Position.</p> <p>STANDARD: The "Calculate ECP" button is pressed to run the calculation. Critical rod limits must agree within $\pm 12\%$ of attached example.</p> <p>Cue: Ask candidate to print the calculation.</p> <p>COMMENTS:</p> <p style="text-align: center;">END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
7	Step is necessary because the candidate needs to perform this step for the computer to calculate the ECP to determine the expected rod positions for criticality.
8	Step is necessary because the candidate needs to perform this step for the computer to calculate the ECP to determine the expected rod positions for criticality.

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

INITIAL CONDITIONS:

Unit 1 operated from 1/15/05 – 4/3/05 at 100% power

4/3/05 1000 - Reactor shutdown is commenced at 10%/hr

EFPD = 127

PRESENT CONDITIONS:

4/10/05 1400 Unit #1 Startup in progress

RCS Boron = 1417

RCS Temperature = 532°F.

Group 8 positioned at 35% withdrawn

INITIATING CUES:

The Control Room SRO directs you to calculate an original estimated critical rod position for 3 hours from the present time per PT/1/A/1103/15, Reactivity Balance Procedure.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-111

**Perform required Actions to
Enter and Exit the SFP Area**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform required actions to enter and exit the SFP area.

Alternate Path:

NO

Facility JPM #:

New

K/A Rating(s):

Gen 2.1.1 3.7/3.8

Task Standard:

Entry into the SFP area will be performed. Performance of at least four of the five conditions is required.

Preferred Evaluation Location:

Simulator ____ In-Plant X ____

Preferred Evaluation Method:

Perform X Simulate ____

References:

NSD-104 (Materiel Condition/Housekeeping, Cleanliness/Foreign Material Exclusion and Seismic Concerns)

Validation Time: 5 min.

Time Critical: NO

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT ____ UNSAT ____

Performance Time: _____

Examiner: _____
NAME

SIGNATURE

DATE

=====
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:

Entry into the Unit 1 and 2 Spent Fuel Pool area is required.

INITIATING CUE:

Enter the Unit 1 and 2 Spent Fuel Pool area and perform all the required actions.

START TIME:

Note: The order of the following items is not critical. However they should all be performed.

<p>STEP 1: Determine the FME requirements for entering the SFP area.</p> <p>STANDARD: Refer to the excerpt of NSD-104 (Material Condition/Housekeeping, Cleanliness/Foreign Material Exclusion and Seismic Concerns) posted on the wall outside of the SFP. Determine and perform the following:</p> <ol style="list-style-type: none"> 1. Badge lanyards shall be retained by tape, snaps, or inside clothing. 2. Safety glasses shall be worn. 3. Hard hat should be removed prior to SFP entry. Conditions do not warrant its use. <p><i>Cue: Inform the candidate that for the purposes of this JPM the candidate should stay outside the pool handrail.</i></p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 2: The following radiological requirements should also be performed:</p> <ol style="list-style-type: none"> 4. Review the plan view prior to entry in to the SFP area. 5. Perform a whole body frisk after exiting the SFP. <p>STANDARD:</p> <p>COMMENTS:</p> <p>Note: Correct performance of at least four of the five items is required to pass this JPM.</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Items 1-3 are required to meet the FME requirements for entry into the SFP.
2	Items 4 and 5 are required to meet the radiological requirements for entry into the SFP.
3	Required for an object falling into the SFP.

Note: Correct performance of at least four of the five items in step 1 and 2 are required to pass this JPM.

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

INITIAL CONDITIONS:

Entry into the Unit 1 and 2 Spent Fuel Pool area is required.

INITIATING CUE:

Enter the Unit 1 and 2 Spent Fuel Pool area and perform all the required actions.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE 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 #:

ADMIN-202

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 _____

Preferred Evaluation Method:

Perform Simulate _____

References:

PT/1/A/0600/001 (Periodic Instrument Surveillance), Encl. 13.1 (Mode 1 & 2) Page 37 of 38

Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve" of OP/0/A/1108/001 (Curves And General Information)

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. Import Admin-202 simulator files

Tools/Equipment/Procedures Needed:

- PT/1/A/0600/001 (Periodic Instrument Surveillance), Encl. 13.1 (Mode 1 & 2) Page 37 of 38
- 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 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:

- U2EOC20 outage in progress
- Unit 2 was shutdown (subcritical) on 4/20/05 at 0200
- Unit 2 core is defueled
- Current date and time: 4/25/05 at 1000
- PT/1/A/600/001, Enclosure 13.1 in progress

INITIATING CUES:

The SRO instructs you to continue with PT/1/A/600/001, Enclosure 13.1 starting at the top of page 37.

START TIME: _____

<p><u>STEP 1:</u> Determine if all fuel in SFP subcritical > maximum days specified on Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve"</p> <p><u>STANDARD:</u> 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 5 days and 8 hours. This is < than the maximum days specified on Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve".</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>..... SAT</p> <p>..... UNSAT</p>
<p><u>STEP 2:</u> Verify SFP level > specified on appropriate curve of Enclosure "Unit 1&2 Spent Fuel Pool Level Vs Temperature Curve".</p> <p><u>STANDARD:</u> Determine that the correct curve is "Day \geq 4.5 & \leq 6". Determine Spent Fuel Pool water temperature is 107°F by looking on the OAC. Determine Spent Fuel Pool water level is - 0.20 feet by looking on SFP Level gauge on 2AB3.</p> <p>Cue: When a SFP temperature indication is located indicate to the candidate that SFP temperature = 107°F (Use cue if performing in the Control Room)</p> <p>Determine Spent Fuel Pool water level is - 0.20 feet by looking on SFP Level gauge on 2AB3.</p> <p>Cue: When the Unit 1 & 2 SFP level indication is located indicate to the candidate that SFP level = - 0.2 feet. (Use cue if performing in the Control Room)</p> <p>Determine that SFP level is NOT > than the appropriate curve.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> If limit exceeded, SSF RCMUP is inoperable.</p> <p><u>STANDARD:</u> Declare Unit 1's SSF RCMUP inoperable.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>..... UNSAT</p>

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	Unit 1's 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 4/20/05 at 0200
- Unit 2 core is defueled
- Current date and time: 4/25/05 at 1000
- PT/1/A/600/001, Enclosure 13.1 in progress

INITIATING CUES:

The SRO instructs you to continue with PT/1/A/600/001, Enclosure 13.1 starting at the top of page 37.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-203

**Complete Plant Configuration Sheet
(Time to Core Boil)**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Complete Plant Configuration Sheet (Time to Core Boil)

Alternate Path:

No

Facility JPM #:

NEW

K/A Rating(s):

System: GEN
K/A: 2.2.18
Rating: 2.3/3.6

Task Standard:

Tables in OP/0/A/1108/001 are used to determine Total Loss Of DHR Time to Boil

Preferred Evaluation Location:

Simulator X In-Plant _____

Preferred Evaluation Method:

Perform X Simulate _____

References:

OP/0/A/1108/001 (Curves and General Information) Enclosure 3.46 (Total Loss of DHR Time to Boil)

Validation Time: 11 minutes

Time Critical: NO

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

OP/0/A/1108/001 (Curves and General Information) Enclosure 3.46 (Total Loss of DHR Time to Boil)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

- Unit 1 was shutdown on 4/9/05 at 0400
- Site Directive 1.3.5 (Shutdown Protection Plan) Attachment 9.3.A is being prepared for this shift.

INITIATING CUES:

The SRO instructs you to complete the Plant Configuration Sheet by calculating the "Time To Core Boil".

START TIME: _____

<p><u>STEP 1:</u> Refer to enclosure 3.46 of OP/0/A/1108/001 Choose the appropriate table</p> <p><u>STANDARD:</u> Refer to enclosure 3.46 of OP/0/A/1108/00 and use the "Prior to Core Offload, Initial Temp = 110°F; Time to Boil in Minutes" table.</p> <p><u>COMMENTS:</u></p>	<p>____ SAT</p> <p>____ UNSAT</p>
<p><u>STEP 2:</u> Determine the number of days the reactor has been shutdown.</p> <p><u>STANDARD:</u> Determine the reactor has been shutdown for 3 days.</p> <p><u>COMMENTS:</u></p>	<p>____ SAT</p> <p>____ UNSAT</p>
<p><u>STEP 3:</u> Determine time to boil.</p> <p><u>STANDARD:</u> Determine time to boil is 21.6 minutes by using 3 days and 80 inches on LT-5.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
3	Required to determine the time for core boil.

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

INITIAL CONDITIONS:

- Unit 1 was shutdown on 4/9/05 at 0400
- Site Directive 1.3.5 (Shutdown Protection Plan) Attachment 9.3.A is being prepared for this shift.

INITIATING CUES:

The SRO instructs you to complete the Plant Configuration Sheet by calculating the "Time To Core Boil".

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-302

**Calculate the Maximum Permissible Stay Time
Within Duke Power Basic Administrative Limits**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Calculate the Maximum Permissible Stay Time Within Duke Power Basic Administrative Limits

Alternate Path:

N/A

Facility JPM #:

Now

K/A Rating(s):

Gen 2.3.4 2.5/3.1

Task Standard:

Calculate the Maximum Permissible Stay Time Within Duke Power Basic Administrative Limits

Preferred Evaluation Location:

Simulator _____ In-Plant X

Preferred Evaluation Method:

Perform X Simulate _____

References:

NSD-507, Radiation Protection

Validation Time: 13 min.

Time Critical: NO

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

Room 217 (Seal Supply Filter) Plan View

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. Today's date: 06-20-05
2. 2B Seal Supply Filter is required to be repaired.
3. The Maintenance technician selected to perform the isolation has the following dose history:
 1. 1120 mrem TEDE received this year
 2. 570 mrem TEDE received this quarter
4. The technician will receive 20 mrem during transit to the Seal Supply Filter room due to high dose rates in the auxiliary building and the route the he is required to take.

INITIATING CUE:

Refer to the plan view for Unit 2 Seal Supply Filter Room and the RWP to determine how long the technician can stay in the room before being required to exit.

START TIME: _____

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

<p><u>STEP 1:</u> Determine general area dose rate in room 217 (Seal Supply Filter) from Plan View.</p> <p><u>STANDARD:</u> Plan View is referenced and the general area dose rate is determined to be 140 mr/hr at the "2B" Seal Supply Filter.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Calculate maximum stay time</p> <p><u>STANDARD:</u> Stay time is calculated to be:</p> $\frac{\text{Available Dose}}{\text{Dose Rate}} = \frac{50 \text{ mrem} - (20 \text{ mrem})}{140 \text{ mrem/hr}} = \mathbf{0.214 \text{ hrs (12.9 min)}}$ <p>Note: The technician must leave the room when his ED alarms (set at 50mrem).</p> <p>Note: The 20 mrem is the dose the technician will receive in transient to the job.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

TIME STOP: _____

Follow up questions:

1. How did you arrive at your answer?

2. Are there any other administrative requirements that will limit your stay?

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
2	Required to calculate stay time.

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

INITIAL CONDITIONS:

1. Today's date: 06-20-05
2. 2B Seal Supply Filter is required to be repaired.
3. The Maintenance technician selected to perform the isolation has the following dose history:
 3. 1120 mrem TEDE received this year
 4. 570 mrem TEDE received this quarter
4. The technician will receive 20 mrem during transit to the Seal Supply Filter room due to high dose rates in the auxiliary building and the route the he is required to take.

INITIATING CUE:

Refer to the plan view for Unit 2 Seal Supply Filter Room and the RWP to determine how long the technician can stay in the room before being required to exit.

