Draft Submittal

(Pink Paper)

CRYSTAL RIVER AUGUST EXAM 50-302/2003-301

AUGUST 25 - 29, 2003

1. Administrative Questions/JPMs
2. In-plant JPMs
3. Control Room JPMs (simulator JPMs)
4. Administrative Topics Outline ES-301-1
5. Control Room Systems and Facility Walk-Through Test Outline ES-301-2

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

AdminEP1 (2K3) NRC [New] (ADMINISTRATIVE)

RO ONLY

ALTERNATE PATH

COMPLETE THE STATE OF FLORIDA NOTIFICATION MESSAGE FORM FOR NUCLEAR POWER PLANTS

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 8
ADMINISTRATIVE JOB PERFORMANCE MEASURE

Task: Complete the State of Florida Notification Message Form for Nuclear Power Plants.

Alternate Path: Yes

JPM #: AdminEP1 (2K3) NRC [New]

K/A Rating/Importance: G2.4.43 RO 2.8

Task Number: 1150402005

Task Standard: Complete the State of Florida Notification Form and make required notifications per EM-202.

Preferred Evaluation Location:

Simulator ___ In-Plant ___ Admin _X_

Preferred Evaluation Method:

Perform _X_ Simulate ___

References:

EM-202, Rev. 71

Validation Time: 15 min.

Time Critical: No

==========

Candidate: _____ **Time Start:** _____
Printed Name **Time Finish:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____/_____
Printed Name Signature Date

Comment: _____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

NONE

SIMULATOR BOOTH OPERATOR INSTRUCTIONS:

Do not answer the SHRD phone when called. Answer the commercial line when called and perform roll call.

Tools/Equipment/Procedures Needed:

Copy of EM-202
Simulator and booth operator are required for this JPM.

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

Initial Conditions:

You are the Reactor Operator.
A Site Area Emergency has been declared due to a SGTR concurrent with a loss of condenser vacuum at time NOW.
Fission Product Barrier Matrix: 1) Potential Loss of RCS and 2) Loss of Containment.
There are no injuries reported.
Wind direction is from 220 degrees.
Adequate SCM does exist.
No Protective Action Recommendations at this time.
The event has not been terminated.

Initiating Cues:

Using the above information complete the Florida Nuclear Plant Emergency Notification Form and make required notifications per EM-202.

STEP 1: Candidate completes the Florida Nuclear Plant Emergency Notification Form. STANDARD: Candidate completes the notification form correctly. Candidate should determine for Section 10) a release is occurring and for Section 11) release category is C. Non-significant, from page 7 of Enclosure 2. **EXAMINER'S NOTE:** **Critical information on this form includes sections 4, 12 and 13. Leaving any other section blank does *not* constitute failure of this step.** COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 2: Candidate makes required notifications. STANDARD: Candidate makes required notifications. When the SHRD phone goes unanswered the candidate will use the commercial telephone system, contact SWPT and complete the notification. **EXAMINER'S NOTE:** **Page 3 of Enclosure 2 contains the instructions for using an alternate communication network.** COMMENTS:	**Critical Step** SAT ____ UNSAT ___
TERMINATION CRITERIA: When candidate completes notification to SWPT this JPM may be terminated.	
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Initial Conditions:

You are the Reactor Operator.
A Site Area Emergency has been declared due to a SGTR concurrent with a loss of condenser vacuum at time NOW.
Fission Product Barrier Matrix: 1) Potential Loss of RCS and 2) Loss of Containment.
There are no injuries reported.
Wind direction is from 220 degrees.
Adequate SCM does exist.
No Protective Action Recommendations at this time.
The event has not been terminated.

Initiating Cues:

Using the above information complete the Florida Nuclear Plant Emergency Notification Form and make required notifications per EM-202.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

AdminCO1 (2K3) NRC [New] (ADMINISTRATIVE)

DETERMINE METHOD FOR CHEMISTRY SAMPLING WITH A LOOP IN PROGRESS

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 8
ADMINISTRATIVE JOB PERFORMANCE MEASURE

Task: Determine method for chemistry sampling during a LOOP.

Alternate Path: No

JPM #: AdminCO1 (2K3) NRC [New]

K/A Rating/Importance: G2.1.24 RO 2.8 SRO 3.1

Task Number:

Task Standard:

Preferred Evaluation Location:

Simulator ___ In-Plant ___ Admin _X_

Preferred Evaluation Method:

Perform _X_ Simulate ___

References:

Multiple electrical prints and flow diagrams.

Validation Time: 20 min.

Time Critical: No

Candidate: _____ (Printed Name) **Time Start:** _____ **Time Finish:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ (Printed Name) _____ (Signature) _____ (Date)

Comment: _____

_____

_____

_____

Tools/Equipment/Procedures Needed:

The following prints are required: 302-752 Sheet 1, 302-753 Sheet 1, 208-005 AH-05B, 208-005 AH-85, 208-005 AH-89, 208-005 AH-99

Additional prints that may be included (not required): 208-005 AH-05, 208-005 AH-05A, 208-005 AH-88, 208-005 AH-98

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

Initial Conditions:

You are the Reactor Operator.
The plant is in Mode 5.
The "A" ES buses and the "A" Unit buses were de-energized for maintenance and are unavailable.
A LOOP has occurred.
"B" EDG is powering the "B" ES buses.
AHD-34 is in its normal failed open position.
ACDP-20 is energized.

Initiating Cues:

Chemistry sampling is required. Using the furnished material determine the following:

- Fans that must be started to support sampling. Record below.
- For all solenoid operated dampers in the flowpath determine the solenoid valve (SV) number that must be energized/de-energized for the dampers to open. Record SVs and dampers below.

Fans _____ , _____.

SV _____ for dampers _____ , _____ , _____ , _____.

SV _____ for dampers _____ , _____.

SV _____ for damper _____.

STEP 1: Candidate determines correct fans, dampers and solenoid valve numbers required for Chemistry sampling during a LOOP. STANDARD: Utilizing the flow diagrams and electrical prints the candidate will determine the correct flowpath, fans and solenoid valve numbers needed to establish an exhaust lineup for Chemistry sampling when a LOOP is in progress. **EXAMINER'S NOTE:** **Requirements for this critical step are correct fan determination and correct damper determination. An incorrect solenoid valve number does not constitute failure of this step.** Fan(s) AHF-20B & AHF-44B SV AH-406-SV for damper AHD-100. SV AH-252-SV for damper AHD-20. SV AH-252-SV for damper AHD-21. SV AH-923-SV for dampers AHD-38, 39, 42 & 43. COMMENTS:	**Critical Step** SAT ____ UNSAT ___
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Initial Conditions:

You are the Reactor Operator.
The plant is in Mode 5.
The "A" ES buses and the "A" Unit buses were de-energized for maintenance and are unavailable.
A LOOP has occurred.
"B" EDG is powering the "B" ES buses.
AHD-34 is in its normal failed open position.
ACDP-20 is energized.

Initiating Cues:

Chemistry sampling is required. Using the furnished material determine the following:

- Fans that must be started to support sampling. Record belo w.
- For all solenoid operated dampers in the flowpath determine the solenoid valve (SV) number that must be energized/de-energized for the dampers to open. Record SVs and dampers below.

Fans _____, _____.

SV _____ for dampers _____, _____, _____, _____.

SV _____ for dampers _____, _____.

SV _____ for damper _____.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

AdminEP2 (2K3) NRC [New] (ADMINISTRATIVE)

SRO ONLY

DETERMINE EMERGENCY ACTION LEVEL

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 8
ADMINISTRATIVE JOB PERFORMANCE MEASURE

Task: Determine emergency action level for given plant conditions.

Alternate Path: No

JPM #: AdminEP2 (2K3) NRC [New]

K/A Rating/Importance: G2.4.41 SRO 4.1

Task Number: 1150101002

Task Standard: Determine emergency action level for given plant conditions using EM-202.

Preferred Evaluation Location:

Simulator ___ In-Plant ___ Admin _X_

Preferred Evaluation Method:

Perform _X_ Simulate ___

References:

EM-202, Rev. 71

Validation Time: 10 min.

Time Critical: No

Candidate: _____ (Printed Name)

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ (Printed Name) _____ (Signature) _____/ (Date)

Comment:

_____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. None

SIMULATOR OPERATOR INSTRUCTIONS:

1. None

Tools/Equipment/Procedures Needed:

1. EM-202

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

Initial Conditions:

You are the Superintendent, Shift Operations.

Initiating Cues:

Determine the highest emergency action level for Scenario #2.

STEP 1: Candidate determines classification based on Scenario #2. STANDARD: Candidate determines the classification is a Site Area Emergency. Loss of Containment (2 points) #3 – An OTSG has > 10 gpm tube rupture with prolonged steaming to the atmosphere from the affected OTSG Potential Loss of RCS (3 points) #1 – OTSG tube leak requiring one or more injection valves. **EXANINER'S NOTE:** **If the scenario deviated from the above conditions then the lead examiner will determine the correct emergency action level.** COMMENTS:	**Critical Step** SAT ____ UNSAT ___
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Initial Conditions:

You are the Superintendent, Shift Operations.

Initiating Cues:

Determine the highest emergency action level for Scenario #2.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

AdminEC1 (2K3) NRC [Bank #283] (ADMINISTRATIVE)

PERFORM RCS WATER INVENTORY BALANCE PER SP-317

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 8
ADMINISTRATIVE JOB PERFORMANCE MEASURE

Task: RO - Perform a Reactor Coolant System inventory balance
SRO - Perform safety and technical reviews of plant procedures

Alternate Path: No

JPM #: AdminEC1 (2K3) NRC [Bank #283]

K/A Rating/Importance: G2.2.12 RO 3.0 SRO 3.4
G2.1.12 SRO 4.0

Task Number/Position: 0020202004 RO
1190101029 SRO

Task Standard: Perform a Reactor Coolant System inventory balance per SP-317.

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

Simulator ____ In-Plant ____ Admin __X__ Perform __X__ Simulate ____

References:

SP-317, Rev. 59

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

Candidate: _____ **Time Start:** _____
Printed Name **Time Finish:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____/_____
Printed Name Signature Date

Comment: _____

_____

_____

_____

Tools/Equipment/Procedures Needed:

1. **SP-317**
2. **SRO Only – TS located in exam room**

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task, return the handout sheet to the examiner.

Initial Conditions:

You are the Reactor Operator
The current time is 0400 on this date.
The plant has been at steady state conditions (100%) for the past 24 hours.
Relevant plant data is supplied in enclosure *one of this* JPM.
Plant computer is operable.

Initiating Cues:

Using the data supplied, complete a RC System Water Inventory Balance for the period from 0000 to 0400. Where appropriate, assume that independent reviews have been completed.

Completion of the following satisfies the requirement to inform the Control Room Supervisor of your results.

Primary-to-Secondary Leakage	gpm
Identified Leakage	gpm
Unidentified Leakage	gpm
Controlled Bleed Off	gpm

SROs only: Upon completion of the above, evaluate your results and list any actions required per Technical Specifications. Include applicable time requirements.

Per TS _____ (TS number) the actions below must be completed within _____ hours.

STEP 1: (step 4.1.1) Procedure Note: Dumpster readings are not required if RCV-150 is open and RCDT level indication is being used. Record the following data on Enclosure 1: • Record the instruments selected as sources • Start time • RCDT Level and Start time • Pressurizer Level • Tave • MUT Level • RCS Pressure STANDARD: Data is recorded on Enclosure 1. **EXAMINER'S NOTE: The candidates should use the preferred points for this surveillance (displayed in bold type) per Step 3.2.2.1.** COMMENTS:	SAT ____ UNSAT ___
STEP 2: (step 4.1.2) Determine and record individual RCP CBO flow. STANDARD: Data is recorded on Enclosure 1. COMMENTS:	SAT ____ UNSAT ___
STEP 3: (step 4.1.3) Obtain and record RCP standpipe flushwater flow rate. STANDARD: Data is recorded on Enclosure 1. COMMENTS:	SAT ____ UNSAT ___

STEP 4: (step 4.1.4) Record component identified leakage. STANDARD: Data is recorded on Enclosure 1. COMMENTS:	SAT ____ UNSAT ___
STEP 5: (step 4.1.5) Obtain Primary to Secondary leakage data and record on Enclosure 1. STANDARD: Data is recorded on Enclosure 1. COMMENTS:	SAT ____ UNSAT ___
STEP 6: (step 4.2.2) Record the following data on Enclosure 1: • Stop time • RCDT level and stop time • RCP Seal leakage, if applicable • Pressurizer Level • Tave • MUT Level • RCS Pressure STANDARD: Data is recorded on Enclosure 1. COMMENTS:	SAT ____ UNSAT ___
STEP 7: (step 4.3.1) Calculate the test run time. STANDARD: Per the cue the run time is 4 hours (240 minutes) COMMENTS:	SAT ____ UNSAT ___

STEP 8: (step 4.3.2) Complete Section B of Enclosure 1. STANDARD: Values should be within ± .1 gpm of value listed on attached key. COMMENTS:	SAT ____ UNSAT ___
STEP 9: (step 4.3.3) Calculate total seal leakage, if applicable. STANDARD: Not applicable. RCV-150 open. COMMENTS:	SAT ____ UNSAT ___
STEP 10: (steps 4.3.4 thru 4.3.7) Complete Section D of Enclosure 1. STANDARD: Values should be within ± .1 gpm of value listed on attached key. COMMENTS:	SAT ____ UNSAT ___
STEP 11: (step 4.3.8) Total the identified component leakages in Section E of Enclosure 1. STANDARD: Values should be within ± .1 gpm of value listed on attached key. COMMENTS:	SAT ____ UNSAT ___

STEP 12: (step 4.3.9) Calculate "RCP Seal Leakage Collection Point" leakage in Section F of Enclosure 1. STANDARD: Value should be within ± .1 gpm of value listed on attached key. COMMENTS:	SAT ____ UNSAT ___
STEP 13: (step 4.3.10) Calculate "RCS Leakages" in Section G of Enclosure 1. STANDARD: Values should be within ± .1 gpm of value listed on attached key. COMMENTS:	SAT ____ UNSAT ___
STEP 14: (step 4.3.11) Perform an independent review of all calculations on Enclosure 1. STANDARD: N/A. Per the cue all independent reviews are considered complete. COMMENTS:	SAT ____ UNSAT ___
STEP 15: (step 4.3.12) INFORM the Control Room Supervisor of the completion and the results of this procedure. EXAMINER'S NOTE: This step is finished by completing the data form provided with the cue supplied to the candidate. STANDARD: Calculation results are ± .1 gpm of the values listed on the attached key. COMMENTS:	**Critical Step** SAT ____ UNSAT ___

STEP 16: (SRO only)		**Critical Step** (SRO ONLY)
STANDARD:	SRO candidates should review TS and determine the required actions and time frames for the calculated results. TS 3.4.12 – Reduce leakage to within limits in 4 hours.	SAT ____ UNSAT ___
END OF TASK		

RCS LEAKAGE CALCULATION ENCLOSURE 1

A. TIME:

1) Start date/time _____ / 0000
2) Stop date/time _____ / 0400
3) Run time (time difference between A1 and A2) 240 min

B. RC DRAIN TANK:

B.1	Measurement Source (Note 1)			X368		
B.2	DVM instrument number (otherwise N/A)					
	DVM calibration due date (otherwise N/A)					
		1st period	2nd period	3rd period	Total	Units
B.3	Start time	0000				Clock time
B.4	Stop time	0400				Clock time
B.5	Run time	240			240	Minutes
B.6	Stop level	88.270				Inches
B.7	Start level	86.268				Inches
B.8	Δ Level	2.002			2.002	Inches
B.9	Δ Inventory (Total Δ Level x 33.00)				66.066	Gallons
B.10	RCDT rate of change (Δ Inventory / total run time)				0.275	GPM

Note 1: Use computer point X368 for leak rates < 4 hrs duration. The DVM may be used if X368 is unavailable.

C. RCP SEALS:

1) CONTROLLED BLEED OFF

	RCP-1A X922	RCP-1B X923	RCP-1C X924	RCP-1D X925
a) controlled bleed off	1.440	1.365	1.540	1.660
b) total of all pumps	6.005			

2) DUMPSTER FLOWS

	RC-134-FZ	RC-135-FZ	RC-136-FZ	RC-137-FZ
a) dumpster reading at stop time	NR	NR	NR	NR
b) dumpster reading at start time	NR	NR	NR	NR
c) dumpster difference (C2a minus C2b)	NR	NR	NR	NR
d) dumpster conversion (gals/click)	0.25	0.25	0.25	0.25
e) dumpster flow-rate (C2c x C2d/A3) gpm	NR	NR	NR	NR
f) standpipe flush water flow-rate gpm	.05	.05	.05	.05
g) RCP seal leakage C2e minus C2f) gpm	NR	NR	NR	NR
h) total RCP seal leakage gpm (SUM of C2g values for all 4 RCPs)	NR			

D. RCS INVENTORY CHANGES: (NOTE: If no change is observed, N/A respective correction factor.)

1) RCS PRESSURE

a)	Measurement source	R762 .
b)	Pressure at start time (Round to whole number)	2146 psig
c)	Pressure at stop time (Round to whole number)	2146 psig
d)	Average pressure	2146 psig

2) PRESSURIZER (Use computer point R874 or RECL-66 for leak rates < 4 hrs in duration)

a)	Measurement source		R874
b)	Level at start time		222.703 in.
c)	Level at stop time ?	-	220.710 in.
d)	Level change (D2b minus D2c)	=	1.993 in.
e)	Correction factor (Round D1d to closest value)	x	12.21 gal/in. (Enclosure 3)
f)	Inventory change (D2d x D2e)	=	24.335 gal.