OCONEE NUCLEAR STATION

Worker Version

06/13/05 15:37

Radiation Work Permit #: **5007**

Revision #: **15**

Job Title: UNITS 1,2 & 3 AUX. BLDG. REMOVAL AND REPLACEMENT OF
SEAL SUPPLY & RETURN FILTERS

ED (MG) Set Points

Dose Alarm: **50 mrem**

Dose Rate Alarm: **5000 mrem/hr**

Dress Category, Task Description, Special Dosimetry and Respiratory Requirements

Contact RP for Dress Category,
Additional Dosimetry & Respiratory
Requirements

Comments/Special Instructions

- * EXPECTED RADIOLOGICAL CONDITIONS:
- * GENERAL AREA DOSE RATES DURING FILTER REMOVAL = 0.1 - 7000 MREM/HR.
- * "EXTRA HIGH RADIATION AREA" DOSE RATES: (HC = HIGH CONTACT, GA = GENERAL AREA @ 30 CM).
- * HC ON FILTER HOUSINGS / FILTERS = 1000 - 50,000 MREM/HR.
- * GA @ FILTER HOUSINGS / FILTERS AND ASSOCIATED ROOMS = 1000 - 7000 MREM/HR.
- * CONTAMINATION LEVELS: <1000 DPM/100CM2 - 300 MRAD/HR BETA-GAMMA & 4625 DPM/100CM2 ALPHA
- * *
- * PRE-JOB BRIEFING REQUIRED
- * *
- * RP / RWP HOLD POINTS:
- * NOTIFY RP PRIOR TO START OF WORK
- * NOTIFY RP IF JOB SCOPE CHANGES
- * ACTUAL DOSE RATES HIGHER THAN DOCUMENTED ON THIS RWP
- * ACTUAL CONTAMINATION LEVELS HIGHER THAN DOCUMENTED ON THIS RWP
- * UNEXPECTED WET CONDITIONS
- * *
- * MAXIMUM STAY TIME: 16 HOURS

Activation Date & Time: 02/17/05 18:00

Approval Date & Time: 02/17/05 11:46

Approved By: MDB8875

Termination Date & Time:

Terminated By:

OCONEE NUCLEAR STATION

Worker Version

06/13/05 15:37

Radiation Work Permit #: **5007**

Revision #: **15**

Job Title: UNITS 1,2 & 3 AUX. BLDG. REMOVAL AND REPLACEMENT OF
SEAL SUPPLY & RETURN FILTERS

Comments/Special Instructions - - (Continued)

- * MONITOR ED (MG) PERIODICALLY WHILE INSIDE THE RCA/RCZ (ONCE OR TWICE PER HOUR IN LOW DOSE RATE AREAS, IN HIGHER DOSE RATE AREAS MONITOR MORE FREQUENTLY: FOR EXAMPLE EVERY 10 TO 15 MINUTES)
- * UTILIZE FACE SHIELDS AS DIRECTED BY RP
- * IF DRESS REQUIREMENTS PREVENT THE MONITORING OF ED AND RP IS NOT REMOTELY MONITORING VIA TELEDOSE & COMMUNICATIONS, PLACE ED EXTERNAL TO THE OUTERMOST LAYER OF PROTECTIVE CLOTHING.
- * AN AUXILIARY ALARM DEVICE IS REQUIRED IN HIGH RADIATION AREAS WHEN HEARING PROTECTION IS REQUIRED AND THE EXPECTED DOSE IS GREATER THAN OR EQUAL TO 100 MREM.
- * AN AUXILIARY ALARM DEVICE IS NOT REQUIRED IF CONTINUOUS RP COVERAGE IS PROVIDED OR IF REMOTE MONITORING EQUIPMENT IS BEING USED

Activation Date & Time: 02/17/05 18:00

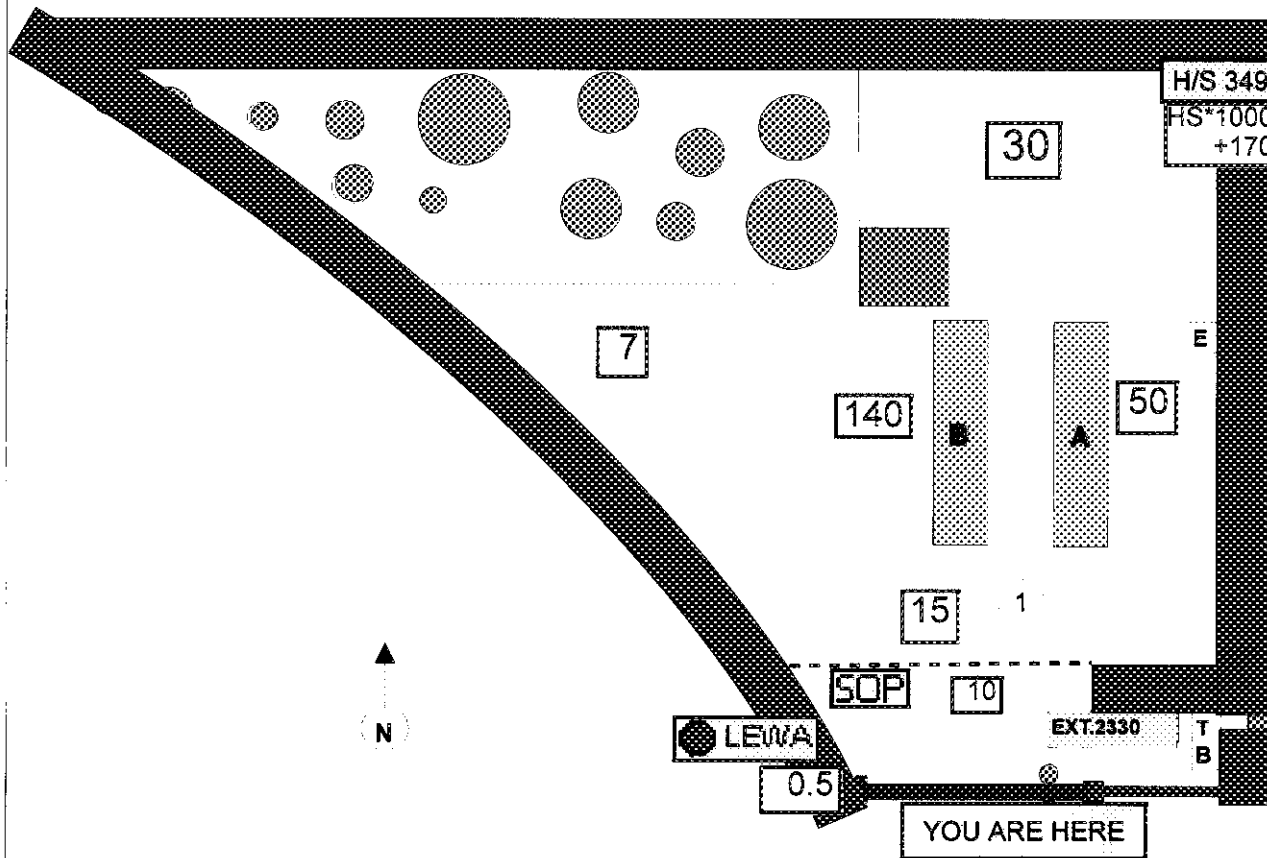
Approval Date & Time: 02/17/05 11:46

Approved By: MDB8875

Termination Date & Time:

Terminated By:

RM 217 SEAL SUPPLY FILTERS



Comments: 1000/54 ROUTINE. CLEAN AREA MASSLINN WIPES 20-40 CCPM. PLANVIEW UPDATED.

Summary of Highest Readings

Smears	Air Samples & Wipes
--------	---------------------

1) 2000 DPM/100 cm² β/y

<p>Symbol Legend (for example only)</p> <p>150 - Contact Reading + 75 - 30 cm Reading 20 - General Area</p> <p>HS-50 - Hot Spot RCA - Posting [] - Data Bag</p> <p>15 - Smear 15 - Air Sample 15 - Wipe</p>		<p>Type: Monthly</p> <p>RWP: 15</p> <p>Reactor Power = 100%</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------

Unless otherwise noted, dose rates in mrem/hr.

Surveyor: M. Blackwell

SURVEY NOT APPROVED

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-405

**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 #:

New

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

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

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:

Unit 2 at 100% power

0900: Reactor trip due a Sheared RCP shaft on 2A1 RCP

0900: Control Room has indications that the 2A1 RCP Seals have failed

0904: ES 1 & 2 actuated

- RCS pressure = 1580 psig and decreasing
- RB pressure = 4.7 psig and increasing
- The 2A HPI pump fails to Auto start and can not be started manually

0910: RCS Saturated and stable at 1000 psig. All RCPs have been secured

- RB pressure peaks at 9.7 psig

0920: 2RIA-57 reads 350 R/HR and stable

0920: RB Pressure = 0.2 psig and stable

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.

Note: Do not use Emergency Coordinator's judgment while classifying the event. When required, an operator will maintain the Emergency Coordinator's Log and assume the duties of the Control Room Offsite Communicator.

START TIME: _____

<p><u>STEP 1:</u> Classify the Event</p> <p><u>STANDARD:</u> Refer to RP/0/B/1000/01 (Emergency Classification) Enclosure 4.6 (Fires/Explosions and Security Actions). Classify the event as a "General Emergency" due to following:</p> <p>Fission Product Barrier Matrix</p> <ul style="list-style-type: none"> • 5 points for RCS Barriers due to 1RIA-57 reading • 5 points for Fuel Clad Barriers due to 1RIA-57 reading • 3 points for Containment Barriers due to (Rapid unexplained containment pressure decrease after increase" <p>13 points total results in a General Emergency</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Determine Protective Action Recommendations</p> <p><u>STANDARD:</u> Refer to RP/0/B/1000/002 (Control Room Emergency Coordinator Procedure) and GO TO Enclosure 4.1 (General Emergency)</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Step 1.1 IF It has been determined that an Emergency Action Level for an Initiating Conditions has been met, THEN Declare a General Emergency Time of Declaration: _____</p> <p><u>STANDARD:</u> Determine Initiating Conditions have been met and Declare a General Emergency due to: "Fission Product Barrier Matrix" Determine Time of Declaration is present time.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 4:</u> Step 1.2 Appoint a person to maintain the Emergency Coordinator Log OR maintain the log yourself.</p> <p><u>STANDARD:</u> A person is appointed to maintain the Emergency Coordinator Log or indicate that you will maintain the log.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Step 1.3 Appoint Control Room Offsite Communicator(s).</p> <p><u>STANDARD:</u> A Control Room Offsite Communicator is appointed.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> Step 1.4 Provide the Protective Action Recommendations for use by the Offsite Communicator to complete the Emergency Notification Form.</p> <p><u>STANDARD:</u> Determine from chart that the following Protective Action Recommendations should be given:</p> <p>Evacuate sectors: Pickens County – A0, A1, B1, C1; Oconee County – A0, D1, E1, F1</p> <p>Shelter sectors: Pickens County – A2, B2, C2; Oconee County – D2, E2, F2</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

TIME STOP:

CRITICAL STEP EXPLANATIONS:

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

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

INITIAL CONDITIONS:

Unit 2 at 100% power

0900: Reactor trip due a Sheared RCP shaft on 2A1 RCP

0900: Control Room has indications that the 2A1 RCP Seals have failed

0904: ES 1 & 2 actuated

- RCS pressure = 1580 psig and decreasing
- RB pressure = 4.7 psig and increasing
- The 2A HPI pump fails to Auto start and can not be started manually

0910: RCS Saturated and stable at 1000 psig. All RCPs have been secured

- RB pressure peaks at 9.7 psig

0920: 2RIA-57 reads 350 R/HR and stable

0920: RB Pressure = 0.2 psig and stable

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.

Note: Do not use Emergency Coordinator's judgment while classifying the event. When required, an operator will maintain the Emergency Coordinator's Log and assume the duties of the Control Room Offsite Communicator.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

**CRO-107
With Reactor Critical,
Increase Power From 1.5% to 15%**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

With the Reactor Critical, increase power from 1.5% to 15%

Alternate Path:

No

Facility JPM #:

CRO-107

K/A Rating(s):

System: 001

K/A: A3.01

Rating: 4.1/4.0

Task Standard:

1. Follow procedure correctly and place the ICS in automatic.
2. Increase reactor power within the allowable maneuvering limit and heatup limit.
3. Maintain Pressurizer level <260 inches.

Preferred Evaluation Location:

Simulator In-Plant

Preferred Evaluation Method:

Perform Simulate

References:

OP/1/A/1102/01, Enclosure 4.17, Unit Startup From 532°F And 2155 psig

PT/0/A/1103/020 (Power Maneuvering Predictions)

Validation Time: 30 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 Snap 204
2. Recall Snap 216 when directed by the examiner.
3. Go to RUN

Tools/Equipment/Procedures Needed:

OP/1/A/1102/01, Enclosure 4.17, Unit Startup From 532°F and 2155 psig
PT/0/A/1103/020 (Power Maneuvering Predictions)

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 operated at 100% power for 128 days and was then shut down for a tube leak

Unit was shut down for 8 days

A reactor startup is in progress

Reactor power is $\approx 1.5\%$

Criticality was achieved within the acceptable limits of the ECP

No LCOs in effect

No equipment is OOS at this time

INITIATING CUES:

You are to continue with the reactor startup at step 2.36 of Enclosure 4.17 of OP/1/A/1102/01, Controlling Procedure for Unit Startup. The Control Room SRO has directed you to maintain Pressurizer level <260 inches.

START TIME: _____

Cue: Inform the students that all previous steps have been satisfactorily completed; however, the Limits and Precautions should be reviewed.

<p><u>STEP 1:</u> Step 2.36 Increase reactor power to $\approx 3\%$.</p> <p><u>STANDARD:</u> Manually withdraw Control Rods to increase reactor power to 3%. Continue to Step 2.37</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 2.37 Place the Reactor Master and the Diamond in "AUTO".</p> <p><u>STANDARD:</u> The Reactor Master ICS Bailey control is located on 1UB1. The red AUTO pushbutton is depressed, and the white MANUAL light is observed to go OFF and the red AUTO light is observed to come ON.</p> <p> The Diamond Panel is located on 1UB1 and the AUTO/MANUAL button is depressed. The MANUAL indicating light is observed to go OUT and the AUTO indicating light is observed to come ON.</p> <p> Continue to Step 2.38</p> <p>NOTE: Reactor Power MUST be $\geq 2\%$ in order for the ICS to go into AUTO.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Step 2.38 Ensure complete Enclosure "Prior To Entry Into MODE1" of PT/1/A/0630/001 (Mode Change Verification).</p> <p><u>STANDARD:</u> Ensure complete Enclosure "Prior To Entry Into MODE1" of PT/1/A/0630/001 (Mode Change Verification).</p> <p> Continue to Step 2.39</p> <p>Cue: Inform candidate that Enclosure "Prior To Entry Into MODE1" of PT/1/A/0630/001 (Mode Change Verification) is complete.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 4:</u> Step 2.39 Review mechanical maneuvering rates and allowable ramp rates in PT/0/A/1103/020 (Power Maneuvering Predictions).</p> <p><u>STANDARD:</u> Review PT/0/A/1103/020 and determine that the maneuvering rate in affect is $\leq 30\%$/hour up to 100% power. (Fully conditioned fuel-return to power) Continue to Step 2.40</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Step 2.40 Begin power increase to 15% to 19% as follows:</p> <ul style="list-style-type: none"> • Perform Enclosure 4.23 "CTP Adjustments". • During power increase, begin adjusting 1HP-120 (RC VOLUME CONTROL) setpoint to 220". <p><u>STANDARD:</u> Continue to Enclosure 4.23 "CTP Adjustments". Begin adjusting 1HP-120 (RC VOLUME CONTROL) setpoint to 220". Continue to Step 1.1</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> Enclosure 4.23 "CTP Adjustments" Step 1.1 Verify REACTOR MASTER in "AUTO".</p> <p><u>STANDARD:</u> REACTOR MASTER is verified in "AUTO" by observing the "AUTO" light is illuminated on the reactor bailey. Continue to Step 1.2</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 7:</u> Enclosure 4.23 "CTP Adjustments" Step 1.2 Verify DIAMOND in "AUTO".</p> <p><u>STANDARD:</u> DIAMOND is verified in "AUTO" by observing the "AUTO" light is illuminated on the Diamond. Continue to Step 1.3</p> <p><u>COMMENTS:</u></p>	<p>____ SAT</p> <p>____ UNSAT</p>
<p><u>STEP 8:</u> Enclosure 4.23 "CTP Adjustments" Step 1.3 Review Limits And Precautions.</p> <p><u>STANDARD:</u> Limits And Precautions are reviewed. Continue to Step 2.1</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Enclosure 4.23 "CTP Adjustments" Step 2.1 IF hold in power is desired, ensure "HOLD" selected.</p> <p><u>STANDARD:</u> Select "HOLD" if desired. Continue to Step 2.2</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 10:</u> Enclosure 4.23 "CTP Adjustments" Step 2.2 IF hold in power NOT required, ensure "HOLD" is NOT selected.</p> <p><u>STANDARD:</u> De-select "HOLD" if desired. Continue to Step 2.3</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>CAUTION: Do NOT exceed power level allowed in controlling enclosure.</p> <p><u>STEP 11:</u> Enclosure 4.23 "CTP Adjustments" Step 2.3 IF change in power/rate is desired,</p> <p><u>STANDARD:</u> Determine a change in power/rate is desired. Continue to Step 2.3.1</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 12: Step 2.3.1</p> <p>Review the following regarding current power change:</p> <ul style="list-style-type: none"> • PT/0/A/1103/020 (Power Maneuvering Guidelines) • If applicable, PT/0/A/0811/001 (Power Escalation Test) • If applicable, Maneuvering Plan • Core Operating Limits Report: <ul style="list-style-type: none"> ○ CRD Groups 5-8 position limits ○ Core Power Imbalance limits ○ Quadrant Power Tilt limits <p>STANDARD: Review PT/0/A/1103/020 (Power Maneuvering Guidelines) regarding current power change.</p> <p>Note: Candidate may elect not to review Power Maneuvering Guidelines because they were just reviewed.</p> <p>Cue: Inform candidate that the Maneuvering Plan states power should be increased at 30%/hr (0.5%/min).</p> <p>Cue: Inform candidate that other parts of this step will be performed by the SRO.</p> <p style="text-align: center;">Continue to Step 2.3.2</p> <p>COMMENTS:</p>	<p style="text-align: right;">____ SAT</p> <p style="text-align: right;">____ UNSAT</p>
<p>STEP 13: Step 2.3.2</p> <p>Ensure "HOLD" is selected.</p> <p>STANDARD: Ensure "HOLD" is selected by depressing the "HOLD" pushbutton and verifying the light illuminates.</p> <p style="text-align: center;">Continue to Step 2.3.3</p> <p>COMMENTS:</p>	<p style="text-align: right;">____ SAT</p> <p style="text-align: right;">____ UNSAT</p>

<p><u>STEP 14:</u> Step 2.3.3 Ensure selected "%/MIN" or "%/HR" on "RATE SET" pushbutton.</p> <p><u>STANDARD:</u> Ensure "%/MIN" or "%/HR" on "RATE SET" pushbutton is selected. Continue to Step 2.3.4</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 15:</u> Step 2.3.4 Ensure desired rate selected on "RATE SET" thumbwheels.</p> <p><u>STANDARD:</u> Select desired rate on the RATE SET thumbwheels to stay within maneuvering limit and heatup limit. Select .5%/min. Continue to Step 2.3.5</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 16:</u> Step 2.3.5 Ensure rate selected is within above limits.</p> <p><u>STANDARD:</u> Rate selected is determined to be within above limits. Continue to Step 2.3.6</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 17:</u> Step 2.3.6 Insert desired CTPD SET using "INCREASE/DECREASE" pushbuttons.</p> <p><u>STANDARD:</u> CTPD SET should be set to 15% - 19% power using the "INCREASE" pushbutton. Continue to Step 2.3.7</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 18:</u> Step 2.3.7 Ensure CTPD SET is within above limits.</p> <p><u>STANDARD:</u> CTPD SET is determined to be within above limits. Continue to Step 2.3.8</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 19:</u> Step 2.3.8 Ensure "HOLD" is NOT selected.</p> <p><u>STANDARD:</u> Ensure "HOLD" is NOT selected by verifying the "HOLD" light is not illuminated.</p> <p>Note: Power will begin to increase when the "HOLD" button is depressed.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 20: Increase reactor power to 15% to 19% and maintain PZR level < 260”.</p> <p>STANDARD: Power is increased at less than 30%/hour and PZR level is maintained < 260”.</p> <p>Adjust letdown flow and/or adjust RATE SET thumbwheels to control Pressurizer level <260 inches during the heatup.</p> <p>OR</p> <p>The candidate may select “HOLD” as required to stabilize plant conditions</p> <p>Cue: Another operator will complete required steps in the S/U procedure until 15% power is reached. Continue reactor power increase to 15% to 19% and maintain PZR level < 260”.</p> <p>Note: When directed by the examiner the simulator will be recalled with PZR level at ≈ 240 inches.</p> <p>Cue: Inform the candidate that TIME COMPRESSION is being used and the simulator will be recalled 25 minutes from now.</p> <p>Note: When the candidate demonstrates that the power increase can be performed and the plant maintained within the guidelines of the JPM, the examiner may terminate the JPM</p> <p>COMMENTS:</p> <p style="text-align: center;">END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
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STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Required to increase reactor power.
2	Required to place ICS in AUTO.
19	Power will not increase unless the HOLD button is depressed.
20	Required to increase power and maintain PZR level < 260 inches.

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

INITIAL CONDITIONS:

Unit operated at 100% power for 128 days and was then shut down for a tube leak

Unit was shut down for 8 days

A reactor startup is in progress

Reactor power is $\approx 1.5\%$

Criticality was achieved within the acceptable limits of the ECP

No LCOs in effect

No equipment is OOS at this time

INITIATING CUES:

You are to continue with the reactor startup at step 2.36 of Enclosure 4.17 of OP/1/A/1102/01, Controlling Procedure for Unit Startup. The Control Room SRO has directed you to maintain Pressurizer level < 260 inches.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

CRO-200

**Re-establish RCP Seal Injection and Normal RCS
Makeup following loss of operating HPI Pump**

CANDIDATE

EXAMINER

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Task:

Re-establish RCP Seal Injection and Normal RCS Makeup following loss of operating HPI Pump

Alternate Path:

NO

Facility JPM #:

CRO-200

K/A Rating(s):

System: APE 022
K/A: AA1.01
Rating: 3.4/3.3

Task Standard:

AP/14, Loss of Normal HPI Makeup and/or RCP Seal Injection, is used to Re-establish RCP Seal Injection and Normal RCS Makeup.

Preferred Evaluation Location:

Simulator X In-Plant _____

Preferred Evaluation Method:

Perform X Simulate _____

References:

AP/14, Loss of Normal HPI Makeup and/or RCP Seal Injection

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. Import files for CRO-200
3. Go to run
4. When directed by examiner Fire timer 1

Tools/Equipment/Procedures Needed:

AP/14, Loss of Normal HPI Makeup and/or RCP Seal Injection

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

Unit 1 in MODE 1 at 100% power
No equipment OOS

INITIATING CUES:

Respond to plant conditions.

START TIME: _____

<p>STEP 1: Refer to ARG for Statalarms 1SA-2/B-2 (RCP Seal Inlet Header Flow Hi/Low) and 1SA-2/C-2 (Injection Pump Discharge Header Pressure Low) and then refer to AP/14, Loss of Normal HPI Makeup and/or RCP Seal Injection.</p> <p>STANDARD: Candidate refers to ARG for Statalarms 1SA-2/B-2 (RCP Seal Inlet Header Flow Hi/Low) and/or 1SA-2/C-2 (Injection Pump Discharge Header Pressure Low) and then refers to AP/14, Loss of Normal HPI Makeup and/or RCP Seal Injection.</p> <p>Cue: <i>If candidate informs the SRO that the 1A HPI has a sheared shaft and would like to secure the 1A HPI pump, inform him to "secure the 1A HPI pump".</i></p> <p>Cue: <i>If candidate informs the SRO that a loss of HPI has occurred and AP/14, Loss of Normal HPI Makeup and/or RCP Seal Injection should be entered; as the SRO, concur that he should perform AP/14, Loss of Normal HPI Makeup and/or RCP Seal Injection.</i></p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 2: Step 3.1</p> <p>IAAT RCP seal injection flow is lost, AND Component Cooling is lost, THEN perform the following:</p> <ul style="list-style-type: none"> • Trip the Rx. • Stop <u>all</u> RCPs. • Initiate AP/25 (SSF EOP). <p>STANDARD: Determine that this IAAT step does not apply because Component Cooling is available by observing 1A CC pump operating, about 900 gpm total CC flow.</p> <p>Continue to Step 3.2</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 3:</u> Step 3.2</p> <p>IAAT loss of suction to operating HPI pumps is indicated:</p> <ul style="list-style-type: none"> • Motor amps low or cycling • Discharge pressure low or cycling • Abnormal LDST level trend <p>THEN GO TO Step 3.3.</p> <p><i>Cue: If asked, indicate that none of the above conditions existed when the HPI pumps failed.</i></p> <p><u>STANDARD:</u> Determine that a loss of suction to the HPI pumps has not occurred observing LDST level, pressure and HPI pump suction flow path. Use the RNO step to GO TO Step 4.7. Continue to Step 4.7</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>..... UNSAT</p>
<p><u>STEP 4:</u> Step 4.7 Announce AP entry using PA system.</p> <p><u>STANDARD:</u> Candidate announces AP entry using the PA system. Continue to Step 4.8</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Step 4.8 Verify <u>any</u> HPI pump operating.</p> <p><u>STANDARD:</u> Determine that NO HPI pumps are operating. The 1A HPI pump has no “amps” and the 1B HPI pump has not auto started. Perform the RNO steps. Continue to Step 4.8 RNO</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 6:</u> Step 4.8 RNO (1) Close 1HP-5 (Letdown Isolation).</p> <p><u>STANDARD:</u> 1HP-5 located on 1UB1 is closed.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 7:</u> Step 4.8 RNO (2) Ensure 1HP-120 (RC Volume Control) in HAND and closed.</p> <p><u>STANDARD:</u> 1HP-120, located on 1UB1 is placed in HAND by depressing the white button and using the toggle switch to close 1HP-120 (Green position indicating light and "0" demand).</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> Step 4.8 RNO (3) Place 1HP-31 (RCP Seal Flow Control) in HAND and close.</p> <p><u>STANDARD:</u> 1HP-31, located on 1UB1 is placed in HAND by depressing the white button and using the toggle switch to close 1HP-31 (Green position indicating light and "0" demand)..</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Step 4.8 RNO (4) Attempt to start the standby HPI pump.</p> <p><u>STANDARD:</u> "1B" HPI pump, located on 1UB1 is started by taking the switch to the START position. Pump verified to be operating by red "on" light and pump amps.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 10:</u> Step 4.8 RNO (5) IF standby HPI pump started, THEN GO TO Step 4.115.</p> <p><u>STANDARD:</u> Determine that the 1B HPI pump started by observing pump amps and discharge pressure > 3000 psig on 1UB1. GO TO Step 4.115.</p> <p>Continue to Step 4.115</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>___ UNSAT</p>
<p><u>STEP 11:</u> Step 4.115 Place 1HP-31 (RCP Seal Flow Control) in HAND.</p> <p><u>STANDARD:</u> Verify 1HP-31, located on 1UB1, in HAND by observing the white HAND light lit.</p> <p>Continue to Step 4.116</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 12:</u> Step 4.116 <u>Slowly</u> open 1HP-31 (RCP Seal Flow Control) in small increments until ≈ 8 gpm/RCP is achieved.</p> <p><u>STANDARD:</u> Use the toggle switch to slowly open 1HP-31 until ≈ 8 gpm/RCP is achieved. RCP Seal flow to each RCP is monitored on VB3.</p> <p>Continue to Step 4.117</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 13:</u> Step 4.117 Re-establish normal makeup through 1HP-120 (RC Volume Control).</p> <p><u>STANDARD:</u> 1HP-120 is returned to normal by:</p> <ul style="list-style-type: none"> • Slowly opening 1HP-120 with the toggle switch to establish makeup flow. Monitor RC Makeup Flow gauge located on 1UB1 to determine makeup rate. • *When PZR level is near setpoint (220") 1HP-120 may be placed in auto. <p>*Step not critical.</p> <p><i>Cue: When normal makeup has been re-established, inform the candidate that this JPM is complete.</i></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME:

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
7	1HP-31 should be closed prior to restarting an HPI pump to prevent RCP seal damage from hydraulic shock.
8	An HPI pump must be started to reestablished RCP seals and normal makeup.
11	1HP-31 must be opened to establish RCP seal flow.
12	1HP-120 must be opened to establish normal makeup.