3) T_{avg} (Use RECL-16 or computer point R731 for leak rates < 4 hrs in duration)

a)	Measurement source		R731
b)	Temperature at start time		579.102°F
c)	Temperature at stop time ?		579.107°F
d)	Temperature change (D3b minus D3c)	=	-0.005 °F
e)	Average temperature ([D3b + D3c] ÷ 2)	=	579.10 °F
f)	Correction factor (Based on D3e)	x	96.51 gal/°F
(Enclosure 2) g)	Inventory change (D3d x D3f)	=	-0.483 gal.

4) MAKE-UP TANK (Use computer point X359 for leak rates < 4 hrs in duration)

a)	Measurement source		X359 .
b)	Level at start time		88.102 in.
c)	Level at stop time	?	70.110 in.
d)	Level change (D4b minus D4c)	=	17.992 in.
e)	Correction factor	x	30.85 gal/in.
f)	Inventory change (D4d x D4e)	=	555.053 gal.

5) WATER ADDITIONS OR REMOVALS (Do not add or remove inventory for leak rates < 4 hrs in duration)

a) Additions total

_____ + _____ + _____ + _____ + _____ = 0 gal.

b) Removals total

_____ + _____ + _____ + _____ + _____ = 0 gal.

6) TOTAL INVENTORY RATE-OF-CHANGE

(D2f minus D3g plus D4f plus D5a minus D5b) / A3

(24.335 -- -0.483 + 555.053 + 0 -- 0) / 240 = 2.416 gpm

E. COMPONENT IDENTIFIED LEAKAGE:

NOTE

To obtain leakage in "gpm", multiply the number of drops per minute by 1.67×10^{-5} (0.0000167). Do not round the individual component leakages.

Component	Leakage Rate	
DHV-4	.00025	gpm
MUV-27	.0008.5	gpm
		gpm
		gpm
		gpm
		gpm
		gpm
		gpm

Total component leakage rate .000 gpm

F. RCP SEAL LEAKAGE COLLECTION POINT: [NOCS 040486]

1) RB Sump (RCV-150 Closed) (otherwise N/A)
(RCDT rate of change plus Total RCP seal leakage)
(B10 plus C2h) N/A gpm

2) RC Drain Tank (RCV-150 Open) (otherwise N/A)
(RCDT rate of change minus Total of RCP standpipe flush water flow-rates) (B10 minus C2f)
(C2f = RCP-1A + RCP-1B + RCP-1C + RCP-1D) 0.075 gpm

G. RCS LEAKAGES [NOCS 000597]

1) Primary-to-Secondary Leakage (from Chem. Dept.)
(Round to hundredths) 0.07 gpm

2) Identified Leakage (E plus F plus G1)
(Round to hundredths/round to tenths if using analog instruments) 0.15 gpm

3) Unidentified Leakage (D6 minus [E plus F plus G1]
then round to hundredths/round to tenths if using analog instruments) 2.27 gpm

4) Controlled Bleed Off (C1b)
(Round to hundredths/round to tenths if using Enclosure 4) 6.01 gpm

Performed By (Start) _____ Time _____ Date_____

Performed By (Stop) _____ Time _____ Date_____

Independently Reviewed By _____ Time _____ Date_____

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UNPON COMPLETION OF TASK)

Initial Conditions:

You are the Reactor Operator
The current time is 0400 on this date.
The plant has been at steady state conditions (100%) for the past 24 hours.
Relevant plant data is supplied in enclosure one of this JPM.
Plant computer is operable.

Initiating Cues:

Using the data supplied, complete a RC System Water Inventory Balance for the period from 0000 to 0400. Where appropriate, assume that independent reviews have been completed.

Completion of the following satisfies the requirement to inform the Control Room Supervisor of your results.

Primary-to-Secondary Leakage	**gpm**
Identified Leakage	**gpm**
Unidentified Leakage	**gpm**
Controlled Bleed Off	**gpm**

SROs only: Upon completion of the above, evaluate your results and list any actions required per Technical Specifications. Include applicable time requirements.

Per TS _____ (TS number) the actions below must be completed within _____ hours.

RCS LEAKAGE DATA SHEET

TANK LEVELS

TIME	RCDT	PRESSURIZER LEVEL		MUT
	X368	RC-001-LIR1	R874	X359
0000	86.268 in	220 in	222.703 in	88.102 in
0030	86.311 in	220 in	222.555 in	86.303 in
0100	86.625 in	220 in	221.345 in	83.522 in
0130	87.112 in	220 in	220.657 in	82.445 in
0200	87.333 in	220 in	221.412 in	80.189 in
0230	87.645 in	220 in	222.355 in	77.726 in
0300	87.811 in	217.5 in	220.186 in	75.925 in
0330	88.012 in	217.5 in	220.512 in	73.411 in
0400	88.270 in	217.5 in	220.710 in	70.110 in

RCP SEALS CONTROLLED BLEED OFF

TIME	RCP-1A X922	RCP-1B X923	RCP-1C X924	RCP-1D X925
0000	1.440 gpm	1.365 gpm	1.540 gpm	1.660 gpm
0030	1.481 gpm	1.334gpm	1.583 gpm	1.632 gpm
0100	1.432 gpm	1.399 gpm	1.544 gpm	1.677 gpm
0130	1.493 gpm	1.411 gpm	1.498 gpm	1.716 gpm
0200	1.425 gpm	1.393 gpm	1.573 gpm	1.641 gpm
0230	1.437 gpm	1.344 gpm	1.544 gpm	1.685 gpm
0300	1.484 gpm	1.366 gpm	1.591 gpm	1.643 gpm
0330	1475 gpm	1.344 gpm	1.568 gpm	1.634 gpm
0400	1.473 gpm	1.329 gpm	1.553 gpm	1.622 gpm

RCP SEALS DUMPSTER READINGS *(Standpipe flush = 0.05 gpm/pump)*

TIME	RC-134-FZ	RC-135-FZ	RC-136-FZ	RC-137-FZ
0000	1720	2623	1655	1893
0030	1726	2628	1662	1902
0100	1732	2633	1669	1911
0130	1737	2639	1675	1920
0200	1744	2646	1680	1928
0230	1750	2652	1685	1936
0300	1756	2657	1692	1943
0330	1762	2663	1699	1951
0400	1768	2699	1706	1957

RCS PARAMETERS

TIME	T_{avg}	RCS PRESSURE	
	R731	RC-003A-PIR1	R762
0000	579.102°F	2150	2160.235
0030	579.322°F	2145	2150.584
0100	579.415°F	2145	2150.152
0130	579.222°F	2150	2155.235
0200	579.265°F	2155	2155.698
0230	579.125°F	2160	2165.259
0300	579.298°F	2155	2160.364
0330	579.312°F	2150	2156.264
0400	579.107°F	2150	2160.785

COMPONENT LEAKAGE

DHV-4	15 drops/min
MUV-27	5 drops/min

OTSG LEAKAGE

0.07 gpm (from chemistry)

RCDT INFORMATION

PRESSURE	2 psig & steady
RCV-150	open
Vented to waste gas header	
No leakage thru RCV-8, 9, 10	

ADDITIONAL INFORMATION

1. There were no additions, removals, or samples drawn from the RCS during this period.
2. MUT tank addition made 45 minutes prior to start of SP.
3. RCDT pumped down 45 minutes prior to start of SP.
4. Chemistry notified of SP-317 performance starting at 0000.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

AdminCO2 (2K3) NRC [Modified Bank #282] (ADMINISTRATIVE)

PERFORM A DAILY HEAT BALANCE COMPARISON, SP-312A

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 8
ADMINISTRATIVE JOB PERFORMANCE MEASURE

Task: RO/SRO - Perform a Daily Heat Balance Power Comparison, SP-312A
SRO - Perform safety and technical reviews of plant procedures

Alternate Path: No

JPM #: AdminCO2 (2K3) NRC [Modified Bank #282]

K/A Rating/Importance: G2.1.23 RO 3.9 SRO 3.1
G2.1.12 SRO 4.0

Task Number/Position: 0150202003 RO
1190101029 SRO

Task Standard: Perform a Daily Heat Balance Power Comparison, SP-312A

Preferred Evaluation Location:

Simulator ____ In-Plant ____ Admin __X__

Preferred Evaluation Method:

Perform __X__ Simulate ____

References:

SP-312A, Rev. 14

Validation Time: 20 min.

Time Critical: No

Candidate: _____
Printed Name

Time Start: _____

Time Finish: _____

Performance Rating: SAT ____ UNSAT ____

Performance Time: _____

Examiner: _____ _____/_____
Printed Name Signature Date

Comment: _____

_____

_____

_____

Tools/Equipment/Procedures Needed:

SP-312A, Rev. 14

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task, return the handout sheet to the examiner.

INITIAL CONDITIONS:

You are the Reactor Operator.
SP-312A is being done to comply with the daily 0200 requirements.
SP-312A Report was obtained and all points are displaying good data.
The plant has been at steady state conditions for > 15 minutes.
The plant computer and AULD are operable.
Control Console NI power is as follows: NI-5, 100; NI-6, 100; NI-7, 100; NI-8, 100.

INITIATING CUES:

You are requested to perform SP-312A. Circle (on Enclosure 1) any calculations which are unacceptable and record the step numbers for any required actions and/or reviews below.

Group 59 and Group 108 attached.

_____, _____, _____, _____.

SROs only: Upon completion of the above, evaluate your results and list any actions required per Technical Specifications. Include applicable time requirements.

Per TS _____ (TS number) the actions below must be completed within _____ hours.

STEP 1: (step 4.1) If the plant computer is available, then go to Step 4.2. STANDARD: Plant computer is available per cue. Candidate moves to Step 4.2 COMMENTS:	SAT ____ UNSAT ___
STEP 2: (step 4.2) Obtain an SP-312A Report. STANDARD: N/A. SP-312A Report was supplied to the candidate. COMMENTS:	SAT ____ UNSAT ___
STEP 3: (step 4.3) Compare the following points to the SP-312A Report. STANDARD: N/A. SP-312A report is satisfactory per the cue. COMMENTS:	SAT ____ UNSAT ___
STEP 4: (step 4.4) Obtain Group 59, "Reactor Core Parameters" from the plant computer STANDARD: N/A. Group 59 was supplied to the candidate. COMMENTS:	SAT ____ UNSAT ___

STEP 5:	(step 4.5) Record the NI power values for NI-5, NI-6, NI-7, and NI-8 from Group 59 or SP-312D on Enclosure 1 under Column B designated "NI power." STANDARD: Candidate accurately transfers data from the group 59 printout to Enclosure 1. COMMENTS:	SAT ____ UNSAT ___
STEP 6:	(step 4.6) Record the value for Reference Core Power (QCORE) from Group 59 or % RTP from SP-312D on Enclosure 1 under Column A as the heat balance power. STANDARD: Candidate accurately transfers data from the group 59 printout to Enclosure 1. COMMENTS:	SAT ____ UNSAT ___
STEP 7:	(step 4.7) Record Control Console indications for NI-5, NI-6, NI-7, and NI-8 on Enclosure 1 under Column C designated "Control Console NI Power." STANDARD: Candidate accurately transfers data from information supplied in initial conditions to Enclosure 1. COMMENTS:	SAT ____ UNSAT ___

STEP 8:	(step 4.8) Perform the calculations for comparing the heat balance power to the NI power for each channel on Enclosure 1. STANDARD: Candidate accurately calculates values indicated on Enclosure 1. Candidate identifies that NI-7 meets Criteria #2 and refers to Step 5.2.2 and candidate also identifies that NI-6 meets Criteria #3 and refers to Step 5.2.1 for required actions. SRO candidates also determine TS 3.3.1 requires the affected RPS channel (B) be placed either in trip or bypass within one hour. COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 9:	(step 4.9) Perform the calculations for comparing the Control Console NI power to the heat balance power and the NI power on Enclosure 1. STANDARD: Candidate accurately calculates values indicated on Enclosure 1. COMMENTS:	SAT ____ UNSAT ___
STEP 10:	(step 4.10) If Gross Electric Megawatts (E700) is available then record Gross MWe and Average Circulating Water Inlet Temperature (A857) on Enclosure 2. STANDARD: Candidate accurately records values indicated on Enclosure 2. COMMENTS:	SAT ____ UNSAT ___

STEP 11:	(step 4.11) Using the values recorded in Step 4.10, and NI power from Enclosure 1, determine if MWe versus NI Power is in the acceptable band of Enclosure 2. STANDARD: Candidate accurately calculates values indicated on Enclosure 2 and determine that the values are within the acceptable band. COMMENTS:	SAT ____ UNSAT ___
STEP 12:	(step 4.12) If HP Turbine First Stage Pressure (T226) is available, then record it on Enclosure 3. STANDARD: Candidate accurately records values indicated on Enclosure 3. COMMENTS:	SAT ____ UNSAT ___
STEP 13:	(step 4.13) Using the values recorded in Step 4.12, and NI power from Enclosure 1, determine if HP Turbine First Stage Pressure versus NI power is in the acceptable bank of Enclosure 3. STANDARD: Candidate accurately calculates values indicated on Enclosure 3 and determines they are outside of the acceptable region. Per Step 5.2.7.1 the candidate should notify the CRS/SSO and Reactor Engineering or System Engineering that the heat balance is suspect. COMMENTS:	SAT ____ UNSAT ___
END OF TASK		

KEY - DAILY NI POWER TO HEAT BALANCE POWER COMPARISON

Performance of this enclosure to meet the daily requirement should be as close to 0200 hrs as is reasonably possible. If it is performed early, or delayed, by more than 2 hours the CRS/SSO should refer to the completion time recorded for the last prior performance to determine the allowable window. Steps 3.2.1 through 3.2.3 specify which heat balance to use.

A		B	C	COMPARISON	
Heat Balance Power	Detector	NI Power	Control Console NI Power	Heat Balance (A) - NI Power (B) = (D)	
100.07 % RTP	NI-5	99.29	100	100.07 - 99.29 = 0.78	1. IF (D) < 0.8% RTP, THEN (D) is acceptable.
Method Used (?):	NI-6	98.01	100	100.07 - 98.01 = 2.06	2. IF 0.8% RTP ≤ (D) ≤ 2.0% RTP, THEN refer to Step 5.2.2.
AULD X	NI-7	98.78	100	100.07 - 98.78 = 1.29	3. IF (D) > 2.0% RTP, THEN refer to Step 5.2.1.
QCORE	NI-8	99.37	100	100.07 - 99.37 = 0.70	
SP-312D					

NI Power - Heat Balance

	(B)	-	(A)	=	(E)
NI-5	99.29	-	100.07	=	-0.78
NI-6	98.01	-	100.07	=	-2.06
NI-7	98.78	-	100.07	=	-1.29
NI-8	99.37	-	100.07	=	-0.70

IF (E) > 2.0% RTP, THEN refer to Step 5.2.3.

Comparison

(Control Console) NI Power - NI Power

(C)	-	(B)	=	(F)
100	-	99.29	=	0.71
100	-	98.01	=	1.99
100	-	98.78	=	1.22
100	-	99.37	=	0.63

IF |(F)| > 5.0% RTP, THEN refer to Step 5.2.4.

(Control Console) NI Power - Heat Balance

(C)	-	(A)	=	(G)
100	-	100.07	=	-0.07
100	-	100.07	=	-0.07
100	-	100.07	=	-0.07
100	-	100.07	=	-0.07

IF |(G)| > 5.0% RTP, THEN refer to Step 5.2.5.

|GRP 59 QCORE – AULD power| = |100.03 - 100.07| = 0.04 < 0.5%FP ? **Yes** No (circle one)

Computer group 59 and "SP-312A Report" attached? Yes No (circle one)

Performed By: _____ Date: _____ Time: _____

Verified By: _____ Date: _____ Time: _____

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Reactor Operator.
SP-312A is being done to comply with the daily 0200 requirements.
SP-312A Report was obtained and all points are displaying good data.
The plant has been at steady state conditions for > 15 minutes.
The plant computer and AULD are operable.
Control Console NI power is as follows: NI-5, 100; NI-6, 100; NI-7, 100; NI-8, 100.

INITIATING CUES:

You are requested to perform SP-312A. Circle (on Enclosure 1) any calculations which are unacceptable and record the step numbers for any required actions and/or reviews below.

Group 59 and Group 108 attached.

_____, _____, _____, _____.

SROs only: Upon completion of the above, evaluate your results and list any actions required per Technical Specifications. Include applicable time requirements.

Per TS _____ (TS number) the actions below must be completed within _____ hours.