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

INITIAL CONDITIONS:

Unit 1 in MODE 1 at 100% power
No equipment OOS

INITIATING CUES:

Respond to plant conditions.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

**CRO-075
INITIATE AUTOMATIC PRESSURIZER SPRAY**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Initiate Automatic Pressurizer spray

Alternate Path:

Yes

Facility JPM #:

CRO-075

K/A Rating(s):

010 A2.02 (3.9 / 3.9)

Task Standard:

Automatic pressurizer spray is properly initiated by procedure. 1RC-3 is closed to terminate the depressurization.

Preferred Evaluation Location:

Simulator In-Plant

Preferred Evaluation Method:

Perform Simulate

References:

OP/1/A/1103/05, Pressurizer Operation, Enclosure 4.1

Validation Time: 12 min

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 SNAP 207
2. Import CRO-075
3. Go to RUN
4. After spray valve cycles open and then closes Activate Timer #1.

Tools/Equipment/Procedures Needed:

OP/1/A/1103/05 (Pressurizer Operation).

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

Unit 1 at 100% Rx Power

Greater than 50 ppm Boron difference exists between the RCS and Pressurizer.

INITIATING CUES:

SRO in Control Room instructs you to initiate automatic pressurizer spray to equalize boron concentration per OP/1/A/1103/05 (Pressurizer Operation) Enclosure 4.1 (Establishing Auto PZR Spray).

- Procedure has been completed up to Step 2.3.
- The affect of spraying the PZR on RCS boron has been determined and the SRO concurs that the affect is acceptable.
- Use heater banks 2, 3, and 4.

START TIME: _____

<p><u>STEP 1:</u> Review Limits and Precautions</p> <p><u>STANDARD:</u> Candidate reviews the in progress procedure OP/0/A/1103/05, Pressurizer Operation and begin at Step 2.3.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 2.1.1 Verify 1RC-1 (PZR SPRAY) in AUTO.</p> <p><u>STANDARD:</u> 1RC-1 (PZR SPRAY) controller is located by the candidate on 1UB1 and verified to be in AUTO, by observing the blue "AUTO" indication illuminated.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Step 2.1.2 Verify 1RC-3 (SPRAY BLOCK) OPEN.</p> <p><u>STANDARD:</u> 1RC-3 (SPRAY BLOCK) controller is located by the candidate on 1UB1 and verified to be full open, by observing the red "OPEN" indication illuminated and the green "CLOSED" indication extinguished</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>..... UNSAT</p>
<p><u>STEP 4:</u> Step 2.1.3 Place PZR Heaters to ON.</p> <p><u>STANDARD:</u> Pressurizer Heater banks 2, 3, and/or 4 are located by the candidate on 1UB1. The candidate energizes Pressurizer Heater banks 2, 3, and 4 by depressing the red ON pushbutton on each heater bank, and the red ON indication illuminated.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>..... SAT</p> <p>___ UNSAT</p>

<p>STEP 5: Step 2.1.4 Ensure 1RC-1 (PZR SPRAY) cycles to control RCS pressure.</p> <p>STANDARD: The candidate monitors RCS pressure by observing: RCS PRESSURE WR or NR chart recorders on 1UB1, OR RCS WR PRESS LOOP A or LOOP B meters on 1UB1, OR By use of the Operator Aid Computer. The candidate observes 1RC-1 (PZR Spray) on 1UB1 to ensure it opens automatically, at approximately 2205 psi. The candidate observes 1RC-1 (PZR Spray) valve to ensure it closes at approximately 2155 psi.</p> <p>NOTE: After 1RC-1 opens and cycles closed, it will fail open but indicate that it is closed. The candidate must recognize and stop the depressurization.</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>..... UNSAT</p>
<p>STEP 6: TERMINATE the depressurization.</p> <p>STANDARD: The candidate recognizes that the spray valve is still open with closed indication by RCS pressure trend. The candidate may attempt to close 1RC-1 (PZR Spray) manually by depressing the green CLOSE pushbutton on 1UB1 (1RC-1 will not close). The candidate will close 1RC-3 (Spray Block) by depressing and holding the green CLOSE pushbutton until the green "CLOSE" indication is illuminated and the red "OPEN" indication is extinguished on 1UB1.</p> <p>Note: If the candidate does not immediately close 1RC-3, RCS pressure will continue to decrease resulting in Statalarm 1SA-2/D-3 (RC Press High/Low) actuating. The ARG will give guidance to close the PZR spray and block valve.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 7:</u> STABILIZE RCS pressure</p> <p><u>STANDARD:</u> The candidate SHOULD monitor RCS pressure and recognize that the Pressurizer Heaters are still in manual and "ON".</p> <p>The candidate will place Pressurizer Heater Banks 2, 3, and 4 in AUTO, as required, by depressing the blue AUTO pushbuttons on Pressurizer Heater Banks 2, 3, and/or 4 controllers, and verify the blue back light comes on, on 1UB1.</p> <p>Cue: If asked as the SRO, give the candidate permission to place the Pressurizer Heaters in AUTO.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
4	Step 4 is necessary to increase the RCS pressure and make the spray valve cycle to equalize boron concentration between the RCS and the Pressurizer.
6	Step 6 is necessary because the candidate must realize that the spray valve has not closed even though it indicates closed and close 1RC-3 to terminate the depressurization. If not a reactor trip could occur.
7	Step 7 is necessary because the heaters will not cycle in manual. The candidate needs to realize this and place the heaters in AUTO so that pressure control can be re-established.

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

INITIAL CONDITIONS:

Unit 1 at 100% Rx Power

Greater than 50 ppm Boron difference exists between the RCS and Pressurizer.

INITIATING CUES:

SRO in Control Room instructs you to initiate automatic pressurizer spray to equalize boron concentration per OP/1/A/1103/05 (Pressurizer Operation) Enclosure 4.1 (Establishing Auto PZR Spray).

- Procedure has been completed up to Step 2.3.
- The affect of spraying the PZR on RCS boron has been determined and the SRO concurs that the affect is acceptable.
- Use heater banks 2, 3, and 4.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

CRO-096

**Align ECCS Suction from Emergency Sump
(LP-21 Fails to Close)**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Align ECCS Suction from Emergency Sump

Alternate Path:

YES

Facility JPM #:

CRO-096

K/A Rating(s):

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

Task Standard:

Enclosure 5.12, ECCS Suction Swap to RBES is properly completed to align ECCS from the Emergency sump.

Preferred Evaluation Location:

Simulator In-Plant

Preferred Evaluation Method:

Perform Simulate

References:

EP/1/A/1800/01, LOCA CD
Enclosure 5.12 (ECCS Suction Swap to RBES) of the EOP

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 206
2. Import files for CRO-096
3. Go to run
4. Timer 3 will lower BWST Level to < 9' if needed at step 5
5. Timer 4 will lower BWST Level to < 6' if needed at step 6

Note: Procedure should be placed in a binder.

Tools/Equipment/Procedures Needed:

Enclosure 5.12, ECCS Suction Swap to RBES, of the EOP

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

A large break LOCA has occurred which is depleting the BWST.

INITIATING CUES:

The Control Room SRO directs you to Align ECCS Suction from Emergency Sump per Enclosure 5.12, ECCS Suction Swap to RBES, of the EOP.

START TIME: _____

<p>STEP 1: Step 1 Start both of the following:</p> <ul style="list-style-type: none"> • 1A LPI Pump • 1B LPI Pump <p>STANDARD: Locates control switches for 1A and 1B LPI Pumps on 1UB2 and verifies red ON lights are illuminated and pump amps indicated.</p> <p>Continue to Step 2</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 2: Step 2 Verify <u>either</u> of the following exists:</p> <ul style="list-style-type: none"> • LPI FLOW TRAIN A <u>plus</u> LPI FLOW TRAIN B \geq 3400 gpm • Only one LPI header is operating, AND flow in that header is \geq 2900 gpm <p>STANDARD: Candidate should determine that step is met by observing LPI FLOW TRAIN A <u>plus</u> LPI FLOW TRAIN B is \geq 3400 gpm. Flow gauges are located on 1UB2.</p> <p>Continue to Step 3</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 3: Step 3 GO TO Step 51</p> <p>STANDARD: GO TO Step 51.</p> <p>Continue to Step 51</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 4: Step 51 WHEN BWST level is $\leq 15'$, THEN stop <u>all</u> HPI pumps.</p> <p>STANDARD: Locates the BWST level gauges on 1UB2. The candidate determines level to be $\leq 15'$. or May obtain BWST level from the OAC (Operator Aid Computer), at 1UB1, 1UB2, or STA monitor. or ICCM monitors on 1UB1. Places control switch for any operating HPI pump in the TRIP or PTL position and verifies <u>all</u> HPI pumps are not operating by the red ON lights not illuminated. Continue to Step 52</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>NOTE RB level of $\geq 2'$ is expected when BWST level reaches 9'.</p> </div> <p>STEP 5: Step 52 WHEN BWST level $\leq 9'$, AND RB level is rising, THEN continue procedure.</p> <p>STANDARD: Verifies BWST level < 9 feet on gauges on 1UB2 or from the OAC (1UB1, 1UB2, or STA monitor) or the ICCM monitors on 1UB1. Continue to Step 53</p> <p>Cue: <i>If needed, inform candidate that using time compression BWST level will be lowered to $< 9'$ and RB level will be increased.</i></p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 6:</u> Step 53 Simultaneously open the following:</p> <ul style="list-style-type: none"> • 1LP-19 (1A RB Suction) • 1LP-20 (1B RB Suction) <p><u>STANDARD:</u> Candidate locates the control switch for 1LP-19 ('1A' RX. BLDG. SUCTION) on 1UB2 and rotates the switch in the OPEN direction. Verifies red OPEN light comes on, and green CLOSED light goes off. Then locates the control switch for 1LP-20 ('1B' RX. BLDG. SUCTION) on 1UB2 and rotates the switch in the OPEN direction. Verifies red OPEN light comes on, and green CLOSED light goes off.</p> <p>Continue to Step 54</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 7:</u> Step 54 IAAT BWST level \leq 6', THEN perform Steps 55 – 58.</p> <p><u>STANDARD:</u> Candidate verifies BWST level \leq 6' using: BWST level gauges on 1UB2. BWST level from the OAC, at 1UB1, 1UB2, or STA monitor. ICCM monitors on 1UB1.</p> <p>When BWST level is \leq 6' go to the IAAT step and then perform Steps 55 through 58</p> <p>Continue to Step 55</p> <p><i>Cue: If needed, inform candidate that using time compression BWST level will be lowered to < 6' and RB level will be increased.</i></p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 8:</u> Step 55 Verify 1LP-19 (1A RB Suction) open.</p> <p><u>STANDARD:</u> Locates the control switch for 1LP-19 on 1UB2 and verifies red OPEN light is illuminated.</p> <p>Continue to Step 56</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Step 56 Verify 1LP-20 (1B RB Suction) open.</p> <p><u>STANDARD:</u> Locates the control switch for 1LP-19 on 1UB2 and verifies red OPEN light is illuminated.</p> <p>Continue to Step 57</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 10:</u> Step 57 Simultaneously close the following:</p> <ul style="list-style-type: none"> • Close 1LP-21 (1A LPI BWST Suction) • Close 1LP-22 (1B LPI BWST Suction) <p><u>STANDARD:</u> Locates the controls for 1LP-21 on the RZ module and depresses the MANUAL pushbuttons for ES channels 3 and 7, on 1VB2. The candidate then locates the control switch for 1LP-21 on 1UB2 and rotates it in the CLOSE direction.</p> <p>Note: 1LP-21 will not close.</p> <p>Locates the controls for 1LP-22 on the RZ module and depresses the MANUAL pushbuttons for ES channels 3 and 7, on 1VB2. The candidate then locates the control switch for 1LP-22 on 1UB2 and rotates it in the CLOSE direction.</p> <p>Candidate should recognize that 1LP-21 did not close and then perform RNO.</p> <p>Continue to Step 57 RNO</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 11:</u> Step 57 RNO IF 1LP-21 fails to close, THEN perform the following:</p> <ul style="list-style-type: none"> • Stop 1A LPI PUMP. • Stop 1A RBS PUMP. <p><u>STANDARD:</u> Locates RB Spray Pump "A" control on ES RZ module on 1VB2. MANUAL pushbutton for ES channel 8 is depressed. Green OFF pushbutton is depressed and verified lit, while white RUN light is off.</p> <p>Locates LPI Pump "A" control on 1UB2 and turns pump switch to "off". Red light is verified off and white light verified on.</p> <p>Continue to Step 58</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 12:</u> Step 58 Dispatch an operator to close 1LP-28 (BWST Outlet) (East of Unit 1 BWST).</p> <p>Cue: An operator has been dispatched to close 1LP-28.</p> <p><u>STANDARD:</u> An operator is Dispatch an operator to close 1LP-28 (BWST Outlet) (East of Unit 1 BWST).</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
6	Aligns LPI Pump suction to Reactor Building Emergency Sump.
10	Secures LPI Pump suction from the BWST.
10	Secures 1B LPI pump – prevents pump damage. Secure 1B RBS pump – Limits flow in suction line to maintain adequate flow for the LPI pump.
11	1A LPI and 1A RBS pumps are secured to prevent damage.
12	Close 1LP-28 (BWST Isolation) - Isolates suction from the BWST.