07/09/03 GROUP 59 REACTOR CORE PARAMETERS 10:19:00 AM

CORE POWER IMBALANCE = TOP - BOTTOM, %FP

	INCORE	NI-5	NI-6	NI-7	NI-8
NI POWER, %	N/A	99.29	98.01	98.78	99.37
IMBALANCE, %FP	-3.60	-4.56	-4.20	-4.01	-3.65

CALC IMBALANCE LIMITS NEG=-18.29 POS=15.54

CORE POWER TILT=((QUAD POW/AVG QUAD POW)-1)*100=%

	WX QUAD	XY QUAD	YZ QUAD	ZW QUAD
INCORE SYM DET, %=	-1.56	-1.19	1.92	1.07
OUTCORE IN DET, %=	.26	.14	-.35	-.05

CALC TILT LIMITS, %= 4.16 STEADY STATE, 10.03 TRANSIENTS

CONTROL ROD WITHDRAWAL INDEXES, %WD = 289.97 GPS 5, 6, 7
CALC GP 5, 6, 7 INDEX LIMITS, %WD MIN = 266.71 MAX = 305.00
%WD = 32.85 GP 8 (APSR)
CALC GP 8 INDEX LIMIT, %WD MIN = -1.00 MAX = 105.00

BACKUP REF. CORE POWER (PPCS QCORE)=2568.8 MWT=100.03% FP (2 MIN)
BACKUP (PPCS) SHIFT AVG CORE POWER (ANY POWER) = 2564.8 MWT

AULD INSTANTANEOUS CORE POWER = 2569.7 MWT
AULD SHIFT AVG CORE POWER = 2568.0

GROUP 108 – PLANT STATUS

E211	GENERATED MEGAWATTS	875.50	MW
E700	UNIT 3 GROSS GEN TEN (MW)	875.30	MEGAWA
T228	2A MAIN STEAM TO TURB PRESS	897.22	PSIG
T226	HP TURB FIRST STAGE PRESS	720.72	PSIG
T215	CONDENSER VACUUM (IN-HGA)	2.86709	InHg
X208	MAKE UP TANK TEMP	119.984	DEG F
A857	CW INLET AVE TEMP	88.2	DEG F
A858	CW OUTLET AVE TEMP	104.9	DEG F
G200	GENERATOR HYDROGEN PRESURE	60.205	PSIG
G216	STATOR COIL DIS GAS TME, RTD 1A	72.703	DEG C
G219	AVERAGE COLD GAS TEMPERTURE	44.354	DEG C

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

AdminRC1 (2K3) NRC [NEW] (ADMINISTRATIVE)

SRO ONLY

DETERMINE EXTERNAL REPORTING REQUIREMENTS

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 8
ADMINISTRATIVE JOB PERFORMANCE MEASURE

Task: Determine External Reporting Requirements

Alternate Path: No

JPM #: AdminRC1 (2K3) NRC [New]

K/A Rating/Importance: G2.3.1 SRO 3.0

Task Number/Position: 1190101035 SRO

Task Standard: Determine External Reporting Requirements per CP-151

Preferred Evaluation Location:

Simulator___ Plant ___ Admin_X_

Preferred Evaluation Method

Perform _X_ Simulate ____

References:

CP-151, Rev. 13
10CFR

Validation Time: 10 Minutes

Time Critical: No

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

CP-151
10CFR

READ TO THE EXAMINEE:

Directions to the Examinee:

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

INITIAL CONDITIONS:

The plant is at 100% rated thermal power.

INITIATING CUE:

You are the Superintendent, Shift Operations.

- A Health Physics Supervisor has called the Control Room reporting a cask rupture in the yellow room.
- Access to the room will be limited to HP personnel for at least 48 hours.

You are requested to determine external reporting requirements. Record below.

STEP 1: Obtain a copy of CP-151 STANDARD: N/A **EXAMINER NOTE: Provide candidate with a copy of CP-151 and 10CFR if requested.** COMMENTS:	N/A
STEP 2: Using supplied CP-151, examinee determines reportability. STANDARD: CP-151, Enclosure 2 Section XIII.B., states that a 24 hour report is required for "An unplanned contamination event that requires access to the contaminated area, by workers or the public, to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area". [10CFR30.50(b)(1)(i)] COMMENTS:	**Critical Step** SAT_____ UNSAT_____
TERMINATION CUE: Notification requirements determined.	
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The plant is at 100% rated thermal power.

INITIATING CUE:

You are the Superintendent, Shift Operations.

- A Health Physics Supervisor has called the Control Room reporting a cask rupture in the yellow room.
- Access to the room will be limited to HP personnel for at least 48 hours.

You are requested to determine external reporting requirements. Record below.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

PlantI (2K3) NRC [New] (Plant)

SAFETY FUNCTION 4

PLACE AN EFIC CHANNEL IN THE TRIPPED CONDITION

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 6
IN-PLANT JOB PERFORMANCE MEASURE

Task: Place an EFIC channel in the tripped condition per OP-450.

Alternate Path: No

JPM #: PlantI (2K3) NRC [New]

K/A Rating/Importance: 061A2.05 RO 3.1 SRO 3.4

Task Number/Position:

Task Standard: Manually trip an EFIC channel.

Preferred Evaluation Location:

Simulator___ Plant _X_ Admin___

Preferred Evaluation Method

Perform ___ Simulate _X_

References:

OP-450, Rev. 40

Validation Time: 10 Minutes

Time Critical: No

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

_____

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Copy of OP-450.
Additional copies of Section 4.17 and Enclosures 14, 15 & 16.
Use EFIC cabinets in I & C lab if available.

READ TO THE OPERATOR:

Directions to the student:

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

INITIAL CONDITIONS:

You are the Chief Nuclear Operator.
The plant is in Mode 1.
SP-29-LT has been determined to be inoperable.

INITIATING CUE:

The Control Room Supervisor directs you to trip the required EFIC channel to comply with TS.

STEP 1: Obtain OP-450. STANDARD: Obtain copy of OP-450. **EXAMINER'S CUE: Examiner will provide candidate with a complete copy of OP-450.** COMMENTS:	SAT_____ UNSAT_____
STEP 2: (step 4.17.1) Determine EFIC channel to be tripped: • Channel A • Channel B • Channel C • Channel D STANDARD: Candidate will utilize Enclosure 14 of OP-450 to determine which channel should be tripped. Candidate should determine that SP-29-LT is the Low Range level transmitter on the "B" OTSG in the "A" Channel. COMMENTS:	**Critical Step** SAT_____ UNSAT_____

STEP 3: (step 4.17.2) Verify no other EFIC channels are tripped. EFW/MSLI/MFWI/VECTOR Actuation Trip Module lights are dim and steady (Not bright and blinking) in A & B EFIC cabinets. STANDARD: Candidate will check all trip module lights and ensure lights are dim and steady. **EXAMINER'S NOTE: If JPM is performed in the lab then you will have to cue the candidate that there are no trip module lights flashing in the "B" EFIC cabinet.** COMMENTS:	SAT_____ UNSAT_____
STEP 4: (step 4.17.3) Verify EFIC channel to be tripped is not in maintenance bypass. Bypass key NOT inserted and maintenance bypass light is dim and steady. STANDARD: Candidate locates keyhole, verifies key is not inserted and that the maintenance bypass light is dim and steady. COMMENTS:	SAT_____ UNSAT_____

STEP 5: (step 4.17.4) Procedure Note: This step only determines which module and device is to be used to trip an EFIC function. Determine EFIC system function required to be tripped and which module and trip device should be used to accomplish this. • Refer to Enclosure 15 • EFIC Channel: A • Function: Low Level • Affected OTSG: B • Module: A-3-5 • Trip Device: TEST P/B STANDARD: Candidate determines the correct channel, function, OTSG, module and trip device using enclosures. COMMENTS:	SAT_____ UNSAT_____
STEP 6: (step 4.17.5) If tripping of level instrument is desired, then depress and hold TEST pushbutton on affected time delay bistable module for $\geq$ 2 seconds and release. • Test P/B depressed for $\geq$ 2 seconds and trip light on bistable flashes • Verify appropriate steam generator Level Initiate light is flashing on Bistable Tripped section of alarm panel in top of cabinet. • Test P/B released STANDARD: Candidate locates correct module, depresses the test pushbutton and verifies the appropriate light is flashing on the alarm panel. COMMENTS:	**Critical Step** SAT_____ UNSAT_____

STEP 7: (step 4.17.9) Verify appropriate combination of Tripped 1 & 2 lights on EFW, MSLI, MFWI Trip Modules as applicable are flashing, and record on Enclosure 16, Trip Module "Tripped" Light Status Verification. STANDARD: Candidate verifies Trip Bus 1 light is flashing on the EFW Trip Module only. **EXAMINER'S NOTE:** **If JPM is performed in the lab then you will have to cue the candidate that the Trip Bus 1 light is flashing on the EFW Trip module in the "B" EFIC cabinet.** COMMENTS:	SAT_____ UNSAT_____
STEP 8: (step 4.17.10) Verify appropriate alarms are received in Control Room. STANDARD: Candidate simulates call to Control Room to verify alarms. **EXAMINERS CUE: The correct alarms have annunciated.** COMMENTS:	SAT_____ UNSAT_____
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Chief Nuclear Operator.
The plant is in Mode 1.
SP-29-LT has been determined to be inoperable.

INITIATING CUE:

The Control Room Supervisor directs you to trip the required EFIC channel to comply with TS.

CRYSTAL RIVER UNIT 3

JPM COVER SHEET

PlantJ (2K3) NRC [Bank #059] (Plant)

SAFETY FUNCTION 8

SW SURGE TANK MAKEUP FROM FIRE SERVICE

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 6
IN-PLANT JOB PERFORMANCE MEASURE

Task: SW Surge Tank makeup from Fire Service.

Alternate Path: No

JPM #: PlantJ (2K3) NRC [Bank #059]

K/A Rating/Importance: 008A1.04 RO 3.1 SRO 3.2

Task Number/Position: 0080403011

Task Standard: Provide makeup from the Fire Service system to the SW Surge Tank using AP-330, Enclosure 4.

Preferred Evaluation Location:

Simulator ___ In-Plant _X_ Admin ___

Preferred Evaluation Method:

Perform ___ Simulate _X_

References:

AP-330, Rev. 17

Validation Time: 10 min.

Time Critical: No

Candidate: _____
Printed Name

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

Tools/Equipment/Procedures Needed:

AP-330, Enclosure 4
Simulate opening EOB

READ TO THE OPERATOR

Directions to the Student:

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

Initial Conditions:

You are the Primary Plant Operator.
DW supply to SW has been lost.

Initiating Cues:

You are requested to perform the actions of the Primary Plant Operator (PPO) to establish SW Surge Tank Makeup from FS, AP-330, Enclosure 4.

STEP 1: Obtain copy of the appropriate procedure. STANDARD: Operator obtains a copy of AP-330, Enclosure 4. **EXAMINER'S NOTE: Once operator demonstrates he/she can locate the procedure, provide them with a copy.** COMMENTS:	SAT ___ UNSAT ___
STEP 2 : (Step 4.1) Prepare SW surge tank for FS makeup. Connect hose between the following valves (hose is located in EOB-6): _____ FSV-186, "Hose Reel Header Drain." _____ SWV-520, "SW Supply to Surge Tank Drain." STANDARD: Operator locates hose in EOB-6, stages hose between FWV-186 and SWV-520, connects hose at each valve location. **EXAMINER'S CUE: Indicate that the hose is connected at FSV-186 and SWV-520.** COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 3 : (Step 4.2) Close SWV-298, "DW to SW Surge Tank Iso" STANDARD: Operator locates SWV-298 and rotates handwheel until valve is fully closed. **EXAMINER'S CUE: SWV-298 is closed.** COMMENTS:	**Critical Step** SAT ____ UNSAT ___

STEP 4: (Step 4.3) Open SWV-520, "DW Supply to Surge Tank Drain." STANDARD: Operator rotates handwheel until the valve is fully open. **EXAMINER'S CUE: SWV-520 is open.** COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 5: (Step 4.4) Open FSV-186, "Hose Reel Header Drain." STANDARD: Operator rotates handwheel until the valve is fully open. **EXAMINER'S CUE: FSV-186 is open.** COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 6: (Step 4.5) Notify Control Room that FS makeup is aligned to SW surge tank. STANDARD: Operator communicates (radio preferred) to Control Room that FS makeup is aligned to SW surge tank. **EXAMINER'S NOTE: Simulate Control Room communication.** COMMENTS:	SAT ____ UNSAT ___
STEP 7: (Step 4.6) Exit this enclosure.	
END OF TASK	

CANDIDATE *CUE* SHEET

(TO BE RETURNED TO EXAMINER UNPON COMPLETION OF TASK)

Initial Conditions:

You are the Primary Plant Operator.
DW supply to SW has been lost.

Initiating Cues:

You are requested to perform the actions of the Primary Plant Operator (PPO) to establish SW Surge Tank Makeup from FS, AP-330, Enclosure 4.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

PlantK (2K3) NRC [Bank #085] (Plant)

SAFETY FUNCTION 1

MANUALLY TRIP THE REACTOR

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 6
IN-PLANT JOB PERFORMANCE MEASURE

Task: Manually trip the reactor during a shutdown from outside the control room event.

Alternate Path: Yes

JPM #: PlantK (2K3) NRC [Bank #085]

K/A Rating/Importance: E02EA1.1 RO 4.0 SRO 3.6

Task Number/Position: 1010402004 RO

Task Standard: Manually trip the reactor during a shutdown from outside the control room event.

Preferred Evaluation Location:

Simulator___ Plant _X_ Admin___

Preferred Evaluation Method

Perform ___ Simulate _X_

References:

AP-990, Rev 19

Validation Time: 5 Minutes

Time Critical: No

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

_____

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Copy of AP-990 signed off up to Step 3.15.

READ TO THE OPERATOR:

Directions to the student:

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

INITIAL CONDITIONS:

You are the Reactor Operator.
The Control Room has been evacuated.
AP-990 has been completed through Step 3.14

INITIATING CUE:

The Control Room Supervisor directs you to continue AP-990 starting with step 3.15.

EXAMINER'S NOTE: FOR STEPS DENOTED AS "CRITICAL STEP", WHICH HAVE MULTIPLE ACTIONS, THE INDIVIDUAL REQUIRED ACTION WILL BE DENOTED "CS". IF NO INDIVIDUAL ACTIONS ARE DENOTED AS SUCH THEN ALL ACTIONS WITHIN THE STEP ARE DEEMED "CRITICAL".

STEP 1:	Obtain AP-990.	SAT_____
STANDARD:	Obtain copy of AP-990 from PPO office.	UNSAT_____
EXAMINER'S CUE:		
	Examiner will provide candidate with AP-990 signed off though 3.15.	
COMMENTS:		

STEP 2: (step 3.15)	Verify NI-14-NI2 is on scale. If NI-14-NI2 is not on scale, then Rx is shutdown. 1. Notify RO (PPO) to ensure CRD Bkrs are tripped (124 ft CC CRD Room): "CRD BREAKER A" *(CS)* "CRD BREAKER B" *(CS)* "CRD BREAKER CB3" *(CS)* "CRD BREAKER CB1" *(CS)* "CRD BREAKER CB4" *(CS)* "CRD BREAKER CB2" *(CS)* 2. Notify RO (PPO) to verify all CRD "0%" lights for groups 1 through 7 are lit on "POSITION REFERENCE PANEL" (124 ft CC CRD Room). 3. If NI-14-NI2 is not on scale, then notify TSC to consider emergency boration.	**Critical Step** SAT_____ UNSAT_____
STANDARD:	Candidate observes NI-14-NI2 on RSP. Candidate locates six CRD Breakers and indicates that he/she would depress trip pushbuttons. Candidate locates Position Reference Panel and observes lights for Group 1 through 7. Candidate again checks NI-14-NI2	
EXAMINER'S CUE:	**When candidate observes NI-14-NI2 indicate to him/her that NI-14-NI2 is off scale high. Inform the candidate that he/she is to complete the remaining portion of this step** **When candidate indicates that he would depress the trip pushbutton for each breaker inform him/her that they hear a loud clunk and the open flag is visible** **When candidate looks at the Position Reference Panel indicate to him/her that the "0%" lights for Group 1 through 7 are on.** **When candidate checks NI-14-NI2 Indicate a reading that is on scale (RX shutdown) and decreasing.**	
COMMENTS:		

<u>TERMINATION CUE:</u> CRD breakers OPEN, CRD groups 1 through 7 fully inserted and NI-14-NI2 on scale and decreasing.	
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Reactor Operator.
The Control Room has been evacuated.
AP-990 has been completed through Step 3.14

INITIATING CUE:

The Control Room Supervisor directs you to continue AP-990 starting with step 3.15.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

PlantSpare (2K3) NRC [Bank #270] (Plant)

SAFETY FUNCTION 2 & 8

TRANSFER EXCESS CONTAMINATED SECONDARY INVENTORY TO THE "A" FIRE SERVICE TANK

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 6
IN-PLANT JOB PERFORMANCE MEASURE

Task: Transfer excess contaminated secondary inventory to the "A" Fire Service Tank, FST-1

Alternate Path: No

JPM #: PlantSpare (2K3) NRC [BANK #270]

K/A Rating/Importance: 037AK3.07 RO 4.2 SRO 4.4

Task Number/Position: 0860504001, 0560504005 SPO

Task Standard: Transfer excess contaminated secondary inventory to the "A" Fire Service Tank, FST-1

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

Simulator ___ **In-Plant** _x_ **Admin** ____ **Perform** ____ **Simulate** _X_

References:

1. EOP-14, Enclosure 9, Rev. 9

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

==========

Candidate: _____ **Time Start:** _____
Printed Name **Time Finish:** _____

Performance Rating: **SAT** _____ **UNSAT** _____ **Performance Time:** _____

Examiner: _____ _____ / _____
Printed Name **Signature** **Date**

Comment:

_____
_____
_____
_____

Tools/Equipment/Procedures Needed:

1. EOP-14, Enclosure 9, Rev 9
2. A "P" key is required to gain entry to the Fire Pump House. CDV-103 lock should be on the SPO key ring

READ TO THE OPERATOR

Directions to the Student:

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

Initial Conditions:

You are the Turbine Building Operator.