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

INITIAL CONDITIONS:

1. A large break LOCA has occurred which is depleting the BWST.

INITIATING CUES:

The Control Room SRO directs you to Align ECCS Suction from Emergency Sump per Enclosure 5.12, ECCS Suction Swap to RBES, of the EOP.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

**CRO-017
RE-ESTABLISH MAIN FDW FLOW FROM
CONDENSATE BOOSTER PUMP FLOW**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Re-establish Main FDW flow from CBP flow

Alternate Path:

No

Facility JPM #:

CRO-017

K/A Rating(s):

System: APE-054

K/A; AK3.04

Rating: 4.4 / 4.6

Task Standard:

Main FDW Flow is re-established, and a controlled cooldown to 555°F is initiated without establishing level in the OTSGs.

Preferred Evaluation Location:

Simulator X In-Plant _____

Preferred Evaluation Method:

Perform X Simulate _____

References:

EOP, LOHT Tab

Validation Time: 15 min

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 SNAP 208
2. Import CRO-017
3. Go to RUN

Tools/Equipment/Procedures Needed:

EOP, LOHT Tab

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 loss of both Main FDW Pumps has initiated a Rx trip.

Subsequently, the EFW system failed.

The CBPs are supplying the SGs per Rule 3.

Repairs have been completed on the Main FDW Pump circuitry and the 1A Main FDW Pump is currently operating in AUTO at the ICS Low Speed Stop.

The LOHT Tab of the EOP has been completed up to step 56.

INITIATING CUES:

The SRO in the Control Room directs you to re-establish Main FDW Flow to the SGs per the LOHT Tab of the EOP beginning at Step 56.

START TIME: _____

<p><u>STEP 1:</u> Step 56 Verify Main FDW pump available and reset.</p> <p><u>STANDARD:</u> Candidate observes that MFDWP HP and LP stop valves are all open. MFDWP ICS control is in AUTO. Continues to Step 57</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 57 Open the following on each <u>available</u> SG:</p> <ul style="list-style-type: none"> • 1FDW-38 • 1FDW-47 <p><u>STANDARD:</u> Candidate places the switches for 1FDW-38 and 1FDW-47 in the open direction. Continues to Step 58</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Step 58 Close the following on each <u>available</u> SG:</p> <ul style="list-style-type: none"> • 1FDW-36 • 1FDW-45 <p><u>STANDARD:</u> Candidate places the switches for 1FDW-36 and 1FDW-45 in the closed direction. Continues to Step 59</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 4:</u> Step 59 Ensure Main FDW Pump is operating</p> <p><u>STANDARD:</u> Candidate ensures Main FDW Pump is operating by observing steam valves open and Main FDW pump speed.</p> <p>Continues to Step 60</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>..... UNSAT</p>
<p><u>STEP 5:</u> Step 60 GO TO Step 62.</p> <p><u>STANDARD:</u> Candidate continues to Step 62.</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>..... UNSAT</p>
<p><u>STEP 6:</u> Step 62 Verify <u>all</u> the following:</p> <ul style="list-style-type: none"> • $T_{cold} > 500^{\circ}F$ • TBVs available <p><u>STANDARD:</u> Candidate verifies $T_{cold} > 500^{\circ}F$ Verifies TBVs available by:</p> <ul style="list-style-type: none"> • condenser vacuum $> 7''$ • CCW pump operating • TBV Baileys have power • CSAE have condensate cooling <p>Continues to Step 63</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 7:</u> Step 63 Verify $T_{cold} \leq 547^{\circ}\text{F}$</p> <p><u>STANDARD:</u> Candidate determines $T_{cold} > 547^{\circ}\text{F}$ Continue to Step 63 RNO</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> Step 63 RNO Set THP setpoint at ≈ 885 psig</p> <p><u>STANDARD:</u> Candidate sets THP setpoint at ≈ 885 psig Continue to Step 66</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Step 66 Place TBVs in AUTO for available SGs</p> <p><u>STANDARD:</u> If not already in Auto, candidate places both TBV controllers in AUTO. Continues to Step 67</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 10: Step 67 Initiate feed to <u>available</u> SGs per Rule 7 (SG Feed Control)</p> <p>STANDARD: Candidate references Rule 7 and determines that, since Main FDW is being used, the flow instrument used will be the S/U FDW Flow indicator (Table 1). Determines also that the maximum feed rate to the dry SGs is limited to 0.5 E6 lbm/hr to each SG since the SGs already have heat transfer (Table 1). Determines that the SGs level control point will be 25" S/U range (Table 4). Throttles S/U FDW control valves to establish flow within limits and to prevent over cooling while feeding to attain level in the SGs. Continues to Step 68</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>..... SAT</p> <p>..... UNSAT</p>
<p>STEP 11: Step 68 IAAT heat transfer is established in <u>any</u> SG, THEN GO TO Step 79</p> <p>STANDARD: Determines that Heat transfer is established. Goes to Step 79</p> <p>COMMENTS:</p>	<p>..... SAT</p> <p>..... UNSAT</p>

<p>STEP 12: Step 79</p> <p>Control feeding and steaming of available SGs to maintain SG level at setpoint and cooldown rate within Tech Spec limits.</p> <ul style="list-style-type: none">• $T_{COLD} > 280^{\circ}F$: $\leq 50^{\circ}F / \frac{1}{2} \text{ hr}$• $T_{COLD} \leq 280^{\circ}F$: $\leq 25^{\circ}F / \frac{1}{2} \text{ hr}$ <p>STANDARD: Determines cooldown limit is $\leq 50^{\circ}F / \frac{1}{2} \text{ hr}$ since $T_{COLD} > 280^{\circ}F$</p> <p>Throttles feedwater flow as necessary to establish a controlled cooldown while feeding to attain a level in the dry SGs.</p> <p>The candidate should determine that 1FDW-44 has failed open. They should inform the SRO of the failure and when asked suggest a solution. Possible solutions include:</p> <ul style="list-style-type: none">• Close 1FDW-42 ("B" Startup Block)• Place 1FDW-44 in AUTO. <p>Note: When directed by the examiner 1FDW-44 ("B" Startup Control) will fail OPEN.</p> <p>Cue: If informed by the candidate that 1FDW-44 has failed; ask the candidate what they recommend to reduce/stop FDW flow to the "B" SG.</p> <p>COMMENTS:</p> <p style="text-align: center;">END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
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STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
2	Ensures proper valve lineup for flow to the upper feed ring
3	Ensures proper valve lineup for flow to the upper feed ring
9	Sets up the Turbine Bypass Valves to control properly.
10	Necessary to put flow into the SGs.
12	Necessary to stop overfeed.

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

INITIAL CONDITIONS:

A loss of both Main FDW Pumps has initiated a Rx trip.

Subsequently, the EFW system failed.

The CBPs are supplying the SGs per Rule 3.

Repairs have been completed on the Main FDW Pump circuitry and the 1A Main FDW Pump is currently operating in AUTO at the ICS Low Speed Stop.

The LOHT Tab of the EOP has been completed up to step 56.

INITIATING CUES:

The SRO in the Control Room directs you to re-establish Main FDW Flow to the SGs per the LOHT Tab of the EOP beginning at Step 56.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

CRO-601

**Synchronization With the Grid Following a Load
Rejection**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Synchronization With the Grid Following a Load Rejection

Alternate Path:

No

Facility JPM #:

CRO-601

K/A Rating(s):

System: 062
K/A: A4.07
Rating: 3.1*/3.1*

Task Standard:

The main generator is synchronized to the electrical grid using AP/001 (Load Rejection)

Preferred Evaluation Location:

Simulator X In-Plant _____

Preferred Evaluation Method:

Perform X Simulate _____

References:

AP/001 (Load Rejection)

Validation Time: 10 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 Snap 205
2. Place simulator in RUN

Tools/Equipment/Procedures Needed:

AP/001 (Load Rejection)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

Unit 1 initially operating at 40% power when PCB-20 (GENERATOR BREAKER) and PCB-21 (GENERATOR BREAKER) trip open due to a faulty relay

Unit is currently at \approx 20% power

The faulty relay that initiated the load rejection has been repaired

AP/1 (Load Rejection) in progress up to step 4.11

INITIATING CUES:

The SRO directs you to continue with AP/1 (Load Rejection) beginning at step 4.11.

START TIME: _____

<p><u>STEP 1:</u> Step 4.11 WHEN plant conditions allow, AND cause of load rejection has been determined, THEN continue.</p> <p><u>STANDARD:</u> Candidate determines that the cause of the load rejection has been determined and continues with procedure. Continue to Step 4.12</p> <p><i>Cue: If asked as the SRO, inform candidate that he should continue with the procedure.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 4.12 Notify SOC of pending unit synchronization.</p> <p><u>STANDARD:</u> The CR phone is used to notify the SOC of pending unit synchronization. Continue to Step 4.13</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Step 4.13 Place PCB-20 (GENERATOR BREAKER) synchronizing switch in ON.</p> <p><u>STANDARD:</u> PCB-20 (GENERATOR BREAKER) synchronizing switch located on 1UB2 is placed in ON. Continue to Step 4.14</p> <p>Note: There is only one synchronizing switch handle for PCB-20 and PCB-21. The candidate must ensure the handle is in the PCB-20 synchronizing switch location prior to operating the synchronizing switch.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 4:</u> Step 4.14 Verify automatic SPEED MATCH is desired.</p> <p><u>STANDARD:</u> Determine if automatic SPEED MATCH is desired. Continue to Step 4.15</p> <p><i>Cue: If asked as the SRO, inform candidate that automatic SPEED MATCH is desired.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Step 4.15 Select SPEED MATCH on SELECT SPEED TARGET.</p> <p><u>STANDARD:</u> SPEED MATCH is selected on SELECT SPEED TARGET. Continue to Step 4.16</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> Step 4.16 GO TO Step 4.19.</p> <p><u>STANDARD:</u> Candidate goes to Step 4.19. Continue to Step 4.19</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 7:</u> Step 4.19 Using Voltage Adjuster AUTO, adjust T1 OUTPUT VOLTS to match SWITCHYARD VOLTS when the synchroscope pointer is vertical.</p> <p><u>STANDARD:</u> The candidate uses the AUTO Voltage Adjuster located on 1UB2 to increase T1 (Main Transformer) OUTPUT VOLTS to match SWITCHYARD VOLTS when the synchroscope pointer is vertical. Continue to Step 4.20</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> Step 4.20 WHEN synchroscope pointer is $\approx 5^\circ$ before vertical, THEN close PCB-20 (GENERATOR BREAKER).</p> <p><u>STANDARD:</u> The synchroscope located on 1UB2 is monitored and when the pointer is $\approx 5^\circ$ before vertical, PCB-20 (GENERATOR BREAKER) is closed by rotating the switch to the close position. The red CLOSED light illuminates and the white OPEN light extinguishes. Continue to Step 4.21</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Step 4.21 Place PCB-20 (GENERATOR BREAKER) synchronizing switch in OFF.</p> <p><u>STANDARD:</u> PCB-20 (GENERATOR BREAKER) synchronizing switch located on 1UB2 is placed in OFF. Continue to Step 4.22</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 10:</u> Step 4.22 Establish Generator load of $\approx 35 \text{ MW}_e$ by using one of the following:</p> <ul style="list-style-type: none"> • LOAD REFERENCE DEMAND • TURBINE MASTER <p><u>STANDARD:</u> The LOAD REFERENCE DEMAND (on HMI screen) or the TURBINE MASTER (on 1UB1) is used to establish $\approx 35 \text{ MW}_e$ load. Continue to Step 4.23</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 11:</u> Step 4.23 Place PCB-21 (GENERATOR BREAKER) synchronizing switch in SYNCH.</p> <p><u>STANDARD:</u> PCB-21 (GENERATOR BREAKER) synchronizing switch located on 1UB2 is placed in SYNCH. Continue to Step 4.24</p> <p>Note: The synchronizing switch handle must be removed from PCB-20 synchronizing switch location and placed into the PCB-21 synchronizing switch location.</p> <p>Note: The PCB-21 synchronizing switch ON position is labeled SYNC. The candidate may ask for a soft match from the SRO.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 12:</u> Step 4.24 Close PCB-21 (GENERATOR BREAKER).</p> <p><u>STANDARD:</u> PCB-21 (GENERATOR BREAKER) located on 1UB2 is closed by rotating the switch to the close position. The red CLOSED light illuminates and the white OPEN light extinguishes. Continue to Step 4.25</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 13:</u> Step 4.25 Place PCB-21 (GENERATOR BREAKER) synchronizing switch in OFF.</p> <p><u>STANDARD:</u> PCB-21 (GENERATOR BREAKER) synchronizing switch located on 1UB2 is placed in OFF. Continue to Step 4.26</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 14:</u> Step 4.26 Verify TURBINE AUTO LOAD PERMISSIVE satisfied.</p> <p><u>STANDARD:</u> The TURBINE AUTO LOAD PERMISSIVE is verified to be satisfied by observing the status on the HMI Panel. Continue to Step 4.27</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 15:</u> Step 4.27 Place TURBINE MASTER in AUTO.</p> <p><u>STANDARD:</u> TURBINE MASTER is placed in AUTO by depressing the AUTO pushbutton on the TURBINE MASTER Bailey.</p> <p>Note: The candidate may select MEAS. VAR. and verify pointer on the "caret" or verify that Turbine Header Pressure is at setpoint prior to selecting AUTO on the TURBINE MASTER.</p> <p><i>Cue: When the candidate has placed the Turbine Master in AUTO, inform candidate the JPM is complete.</i></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
3	Sync switch must be ON to satisfy the interlock close the PCB (generator output breaker)
5	This ensures that the generator picks up electrical load (MWs) when the generator output breaker is closed and prevents motoring the generator.
8	Required to tie generator to grid.