An OTSG tube leak is in progress. EOP-6 has been entered with OTSGs steaming to the condenser and with at least 1 RCP operating. Additional secondary water inventory storage is desired.

Initiating Cues:

You are directed to perform EOP-14, Enclosure 9, OTSG Contaminated Waste Water Management.

EXAMINER'S NOTE: FOR STEPS DENOTED AS "CRITICAL STEP", WHICH HAVE MULTIPLE ACTIONS, THE INDIVIDUAL REQUIRED ACTION WILL BE DENOTED "CS". IF NO INDIVIDUAL ACTIONS ARE DENOTED AS SUCH THEN ALL ACTIONS WITHIN THE STEP ARE DEEMED "CRITICAL".

STEP 1: Obtain a copy of appropriate procedure. STANDARD: Candidate obtains a copy of EOP-14, Enclosure 9, Rev. 9 **EXAMINER CUE:** **EXAMINER NOTE:** **Once candidate indicates where he/she would acquire the procedures then provide candidate with a copy of EOP-14, Enclosure 9.** COMMENTS:	SAT _____ UNSAT _____

STEP 2: (step 9.1) Align FSP recirc Hdr to FST-1B 1. Ensure FSV-28 "FST-1B INLET ISO" is open (119 ft Berm between FSTs). 2. Close FSV-27 "FST-1A INLET ISO" (119 ft Berm between FSTs). 3. Open FSV-24 "FSP RECIRC LINE TO FST ISO" (119 ft FSPH northwest wall) STANDARD: Locate the identified valves and simulate operation to the appropriate position. **EXAMINER CUE:** **1. FSV-28 is OPEN** **2. FSV-27 is CLOSED** **3. FSV-24 is OPEN** **EXAMINER NOTE:** COMMENTS:	**Critical Step** SAT _____ UNSAT _____
STEP 3: (step 9.2) Verify FSP-2B is available. IF FSP-2B is NOT available, THEN **GO TO** Step 9.9 in this enclosure. STANDARD: Go to Step 9.9 **EXAMINER CUE:** **FSP-2B is NOT available.** **EXAMINER NOTE:** **Steps 9.3 through 9.8 are N/A; the next step is 9.9** COMMENTS:	SAT _____ UNSAT _____

STEP 4: (step 9.9) Open FSV-41 "FSP SUCTION HDR CROSS-TIE" (119 ft FSPH north wall). STANDARD: Locate the identified valves and simulate operation to the appropriate position. **EXAMINER CUE:** **FSV-41 is OPEN** **EXAMINER NOTE: STATUS** **FSP-2B not available.** **FSP-1 available for alignment to FST-1B to support FS.** **FSP-2A available to transfer FST-1A to FST-1B.** COMMENTS:	**Critical Step** SAT _____ UNSAT _____
STEP 5: (step 9.10) Close FSV-13 "FSP SUCTION HDR CROSS-TIE" (119 ft FSPH north wall). STANDARD: Locate the identified valve and simulate operation to the appropriate position. **EXAMINER CUE:** **FSV-13 is CLOSED** **EXAMINER NOTE:** COMMENTS:	**Critical Step** SAT _____ UNSAT _____

STEP 6: (step 9.11) Establish recirc flow to FST-1B 1. Notify Control Room to start FSP-2A 2. Verify FSP-2A is running (119 ft FSPH). 3. Throttle open FSV-23 "FSP-2A RECIRC ISO" (119 ft FSPH southeast wall) to establish 2100 gpm as indicated on FS-12-FIS "FSP's COMBINED RECIRC FLOW". ***(CS)*** STANDARD: 1. Call control room to start FSP-2A 2. Observe FSP-2A is running 3. Locate valve and throttle to 2100 gpm **EXAMINER CUE:** **1. Control room reports that FSP-2A is running** **2. Indicate that FSP-2A is running** **3. As operator throttles FSV-23 indicate flow increase to 2100 gpm on FS-12-FIS** **EXAMINER NOTE:** **FSP-1 or FSP-2B aligned to FST-1B to support FS** **FSP-2A available to transfer FST-1A to FST-1B** COMMENTS:	**Critical Step** SAT _____ UNSAT _____

STEP 7: (step 9.12) Notify Control Room that FST-1A transfer is in progress and request to be notified when FST-1A level is 6 ft. STANDARD: Candidate calls control room and ask for notification. **EXAMINER CUE:** **Notify candidate that level is 6 ft.** **EXAMINER NOTE:** COMMENTS:	SAT _____ UNSAT _____

STEP 8: (step 9.13) WHEN notified by Control Room that FST-1A level is 6 ft, THEN stop recirc flow. 1. Close FSV-23 "FSP-2A RECIRC ISO" (119 ft FSPH southeast wall). 2. Select FSP-2A "START MODE SELECTOR SWITCH" to "OFF" (119 ft FSPH). 3. WHEN FSP-2A stops, THEN select FSP-2A "START MODE SELECTOR SWITCH" to "AUTO" (119 ft FSPH). 4. Close FSV-24 "FSP RECIRC LINE TO FST ISO" (119 ft FSPH northwest wall). STANDARD: Locate the identified valves and switches and simulate operation to the appropriate position. **EXAMINER CUE:** **1. FSV-23 is CLOSED** **2. Start Mode is OFF** **3. FSP-2A is stopped Start mode to AUTO** **4. FSV-24 is CLOSED** **EXAMINER NOTE:** COMMENTS:	**Critical Step** SAT _____ UNSAT _____

STEP 9: (step 9.14) Align FSP suctions to FST-1B 1. Ensure the following pumps are stopped (119 ft FSPH): _____FSP-1 _____FSP-2A 2. Close FSV-3 "FST-1A OUTLET ISO" (119 ft Berm behind FST-1A). ***(CS)*** 3. Open FSV-41 "FSP SUCTION HDR CROSS-TIE" (119 ft FSPH north wall). ***(CS)*** 4. Ensure FSV-13 "FSP SUCTION HDR CROSS-TIE" is open (119 ft FSPH north wall). ***(CS)*** STANDARD: Locate the identified valves and simulate operation to the appropriate position. **EXAMINER CUE:** **1. FSP-1 / 2A are stopped** **2. FSV-3 is CLOSED** **3. FSV-41 is OPEN** **4. FSV-13 is OPEN** **EXAMINER NOTE: STATUS** **FST-1A level ≈ 6 ft** **FST transfer complete** COMMENTS:	**Critical Step** SAT _____ UNSAT _____

STEP 10: (step 9.15) Notify Control Room of FST-1A status. 1. FST-1A is pumped down and isolated. 2. FST-1A and CDT-1 are to be cross-tied STANDARD: Candidate notifies control room of FST-1A status. **EXAMINER CUE:** **Respond as control room that FST-1A is pumped down and that it will be cross-tied to CDT-1.** **EXAMINER NOTE:** COMMENTS:	SAT _____ UNSAT _____

STEP 11: (step 9.16) Cross-tie FST-1A to CDT-1 1. Close CDV-288 "FST TO CDT-1 CROSS-TIE DRAIN" (119 ft Berm by FST-1A). 2. Open CDV-289 "FST TO CDT-1 CROSS-TIE ISO" (119 ft Berm by FST-1A). 3. Open FSV-918 "FST TO CDT-1 CROSS-TIE ISO" (119 ft Berm by FST-1A) 4. Open CDV-103 "CDT-1 TO EFP SUCTION" (119 ft Berm by CDT-1). STANDARD: Locate the identified valves and simulate operation to the appropriate position. **EXAMINER CUE:** **1. CDV-288 is CLOSED** **2. CDV-289 is OPEN** **3. FSV-918 is OPEN** **4. CDV-103 is OPEN** **EXAMINER NOTE:** COMMENTS:	**Critical Step** SAT _____ UNSAT _____

STEP 12: (step 9.17) Notify TSC to monitor FST-1A and CDT-1 level. STANDARD: N/A. The control room would perform this step **EXAMINER CUE:** **EXAMINER NOTE:** COMMENTS:	SAT _____ UNSAT _____
STEP 13: (step 9.18) Exit this Enclosure. STANDARD: **EXAMINER CUE:** **EXAMINER NOTE:** COMMENTS:	SAT _____ UNSAT _____
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Initial Conditions:

You are the Turbine Building Operator.

An OTSG tube leak is in progress. EOP-6 has been entered with OTSGs steaming to the condenser and with at least 1 RCP operating. Additional secondary water inventory storage is desired.

Initiating Cues:

You are directed to perform EOP-14, Enclosure 9, OTSG Contaminated Waste Water Management.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimA (2K3) NRC [Bank #294] (SIMULATOR)

SAFETY FUNCTION 1

TRANSFER A SINGLE CONTROL ROD TO THE AUXILIARY POWER SUPPLY

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____Date: _____

APPROVAL BY: _____Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: Transfer a single control rod to the Auxiliary Power Supply

Alternate Path: NO

JPM #: SimA (2K3) NRC [Bank #294]

K/A Rating/Importance: 001A4.03 RO 4.0 SRO 3.7

Task Number/Position: *0010102010* RO

Task Standard: Transfer a single control rod to the Auxiliary Power Supply by using OP-502, Control Rod Drive System, Section 4.16, Transferring a Group or Rod to the Auxiliary Power Supply.

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

Simulator __X__ In-Plant ____ Admin _____ Perform __X___ Simulate _____

References:

1. OP-502 Rev. 46

Validation Time: 10 min. **Time Critical:** NO

Candidate: _____ **Time Start:** _____
Printed Name **Time Finish:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____/_____
Printed Name Signature Date

Comment: _____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. None

SIMULATOR OPERATOR INSTRUCTIONS:

1. Any power IC

Tools/Equipment/Procedures Needed:

OP-502, Rev. 46, Section 4.16

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

Initial Conditions:

You are the Reactor Operator, the plant is stable at power. Control Rod troubleshooting is underway.

Initiating Cues:

You are requested to transfer Rod 5-4 to the Auxiliary Power Supply. Following transfer of the rod leave the reactor diamond and demand stations in manual for further manipulations.

STEP 1: Obtain a copy of the appropriate procedure. STANDARD: Operator obtains a copy of OP-502. **EXAMINER'S NOTE**: *Once candidate determines correct section of procedure provide a copy of Section 4.16.* **EXAMINER'S CUE**: **For purposes of this JPM assume the SRO concurs with each rod manipulation** COMMENTS:	SAT ____ UNSAT ___
STEP 2: *(Step 4.16.1)* **CAUTION: Tave control could go to Feedwater regulation.** Place Reactor Diamond in MANUAL. DEPRESS "MANUAL" VERIFY "MANUAL" light on, " AUTO" light off STANDARD: Operator depresses the Diamond Panel MANUAL pushbutton, and observes the MANUAL light ON and the AUTO light OFF. COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 3: (Step 4.16.2) Place Reactor Demand control station in Hand. DEPRESS HAND VERIFY "REACTOR DEMAND" in Mini Track ("AUTO." and "HAND" lights on) STANDARD: Operator depresses the HAND pushbutton on the Reactor Demand (Bailey) HAND/AUTO station and observes that both the HAND and AUTO lights are "ON". COMMENTS:	SAT ____ UNSAT ___

STEP 3: (Step 4.16.3) Select GROUP SELECT Switch to desired group. STANDARD: Operator verifies that GROUP SELECT Switch is selected to Group 5. COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 4: (Step 4.16.4) Select ALL or desired rod. Use SINGLE SELECT Switch. STANDARD: Operator verifies that SINGLE SELECT Switch is selected to 4. COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 5: (Step 4.16.5) Select SEQ OR. Verify SEQ OR light "ON", SEQ light "ON". STANDARD: Operator depresses the SEQ/SEQ OR pushbutton and verifies both lights "ON". COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 6: (Step 4.16.6) Select AUXIL. STANDARD: Operator depresses the AUXIL/GROUP pushbutton and verifies AUXIL light "ON" and GROUP light "OFF". Verify TRANS RESET light OFF and CONTROL ON light for GP 5 "ON". COMMENTS:	**Critical Step** SAT ____ UNSAT ___

STEP 7: (Step 4.16.7) Place SPEED SELECTOR switch in JOG. STANDARD: Operator rotates RUN/JOG switch to JOG and verifies SY light "ON". COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 8: (Step 4.16.8) Select CLAMP. STANDARD: Operator depresses CLAMP/CLAMP RELEASE pushbutton and verifies CLAMP light "ON" and CLAMP REL light "OFF". COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 9: (Step 4.16.9) **CAUTION: If Amber control ON lights for more than one group is ON, STOP, and notify SSO.** Depress MAN TRANS. STANDARD: Operator depresses MAN TRANS pushbutton and verifies TR CF light "ON". The operator will also verify the amber CONTROL ON light for rod 5-4 is "ON". COMMENTS:	**Critical Step** SAT ____ UNSAT ___
STEP 10: (Step 4.16.10) Select CLAMP REL. STANDARD: Operator depresses CLAMP/CLAMP RELEASE pushbutton and verifies CLAMP REL light "ON" and CLAMP light "OFF". COMMENTS:	**Critical Step** SAT ____ UNSAT ___

STEP 11: (Step 4.16.11) Select GROUP STANDARD: Operator depresses GROUP/AUXIL pushbutton and verifies GROUP light "ON" and AUXIL light "OFF". The operator will also verify the SY light "OFF". COMMENTS:	SAT ____ UNSAT ___
STEP 12: (Step 4.16.12) If latching Safety Rods in accordance with section 4.2, return to Section 4.2.3 after completion of this step STANDARD: N/A COMMENTS:	
STEP 13: (Step 4.16.13) Place SPEED SELECTOR switch in RUN. STANDARD: Operator rotates RUN/JOG switch to RUN, observes the white (Diamond panel) "CONTROL ON" light for group 5 is "ON", and the amber (PI panel) "CONTROL ON" light for rod 5-4 is "ON". COMMENTS:	SAT ____ UNSAT ___
STEP 14: (Step 4.16.14) Restore SINGLE SELECT Switch. Place SINGLE SELECT Switch to OFF. STANDARD: Operator rotates SINGLE SELECT Switch to OFF. COMMENTS:	SAT ____ UNSAT ___

STEP 15: (Step 4.16.15) Restore GROUP SELECT Switch. Place GROUP SELECT Switch to OFF. STANDARD: Operator rotates GROUP SELECT switch to OFF. COMMENTS:	SAT ____ UNSAT ___
STEP 16: (Step 4.16.16) **NOTE: When in "SEQ" the Control ON lamp and Amber Control ON lamps are on for rods on the Aux Power Supply and controlling rod group (usually group 7)** Select SEQ. Verify SEQ light "ON" and SEQ OR light "OFF". STANDARD: Operator depresses SEQ/SEQ OR pushbutton and verifies SEQ light "ON" and SEQ OR light "OFF". **EXAMINER'S CUE: You have transferred rod 5-4 to the Auxiliary Power Supply; the JPM is complete.** COMMENTS:	SAT ____ UNSAT ___
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Reactor Operator, the plant is stable at power. Control Rod troubleshooting is underway.

INITIATING CUES:

You are requested to transfer Rod 5-4 to the Auxiliary Power Supply. Following transfer of the rod leave the reactor diamond and demand stations in manual for further manipulations.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimB (2K3) NRC [Bank# 367] (SIMULATOR)

ALTERNATE PATH

SAFETY FUNCTION 2

ES "B" HPI DIVERSE CONTAINMENT ISOLATION TEST

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____Date: _____

APPROVAL BY: _____Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: ES "B" monthly HPI diverse containment isolation test.

Alternate Path: Yes

JPM #: SimB (2K3) NRC [Bank #367]

K/A Rating/Importance: 013A3.01 RO 3.7 SRO 3.9

Task Number/Position: 0130202006 RO

Task Standard: Perform ES "B" monthly HPI diverse containment isolation test per SP-358A section 4.6.4.6.

Preferred Evaluation Location:

Simulator _x_ Plant Admin_____

Preferred Evaluation Method

Perform _X_ Simulate____

References:

SP-358A, Rev. 32

Validation Time: 35-45 Minutes

Time Critical: No

==========

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT ____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. ***"Restore" the simulator to a 100% MOL IC or IC# 65 developed for this JPM.***

2. If creating IC perform the following:
   - Place ES "B" RB ISO AUTO TEST SELECT switch to PUSH-IN Test 1 position.
   - Set Conditional for MUV-18 amber light on ES cabinet 5B to come on when "B" DCI switch in ES Channel 1 is placed in the TEST position.
   - Set Pending IA for MUV-18 amber light on ES cabinet 5B to turn off when "B" DCI switch in ES Channel 1 is returned to Normal position.

SIMULATOR OPERATOR INSTRUCTIONS:

1. Trigger Pending IA for MUV-18 amber light on ES cabinet 5B after candidate discovers MUV-18 failure. This will remove MUV-18 failure when examinee returns DCI switch to normal.

2. ***IC #65 already has the initial MUV-18 failure in. Trigger the Pending IA after the candidate has taken the DCI switch to TEST.***

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Radio (may be simulated)
Copy of SP-358A and replacements for section 4.6.4.6, 4.6.5, and Enclosure 2

READ TO THE OPERATOR:

Directions to the student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

INITIAL CONDITIONS:

100 % power
SP-358A in progress. All steps complete up to 4.6.4.6.

INITIATING CUES;

You are the Balance of Plant Operator.

The Control Room Supervisor has directed you to perform ES "B" HPI Diverse Containment Isolation test per SP-358A section 4.6.4.6.

STEP 1: Obtain copy of SP-358A STANDARD: Examinee obtains a copy of SP-358A and determines section 4.6.4.6 is the correct section. **EXAMINERS NOTE: Once examinee indicates where he/she would acquire the working copy of SP-358A, provide them with a copy of SP-358A.** COMMENTS:	SAT_____ UNSAT_____
STEP 2: SP-358A Step 4.6.4.6.1 OPEN valve CAV-431 STANDARD: Examinee locates control switch for CAV-431, selects CAV-431 to OPEN position, and observes CAV-431 GREEN light OFF and CAV-431 RED light comes ON. *Examinee should notify chemistry prior to stroking CAV-431 IAW step 3.2.1.* COMMENTS:	**Critical Step** SAT_____ UNSAT_____
STEP 3: SP-358A Step 4.6.4.6.2 In the ACT. CHAN. CAB. #1 (ES Test Cabinet #1), SELECT the "ES "B" CHANNEL RC1 DIVERSE CONTAINMENT ISOLATION" test switch to the "TEST" position. STANDARD: Examinee locates ES Test Cabinet #1, locates ES "B" CHANNEL RC1 DIVERSE CONTAINMENT ISOLATION switch, identifies the TEST position, rotates switch to TEST. COMMENTS:	**Critical Step** SAT_____ UNSAT_____

STEP 4: SP-358A Step 4.6.4.6.3 VERIFY both amber and red indicating lights are OFF (Actuation Matrix - Bypass Status) for each of the following ES "B" RBIC TEST GROUPS 1 thru 4 equipment:	**Critical Step** SAT_____ UNSAT_____

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5A - TEST GROUP (B)

		Check Box
RBC Group 1	CAV-2	[ ]
RBC Group 1	CFV-25	[ ]
RBC Group 1	CFV-29	[ ]
RBC Group 1	MUV-49	[ ]
RBC Group 1	WDV-4	[ ]

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5B - TEST GROUP (B)

RBC Group 2	CAV-6	[ ]
RBC Group 2	CFV-26	[ ]
RBC Group 2	CFV-42	[ ]
RBC Group 2	DWV-160	[ ]
RBC Group 2	WDV-61	[ ]
RBC Group 3	LRV-73	[ ]
RBC Group 3	CAV-7	[ ]
RBC Group 3	CFV-27	[ ]
RBC Group 3	MSV-130	[ ]
RBC Group 3	WDV-62	[ ]
RBC Group 4	LRV-71	[ ]
RBC Group 4	MUV-18	[ ]
RBC Group 4	CFV-28	[ ]
RBC Group 4	MSV-148	[ ]
RBC Group 4	MUV-27	[ ]
RBC Group 4	WDV-405	[ ]

STANDARD: Examinee locates ES Actuation Relay Cabinet 5A & 5B, locates Amber and Red lights for each of the components above, check Amber and Red lights for each component above and notes **MUV-18 Amber light is not in the required condition**. Refers to L&P 3.5.2 (Do not proceed past a step if any of the status (Normal, Bypass or Test) indicating lights at the Test light panel fail to operate as specified by the applicable test step. To back out of the procedure, see Enclosure 2.)

COMMENTS:

STEP 5: SP-358A Enclosure 2 If it is desired to back out of procedure during its performance, refer to steps indicated below for GUIDANCE. Depending on the situation, deviation from these steps may be taken with SSO approval. PERFORMING ESB RBIC/SECTION 4.6 TO BACK OUT, PERFORM THE FOLLOWING 4.6.4.1.11 thru 4.6.4.1.17, 4.6.4.2.10 thru 4.6.4.2.16, 4.6.4.3.10 thru 4.6.4.3.15, 4.6.4.4.10 thru 4.6.4.4.15, 4.6.4.5.4 thru 4.6.4.5.6, 4.6.4.6.9 thru 4.6.4.6.15, and entire Sections 4.6.5 and 4.6.6 **EXAMINER'S CUE: Role play as the SSO and tell the candidate to perform steps 4.6.4.6.9 thru 4.6.4.6.15, entire sections of 4.6.5 and 4.6.6, and Steps 5.1.1 thru 5.1.5.** STANDARD: Candidate informs SSO of problem and obtains guidance for steps required to be performed. COMMENTS:	SAT_____ UNSAT_____

STEP 6: SP-358A Step 4.6.4.6.9 In the ACT. CHAN. CAB. #1 (ES Test Cabinet #1), SELECT the "ES "B" CHANNEL RC1 DIVERSE CONTAINMENT ISOLATION" test switch to the "NORM" position. STANDARD: Examinee locates ES Test Cabinet #1, locates ES "B" CHANNEL RC1 DIVERSE CONTAINMENT ISOLATION switch, identifies the NORM position, rotates switch to NORM. COMMENTS:	**Critical Step** SAT_____ UNSAT_____
STEP 7: SP-358A Step 4.6.4.6.10 OPEN CAV-431 STANDARD: Examinee locates control switch for CAV-431, observes CAV-431 GREEN light OFF and CAV-431 RED light ON. COMMENTS:	SAT_____ UNSAT_____

STEP 8: SP-358A Step 4.6.4.6.11

SAT_____

UNSAT_____

VERIFY both amber and red indicating lights are OFF (Actuation Matrix - Bypass Status) for each of the following ES "B" RBIC TEST GROUPS 1 thru 4 equipment:

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5A - TEST GROUP (B)

		Check Box
RBC Group 1	CAV-2	[ ]
RBC Group 1	CFV-25	[ ]
RBC Group 1	CFV-29	[ ]
RBC Group 1	MUV-49	[ ]
RBC Group 1	WDV-4	[ ]

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5B - TEST GROUP (B)

RBC Group 2	CAV-6	[ ]
RBC Group 2	CFV-26	[ ]
RBC Group 2	CFV-42	[ ]
RBC Group 2	DWV-160	[ ]
RBC Group 2	WDV-61	[ ]
RBC Group 3	LRV-73	[ ]
RBC Group 3	CAV-7	[ ]
RBC Group 3	CFV-27	[ ]
RBC Group 3	MSV-130	[ ]
RBC Group 3	WDV-62	[ ]
RBC Group 4	LRV-71	[ ]
RBC Group 4	MUV-18	[ ]
RBC Group 4	CFV-28	[ ]
RBC Group 4	MSV-148	[ ]
RBC Group 4	MUV-27	[ ]
RBC Group 4	WDV-405	[ ]

STANDARD: Examinee locates ES Actuation Relay Cabinet 5A & 5B, locates Amber and Red lights for each of the components above, verifies Amber and Red lights for each component above is OFF.

COMMENTS:

STEP 9: SP-358A Step 4.6.4.6.12 VERIFY the following alarms return to NORMAL: ANN. ESB/JH1/2/01, DIVERSE CONTAINMENT ISOLATION B E.R. Point Number 1114, PART CONT ISO ON HPI "B" STANDARD: Examinee locates annunciator panel, observes D-2-1 "Diverse Containment Isolation B cleared, locates event recorder, observes event point 1114 is cleared. COMMENTS:	SAT_____ UNSAT_____
ALTERNATE TERMINATION CUE: Step 4.6.4.6.12 when completed can be used as a termination point if time is a constraint. **NOTE:** This can only be used if the examination team has decided to use it before Exams started.	
STEP 10: SP-358A Step 4.6.4.6.13 In the ACT. CHAN. CAB. #2 (ES Test Cabinet #1), SELECT the "ES "B" CHANNEL RC2 DIVERSE CONTAINMENT ISOLATION" test switch to the "NORM" position. STANDARD: Examinee locates ES Test Cabinet #2, locates ES "B" CHANNEL RC2 DIVERSE CONTAINMENT ISOLATION switch, identifies the NORM position, verifies switch is in NORM. COMMENTS:	SAT_____ UNSAT_____

STEP 11 SP-358A Step 4.6.4.6.14

SAT_____

UNSAT_____

VERIFY both amber and red indicating lights are OFF (Actuation Matrix - Bypass Status) for each of the following ES "B" RBIC TEST GROUPS 1 thru 4 equipment:

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5A - TEST GROUP (B)

		Check Box
RBC Group 1	CAV-2	[]
RBC Group 1	CFV-25	[]
RBC Group 1	CFV-29	[]
RBC Group 1	MUV-49	[]
RBC Group 1	WDV-4	[]

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5B - TEST GROUP (B)

RBC Group 2	CAV-6	[]
RBC Group 2	CFV-26	[]
RBC Group 2	CFV-42	[]
RBC Group 2	DWV-160	[]
RBC Group 2	WDV-61	[]
RBC Group 3	LRV-73	[]
RBC Group 3	CAV-7	[]
RBC Group 3	CFV-27	[]
RBC Group 3	MSV-130	[]
RBC Group 3	WDV-62	[]
RBC Group 4	LRV-71	[]
RBC Group 4	MUV-18	[]
RBC Group 4	CFV-28	[]
RBC Group 4	MSV-148	[]
RBC Group 4	MUV-27	[]
RBC Group 4	WDV-405	[]

STANDARD: Examinee locates ES Actuation Relay Cabinet 5A & 5B, locates Amber and Red lights for each of the components above, verifies Amber and Red lights for each component above is OFF.

COMMENTS:

STEP 12 SP-358A Step 4.6.4.6.15 RESTORE CAV-431 to desired position as the present plant operations dictates. Position Restored to: _____ STANDARD: Examinee locates control switch for CAV-431, selects CAV-431 to CLOSE position, and observes CAV-431 Red light out and CAV-431 GREEN light comes on. **EXAMINER CUE: If examinee ask what the desired position is, tell them the valve needs to be closed for present plant conditions.** COMMENTS:	SAT_____ UNSAT_____
STEP 13 SP-358A Step 4.6.5.1 **PROCEDURE CAUTION:** IF any red indicating light(s) remain ON at the ES Actuation Relay Cabinet light panels (for section under test), THEN associated end device(s) may actuate to its ES position when selecting the "AUTO TEST SELECT" switch to the OFF position in the next step. SELECT the ES "B" "RB ISO AUTO TEST SELECT" pistol grip to the "OFF" and "PUSH IN" position STANDARD: Examinee locates ES "B" RB ISO AUTO TEST SELECT pistol grip and observes it is already in the "OFF" and "PUSH IN" position. COMMENTS:	SAT_____ UNSAT_____
STEP 14 SP-358A Step 4.6.5.2 VERIFY the ES "B" "RB ISO AUTO TEST SELECT" Monthly Test red light goes OFF. STANDARD: Examinee locates ES "B" "RB ISO AUTO TEST SELECT" Monthly Test red light and observes it is OFF. COMMENTS:	SAT_____ UNSAT_____

STEP 15 SP-358A Step 4.6.5.3 VERIFY the ES "B" "RB ISO AUTO TEST SELECT" Refueling Test red light remains OFF. STANDARD: Examinee locates ES "B" "RB ISO AUTO TEST SELECT" Refueling Test red light and observes it is OFF. COMMENTS:	SAT_____ UNSAT_____
STEP 16 SP-358A Step 4.6.5.4 VERIFY the following Alarm returns to NORMAL: ANN. ESB/JH1/8/06, ES B ACTUATION TEST BYPASS E.R. Point Number 770, ES ACT. B TRAIN TEST/BYPASS STANDARD: Examinee locates D-8-6 "ES B ACTUATION TEST BYPASS" annunciator alarm is off and event point 770 is not in alarm. COMMENTS:	SAT_____ UNSAT_____

STEP 17 SP-358A Step 4.6.5.5

SAT_____

UNSAT_____

VERIFY the indicating lights are ON as specified (Actuation Matrix - Normal Status) for each of the following ES "B" RBIC TEST GROUP 1, 2, 3, 4, and 5 equipment:

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5A - TEST GROUP (B)

RBC Group 1	BSV-4	Amber
RBC Group 1	CAV-2	Amber
RBC Group 1	CFV-25	Amber
RBC Group 1	CFV-29	Amber or Red
RBC Group 1	MUV-49	Amber or Red
RBC Group 1	SWV-12	Amber or Red
RBC Group 1	SWV-82	Amber or Red
RBC Group 1	SWV-86	Amber or Red
RBC Group 1	WDV-4	Amber

ENGINEERED SAFEGUARD ACTUATION RELAY CABINET 5B - TEST GROUP (B)

RBC Group 2	CAV-6	Amber
RBC Group 2	CFV-26	Amber
RBC Group 2	CFV-42	Amber
RBC Group 2	CIV-34	Amber or Red
RBC Group 2	DWV-160	Amber
RBC Group 2	SWV-353	Amber or Red
RBC Group 2	SWV-81	Amber or Red
RBC Group 2	SWV-85	Amber or Red
RBC Group 2	WDV-61	Amber
RBC Group 3	LRV-73	Amber
RBC Group 3	CAV-7	Amber
RBC Group 3	CFV-27	Amber
RBC Group 3	CIV-35	Amber or Red
RBC Group 3	MSV-130	Amber
RBC Group 3	SWV-354	Amber or Red
RBC Group 3	SWV-80	Amber or Red
RBC Group 3	SWV-84	Amber or Red
RBC Group 3	WDV-62	Amber
RBC Group 4	LRV-71	Amber
RBC Group 4	MUV-18	Amber
RBC Group 4	CFV-28	Amber
RBC Group 4	CIV-41	Amber or Red
RBC Group 4	MSV-148	Amber

RBC Group 4	MUV-27	Amber	
RBC Group 4	SWV-355	Amber or Red	
RBC Group 4	SWV-47	Amber or Red	
RBC Group 4	SWV-50	Amber or Red	
RBC Group 4	SWV-79	Amber or Red	
RBC Group 4	SWV-83	Amber or Red	
RBC Group 4	WDV-405	Amber	
RBC Group 5	3ESBR	Amber	
RBC Group 5	CIV-40	Amber or Red	
RBC Group 5	MUV-253	Amber or Red	
RBC Group 5	SWV-109	Amber or Red	
RBC Group 5	SWV-110	Amber or Red	
RBC Group 5	SWV-152	Amber or Red	
RBC Group 5	SWV-48	Amber or Red	
RBC Group 5	SWV-49	Amber or Red	
RBC Group 5	WSV-4	Amber	
RBC Group 5	WSV-6	Amber	

STANDARD: Examinee locates ES Actuation Relay Cabinet 5A & 5B, locates Amber and Red lights for each of the components above, verifies Amber and Red lights for each component above.

COMMENTS:

TERMINATION CUE: Step 4.6.5.5 completed.

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

100 % power
SP-358A in progress. All steps complete up to 4.6.4.6.

INITIATING CUES;

You are the Balance of Plant Operator.

The Control Room Supervisor has directed you to perform ES "B" HPI Diverse Containment Isolation test per SP-358A section 4.6.4.6.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimC (2K3) NRC [New] (SIMULATOR)

(Possible Alternate Path if needed)

SAFETY FUNCTION 3

PORV EXERCISE TEST

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: Perform PORV Exercise Test

Alternate Path: No [Possible Alternate Path (fail to close RCV-10 when demanded)]

JPM #: SimC (2K3) NRC [New]

K/A Rating/Importance: 010A3.01 RO 3.0 SRO 3.2

Task Number/Position: 0020401005 RO

Task Standard: Perform PORV Exercise Test per SP-379.

Preferred Evaluation Location:

Simulator_x_ Plant_ Admin_____

Preferred Evaluation Method

Perform _X_ Simulate_____

References:

SP-379, Rev. 8

Validation Time: 15 Minutes

Time Critical: No

==========

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. "Restore" the simulator to IC# 66 developed for this JPM.
2. If used as an alternate path JPM then when candidate performs Step 4.4 in SP-379 RCV-10 must be failed "AS IS".

SIMULATOR OPERATOR INSTRUCTIONS:

1. Role play as operator at Remote Shutdown Panel.

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Radio
Copy of SP-379
Stop watch

READ TO THE OPERATOR:

Directions to the student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

INITIAL CONDITIONS:

A plant heatup is in progress with RCS pressure at approximately 675 psig.