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

INITIAL CONDITIONS:

Unit 1 initially operating at 40% power when PCB-20 (GENERATOR BREAKER) and PCB-21 (GENERATOR BREAKER) trip open due to a faulty relay

Unit is currently at \approx 20% power

The faulty relay that initiated the load rejection has been repaired

AP/1 (Load Rejection) in progress up to step 4.11

INITIATING CUES:

The SRO directs you to continue with AP/1 (Load Rejection) beginning at step 4.11

**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:

No

Facility JPM #:

CRO-700

K/A Rating(s):

System: BW/A02

K/A: AA1.1

Rating: 4.0/3.8

Task Standard:

Use AP/23 (Loss 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

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

1. Recall Snap 210
2. Import files for CRO-700
3. Go to RUN

Tools/Equipment/Procedures Needed:

AP/23 (Loss 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 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:

ICS AUTO power lost

AP/23 (Loss of ICS Power) in progress

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.

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

<p><u>STEP 3:</u> Step 3 Verify THP setpoint at \approx THP by comparing the following:</p> <ul style="list-style-type: none"> • O1E2089 (TURB HDR PRESS SETPOINT) • O1E2088 (ICS SELECTED TURB HDR PRESS) <p>RNO Ensure the following in HAND:</p> <ul style="list-style-type: none"> • TURBINE MASTER • 1A TURBINE BYPASS VALVES • 1B TURBINE BYPASS VALVES • Adjust THP setpoint to \approx THP at the TURBINE MASTER. <p><u>STANDARD:</u> Call up the appropriate OAC display (enter GD AP28) and determine THP setpoint NOT at \approx THP and perform RNO.</p> <p>Verify the above stations are in HAND.</p> <p>Use the Setpoint knob on the TURBINE MASTER to match THP setpoint to \approx THP while monitoring on the OAC.</p> <p>Continue to Step 4.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> Step 4 Place TURBINE MASTER in AUTO.</p> <p><u>STANDARD:</u> TURBINE MASTER is placed in AUTO by depressing the Auto pushbutton on the TURBINE MASTER Bailey station.</p> <p>Continue to Step 5.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Step 5 Verify Main Turbine controlling THP.</p> <p><u>STANDARD:</u> Verify Main Turbine controlling THP by observing THP being maintained at setpoint.</p> <p>Continue to Step 6.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 6:</u> Step 6 Verify all TBVs are closed.</p> <p><u>STANDARD:</u> Verify all TBVs closed by observing the Green closed indication. Continue to Step 7.</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>___ UNSAT</p>
<p><u>STEP 7:</u> Step 7 Ensure all TBVs in AUTO: <ul style="list-style-type: none"> • 1A TURBINE BYPASS VALVES • 1B TURBINE BYPASS VALVES </p> <p><u>STANDARD:</u> 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.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> Step 8 Verify Tave setpoint at \approx Tave by comparing the following: <ul style="list-style-type: none"> • O1E2087 (ICS TAVE SETPOINT) • O1E2086 (ICS SELECTED TAVE) RNO Ensure the following: <ul style="list-style-type: none"> • DIAMOND in HAND • 1A FDW MASTER in HAND • 1B FDW MASTER in HAND </p> <p><u>STANDARD:</u> Call up the appropriate OAC display (enter GD AP28) and determine Tave setpoint NOT at \approx Tave and perform RNO. Verify the above stations are in HAND. Adjust Tave setpoint to \approx Tave at the REACTOR MASTER while monitoring on the OAC. Continue to Step 9.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>..... SAT</p> <p>___ UNSAT</p>

<p><u>STEP 9:</u> Step 9 Ensure DIAMOND in MANUAL.</p> <p><u>STANDARD:</u> Verify DIAMOND in MANUAL by observing MANUAL light illuminated on DIAMOND panel. Continue to Step 10.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 10:</u> Step 10 Place REACTOR MASTER in AUTO.</p> <p><u>STANDARD:</u> 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.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 11:</u> Step 11 Verify Neutron Error is $0 \pm 1\%$.</p> <p><u>STANDARD:</u> Verify Neutron Error is $0 \pm 1\%$ by observing Neutron Error meter on 1UB1. Continue to Step 12.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 12:</u> Step 12 Place DIAMOND in AUTO.</p> <p><u>STANDARD:</u> 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.</p> <p> Continue to Step 13.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>..... SAT</p> <p>..... UNSAT</p>
<p><u>STEP 13:</u> Step 13 Verify STM GENERATOR MASTER Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the STM GENERATOR MASTER is on the caret.</p> <p> Continue to Step 14.</p> <p><u>COMMENTS:</u></p>	<p>..... SAT</p> <p>____ UNSAT</p>
<p><u>STEP 14:</u> Step 14 Place STM GENERATOR MASTER in AUTO.</p> <p><u>STANDARD:</u> 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.</p> <p> Continue to Step 15.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>..... UNSAT</p>

<p><u>STEP 15:</u> Step 15 Verify Delta Tc setpoint at \approx Delta Tc by comparing the following:</p> <ul style="list-style-type: none"> • O1E2091 (ICS DELTA TC SETPOINT) • O1P1608 (RCS NARROW RANGE DELTA TC) <p><u>STANDARD:</u> Verify Delta Tc setpoint at \approx Delta Tc by comparing the above points on the OAC.</p> <p>Continue to Step 16.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 16:</u> Step 16 Place DELTA Tc station in AUTO.</p> <p><u>STANDARD:</u> 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.</p> <p>Continue to Step 17.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 17:</u> Step 17 Verify 1A FDW MASTER Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1A FDW MASTER is on the caret.</p> <p>Continue to Step 18.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 18:</u> Step 18 Verify 1B FDW MASTER Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1B FDW MASTER is on the caret.</p> <p>Continue to Step 19.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<table border="1" data-bbox="133 617 1218 718"><tr><td data-bbox="133 617 1218 718"><p style="text-align: center;">NOTE 1A FDW MASTER and 1B FDW MASTER should both be placed in AUTO simultaneously.</p></td></tr></table> <p><u>STEP 19:</u> Step 19 Place the following in AUTO:</p> <ul style="list-style-type: none">• 1A FDW MASTER• 1B FDW MASTER <p><u>STANDARD:</u> 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 1B FDW MASTER Bailey stations and verifying the red AUTO lights illuminate and the white HAND lights extinguish.</p> <p>Continue to Step 20.</p> <p>Note: Simultaneous operation is not critical.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">NOTE 1A FDW MASTER and 1B FDW MASTER should both be placed in AUTO simultaneously.</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p style="text-align: center;">NOTE 1A FDW MASTER and 1B FDW MASTER should both be placed in AUTO simultaneously.</p>		

<p style="text-align: center;">CAUTION</p> <p>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.</p> <p><u>STEP 20:</u> Step 20 Verify lowest FDW VALVE $\Delta P \approx 35$ psid.</p> <p><u>STANDARD:</u> Verify lowest FDW VALVE $\Delta P \approx 35$ psid by observing the FDW VALVE ΔP gauge. Continue to Step 21.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 21:</u> Step 21 Verify 1A MAIN FDW PUMP Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1A MAIN FDW PUMP is on the caret. Continue to Step 22.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 22:</u> 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.</p> <p><u>STANDARD:</u> Place 1A 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.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 23:</u> Step 23 Verify 1B MAIN FDW PUMP Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1B MAIN FDW PUMP is on the caret.</p> <p>Continue to Step 24.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 24:</u> Step 24 IAAT 1B MAIN FDW PUMP Measured Variable is on the caret, AND desired in AUTO, THEN perform the following:</p> <ul style="list-style-type: none"> • Adjust 1B MAIN FDW PUMP bias as required using O1E2092 (FWT 1B BIAS). • Place 1B MAIN FDW PUMP in AUTO. <p><u>STANDARD:</u> 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.</p> <p>Continue to Step 25.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 25:</u> Step 25 Verify 1FDW-32 Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1FDW-32 controller is on the caret.</p> <p>Continue to Step 26.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 26:</u> Step 26 Verify 1FDW-35 Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1FDW-35 controller is on the caret.</p> <p>Continue to Step 27.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<table border="1" style="width: 100%; text-align: center;"> <tr> <td data-bbox="129 619 1218 693"> <p>NOTE 1FDW-32 and 1FDW-35 should both be placed in AUTO simultaneously.</p> </td> </tr> </table> <p><u>STEP 27:</u> Step 27 Place the following in AUTO:</p> <ul style="list-style-type: none"> • 1FDW-32 • 1FDW-35 <p><u>STANDARD:</u> 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.</p> <p>Continue to Step 28.</p> <p><u>COMMENTS:</u></p>	<p>NOTE 1FDW-32 and 1FDW-35 should both be placed in AUTO simultaneously.</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE 1FDW-32 and 1FDW-35 should both be placed in AUTO simultaneously.</p>		
<p><u>STEP 28:</u> Step 28 Verify 1FDW-41 Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1FDW-41 controller is on the caret.</p> <p>Continue to Step 29.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>	

<p><u>STEP 29:</u> Step 29 Verify 1FDW-44 Measured Variable is on the caret.</p> <p><u>STANDARD:</u> Place selector switch to Measured Variable and verify the pointer on the 1FDW-44 controller is on the caret.</p> <p>Continue to Step 30.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<table border="1" style="width: 100%; text-align: center;"> <tr> <td data-bbox="129 613 1218 688"> <p>NOTE 1FDW-41 and 1FDW-44 should both be placed in AUTO simultaneously.</p> </td> </tr> </table> <p><u>STEP 30:</u> Step 30 Place the following in AUTO:</p> <ul style="list-style-type: none"> • 1FDW-41 • 1FDW-44 <p><u>STANDARD:</u> 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.</p> <p>Continue to Step 31.</p> <p><u>COMMENTS:</u></p>	<p>NOTE 1FDW-41 and 1FDW-44 should both be placed in AUTO simultaneously.</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE 1FDW-41 and 1FDW-44 should both be placed in AUTO simultaneously.</p>		
<p><u>STEP 31:</u> Step 31 Slowly adjust the following as required by unit operation:</p> <ul style="list-style-type: none"> • Tave • THP • Delta Tc <p><u>STANDARD:</u> Adjust the above on 1UB1 as required by unit operation.</p> <p>Continue to Step 32.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>_____ UNSAT</p>	

<p><u>STEP 32:</u> Step 32 Ensure CTPD SET at desired value.</p> <p><u>STANDARD:</u> Ensure CTPD SET at desired value on 1UB1.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>___ SAT</p> <p>___ UNSAT</p>
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STOP TIME: _____

CRITICAL 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:

ICS AUTO power lost

AP/23 (Loss of ICS Power) in progress

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-800

Perform Required Actions for an Intake Canal Dam Failure

CANDIDATE: _____

EXAMINER: _____

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Task:

Perform required actions for an Intake Canal dam failure

Alternate Path:

No

Facility JPM #:

NEW

K/A Rating(s):

System: 075
K/A: A2.01
Rating: 3.0*/3.2

Task Standard:

AP/13 (Dam Failure) is correctly implemented for a failed Intake Canal Dam.