INITIATING CUES:

You are the Balance of Plant Operator.

The Control Room Supervisor has directed you to perform an operability test on the PORV in accordance with SP-379. Step 4.1.2 will be used to cycle RCV-11, PORV Block valve.

STEP 1: Obtain copy of SP-379 STANDARD: Candidate obtains a copy of SP-379. **EXAMINERS NOTE:** **Once candidate indicates where he/she would acquire the working copy of SP-379, provide them with a copy.** COMMENTS:	SAT_____ UNSAT_____
STEP 2: SP-379 Step 4.1.2.1 Close RCV-11 STANDARD: Candidate locates control switch for RCV-11, selects RCV-11 to CLOSE position and observes the RED light OFF and GREEN light ON. COMMENTS:	**Critical Step** SAT_____ UNSAT_____
STEP 3: SP-379 Step 4.1.2.2 Open RCV-10 and OBSERVE no changes to any of the following: • PZR level • RCS pressure • Tailpipe temperature • RCV-10 open monitor • RCDT level and pressure STANDARD: Candidate locates all indications for the listed parameters, locates control switch for RCV-10, selects to OPEN and observes GREEN light OFF and RED light ON. Candidate verifies no change in the listed parameters. **EXAMINERS NOTE:** **Candidate may display individual computer points for the listed parameters.** COMMENTS:	SAT_____ UNSAT_____

STEP 4: SP-379 Step 4.1.2.3 If any changes are noted in the above parameters then perform the following: • Close RCV-10 • Refer to TS 3.4.10 • Refer to Contingencies in Step 5.2 STANDARD: Candidate verifies no changes to parameters noted in step 3. COMMENTS:	SAT_____ UNSAT_____
STEP 5: SP-379 Step 4.1.2.4 Close RCV-10 STANDARD: Candidate locates control switch for RCV-10, selects to CLOSE position and verifies RED light OFF and GREEN light ON. COMMENTS:	**Critical Step** SAT_____ UNSAT_____
STEP 6: SP-379 Step 4.1.2.5 Open RCV-11 STANDARD: Candidate locates control switch for RCV-11, selects to OPEN position and verifies GREEN light OFF and RED light ON. COMMENTS:	**Critical Step** SAT_____ UNSAT_____

STEP 7: SP-379 Step 4.2 Station an operator at the RSP, in communication with the Control Room, to observe RCV-10 position indication. STANDARD: Candidate communicates with simulator operator, stations auxiliary operator at RSP, and gives instructions to observe RCV-10 position indication. COMMENTS:	SAT_____ UNSAT_____
STEP 8: SP-379 Step 4.3 Record the following data: • RCS pressure • PZR level • Tailpipe temperature • RCDT pressure • RCDT level STANDARD: Candidate locates MCB and/or computer points for the listed parameters and records data. COMMENTS:	SAT_____ UNSAT_____

STEP 9: SP-379 Step 4.4 **CAUTION: The following step will result in a blowdown of the PZR steam space. The blowdown time should be minimized.** Open and Time RCV-10 STANDARD: Candidate locates control switch for RCV-10, selects to OPEN position and verifies GREEN light OFF and RED light ON. COMMENTS:	**Critical Step** SAT_____ UNSAT_____
STEP 10: SP-379 Step 4.5 Record time STANDARD: Candidate records stroke time for RCV-10. COMMENTS:	SAT_____ UNSAT_____
STEP 11: SP-379 Step 4.6 Verify the following open indications for RCV-10: • Indicates open on the ICS panel • Indicates open on the RSP • ICS alarm for EP 1959 (I-5-1) • Meter for ultrasonic indication is in the "Valve Open" region. STANDARD: Candidate locates and verifies the above indications. COMMENTS:	SAT_____ UNSAT_____

STEP 12: SP-379 Step 4.7 Verify RCV-10 is opened by a change in the system parameters below: • RCS pressure decreasing • PZR level decreasing • Tailpipe temperature increasing • RCDT pressure increasing • RCDT temperature increasing STANDARD: Candidate locates and verifies changes in the above parameters. COMMENTS:	SAT_____ UNSAT_____
STEP 13: SP-379 Step 4.8 Close and Time RCV-10 STANDARD: Candidate locates control switch for RCV-10, selects to CLOSE position and verifies RED light OFF and GREEN light ON. COMMENTS:	**Critical Step** SAT_____ UNSAT_____
STEP 14: SP-379 Step 4.9 Record time STANDARD: Candidate records stroke time for RCV-10. COMMENTS:	SAT_____ UNSAT_____
STEP 15: SP-379 Step 4.10 Observe that RCS pressure stabilizes and nor other significant changes occur to system parameters. STANDARD: Candidate locates and observes parameters listed in step 11 and ensures that the plant is stable. COMMENTS:	SAT_____ UNSAT_____

STEP 16: SP-379 Step 4.11 IF there is evidence that RCV-10 did NOT close, then perform the following: • Close RCV-11 • Refer to TS 3.4.10 • Refer to Contingencies in Step 5.2 STANDARD: If candidate determines that RCV-10 did not close then RCV-11 control switch should be located and closed while observing the RED light OFF and the GREEN light ON. **EXAMINERS NOTE:** **RCV-11 should not be closed unless this JPM is used as an "Alternate Path" JPM.** COMMENTS:	**Critical Step (only if Alternate Path)** SAT_____ UNSAT_____
STEP 17: SP-379 Step 4.12 Record the following data: • RCS pressure • PZR level • Tailpipe temperature • RCDT pressure • RCDT level STANDARD: Candidate locates MCB and/or computer points for the listed parameters and records data. COMMENTS:	SAT_____ UNSAT_____

STEP 18: SP-379 Step 4.13 Verify the following closed indications for RCV-10: • Indicates closed on the ICS Panel • Indicates closed at the RSP • Meter for ultrasonic indicator in the "Valve Closed" region STANDARD: Candidate locates indications and verifies GREEN light for ICS panel, ultrasonic indicator in the "Valve Closed" region and communicates with the operator at the RSP (simulator operator) for remote indication. **EXAMINERS CUE: RCV-10 has a GREEN light at the RSP.** COMMENTS:	SAT_____ UNSAT_____
STEP 19: SP-379 Step 4.14 Reset the "PORV Safety Valve Opened" alarm with the reset pushbutton located in the "PORV Position IND and TSAT" cabinet in the B ES 4160V room. STANDARD: Candidate instructs operator (simulator operator) to reset the "PORV Safety Valve Opened" alarm and verifies EP 1959 clears when reset. COMMENTS:	SAT_____ UNSAT_____
STEP 20: SP-379 Step 4.15 Place the control switch for RCV-10 in AUTO. STANDARD: Candidate locates control switch for RCV-10 and places the switch in AUTO while verifying no change in valve position. COMMENTS:	SAT_____ UNSAT_____
TERMINATION CUE: The PORV Exercise Test is complete.	

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

A plant heatup is in progress with RCS pressure at approximately 675 psig.

INITIATING CUES:

You are the Balance of Plant Operator.

The Control Room Supervisor has directed you to perform an operability test on the PORV in accordance with SP-379. Step 4.1.2 will be used to cycle RCV-11, PORV Block valve.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimD (2K3) NRC [Bank #037] (SIMULATOR)

SAFETY FUNCTION 4

PERFORM A CROSSTIE OF DECAY HEAT REMOVAL FLOW TO THE REACTOR VESSEL

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____Date: _____

APPROVAL BY: _____Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: Perform a crosstie of Decay heat Removal flow to the reactor vessel.

Alternate Path: No

JPM #: SimD (2K3) NRC [Bank #037]

K/A Rating/Importance: 005A1.02 RO 3.3 SRO 3.4

Task Number/Position: 0050102010 / RO

Task Standard: Perform a crosstie of Decay Heat Removal flow to the reactor vessel with DHP-1A in service.

Preferred Evaluation Location:

Simulator_X_ Plant_____ Admin_____

Preferred Evaluation Method

Perform _X_ Simulate____

References:

OP-404, Rev. 133

Validation Time: 20 Minutes

Time Critical: No

==========

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT ____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

"Restore" the simulator to Mode 5 IC ***(IC # 19)*** with PZR steam bubble.

SIMULATOR OPERATOR INSTRUCTIONS:

Hang R/Ts on the following for the OP-209 clearance:

BSV-3 C/S
BSV-4 C/S
BSV-16 C/S
BSV-17 C/S

MUV-23/MUV-24 "A" Power
MUV-25/MUV-26 "A" Power
MUV-23/MUV-24 "B" Power
MUV-25/MUV-26 "B" Power
MUV-23 C/S
MUV-24 C/S
MUV-25 C/S
MUV-26 C/S
MUV-53 C/S
MUV-257 C/S

MSV-55 C/S
MSV-56 C/S

CFV-5 C/S
CFV-6 C/S

EFP-1 C/S
EFP-2 C/S
EFV-11 C/S
EFV-14 C/S
EFV-32 C/S
EFV-33 C/S

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Radio (may be simulated)
Copy of OP-404
Replacement copies of OP-404 section 4.20

READ TO THE OPERATOR:

Directions to the student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

INITIAL CONDITIONS:

You are the Reactor Operator.
"A" DHP is running supplying reactor cooling through DHV-5.
Maintenance is to be performed on DHV-5.

INITIATING CUE:

The Control Room Supervisor directs you to crosstie flow and close DHV-5.

EXAMINER'S NOTE: FOR STEPS DENOTED AS "CRITICAL STEP", WHICH HAVE MULTIPLE ACTIONS, THE INDIVIDUAL REQUIRED ACTION WILL BE DENOTED "CS". IF NO INDIVIDUAL ACTIONS ARE DENOTED AS SUCH THEN ALL ACTIONS WITHIN THE STEP ARE DEEMED "CRITICAL".

STEP 1: Locate correct procedure. STANDARD: Candidate locates OP-404 Section 4.20 **EXAMINER'S NOTE: When candidate identifies the correct procedure and section provide him/her with Section 4.20 of OP-404.** COMMENTS:	SAT_____ UNSAT_____
STEP 2: (step 4.20.1) Ensure "A" DH train in service. Refer to Section 4.5 STANDARD: NA **EXAMINER'S NOTE: Per the initial conditions the "A" DHR Train is in service.** COMMENTS:	SAT_____ UNSAT_____
STEP 3: **Procedure Note:** If DHV-7 or 8 do not open electrically due to high differential pressure across the valve(s), it may be necessary to open the valve(s) manually. STANDARD: Candidate reads note. COMMENTS:	SAT_____ UNSAT_____

STEP 4:	(step 4.20.2) Cross-Connect DH trains. DETAIL 1. ENSURE the following are CLOSED: _____ DHV-9, DH Recirculation to BWST _____ DHV-10, (DHV-9 Bypass)	SAT_____ UNSAT_____
STANDARD:	Candidate notifies the PPO to ensure DHV-9 and DHV-10 are closed.	
EXAMINER'S CUE:	**Report as the PPO that DHV-9 and DHV-10 are closed.**	
COMMENTS:		

STEP 5:	(step 4.20.2) Cross-Connect DH trains. (Continued) DETAIL 2._____ Close DHV-211 3._____ Place DHV-111 controller in manual and position to ~7 seconds OPEN from the CLOSED position 4._____ Place DHV-110 controller in MANUAL and adjust flow to approximately 1550 gpm ***(CS)*** 5. Open the following: ***(CS)*** _____ DHV-6, "B" DH Outlet _____ DHV-8, "A" DH Cross-tie _____ DHV-7, "B" DH Cross-tie	**Critical Step** SAT_____ UNSAT_____
STANDARD:	Candidate closes DHV-211 and verifies green (closed) light is lit and red (open) light is off. Candidate, starting from closed, holds DHV-111 in the open direction for ~7 seconds. Candidate places DHV-110 controller in manual and adjust for 1550 gpm. Candidate calls to PPO and directs him/her to energize DHV-7 and DHV-8. Candidate places DHV-6, DHV-8, and DHV-7 in the open position and observes red (open) light on and green (closed) light is off for each valve.	
COMMENTS:		

STEP 6:	(step 4.20.3) Transfer DHP-1A flow to "B" DH train. DETAIL 1.____Monitor crossover flow on DH-38-FI. 2.____Adjust DHV-111 controller to maintain approximately 1550 gpm "B" DH flow as read on DH-38-FI. ***(CS)*** 3.____Close DHV-5. ***(CS)*** 4.____Adjust DHV-111 controller to maintain desired "B" DH flow. ***(CS)*** 5.____Adjust DHP-1A low amp alarm as desired per Section 4.29.	**Critical Step** SAT_____ UNSAT_____
STANDARD:	Candidate locates DH-38-FI. Candidate adjusts DHV-111 in manual to maintain 1550 gpm on DH-38-FI. Candidate closes DHV-5. *Candidate adjusts DHV-111 to maintain ≈3000 gpm "B" DH flow.* Candidate locates Section 4.29.	
EXAMINER'S NOTE: DH-38-FI instrument referenced by the procedure does not match the Simulator instrument which is labeled DH-38-FI1. ***Inform the candidate as the CRS to establish ≈3000 gpm flow through DHV-111. DH-38-FI will not indicate that high therefore use of the "A" DH flow instrument will be necessary to establish desired flow rate.*** **Inform student that adjustment of low amps alarm is not required.** COMMENTS:		
TERMINATION CUE: Stable flow of 3000 gpm through DHV-6 with "A" DHP running.		

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Reactor Operator.
"A" DHP is running supplying reactor cooling through DHV-5.
Maintenance is to be performed on DHV-5.

INITIATING CUE:

The Control Room Supervisor directs you to crosstie flow and close DHV-5.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimE (2K3) NRC [Bank #362] (SIMULATOR)

ALTERNATE PATH

SAFETY FUNCTION 5

INITIATE BUILDING SPRAY

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____Date: _____

APPROVAL BY: _____Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: Ensure Building Spray (BS) actuation.

Alternate Path: BSP-1A will not start in manual. BSV-4 is set on local.

JPM #: SimE (2K3) NRC [Bank #362]

K/A Rating/Importance: 026A3.01 RO 4.3 SRO 4.5

Task Number: 0260502001

Task Standard: Initiate Building Spray for high Reactor Building temperature using EM-225C.

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

Simulator _X_ In-Plant ___ Admin ___ Perform _X_ Simulate ___

References:

EM-225C, Rev. 2

Validation Time: 5 min. **Time Critical:** No

==========

Candidate: _____ **Time Start:** _____
Printed Name **Time Finish:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____/_____
Printed Name Signature Date

Comment: _____

_____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. Restore simulator to IC # 67 prepared for this JPM.

2. If creating this IC perform the following:

   1.A LOCA is in progress.
   2.Reactor Building pressure is < 30 psig.
   3.BSP-1A will not start in manual.
   4.The BWST level is > 20 ft.
   5.Use EOP-03 for setup conditions.
   6.IC #63 (grandfather).
   7.Input "enc1" and "enc2".
   8.Acknowledge SCM alarm.
   9.Check CRTs to ensure RB temperatures (if displayed) are high.
   10. Activate LP for B1d1.
   11. Set BSV-4 to local.

SIMULATOR OPERATOR INSTRUCTIONS:

1. Booth operator will take the roles for the various operators for notifications

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

EM-225C

READ TO THE OPERATOR

Directions to the student.

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

Initial Conditions:

You are the Reactor Operator.
A LOCA is in progress.
The Control Room Supervisor has entered EOP-03.
Reactor Building (RB) temperatures are high.
The Emergency Coordinator (EC) has given concurrence to start Building Spray to reduce RB temperatures.

Initiating Cues:

You are requested to start Building Spray (BSP-1A preferred) per section 4.6 of EM-225C.

STEP 1: Obtain a copy of appropriate procedure. STANDARD: Candidate obtains a copy of EM-225C. **EXAMINER'S NOTE: Provide student a copy of EM-225C.** COMMENTS:	SAT_____ UNSAT_____
STEP 2: (step 4.6) If a building spray pump is required, and EC concurrence has been obtained, then perform the following: STANDARD: Candidate performs the following steps. COMMENTS:	SAT_____ UNSAT_____
STEP 3: (step 4.6.1) Ensure load is available on the emergency diesel generators per EOP-13, Rule 5. STANDARD: Examinee determines the emergency diesel generators are not supplying the bus. Step is N/A. COMMENTS:	SAT_____ UNSAT_____

STEP 4: (step 4.6.2) Ensure Building Spray flow controls are set at 1500 gpm and "Remote" if pumps are aligned to BWST, or 1200 gpm and "Local" if aligned to the RB sump. STANDARD: Candidate verifies suction source to Building Spray pumps and ensures the REMOTE/LOCAL lever on BSV-3 and BSV-4 is set to REMOTE and the 1500 gpm. (BSV-4 is set to LOCAL and must be moved to REMOTE). COMMENTS:	**Critical Step** SAT_____ UNSAT_____
STEP 5: (step 4.6.3) Notify the control room to start one building spray pump. **EXAMINER'S CUE: (If required) the TSC requests you start Building Spray.** STANDARD: Candidate rotates the control handle for BSP-1A to the start position and notes that the pump did not start (shaft shear, low amps, no flow, red light ON and green light OFF). Pump start failure is reported to the Control Room Supervisor. Candidate repeats the guidance of EM-225C section 4.6 to start BSP-1B (some of the required steps may have been performed in parallel with BSP-1A alignment). **EXAMINER'S NOTE: Role-play as CRS when candidate discovers start problem with BSP-1A. Direct candidate to establish Building Spray flow with the "B" train.** COMMENTS:	**Critical Step** SAT_____ UNSAT_____
TERMINATION CUE: BSP-1B running with 1500 gpm flow.	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Reactor Operator.
A LOCA is in progress.
The Control Room Supervisor has entered EOP-03.
Reactor Building (RB) temperatures are high.
The Emergency Coordinator (EC) has given concurrence to start Building Spray to reduce RB temperatures.

INITIATING CUES:

You are requested to start Building Spray (BSP-1A preferred) per section 4.6 of EM-225C.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimF (2K3) NRC [Bank #004] (SIMULATOR)

SAFETY FUNCTION 6

PERFORM REQUIRED ACTIONS FOR A LOSS OF A 4160 ES BUS

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____Date: _____

APPROVAL BY: _____Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: Perform the required actions for a loss of a 4160 ES Bus

Alternate Path: No

JPM #: SimF (2K3) NRC [Bank #004]

K/A Rating/Importance: 062A2.12 RO 3.2 SRO 3.6

Task Number/Position: 0640402003 RO

Task Standard: Perform the required actions to restore power to the 4160 ES Bus from an Off-Site source.

Preferred Evaluation Location:

Simulator_X_ Plant_____ Admin_____

Preferred Evaluation Method

Perform _X_ Simulate____

References:

AP-770, Rev. 32

Validation Time: 13 Minutes

Time Critical: No

==========

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT ____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment: _____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. **"Restore" the simulator to a 100% MOL IC or IC# 68 developed for this JPM.**

2. If creating IC perform the following:
   - Insert EDG-1A fail to start.
   - Insert a LOOP.
   - Allow simulator to run until plant is stable.
   - Delete LOOP
   - Perform AP-770 up to step 3.33.
   - Open breaker 3211.
   - Close breakers 4900 and 4902.

SIMULATOR OPERATOR INSTRUCTIONS:

None

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Radio (may be simulated)
Copy of AP-770 Steps 3.33 thru 3.38

READ TO THE OPERATOR:

Directions to the student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

INITIAL CONDITIONS:

You are the Reactor Operator.

An undervoltage condition occurred on both 4160V ES Buses. "A" EDG failed to start. The "B" EDG started and loaded the "B" 4160 ES Bus. The Rx has tripped and EOP-02 immediate actions are complete.

The Off-Site Power Transformer has been restored.

INITIATING CUE:

The Control Room Supervisor directs you to RE-ENERGIZE the "A" ES 4160V bus from the Off Site Power Transformer. Starting at step 3.33 of AP-770.

Note: Do not restore components to the bus following restoration of power.

STEP 1:	Candidate obtains AP-770	SAT_____
STANDARD:	Candidate should locate the control room copy of AP-770.	UNSAT_____
EXAMINER'S NOTE:	**After candidate locates AP-770 provide him/her with AP-770 steps 3.33 through 3.38.**	
COMMENTS:		
STEP 2:	STATUS Only 1 ES 4160V Bus energized.	SAT_____
STANDARD:	Candidate verifies the plant status of Only 1 ES 4160 Bus energized.	UNSAT_____
COMMENTS:		
STEP 3:	(step 3.33) Prevent MUP Auto start on de-energized bus. Ensure ES actuations are bypassed or reset: Auto Manual Place MUP on de-energized bus in normal after stop.	SAT_____
STANDARD:	Candidate verifies that no ES Actuation has occurred and ES Channels are in reset. Candidate then ensures that MUP-1A and MUP-1B are in Normal-After-Stop.	UNSAT_____
COMMENTS:		

STEP 4: STANDARD: COMMENTS:	(step 3.34) Ensure all ES 4160V feeder Bkrs are open on de-energized bus. 3207 3209 3205 3211 Candidate locates affected breakers and ensures the breakers are in the open position.	**Critical Step** SAT_____ UNSAT_____
STEP 5: STANDARD: COMMENTS:	(step 3.35) If EDG associated with de-energized bus is running, then ensure proper EDG voltage and frequency. Candidate should note that the "A" EDG is not running.	SAT_____ UNSAT_____
STEP 6: STANDARD: COMMENTS:	(step 3.36) If both ES 4160V Buses are energized, then **GO TO** Step 3.41 in this procedure. Candidate should note that the "A" ES 4160 Bus is not energized.	SAT_____ UNSAT_____

STEP 7:	(step 3.37) Ensure ES Bus is available for recovery. Notify PPO to verify lockouts are not tripped: "86B-3209 A EDG LOCKOUT RELAY" (A ES 4160V SWGR Room) Verify ES 4160V lockouts are not tripped: 86B-3205 86B-3207 86B-3211 If any lockout is tripped, then CONCURRENTLY PERFORM Enclosure 1, Recovery of Faulted ES Bus, in this procedure.	SAT_____ UNSAT_____
STANDARD:	Candidate notifies the PPO to verify lockouts are not tripped. Candidate verifies ES 4160 lockouts are not tripped.	
EXAMINER'S NOTE:	***When PPO called to check the 86B-3209 lockout, PPO reports the lockout is not tripped.***	
COMMENTS:		

STEP 8:	(step 3.38) IF at any time, all of the following exist: A ES 4160V BUS de-energized Fault does NOT exist Any offsite power source available Then energize A ES 4160V BUS. If "DIESEL GEN A BREAKER CLOSED" annunciator alarm (Q-02-03) is lit, then defeat A ES 4160V BUS lockout: Select feeder Bkr from available power source to "CLOSE" until "4KV ES BUS A DEAD" annunciator alarm clears (normally <10 seconds). Depress "4160V ESA UV RESET" push button.	**Critical Step** SAT_____ UNSAT_____
STANDARD:	Candidate notes that the "A" ES 4160 ES Bus is de-energized and off-site sources are available. Candidate should note that alarm Q-02-03 is not in alarm. Candidate closes selected breaker and holds until alarm clears. Candidate locates "4160V ESA UV RESET" push button and depresses.	
EXAMINER'S NOTE:	**Inform the candidate that no fault exist on the "A" ES 4160 Bus.** **If candidate questions which breaker to close tell him to close in on normal source. Candidate should then select the Off-Site Transformer.**	
COMMENTS:		
TERMINATION CUE: "A" 4160 ES Bus Energized		
END OF TASK		

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Reactor Operator.

An undervoltage condition occurred on both 4160V ES Buses. "A" EDG failed to start. The "B" EDG started and loaded the "B" 4160 ES Bus. The Rx has tripped and EOP-02 immediate actions are complete.

The Off-Site Power Transformer been restored.

INITIATING CUES:

The Control Room Supervisor directs you to RE-ENERGIZE the "A" ES 4160V bus from the Off-Site Power Transformer, starting at step 3.33 of AP-770.

Note: Do not restore components to the bus following restoration of power.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimG (2K3) NRC [Bank #330] (SIMULATOR)

SAFETY FUNCTION 7

PLACE THE RPS IN SHUTDOWN BYPASS

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: Place the RPS in shutdown bypass.

Alternate Path: No

JPM #: SimG (2K3) NRC [Bank #330]

K/A Rating/Importance: 012A4.03 RO 3.6 SRO 3.6

Task Number: 0120102009

Task Standard: Place the RPS in shutdown bypass using OP-507.

Preferred Evaluation Location:

Simulator _X_ In-Plant ___ Admin ___

Preferred Evaluation Method:

Perform ____ Simulate _X_

References:

OP-507, Rev. 23

Validation Time: 15 min.

Time Critical: No

==========

Candidate: _____ **Time Start:** _____
Printed Name **Time Finish:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____/_____
Printed Name Signature Date

Comment: _____

_____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. **"Restore" the simulator to a 100% MOL IC or IC# *69* developed for this JPM.**

2. If creating an IC perform the following:

    1. A plant shutdown is in progress.
    2. Control Rod Groups 1 through 7 are fully inserted.
    3. The Reactor is tripped.
    4. Reactor Coolant pressure is 1750 psig.
    5. The High Flux Trip has been reset to 5% (0.032). **(FOR THE PURPOSES OF THIS JPM THE HIGH FLUX TRIP SETPOINTS ARE ONLY SIMULATED TO BE RESET TO 5%)**

SIMULATOR OPERATOR INSTRUCTIONS:

Booth operator will take the roles for the various operators

Tools/Equipment/Procedures Needed:

1. OP-507, steps 4.14.1 through 4.14.4 should be already signed.
2. Replacement copies for Section 4.14

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

Initial Conditions:

You are the Reactor Operator.
A plant shutdown is in progress.
Control Rod Groups 1 through 7 are fully inserted.
The Reactor is tripped.
Reactor Coolant pressure is approximately 1750 psig.
The High Flux Trip has been reset to 5%.

Initiating Cues:

You are requested to place the RPS in shutdown bypass and reset all RPS channels.

EXAMINER'S NOTE: FOR STEPS DENOTED AS "CRITICAL STEP", WHICH HAVE MULTIPLE ACTIONS, THE INDIVIDUAL REQUIRED ACTION WILL BE DENOTED "CS". IF NO INDIVIDUAL ACTIONS ARE DENOTED AS SUCH THEN ALL ACTIONS WITHIN THE STEP ARE DEEMED "CRITICAL".

STEP 1: Obtain a copy of appropriate procedure. STANDARD: Candidate obtains a copy of OP-507. Steps 4.14.1 through 4.14.4 are signed off. COMMENTS:	SAT ____ UNSAT ___
STEP 2: (step 4.14.5) PROCEDURE CAUTION: High Flux Trip must be reset to less than 5% RTP in all four (4) RPS Channels prior to performing this step. PROCEDURE NOTE: EFIC EFW actuation logic for loss of both MFW pumps is automatically bypassed when the RPS is placed in Shutdown Bypass. Place the Shutdown Bypass key in the Bypass position in all 4 RPS Channels. _____ A RPS Channel _____ B RPS Channel _____ C RPS Channel _____ D RPS Channel STANDARD: Candidate obtains the key and unlocks the RPS cabinet doors. Candidate obtains the shutdown bypass key for each RPS channel. Candidate places each key in shutdown bypass key switch and rotates to the bypass position. Candidate verifies Manual Bypass light at the top of each cabinet is bright. Candidate initials and dates step. COMMENTS:	**Critical Step** SAT ____ UNSAT ___

STEP 3: (step 4.14.6) **PROCEDURE NOTE: Performance of the previous steps in this section meets the intent of the OP-209 requirement for placing RPS in "SHUTDOWN BYPASS". The SSO must ensure that the CRDs are not capable of being withdrawn until the remaining steps are completed (refer to ITS 3.3.1).** **EXAMINER'S CUE: The Shutdown Bypass functional test has been performed.** Ensure Shutdown Bypass functional test has been performed. Refer to ITS 3.3.1 (SR 3.3.1.4) STANDARD: Candidate initials and dates step. COMMENTS:	SAT ____ UNSAT ___
STEP 4: (step 4.14.7) Reset shutdown bypass bistables in all four (4) RPS channels. 1._____ Depress both output state and output memory toggles on Shutdown Bypass bistable *(CS)* 2._____ Verify both output state and output memory lights are dim _____ A RPS Channel _____ B RPS Channel _____ C RPS Channel _____ D RPS Channel 3._____ Verify the Subsystem Status light on Reactor Trip Module is dim STANDARD: For each RPS cabinet the candidate depresses the output state and output memory toggles on the shutdown bypass bistable and verifies that both the output state and output memory lights are dim. Candidate also verifies that the subsystem status light on the Reactor Trip Module is dim. Candidate initials and dates step. COMMENTS:	**Critical Step** SAT ____ UNSAT ___

STEP 9: (step 4.14.8) Reset all four (4) RPS channels. 1._____ Depress subsystem reset toggle on Reactor Trip module *(CS)* 2._____ Verify Protective Subsystem amber indicating lights, on top of each cabinet, are dim for the respective channel being reset _____ A RPS Channel _____ B RPS Channel _____ C RPS Channel _____ D RPS Channel STANDARD: For each RPS cabinet the candidate depresses the subsystem reset toggle on the Reactor Trip module and verifies that the protective subsystem amber indicating lights are dim. Candidate initials and dates step. COMMENTS:	**Critical Step** SAT ____ UNSAT ____
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Initial Conditions:

You are the Reactor Operator.
A plant shutdown is in progress.
Control Rod Groups 1 through 7 are fully inserted.
The Reactor is tripped.
Reactor Coolant pressure is approximately 1750 psig.
The High Flux Trip has been reset to 5%.

Initiating Cues:

You are requested to place the RPS in shutdown bypass and reset all RPS channels.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimH (2K3) NRC [New] (SIMULATOR)

ALTERNATE PATH

SAFETY FUNCTION 9

WGDT RELEASE TO VENTILATION

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: WGDT release to ventilation.

Alternate Path: Yes

JPM #: SimH (2K3) NRC

K/A Rating/Importance: 060AA2.05 RO 3.7 SRO 4.2

Task Number:

Task Standard: Perform control room actions for a WGDT release.

Preferred Evaluation Location:

Simulator _X_ In-Plant ___ Admin ___

Preferred Evaluation Method:

Perform ____ Simulate _X_

References:

OP-412B, Rev. 22
AP-250, Rev. 14

Validation Time: 10 min.

Time Critical: No

==========

Candidate: _____ **Time Start:** _____
Printed Name **Time Finish:**_____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____/_____
Printed Name Signature Date

Comment: _____

_____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. **Restore to IC #11**
   - **Set WGDT activity to 1000000 (label TAAARL2)**
   - **Execute lesson plan #35 in NRCEXAM directory.**
     - **Trigger Step 1**

2. If creating this IC perform the following:
   1. Fail as is AHF-11A and/or B.
   2. Clear failure(s) conditional on switch being taken to the Trip position.
   3. Set RM-A11 to about 20K cpm.
   4. Set WGDT activity to 1000000 (label TAAARL2)
   4. Input WGDT leak (.0001) when Step 4.1.37 of OP-412B is started.

SIMULATOR OPERATOR INSTRUCTIONS:

1. **Trigger LP Step 2 about a minute after the candidate assumes the watch.**

Tools/Equipment/Procedures Needed:

1. OP-412B, Steps 4.1.1 through 4.1.36 should be already signed.
2. Additional copies of AP-250.

READ TO THE OPERATOR

Directions to the Student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

Initial Conditions:

You are the Balance of Plant Operator.
WGDT release to ventilation is ready to be started.
OP-412B has been completed through step 4.1.36.
PPO is now performing step 4.1.37.

Initiating Cues:

You are requested to perform control room actions per OP-412B when requested by the PPO.

STEP 1: Candidate may obtain a copy of appropriate procedure. STANDARD: Candidate may obtain a copy of OP-412B. Steps 4.1.1 through 4.1.36 have been completed per the cue. COMMENTS:	SAT ____ UNSAT ___
STEP 2: (step 4.1.37) OP-412B Start WGDT Release to Ventilation. (PPO) STANDARD: No actions performed by candidate at this time. COMMENTS:	SAT ____ UNSAT ___

STEP 3: AP-250 **EXAMINERS NOTE: When the release is started a gas leak will develop and trip RM-A3.** Enter AP-250. STANDARD: Candidate will recognize entry conditions for AP-250 are met, enter and perform the actions of the AP. Candidate may use Prompt and Prudent actions to trip AHF-11A however entry into the AP is required to verify correct actions taken. COMMENTS:	SAT ____ UNSAT ___
STEP 4: (step 3.1) Ensure AUTO actions of affected radiation monitor(s). STANDARD: Candidate will refer to Table 1 to ensure automatic actions have occurred. Candidate will manually secure AHF-11A and/or AHF-11B. COMMENTS:	**Critical Step** SAT ____ UNSAT ___
TERMINATION CRITERIA: When both 11 fans are secured this JPM is complete.	
END OF TASK	

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Initial Conditions:

You are the Balance of Plant Operator.
WGDT release to ventilation is ready to be started.
OP-412B has been completed through step 4.1.36.
PPO is now performing step 4.1.37.

Initiating Cues:

You are requested to perform control room actions per OP-412B when requested by the PPO.