Preferred Evaluation Location:

Simulator In-Plant

Preferred Evaluation Method:

Perform Simulate

References:

AP/13, Dam Failure

Validation Time: 20 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 Snap 209
2. Import CRO-800 files
3. Place simulator in RUN

Tools/Equipment/Procedures Needed:

AP/1/A/1700/13, Dam Failure

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:

Intake Dam failure has occurred.

Unit has been manually tripped.

Subsequent Actions of AP/13, Dam Failure have been completed up to step 4.7.

INITIATING CUES:

Control Room Supervisor directs you continue with AP/13, Dam Failure beginning at step 4.7.

START TIME: _____

<p><u>STEP 1:</u> Step 4.7: Stop all but one CCW pump.</p> <p><u>STANDARD:</u> Locate CCW pumps on 1AB3 and stop all but one by rotating the pump switches to the TRIP position. Verify red lights off and green lights on.</p> <p> Continue to Step 4.8</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<div data-bbox="129 661 1209 798" style="border: 1px solid black; padding: 5px; text-align: center;"><p>CAUTION</p><p>Continued operation of the RCPs will provide heat load with limited cooling capacity and may result in RCP damage due to inadequate LPSW flow. RCP restart when directed by EP/1 (EOP) should consider these factors.</p></div> <p><u>STEP 2:</u> Step 4.8: Stop all RCPs.</p> <p><u>STANDARD:</u> The control switches for RCPs 1A1, 1A2, 1B1, 1B2 are located by the candidate on 1AB1 and rotated to the TRIP position. The candidate verifies the RCPs are stopped by red run lights off and/or "0" amps indicated.</p> <p> Continue to Step 4.9</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 3:</u> Step 4.9 Dispatch an operator to open the following valve(s) on all operable SSW headers:</p> <ul style="list-style-type: none"> • HPSW-900 (B HDR SIPHON SEAL WATER (SSW) SYSTEM CONN) • HPSW-901 (A HDR SIPHON SEAL WATER (SSW) SYSTEM CONN) <p><u>STANDARD:</u> Dispatch an operator to open HPSW-900 and HPSW-901. Continue to Step 4.10</p> <p><i>Cue: Inform the candidate that an operator has been dispatched.</i></p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 4:</u> Step 4.10: Verify CCW-8 is open.</p> <p><u>STANDARD:</u> Determine that CCW-8 (located on 2AB3) is CLOSED by observing the Green CLOSED light is illuminated. Continue to RNO, GO TO Step 4.18</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Step 4.18: Dispatch an operator to open 1DP-F5C (CCW-8 BKR (EMERG CCW DISCH TO TAILRACE))</p> <p><u>STANDARD:</u> Dispatch an operator to open 1DP-F5C. Continue to Step 4.19</p> <p><i>Cue: An operator has been sent to open 1DP-F5C.</i></p> <p><i>Note: Using time compression the breaker will be opened.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 6: Step 4.19: Stop all Unit 1 ESV pumps:</p> <ul style="list-style-type: none">• 1A ESV PUMP• 1C ESV PUMP• 1B ESV PUMP <p>STANDARD: Locate the Unit 1 ESV pumps switches on 1AB3. Turn each switch to stop. Verify red light off and green light on.</p> <p>Continue to Step 4.20</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p style="text-align: center;">NOTE</p> <p>The EWST will be used as CCWP sealing water and to cool the following:</p> <ul style="list-style-type: none">• HPI pump motor coolers• TDEFDW Pump• Operating CCWP motors <p>STEP 7: Step 4.20: Place the following switches in OFF:</p> <ul style="list-style-type: none">• A HPSW PUMP• B HPSW PUMP <p>STANDARD: A and B HPSW pump switches located on 1AB3 are placed in the OFF position.</p> <p>Continue to Step 4.21</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 8:</u> Step 4.21: IAAT any of the following is full open:</p> <ul style="list-style-type: none">• HPSW-900 (B HDR SIPHON SEAL WATER (SSW) SYSTEM CONN)• HPSW-901 (A HDR SIPHON SEAL WATER (SSW) SYSTEM CONN), <p>THEN perform Steps 4.22 - 4.24.</p> <p><u>STANDARD:</u> Determine that HPSW-900 is full open. Continue to Step 4.22</p> <p><i>Cue: Inform candidate that HPSW 900 is full open.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Step 4.22: Ensure the Unit 1/2 STANDBY LPSW PUMP AUTO START CIRCUIT in DISABLE.</p> <p><u>STANDARD:</u> Locate the Unit 1/2 STANDBY LPSW PUMP AUTO START CIRCUIT switch on 1AB3. Place the switch in disable. Continue to Step 4.23</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 10: Step 4.23: Stop the following pumps:</p> <ul style="list-style-type: none"> • A LPSW PUMP • B LPSW PUMP • C LPSW PUMP <p>STANDARD: Locate the LPSW pumps switches on 1AB3 and rotate the switches to the trip position. Verify red lights off and green lights on.</p> <p>Continue to Step 4.24</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 11: Step 4.24: Maintain EWST level >70,000 gallons and < OVERFLOW by cycling HPSW JOCKEY PUMP as necessary.</p> <p>STANDARD: Monitor EWST level, FULL light, and the OVERFLOW light located on 1AB3. Determine that the HPSW JOCKEY PUMP should remain in operation until the OVERFLOW light is lit.</p> <p>Continue to Step 4.25</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 12: Step 4.25: Dispatch an operator to place 1LPSW-138 & 1HPSW-184 TDEFDWP COOLING BYPASS VALVE switch in BYPASS</p> <p>STANDARD: An operator should be dispatched to place 1LPSW-138 & 1HPSW-184 TDEFDWP COOLING BYPASS VALVE switch in BYPASS</p> <p>Continue to Step 4.26</p> <p>Cue: Inform the candidate that an operator has been dispatched.</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 13: Step 4.26: Verify an operator has been dispatched to the CCW Intake.</p> <p>STANDARD: Determine that an operator has been dispatched to the CCW Intake. Continue to Step 4.27</p> <p>Cue: <i>Inform the candidate that an operator has been dispatched to the intake.</i></p> <p>COMMENTS:</p>	<p>..... SAT</p> <p>..... UNSAT</p>										
<p>STEP 14: Step 4.27: Notify operator at CCW Intake to isolate SSW to all stopped CCW pumps per Encl 5.4 (NLO Actions at CCW Intake).</p> <table border="1" data-bbox="337 709 581 905"> <thead> <tr> <th>√</th> <th>CCW Pump</th> </tr> </thead> <tbody> <tr> <td></td> <td>1A</td> </tr> <tr> <td></td> <td>1B</td> </tr> <tr> <td></td> <td>1C</td> </tr> <tr> <td></td> <td>1D</td> </tr> </tbody> </table> <p>STANDARD: Notify operator at CCW Intake to isolate SSW to all stopped CCW pumps. Continue to Step 4.28</p> <p>Cue: <i>Inform the candidate that the operator has been notified.</i></p> <p>COMMENTS:</p>	√	CCW Pump		1A		1B		1C		1D	<p>___ SAT</p> <p>..... UNSAT</p>
√	CCW Pump										
	1A										
	1B										
	1C										
	1D										
<p>STEP 15: Step 4.28: IAAT RCP seal injection is lost, THEN dispatch an operator to perform AP/25 (SSF EOP) to operate the SSF RCMU system.</p> <p>STANDARD: Determine that RCP seal injection has not been lost by observing SEAL INLET HDR FLOW flow gauge on 1UB1. Continue to Step 4.29</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>										

<p>STEP 16: Step 4.29</p> <p>IAAT all the following exist:</p> <ul style="list-style-type: none">• Loss of power occurred on Unit 1• Power has been restored to Unit 1• Keowee Lake Level > 775' <p>THEN perform Steps 4.30 - 4.37 to start one CCW pump.</p> <p>STANDARD: Determine power has not been lost on Unit 1 perform RNO step</p> <p>Continue to Step 4.29 RNO</p> <p>Cue: If asked as the SRO, inform candidate that a loss of power has not occurred on Unit 1.</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>___ UNSAT</p>
<p>STEP 17: Step 4.28 RNO</p> <p>GO TO Step 4.38.</p> <p>STANDARD: GO TO Step 4.38.</p> <p>Continue to Step 4.37</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 18: Step 4.38</p> <p>IAAT Keowee Lake Level \leq 775', AND CCW-8 Bkr is open, THEN perform Steps 4.39 - 4.41.</p> <p>STANDARD: Determine Keowee Lake Level is \leq 775' by observing tailrace level gauge located on 2AB3 or on the OAC. Determine that CCW-8 breaker is open by observing valve indicating lights to be extinguished on 2AB3.</p> <p>Continue to Step 4.39</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>___ UNSAT</p>

<p>STEP 19: Step 4.39 Stop all CCW pumps.</p> <p>STANDARD: Locate the CCW pump switches on 1AB3 and stop all running CCW pumps by rotating the switches to the TRIP position.</p> <p>Continue to Step 4.40</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>..... SAT</p> <p>..... UNSAT</p>
<p>STEP 20: Step 4.40 Initiate Encl 5.3 (Cross-connect CCW Intake and Discharge Piping).</p> <p>STANDARD: Begin Encl 5.3 (Cross-connect CCW Intake and Discharge Piping).</p> <p>Continue to Step 4.41</p> <p>Cue: Indicate that Encl 5.3 (Cross-connect CCW Intake and Discharge Piping) will be performed by another RO.</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 10px;"> <p>NOTE</p> <p>Similar instructions are provided in Unit 2 and 3 procedures. The same operator should be used for these tasks.</p> </div> <p>STEP 21: Step 4.41 Notify the operator performing Encl 5.4 (NLO Actions at CCW Intake) to isolate SSW to all Unit 1 CCW pumps.</p> <p>STANDARD: The operator performing Encl 5.4 (NLO Actions at CCW Intake) is notified to isolate SSW to all Unit 1 CCW pumps.</p> <p>Continue to Step 4.42</p> <p>Cue: Indicate the operator has been notified to isolate SSW to all Unit 1 CCW pumps.</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 22:</u> Step 4.42</p> <p><u>STANDARD:</u> The TSC is notified to replenish Unit 2 CCW intake lines.</p> <p>Continue to Step 4.43</p> <p><i>Cue: Indicate that the TSC has been notified.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 23:</u> Step 4.43</p> <p>Notify Emergency Coordinator to review Encl 5.5 (Dam Failure Considerations).</p> <p><u>STANDARD:</u> The Emergency Coordinator is notified to review Encl 5.5 (Dam Failure Considerations).</p> <p>Continue to Step 4.44</p> <p><i>Cue: Inform the candidate that the Emergency Coordinator has been notified.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 24:</u> Step 4.44</p> <p>WHEN secondary heat removal systems are near depletion, THEN initiate AP/25 (SSF EOP) in preparation for feeding the SGs with SSF ASW.</p> <p><u>STANDARD:</u> Candidate should indicate that they would initiate AP/25 when secondary heat removal systems are nearing depletion.</p> <p><i>Cue: Inform the candidate that this JPM is complete.</i></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Reduces the amount of lost inventory.
2	Reduces RCS heat load and prevents RCP damage from inadequate LPSW.
5	CCW-8 breaker must be opened to prevent inadvertent operation after flooding.
7	Reduce the amount of lost inventory.
10	Reduce the amount of lost inventory.
19	Reduce the amount of lost inventory.

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

INITIAL CONDITIONS:

Intake Dam failure has occurred.

Unit has been manually tripped.

Subsequent Actions of AP/13, Dam Failure have been completed up to step 4.7.

INITIATING CUES:

Control Room Supervisor directs you continue with AP/13, Dam Failure beginning at step 4.7.

**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
K/A: AK3.02
Rating: 3.5/3.8

Task Standard:

SFP Priming Pump is aligned and started

Preferred Evaluation Location:

Simulator In-Plant

Preferred Evaluation Method:

Perform Simulate

References:

EOP Enclosure 5.7 "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: _____

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 tomado 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 5.7 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 Enclosure 5.7, beginning at Step 20.

START TIME: _____

<p><u>STEP 1:</u> Step 20 Obtain bucket and rope from EOP equipment locker U2AB5. (A-5, U2 elevator lobby)</p> <p><u>STANDARD:</u> Locate EOP equipment locker U2AB5 located at A-5, U2 elevator lobby and indicate that you would obtain a bucket and rope from the locker.</p> <p>Continue to Step 21.</p> <p><i>Cue: Inform candidate that opening the locker is not required.</i></p> <p><u>COMMENTS:</u></p>	<p>____ SAT</p> <p>____ UNSAT</p>
<p><u>STEP 2:</u> Step 21A Connect SF priming pump suction hose to quick disconnect fitting at SF-86 (SF PRIMING PUMP SEAL WATER INLET)</p> <p><u>STANDARD:</u> Candidate connects suction hose to quick disconnect fitting at SF-86, or verifies it is connected</p> <p>Continue to Step 21B.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Step 21B Connect 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).</p> <p><u>STANDARD:</u> 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.</p> <p>Continue to Step 21C.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

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

<p>STEP 7: Step 21F Fill the SF Priming Pump Seal Tank to at least half-full with DW or water from SFP using bucket.</p> <p>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.</p> <p>Note: It will take several buckets of water to fill the SF Priming Pump Seal Tank half-full.</p> <p>Continue to Step 22.</p> <p>CUE: Communications have been established with operators at the ASW Pump Room and East Penetration Room.</p> <p>COMMENTS:</p>	<p>CRITICAL TASK</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 8: Step 22 WHEN communication is established with operators in the following locations:</p> <ul style="list-style-type: none"> • ASW Pump Room • East Pen Room <p>THEN open SF-86 (SF PRIMING PUMP SEAL WATER INLET)</p> <p>STANDARD: Determine communications have been established with the above locations. Open SF-86 (SF PRIMING PUMP SEAL WATER INLET). Continue to Step 23.</p> <p>Cue: Communications have been established.</p> <p>Note: “Determining communications have been established” is NOT critical.</p> <p>COMMENTS:</p>	<p>CRITICAL TASK</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 9:</u> Step 23 Notify operator in ASW pump Rm to start U1/2 SF PRIMING PUMP (remote starter on S wall)</p> <p><u>STANDARD:</u> Notify operator in ASW pump Rm to start U1/2 SF PRIMING PUMP. Continue to Step 24.</p> <p>Cue: The U1/2 SF PRIMING PUMP is operating.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL TASK</p> <p>___ SAT</p> <p>..... UNSAT</p>
<p><u>STEP 10:</u> Step 24 IAAT seal tank level begins to rise, THEN close SF-86 (SF PRIMING PUMP SEAL WATER INLET)</p> <p><u>STANDARD:</u> Monitor seal tank level and determine it is NOT rising. Continue to Step 25.</p> <p>Cue: Seal tank level is NOT rising.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 11:</u> Step 25</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <p><u>STANDARD:</u> 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.</p> <p>Cue: The SF priming pump has steady discharge stream.</p> <p>Cue: Notifying the Control of the last two bulleted items is not required for this JPM.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>..... SAT</p> <p>..... UNSAT</p>

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 5.7 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 Enclosure 5.7, beginning at Step 20.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

NLO-037

PLACE A CONTROL BATTERY CHARGER IN SERVICE

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Place a Control Battery Charger In Service

Alternate Path:

No

Facility JPM #:

CRO-037

K/A Rating(s):

System: 063
K/A: K1.03
Rating: 2.9/3.5

Task Standard:

Control Battery Charger is placed in service correctly per procedure.

Preferred Evaluation Location:

Simulator In-Plant

Preferred Evaluation Method:

Perform Simulate

References:

Validation Time: 12 minutes

Time Critical: NO

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT UNSAT

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

None

Tools/Equipment/Procedures Needed:

“Removal From Service and Restoration To Service of Control Charger” Enclosure (for CA or CB Control Charger) of OP/3/A/1107/10

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:

Last week, the 3CA Control Battery Charger was removed from service on Unit 3 which is currently operating at 100% power. I&E personnel have informed the Control Room SRO that 3CA Control Battery Charger is ready to be placed back in service. The Standby Control Battery Charger is currently in service. “Removal From Service and Restoration To Service of Control Charger CA” Enclosure of OP/3/A/1107/10 has been completed up to Step 2.2.

INITIATING CUES:

The Control Room SRO directs you to place the 3CA Control Battery Charger in service and remove the Standby Control Battery Charger from service on Unit 3 by procedure beginning at Step 2.2.

START TIME:

<p><u>STEP 1:</u> Step 2.2.1 At MCC 3XS1: Ensure closed 3XS1-F4A (3CA BATT CHGR BKR).</p> <p><u>STANDARD:</u> The candidate locates 3XS1-F4A and verifies the breaker is closed.</p> <p>CUE: Indicate to candidate that power supply breaker is already closed in.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 2.2.2 At the control charger 3CA:</p> <ul style="list-style-type: none"> • Close the AC INPUT circuit breaker. • Verify the AC POWER FAILURE light is off. • Verify after 20-30 seconds the DC VOLTS meter indicates 131-140 volts. • Close the DC OUTPUT circuit breaker. <p><u>STANDARD:</u> Candidate should proceed to control charger 3CA.</p> <ul style="list-style-type: none"> • AC INPUT CIRCUIT BREAKER is placed in the ON position. <p>Cue: Breaker is closed</p> <ul style="list-style-type: none"> • Verify the AC POWER FAILURE light is off. <p>Cue: AC POWER FAILURE light is off</p> <ul style="list-style-type: none"> • Verify after 20-30 seconds the DC VOLTS meter indicates 131-140 volts. <p>Cue: Point to the different voltages on the meter for the 20-30 seconds that it takes the voltage to reach an acceptable voltage.</p> <ul style="list-style-type: none"> • Close the DC OUTPUT circuit breaker. <p>Cue: DC OUTPUT circuit breaker is closed.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL TASK</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 3:</u> Step 2.2.3 At MCC 3DCA:</p> <ul style="list-style-type: none"> • Close 3DCA-1B (3CA BATT CHGR TO 3DCA BKR) • Open 3DCA-2B (3CS BATT CHGR TO 3CA BATT BKR) <p><u>STANDARD:</u> Control Battery Charger breaker is located on 3DCA and is closed in by rotating breaker switch handle from the OPEN position to the CLOSED position.</p> <p>Cue: After candidate simulates closing breaker, indicate to candidate that breaker is closed in.</p> <p>CS Battery Charger breaker is located on 3DCA and is opened by rotating breaker switch handle from the CLOSED position to the OPEN position.</p> <p>Cue: After candidate simulates opening breaker, indicate to candidate that breaker is open.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL TASK</p> <p>___ SAT</p> <p>____ UNSAT</p>
<p><u>STEP 4:</u> Step 2.2.4 At CONTROL CHARGER 3CA:</p> <ul style="list-style-type: none"> • Verify CONTROL CHARGER 3CA is supplying the load as indicated on the DC OUTPUT meter. • Ensure ALARM ENABLE/DEFEAT switch in "ENABLE". <p><u>STANDARD:</u> The DC PUTPUT meter is observed and verified to indicate load on the battery charger.</p> <p>Cue: Indicate to candidate that the DC AMPERES meter indicates approximately 190 amps.</p> <p>The ALARM ENABLE/DEFEAT switch is located on the Control Charger cabinet and placed in the ENABLE position.</p> <p>Cue: Indicate to candidate that the ALARM ENABLE/DEFEAT switch is in the ENABLE position.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p>STEP 5: Step 2.2.5</p> <p>At CONTROL CHARGER 3CS:</p> <ul style="list-style-type: none">• Place the ALARM ENABLE/DEFEAT switch to DEFEAT.• Open the DC OUTPUT circuit breaker.• Open the AC INPUT circuit breaker. <p>STANDARD: The ALARM ENABLE/DEFEAT switch is located on the Control Charger cabinet and placed in the DEFEAT position.</p> <p>Cue: Indicate to candidate that the ALARM ENABLE/DEFEAT switch is in the ENABLE position.</p> <ul style="list-style-type: none">• DC OUTPUT CIRCUIT BREAKER is placed in the OFF position. <p>Cue: After candidate simulates opening breaker, indicate to candidate that DC Output CIRCUIT BREAKER is open.</p> <ul style="list-style-type: none">• AC INPUT CIRCUIT BREAKER is placed in the OFF position. <p>Cue: After candidate simulates opening breaker, indicate to candidate that AC INPUT CIRCUIT BREAKER is open.</p> <p>COMMENTS:</p> <p style="text-align: center;">END TASK</p>	<p>..... SAT</p> <p>..... UNSAT</p>
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STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
2	Step 2 is necessary because it energizes the Control Charger and verifies that it can assume the loads on the DC busses.
3	Step 3 is necessary because it closes the breaker from the Control Charger to the MCC to pick up loads prior to the shutdown of the Standby Charger.

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

INITIAL CONDITIONS:

Last week, the 3CA Control Battery Charger was removed from service on Unit 3 which is currently operating at 100% power. I&E personnel have informed the Control Room SRO that 3CA Control Battery Charger is ready to be placed back in service. The Standby Control Battery Charger is currently in service. "Removal From Service and Restoration To Service of Control Charger CA" Enclosure of OP/3/A/1107/10 has been completed up to Step 2.2.

INITIATING CUES:

The Control Room SRO directs you to place the 3CA Control Battery Charger in service and remove the Standby Control Battery Charger from service on Unit 3 by procedure beginning at Step 2.2.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

NLO-700

Restoration of ICS AUTO Power

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Restoration of ICS AUTO Power

Alternate Path:

Yes

Facility JPM #:

NEW

K/A Rating(s):

System: APE BW/A02
K/A: AK3.2
Rating: 3.7/4.0

Task Standard:

ICS AUTO power is restored per AP/23, Loss of ICS Power.

Preferred Evaluation Location:

Simulator ____ In-Plant X

Preferred Evaluation Method:

Perform ____ Simulate X

References:

AP/23 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power)

Validation Time: 16 minutes

Time Critical: NO

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____
NAME

SIGNATURE / DATE

=====

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

AP/23 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power)

READ TO OPERATOR

DIRECTION TO TRAINEE:

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

INITIAL CONDITIONS:

Unit 1 operating at 100% power

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

INITIATING CUES:

The Control Room SRO directs you to use AP/23 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power) to restore ICS AUTO power on Unit 1.

START TIME:

<p><u>STEP 1:</u> Step 1 Verify the following breakers closed (Unit 1 Cable Rm):</p> <ul style="list-style-type: none"> • 1KRA breaker #1 (100A 1P, POWER PANELBOARD 1KI) • 1KI BREAKER #1 (30A 1P, AUTO POWER (ICS)) <p><u>STANDARD:</u> Locate 1KRA panel board and breaker #1 and verify it is closed.</p> <p><i>Cue: Inform candidate that 1KRA breaker #1 is CLOSED.</i></p> <p style="padding-left: 40px;">Locate 1KI panel board and breaker #1 and verify it is closed.</p> <p><i>Cue: Inform candidate that 1KI breaker #1 is OPEN.</i></p> <p style="padding-left: 40px;">Continue Step 1 RNO.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 1 RNO Reset and close the affected breakers (Unit 1 Cable Rm):</p> <ul style="list-style-type: none"> • 1KI BREAKER #1 (30A 1P, AUTO POWER (ICS)) <p><u>STANDARD:</u> Reset and close 1KI BREAKER #1.</p> <p><i>Cue: Inform candidate that 1KI BREAKER #1 tripped open when re-closed.</i></p> <p style="padding-left: 40px;">Continue to Step 2.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 3: Step 2 Notify Unit 1 CR to verify ICS AUTO power has been restored as indicated by 1SA-2/B-11 (ICS AUTO POWER FAILURE) off.</p> <p>STANDARD: Notify Unit 1 CR via phone or radio to verify ICS AUTO power has been restored as indicated by 1SA-2/B-11 (ICS AUTO POWER FAILURE) off.</p> <p>Cue: Inform candidate that 1SA-2/B-11 (ICS AUTO POWER FAILURE) is actuated.</p> <p>Continue to Step 2 RNO.</p> <p>COMMENTS:</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 4: Step 2 RNO IF ICS AUTO power has NOT been restored, THEN bypass 1KI inverter as follows (Unit 1 Equip Rm):</p> <ul style="list-style-type: none"> • Open SW#1 (left switch). • Open SW#3 (right switch). • Close SW#2 (center switch). <p>STANDARD: Determine ICS AUTO power has NOT been restored and then bypass 1KI inverter as follows (Unit 1 Equip Rm):</p> <ul style="list-style-type: none"> • Open SW#1 (left switch). <p>Cue: Inform candidate that SW#1 is open.</p> <ul style="list-style-type: none"> • Open SW#3 (right switch). <p>Cue: Inform candidate that SW#3 is open.</p> <ul style="list-style-type: none"> • Close SW#2 (center switch). <p>Cue: Inform candidate that SW#2 is closed.</p> <p>Continue to Step 3.</p> <p>COMMENTS:</p>	<p>CRITICAL TASK</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 5:</u> Step 3 Notify Unit 1 CR that all applicable steps of this enclosure have been completed.</p> <p><u>STANDARD:</u> Using a phone or radio, Notify Unit 1 CR that all applicable steps of this enclosure have been completed.</p> <p><i>Cue: Inform candidate that the Control Room has been notified.</i></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END TASK</p>	<p>___ SAT</p> <p>___ UNSAT</p>
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STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
4	Step is required to align power to the 1Kl bus.

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

INITIAL CONDITIONS:

Unit 1 operating at 100% power

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

INITIATING CUES:

The Control Room SRO directs you to use AP/23 (Loss of ICS Power) Enclosure 5.2 (Restoration of ICS AUTO Power) to restore ICS AUTO power on Unit 1.