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

SimSpare (2K3) NRC [Bank #250] (SIMULATOR)

SAFETY FUNCTION 2

RESTART A MAKEUP PUMP FOLLOWING AN RCS LEAK ISOLATION

PREPARED/REVIEWED BY: _____ Date: _____

VALIDATED BY: _____ Date: _____

APPROVAL BY: _____ Date: _____
(Nuclear Training Supervisor)

ATTACHMENT 7
SIMULATOR JOB PERFORMANCE MEASURE

Task: Restart a Makeup pump following a Reactor Coolant System leak isolation

Alternate Path: No

JPM #: SimSpare (2K3) NRC [Bank #250]

K/A Rating/Importance: 002A2.01 RO 4.3 SRO 4.4

Task Number/Position: 0020402013 RO

Task Standard: Restart a Makeup pump following a Reactor Coolant System leak isolation

Preferred Evaluation Location: **Preferred Evaluation Method**

Simulator_X_ Plant_ Admin_____ Perform _X_ Simulate_____

References:

AP-520, Rev. 5

Validation Time: 6 Minutes **Time Critical:** No

Candidate: _____ **Time Started:** _____
Printed Name **Time Finished:** _____

Performance Rating: SAT _____ UNSAT _____ **Performance Time:** _____

Examiner: _____ _____ _____
Printed Name Signature Date

Comment:_____

_____

_____

_____

_____

SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1. **"Restore" the simulator to a 100% power MOL IC or IC# 70 developed for this JPM.**

2. If creating IC perform the following:
   - Trip Rx.
   - Perform EOP-14 Enclosure 1 (Expert Mode, Enc1)
   - Fail Event Points 0085 and 0089 "FALSE". These are nuisance alarms.
   - Allow plant to stabilize (i.e. OTSGs LLL, DFT level stable).
   - Lower pressurizer level setpoint to 100".
   - Allow pressurizer level to return to 100".
   - Initialize MUT level to 80".
   - When pressurizer level returns to 100", close MUV-49 and MUV-567.
   - Shutdown MUP-1B.
   - Store IC.

SIMULATOR OPERATOR INSTRUCTIONS:

None

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Radio (may be simulated)
Copy of AP-520

READ TO THE OPERATOR:

Directions to the student:

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be performed for this JPM. 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 to the examiner.

INITIAL CONDITIONS:

You are the Reactor Operator.
AP-520 was entered when a small leak was found in the MU system.
The reactor was tripped.
The plant is now in stable Mode 3 conditions.
All MUPs had to be stopped to repair the leak.
The leak has now been repaired.

INITIATING CUE:

You are requested to restart MUP-1B starting with step 3.55 in AP-520.

EXAMINER'S NOTE: FOR STEPS DENOTED AS "CRITICAL STEP", WHICH HAVE MULTIPLE ACTIONS, THE INDIVIDUAL REQUIRED ACTION WILL BE DENOTED "CS". IF NO INDIVIDUAL ACTIONS ARE DENOTED AS SUCH THEN ALL ACTIONS WITHIN THE STEP ARE DEEMED "CRITICAL".

STEP 1:	Obtain a copy of appropriate procedure.	SAT_____
STANDARD:	Operator obtains a copy of AP-520, starting with step 3.55.	UNSAT_____
COMMENTS:		

STEP 2:	(Step 3.55) WHEN affected component is isolated OR repaired, THEN prepare MUP for restart. 1. IF EDG is supplying power to ES 4160V bus, THEN ensure adequate EDG margin exists for MUP and required cooling water pumps. 2. Ensure MU control valves are closed: MUV-16 and MUV-31. ***(CS)*** 3. Establish MUP cooling water supply. 4. Ensure MUP recirc. to MUT valves are open: MUV-53 and MUV-257. 5. Ensure MUP main lube oil pump is running: MUP-2B ***(CS)*** 6. Ensure MUP main gear oil pump is running: MUP-4B ***(CS)***	**Critical Step** SAT_____ UNSAT_____
STANDARD:	Operator observes that the EDG is not supplying the bus. Operator selects control station for MUV-31 and MUV-16 to HAND by depressing pushbutton and verifying HAND white light ON and AUTO Red light OFF, Operator uses toggle to lower demand to 0 ensuring valves are closed. (MUV-31 may be left in AUTO and dial rotated to 0). Operator verifies red light ON and green light OFF for SWP-1C and RWP-1. For each valve operator verifies red light ON and green light OFF. Operator verifies MUP-2B red light ON and green light OFF. Operator rotates control handle for MUP-4B to start and verifies red light ON and green light OFF.	
COMMENTS:		

STEP 3:	(Step 3.56) IF "A" Train MUP will be started, THEN ensure suction alignment to MUT. 1. IF MUP-1C is NOT ES selected, THEN notify PPO to select PUMP 3C on 4160V ES BUS 3B-5 2. Ensure the following are closed: MUV-73 and MUV-62. 3. Ensure the following are open: MUV-58 and MUV-69.	SAT_____ UNSAT_____
STANDARD:	Operator verifies ES select light for MUP-1C is ON. Operator verifies green CLOSED light on and red open light OFF for both valves. Operator verifies red OPEN light ON and green CLOSED light OFF for both valves,	
COMMENTS:		
STEP 4:	(Step 3.57) IF "B" Train MUP will be started, THEN ensure suction alignment to MUT.	SAT_____
STANDARD:	N/A, "A" Train pump being started.	UNSAT_____
COMMENTS:		

STEP 5:	(Step 3.58) Start selected MUP.	**Critical Step**
STANDARD:	Operator rotates MUP-1B to start and verifies red light ON and green light OFF. Operator should also verify amps increase.	SAT_____ UNSAT_____
EXAMINER'S CUE:	**MUP-1B is running; the task is complete.**	
COMMENTS:		
END OF TASK		

CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

You are the Reactor Operator.
AP-520 was entered when a small leak was found in the MU system.
The reactor was tripped.
The plant is now in stable Mode 3 conditions.
All MUPs had to be stopped to repair the leak.
The leak has now been repaired.

INITIATING CUE:

You are requested to restart MUP-1B starting with step 3.55 in AP-520.

Facility: Crystal River Unit 3	Date of Examination: August 25, 2003
Exam Level: ***SRO***	Operating Test No.: 1

Administrative Topic (see Note)	Describe activity to be performed:
Conduct of Operations	*Print Reading – Determine criteria for start of AHF-44B during a LOOP.* K/A – G2.1.24 RO 2.8 SRO 3.1 Multiple electrical prints and flow diagrams **[New]**
	Perform a Daily Heat Balance Comparison K/A – G2.1.23 RO 3.9 SRO 4.0 SP-312A **[Modified Bank]** *After completing heat balance determine required TS actions* K/A – G2.1.12 SRO 4.0
Equipment Control	*Perform an RCS Water Inventory Balance per SP-317* K/A – G2.2.12 RO 3.0 SRO 3.4 SP-317 **[Direct]** *After completing SP-317 determine required TS actions* K/A – G2.1.12 SRO 4.0
Radiation Control	*Determine external reporting requirements per CP-151* K/A – G2.3.1 SRO 3.0 CP-151 & NUREG-1022 **[New]**
Emergency Plan	*Determine Emergency Action Level after Simulator Scenario # 2.* K/A - G2.4.41 SRO 4.1 EM-202 **[New]**

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

Facility: Crystal River Unit 3	Date of Examination: August 25, 2003
Exam Level: ***RO***	Operating Test No.: 1

Administrative Topic (see Note)	Describe activity to be performed:
Conduct of Operations	*Print Reading – Determine criteria for start of AHF-44B during a LOOP.* K/A – G2.1.24 RO 2.8 SRO 3.1 Multiple electrical prints and flow diagrams **[New]**
	Perform a Daily Heat Balance Comparison K/A – G2.1.23 RO 3.9 SRO 4.0 SP-312A **[Modified Bank]**
Equipment Control	*Perform an RCS Water Inventory Balance per SP-317* K/A – G2.2.12 RO 3.0 SRO 3.4 SP-317 **[Direct]**
Radiation Control	
Emergency Plan	*Complete the State of Florida Notification Message Form and make required notifications* K/A - G2.4.43 RO 2.8 EM-202 **[New, Alternate Path]**

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

Facility: Crystal River Unit 3	Date of Examination: August 25, 2003
Exam Level (circle one): RO/SRO	Operating Test No.: 1

Administrative Topic (see Note)	Describe activity to be performed:
Conduct of Operations	*RO & SRO - Print Reading – Determine criteria for start of AHF-44B during a LOOP.* K/A – G2.1.24 RO 2.8 SRO 3.1 Multiple electrical prints and flow diagrams **[New]**
	RO & SRO – Perform a Daily Heat Balance Comparison K/A – G2.1.23 RO 3.9 SRO 4.0 SP-312A **[Modified Bank]** *SRO Only – After completing heat balance determine required TS actions* K/A – G2.1.12 SRO 4.0
Equipment Control	*RO & SRO – Perform an RCS Water Inventory Balance per SP-317* K/A – G2.2.12 RO 3.0 SRO 3.4 SP-317 **[Direct]** *SRO Only – After completing SP-317 determine required TS actions* K/A – G2.1.12 SRO 4.0
Radiation Control	*SRO Only – Determine external reporting requirements per CP-151* K/A – G2.3.1 SRO 3.0 CP-151 & NUREG-1022 **[New]**
Emergency Plan	*RO Only – Complete the State of Florida Notification Message Form and make required notifications* K/A - G2.4.43 RO 2.8 EM-202 **[New, Alternate Path]**
	SRO Only - Determine Emergency Action Level after Simulator Scenario # 2. K/A - G2.4.41 SRO 4.1 EM-202 **[New]**

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

Facility: Crystal River Unit 3 Date of Examination: August 25, 2003

Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test No.: 1

Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System / JPM Title	Type Code*	Safety Function
a. CRDS – Transfer control rod to auxiliary power supply K/A – 001A4.03 RO 4.0 SRO 3.7 (OP-502) *[RO]*	D, S	1
b. ESFAS – ES "B" HPI Diverse Containment Isolation Test K/A – 013A3.01 RO 3.7 SRO 3.9 (SP-358A) *[RO, SRO-U, SRO-I]*	A, D, S	2
c. PZR PCS – Perform PORV Exercise Test K/A – 010A3.01 RO 3.0 SRO 3.2 (SP-379) *[RO, SRO-U, SRO-I]*	L, N, S	3
d. RHR – Perform a crosstie of DHR flow to the Reactor Vessel K/A – 005A1.02 RO 3.3 SRO 3.4 (OP-404) *[RO, SRO-U,SRO-I]*	L, D, S	4
e. CSS – Ensure Building Spray actuation K/A – 026A3.01 RO 4.3 SRO 4.5 (EM-225C) *[RO, SRO-I]*	A, D, S	5
f. AC – Perform actions for loss of an ES 4160V Bus K/A – 062A2.12 RO 3.2 SRO 3.6 (AP-770) *[RO, SRO-I]*	A, M, S	6
g. RPS – Place the RPS in Shutdown Bypass. K/A – 012A4.03 RO 3.6 SRO 3.6 (OP-202/507) *[RO, SRO-I]*	L, D, S	7
h. WGDS/PRM – Perform actions for an accidental Waste Gas leak K/A – 060AA2.05 RO 3.7 SRO 4.2 (AP-250) *[RO, SRO-I]*	A, C, N, S	9
SPARE MU – Restart a MUP Following an RCS Leak Isolation K/A – 002A2.01 RO 4.3 SRO 4.4 (AP-520)	D, S	2
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. AFW/EFW – Place EFIC Channel in Tripped condition K/A – 061A2.05 RO 3.1 SRO 3.4 (OP-450) *[RO, SRO-I]*	N	4
j. CCWS – Fill SW surge tank from the Fire Service system K/A – 028A4.03 RO 3.1 SRO 3.3 (EOP-14, Enclosure 2) *[RO, SRO-U, SRO-I]*	D, R	8
k. CRD – Manually trip reactor from outside control room K/A – 02EA1.1 RO 4.0 SRO 3.6 (AP-990) *[RO, SRO-U, SRO-I]*	A, D	1
SPARE FS/OTSG – Transfer excess secondary inventory to FST K/A – 037AK3.07 RO 4.2 SRO 4.4 (EOP-14 Enclosure 9)	D	2, 8

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility: Crystal River Unit 3 Date of Examination: August 25, 2003

Exam Level: ***RO*** Operating Test No.: 1

Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System / JPM Title	Type Code*	Safety Function
a. CRDS – Transfer control rod to auxiliary power supply K/A – 001A4.03 RO 4.0 SRO 3.7 (OP-502)	D, S	1
b. ESFAS – ES "B" HPI Diverse Containment Isolation Test K/A – 013A3.01 RO 3.7 SRO 3.9 (SP-358A)	A, D, S	2
c. PZR PCS – Perform PORV Exercise Test K/A – 010A3.01 RO 3.0 SRO 3.2 (SP-379)	L, N, S	3
d. RHR – Perform a crosstie of DHR flow to the Reactor Vessel K/A – 005A1.02 RO 3.3 SRO 3.4 (OP-404)	L, D, S	4
e. CSS – Ensure Building Spray actuation K/A – 026A3.01 RO 4.3 SRO 4.5 (EM-225C)	A, D, S	5
f. AC – Perform actions for loss of an ES 4160V Bus K/A – 062A2.12 RO 3.2 SRO 3.6 (AP-770)	A, M, S	6
g. RPS – Place the RPS in Shutdown Bypass. K/A – 012A4.03 RO 3.6 SRO 3.6 (OP-202/507)	L, D, S	7
h. WGDS/PRM – Perform actions for an accidental Waste Gas leak K/A – 060AA2.05 RO 3.7 SRO 4.2 (AP-250)	A, C, N, S	9
SPARE MU – Restart a MUP Following an RCS Leak Isolation K/A – 002A2.01 RO 4.3 SRO 4.4 (AP-520)	D, S	2
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. AFW/EFW – Place EFIC Channel in Tripped condition K/A – 061A2.05 RO 3.1 SRO 3.4 (OP-450)	N	4
j. CCWS – Fill SW surge tank from the Fire Service system K/A – 028A4.03 RO 3.1 SRO 3.3 (EOP-14, Enclosure 2)	D, R	8
k. CRD – Manually trip reactor from outside control room K/A – 02EA1.1 RO 4.0 SRO 3.6 (AP-990)	A, D	1
SPARE FS/OTSG – Transfer excess secondary inventory to FST K/A – 037AK3.07 RO 4.2 SRO 4.4 (EOP-14 Enclosure 9)	D	2, 8

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility: Crystal River Unit 3 Date of Examination: August 25, 2003

Exam Level: **SRO(I)** Operating Test No.: 1

Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System / JPM Title	Type Code*	Safety Function
b. ESFAS – ES "B" HPI Diverse Containment Isolation Test K/A – 013A3.01 RO 3.7 SRO 3.9 (SP-358A)	A, D, S	2
c. PZR PCS – Perform PORV Exercise Test K/A – 010A3.01 RO 3.0 SRO 3.2 (SP-379)	L, N, S	3
d. RHR – Perform a crosstie of DHR flow to the Reactor Vessel K/A – 005A1.02 RO 3.3 SRO 3.4 (OP-404)	L, D, S	4
e. CSS – Ensure Building Spray actuation K/A – 026A3.01 RO 4.3 SRO 4.5 (EM-225C)	A, D, S	5
f. AC – Perform actions for loss of an ES 4160V Bus K/A – 062A2.12 RO 3.2 SRO 3.6 (AP-770)	A, M, S	6
g. RPS – Place the RPS in Shutdown Bypass. K/A – 012A4.03 RO 3.6 SRO 3.6 (OP-202/507)	L, D, S	7
h. WGDS/PRM – Perform actions for an accidental Waste Gas leak K/A – 060AA2.05 RO 3.7 SRO 4.2 (AP-250)	A, C, N, S	9
SPARE MU – Restart a MUP Following an RCS Leak Isolation K/A – 002A2.01 RO 4.3 SRO 4.4 (AP-520)	D, S	2
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. AFW/EFW – Place EFIC Channel in Tripped condition K/A – 061A2.05 RO 3.1 SRO 3.4 (OP-450)	N	4
j. CCWS – Fill SW surge tank from the Fire Service system K/A – 028A4.03 RO 3.1 SRO 3.3 (EOP-14, Enclosure 2)	D, R	8
k. CRD – Manually trip reactor from outside control room K/A – 02EA1.1 RO 4.0 SRO 3.6 (AP-990)	A, D	1
SPARE FS/OTSG – Transfer excess secondary inventory to FST K/A – 037AK3.07 RO 4.2 SRO 4.4 (EOP-14 Enclosure 9)	D	2, 8

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility: Crystal River Unit 3 Date of Examination: August 25, 2003

Exam Level: ***SRO(U)*** Operating Test No.: 1

Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System / JPM Title	Type Code*	Safety Function
b. ESFAS – ES "B" HPI Diverse Containment Isolation Test K/A – 013A3.01 RO 3.7 SRO 3.9 (SP-358A)	A, D, S	2
c. PZR PCS – Perform PORV Exercise Test K/A – 010A3.01 RO 3.0 SRO 3.2 (SP-379)	L, N, S	3
d. RHR – Perform a crosstie of DHR flow to the Reactor Vessel K/A – 005A1.02 RO 3.3 SRO 3.4 (OP-404)	L, D, S	4
SPARE MU – Restart a MUP Following an RCS Leak Isolation K/A – 002A2.01 RO 4.3 SRO 4.4 (AP-520)	D, S	2
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
j. CCWS – Fill SW surge tank from the Fire Service system K/A – 028A4.03 RO 3.1 SRO 3.3 (EOP-14, Enclosure 2)	D, R	8
k. CRD – Manually trip reactor from outside control room K/A – 02EA1.1 RO 4.0 SRO 3.6 (AP-990)	A, D	1
SPARE FS/OTSG – Transfer excess secondary inventory to FST K/A – 037AK3.07 RO 4.2 SRO 4.4 (EOP-14 Enclosure 9)	D	2, 8

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA