CRYSTAL RIVER UNIT 3
JPM COVER SHEET

ADMIN JPM #CO1

NRC 2009

SRO ONLY

DETERMINE ACTIONS FOR PRIMARY TO SECONDARY LEAKAGE

PREPARED BY: _____Alan Kennedy_____   Date: _____07/09/09_____

VALIDATED BY: _____Rop / Taylor_____   Date: _____07/15/09_____

APPROVAL BY: _____Lawrence / Vansicklen_____   Date: _____07/20/09_____
        (Nuclear Training Supervisor)

CONCURRED BY: _____Mike Kelly_____   Date: _____07/20/09_____
        (Operations Representative)

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ADMINISTRATIVE JOB PERFORMANCE MEASURE

JPM #:   Admin CO1 – NRC 2009 [Bank #320D]

Task: Determine actions for primary to secondary leakage.

Alternate Path: ☐ YES   ☒ NO

PRA Top Critical Action: ☐ YES   ☒ NO

Safety Function: 4

K/A Rating/Importance: G2.1.25   RO 3.9   SRO 4.2
                            035A2.01   RO 4.5   SRO 4.6

Task Number: 1150401010

Position: ☒ SRO ONLY   ☐ RO/SRO   ☐ NLO/RO/SRO

Task Standard: Determine actions for primary to secondary leakage

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

☐ SIM   ☐ PLANT ☒ ADMIN   ☒ PERFORM   ☐ SIMULATE

References:

CP-152, Rev. 19

Validation Time: 20 minutes   **Time Critical:** ☐ YES ☒ NO

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

                                                          Time Finish: _____

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

Examiner: _____   _____
                    Printed Name   Signature   Date

Comment: _____

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SIMULATOR OPERATOR SETUP INSTRUCTIONS:

1.   NA

SIMULATOR OPERATOR INSTRUCTIONS:

1.   NA

TOOLS / EQUIPMENT / PROCEDURES NEEDED:

1.   Calculator
2.   Copies of CP-152, Revision 19
3.   ITS available as reference, if needed

ADMINISTRATIVE JOB PERFORMANCE MEASURE

READ TO THE OPERATOR

INITIAL CONDITIONS

You are the Control Room Supervisor.

The time is now 1300.
The plant is at 100% power.
ARP-1A is in operation by itself.
RM-G26 is off scale high.
Due to recent calibrations of RM-A12, an RM-A12 conversion table is NOT yet available.
RM-A12 background is 45 cpm per CH-266.
RM-A12 conversion factor is 0.0065 per CH-266.
RM-A12 readings have been the following:

0900	810	cpm
1000	14000	cpm
1100	16500	cpm
1200	20000	cpm
1300	23800	cpm

INITIATING CUES

1. Determine the applicable action level, if any, and

2. Determine TS actions, if any, and

3. Based on items 1 and 2, LIST all required actions that must be performed.

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ADMINISTRATIVE JOB PERFORMANCE MEASURE

START TIME:_____

STEP 1: Candidate obtains a copy of CP-152. **STANDARD:** N/A **EXAMINER NOTE:** Provide candidate with a copy of CP-152. **COMMENTS:**	SAT ____ UNSAT ___
STEP 2: Candidate uses CP-152, Enclosure 1, to calculate primary to secondary leak rate. **STANDARD:** CP-152, Enclosure 1, may be used due to NOT having a table available for the current RM-A12 conditions. **COMMENTS:** See the attached key for leak rates associated with each of the given RM-A12 count rates.	SAT ____ UNSAT ___
STEP 3: Candidate determines that Action Level 3 is applicable. **STANDARD:** Candidate determines Action Level 3 is applicable due to primary leakage being greater than 75 gpm, with an increase of greater than 30 gpd in the hour since the initial rise. Also the final reading is >150 gpd (Action Level 3). TS 3.4.12, RCS Operational Leakage, Condition B, is also applicable. **COMMENTS:**	SAT ____ UNSAT ___

ADMINISTRATIVE JOB PERFORMANCE MEASURE

	Critical Step
<u>STEP 4:</u> Candidate determines actions are required. <u>STANDARD:</u> Candidate determines that, as a minimum, the following actions are required per section 4.8.1 of CP-152.	**Basis: Required actions to mitigate a primary to secondary leak.**
4.8.1.1 VERIFY increased leakage using RM-G26 or RM-G27.	
4.8.1.2 Evaluate spikes or rapid changes in leak rate.	SAT ____
4.8.1.3 NOTIFY SM, MSO, and PGM of changing primary to secondary leakage conditions.	UNSAT ___
4.8.1.4 MONITOR RM-A12 every 15 minutes <u>AND</u> OBTAIN leak rate in gpd within 15 minutes.	
~~4.8.1.5~~ Reduce power to ≤ 50% in 1 hour, and be in Mode 3 in the next 2 hours if leakage greater than 75 gpd with the leak rate increasing at greater than 30 gpd/hr.	
① (4.8.1.6) NA *Correct* ·	
4.8.1.7 PERFORM applicable steps of Action Level 1.	
4.8.1.8 Administratively TAG Aux Steam from Units 1 & 2 by hanging Caution Tags.	
TS 3.4.12, RCS Operational Leakage, Condition B, is also applicable. <u>**EXAMINER NOTE:**</u> **Candidate may summarize the actions by stating that the actions of CP-152, Action Level 3, are required.** <u>COMMENTS:</u>	
<u>**TERMINATION CRITERIA:**</u> **Correct Action Level and TS actions determined.**	
<u>**END OF TASK**</u>	

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① *Based on Changes made during Prep Week / Post Exam Comment 4.8.15 is NA & 4.8.16 is Correct*

STOP TIME:_____

ADMINISTRATIVE JOB PERFORMANCE MEASURE

　　　　　　　　　　　　　　　　　　　　ENCLOSURE 1

RM-A12 CONVERSION TO GPD

Example: $[($ __1000 cpm__ $) - ($ __30 cpm__ $) =$ __970 cpm__ $] \times ($ __0.0072__ $) =$ __6.98__ *gpd*

　　　　　　Gross　　　　　Background　　Net Count Rate　　　Conv.Factor*　　　Leak Rate

* RM-A12 gpd per cpm conversion factor and average background count rate are recorded on Enclosure 2 of CH-266, Primary to Secondary Leak Rate Monitoring, which a copy is located in Control Room.

NOTE

Calculated Primary to Secondary leak rate may be obtained from CH-266 Operator aid posted in Control Room. If leak rate is obtained from Operator aid, then only time, gross cpm, and leak rate need to be logged.

Time	
__0900__	$[($ __810__ cpm$) - ($ __45__ cpm$) = ($ __755__ cpm$)] \times ($ __0.0065__ $) =$ __4.97__ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
__1000__	$[($ __14000__ cpm$) - ($ __45__ cpm$) = ($ __13955__ cpm$)] \times ($ __0.0065__ $) =$ __90.71__ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
__1100__	$[($ __16500__ cpm$) - ($ __45__ cpm$) = ($ __16455__ cpm$)] \times ($ __0.0065__ $) =$ __106.95__ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
__1200__	$[($ __20000__ cpm$) - ($ __45__ cpm$) = ($ __19955__ cpm$)] \times ($ __0.0065__ $) =$ __129.7__ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
__1300__	$[($ __23800__ cpm$) - ($ __45__ cpm$) = ($ __23755__ cpm$)] \times ($ __0.0065__ $) =$ __154.4__ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
_____	$[($ ____ cpm$) - ($ ____ cpm$) = ($ ____ cpm$)] \times ($ ____ $) =$ ____ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
_____	$[($ ____ cpm$) - ($ ____ cpm$) = ($ ____ cpm$)] \times ($ ____ $) =$ ____ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
_____	$[($ ____ cpm$) - ($ ____ cpm$) = ($ ____ cpm$)] \times ($ ____ $) =$ ____ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
_____	$[($ ____ cpm$) - ($ ____ cpm$) = ($ ____ cpm$)] \times ($ ____ $) =$ ____ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
_____	$[($ ____ cpm$) - ($ ____ cpm$) = ($ ____ cpm$)] \times ($ ____ $) =$ ____ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate
_____	$[($ ____ cpm$) - ($ ____ cpm$) = ($ ____ cpm$)] \times ($ ____ $) =$ ____ gpd 　Gross　　　　　Background　　　　Net　　　　　Conv. Factor*　　Leak Rate

ADMINISTRATIVE JOB PERFORMANCE MEASURE

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS

You are the Control Room Supervisor.

The time is now 1300.
The plant is at 100% power.
ARP-1A is in operation by itself.
RM-G26 is off scale high.
Due to recent calibrations of RM-A12, an RM-A12 conversion table is NOT yet available.
RM-A12 background is 45 cpm per CH-266.
RM-A12 conversion factor is 0.0065 per CH-266.
RM-A12 readings have been the following:

0900	810 cpm
1000	14000 cpm
1100	16500 cpm
1200	20000 cpm
1300	23800 cpm

INITIATING CUES

1. Determine the applicable action level, if any, and

2. Determine TS actions, if any, and

3. Based on items 1 and 2, LIST all required actions that must be performed.

_____

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CRYSTAL RIVER UNIT 3
JPM COVER SHEET

ADMIN JPM #CO2

NRC 2009

RO & SRO

PERFORM A TIME TO BOIL / CORE UNCOVERY
CALCULATION

PREPARED BY: _____Alan Kennedy_____   Date: _____07/09/09_____

VALIDATED BY: _____Rop / Taylor_____   Date: _____07/15/09_____

APPROVAL BY: _____Lawrence / Vansicklen_____   Date: _____07/20/09_____
                        (Nuclear Training Supervisor)

CONCURRED BY: _____Mike Kelly_____   Date: _____07/20/09_____
                        (Operations Representative)

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ADMINISTRATIVE JOB PERFORMANCE MEASURE

JPM #:   Admin CO2 – NRC 2009 [Modified]

Task: Operate the plant within the guidelines specified for Mode 5 outages and reduced reactor coolant system RCS inventory operations.

Alternate Path: ☐ YES   ☒ NO

PRA Top Critical Action: ☐ YES   ☒ NO

Safety Function: 4

K/A Rating/Importance: G2.1.23   RO 4.3   SRO 4.4
                             025AA1.02   RO 3.8   SRO 3.9

Task Number: 1190102001   RO

Position: ☐SRO ONLY   ☒RO/SRO   ☐NLO/RO/SRO

Task Standard: Perform a time to boil / core uncovery calculation.

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

☐ SIM   ☐ PLANT   ☒ ADMIN   ☒ PERFORM   ☐ SIMULATE

References:

OP-103H, Rev. 9

Validation Time: 20 minutes   **Time Critical**: ☐ YES   ☒ NO

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

                                          Time Finish: _____

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

Examiner: _____   _____
              Printed Name   Signature   Date

Comment: _____

_____

ADMINISTRATIVE JOB PERFORMANCE MEASURE

SIMULATOR SETUP INSTRUCTIONS

NA

SIMULATOR OPERATOR INSTRUCTIONS

NA

TOOLS/EQUIPMENT/PROCEDURES NEEDED

1. OP-103H, Rev. 9   Consumable copies
2. Calculator

ADMINISTRATIVE JOB PERFORMANCE MEASURE

READ TO THE OPERATOR

INITIAL CONDITIONS

You are the Chief Nuclear Operator

Plant is in MODE 5 following a core reload
77 new fuel assemblies were loaded in the core
RCS temperature is 120° F
RCS pressure is 35 psig
RCS level is 154 feet
Plant was shutdown at 0800 on 08/03/09
Current date and time is 0800 on 08/29/09

INITIATING CUES

The CRS has directed you to determine the current time to boil AND current time to core uncovery for these conditions.

Time to Boil = _____

Time to Core Uncovery = _____

_____

_____

_____

ADMINISTRATIVE JOB PERFORMANCE MEASURE

TIME START _____

<u>STEP 1</u>: Locate correct procedure. <u>STANDARD</u>: Candidate obtains a copy of OP-103H, Reactor Coolant System and Spent Fuel Pool Decay Heat Tables and Figures. **<u>EXAMINER NOTE</u>:** **Provide candidate with a copy of OP-103H when requested.** <u>COMMENTS:</u>	SAT _____ UNSAT _____
<u>STEP 2</u>: Record RCS temperature, RCS level, shutdown date and time and current date and time. Determine number of burned fuel assemblies in the core and the number of days shutdown. Transfer data to Enclosure 1. <u>STANDARD</u>: Candidate accurately transfers data from Cue Sheet to Enclosure 1. <u>COMMENTS:</u>	SAT _____ UNSAT _____
<u>STEP 3:</u> Step 3.1 Determine the Decay Heat Correction Factor for number of days shutdown. <u>STANDARD</u>: Candidate accurately determines number of days shutdown and the Decay Heat Correction Factor from Table 16. Number of days shutdown is 26. Correction factor is 3.3979. Rounding to 3.4 is acceptable. <u>COMMENTS:</u>	SAT _____ UNSAT _____

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STEP 4:	Step 3.2
	Determine the Fuel Assembly Correction Factor.

SAT _____

UNSAT _____

STANDARD: Candidate accurately determines the Fuel Assembly Correction Factor.

177 (total fuel assemblies) divided by 100 (burned fuel assemblies in core) = 1.77
Correction factor is 1.77. Rounding to 1.8 is acceptable.

COMMENTS:

STEP 5:	Step 3.3
	Determine the Overall Correction Factor.

SAT _____

UNSAT _____

STANDARD: Candidate accurately determines the Overall Correction Factor.

3.3979 (DH Correction Factor) x 1.77 (fuel assembly correction factor) = 6.01
Correction factor is 6.01. Rounding to 6.0 is acceptable.

COMMENTS:

STEP 6:	Step 7.0
	Determine RCS condition.

SAT _____

UNSAT _____

STANDARD: Using data from the cue sheet the candidate accurately determines that the RCS is intact and not vented.

COMMENTS:

ADMINISTRATIVE JOB PERFORMANCE MEASURE

STEP 7: Step 7.1 Obtain the Time to Boil from Table 3. **STANDARD:** Using data from the cue sheet the candidate accurately determines the Time to Boil from Table 3. Time to Boil is 26.94 minutes. Rounding to 27 minutes is acceptable. **COMMENTS:**	SAT _____ UNSAT _____
STEP 8: Steps 7.2 and 7.3 Per the cue sheet these steps are not required. **STANDARD:** NA **EXAMINER NOTE:** **There are no adverse consequences if candidate performs these calculations.** **COMMENTS:**	SAT _____ UNSAT _____
STEP 9: Step 7.4 Obtain the Time to Core Uncovery from Table 15. **STANDARD:** Using data from the cue sheet the candidate accurately determines the Time to Core Uncovery from Table 15. Time to Core Uncovery is 363.17 minutes. Rounding to 363 minutes is acceptable. **COMMENTS:**	SAT _____ UNSAT _____

STEP 10: Step 7.5	Critical Step
Apply the Overall Correction Factor to determine current Time to Boil.	**Basis: Accurate time that boiling will occur.**
STANDARD: Candidate accurately determines the current Time to Boil.	SAT _____
6.01 (Overall Correction Factor) x 26.94 (Time to Boil) = 161.91 minutes. **Using rounded values for all calculations:** 6.0 (Overall Correction Factor) x 27.0 (Time to Core Uncovery) = 162 minutes. *Values between 158 minutes and 165 minutes are acceptable.* (approximately 2% error band)	UNSAT _____
COMMENTS:	
STEP 11: Steps 7.6 and 7.7	SAT _____
Per the cue sheet these steps are not required.	UNSAT _____
STANDARD: NA	
EXAMINER NOTE: **There are no adverse consequences if candidate performs these calculations.**	
COMMENTS:	

ADMINISTRATIVE JOB PERFORMANCE MEASURE

		Critical Step
<u>STEP 12:</u>	Step 7.8	
	Apply the Overall Correction Factor to determine current Time to Core Uncovery.	**Basis: Accurate time that core uncovery will occur.**
<u>STANDARD:</u>	Candidate accurately determines the current Time to Core Uncovery.	SAT _____
	6.01 (Overall Correction Factor) x 363.17 (Time to Core Uncovery) = 2182.65 minutes.	UNSAT _____
	Using rounded values for all calculations: 6.0 (Overall Correction Factor) x 363.0 (Time to Core Uncovery) = 2178 minutes.	
	Values between 2156 minutes and 2204 minutes are acceptable. (approximately 1% error band)	
<u>COMMENTS:</u>		
<u>TERMINATION CUE:</u> Candidate accurately determines current Time to Boil and Time to Core Uncovery.		
END OF TASK		

TIME STOP _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE

DETERMINATION OF RCS TIME TO BOIL, TIME TO 200°F, TIME TO SATURATION, AND TIME TO CORE UNCOVERY [NOCS 095314]

1.0   RECORD the following plant conditions:

1.1   RCS Temperature (°F) __**120 F**__

1.2   RCS Level (ft) __**154 feet**__

1.3   Number of burned fuel assemblies in core __**100**__

1.4   Shutdown Date/Time __**08/03/09   0800**__

1.5   Current Date/Time __**08/29/09   0800**__

2.0   DETERMINE the number of days shutdown __**26**__

3.0   DETERMINE the correction factors to apply:

> **NOTE**
>
> Tables 1 – 15 provide time to boil, time to 200°F, time to saturation, and time to core uncovery values for one point in time, which was chosen to be 1 day following reactor shutdown. A correction factor has been provided for all other times after shutdown.

3.1   OBTAIN the Decay Heat Correction Factor for number of days shutdown (Step 2.0) from Table 16.

Decay Heat Correction Factor (Table 16) = __**3.3979**__

> **NOTE**
>
> Tables 1 – 15 provide time to boil, time to 200°F, time to saturation, and time to core uncovery values for a full core of 177 burned fuel assemblies. A correction factor can be calculated for periods when the reactor has less than 177 fuel assemblies or has been reloaded with one-third unburned (new) assemblies.

3.2   DETERMINE the Number of Fuel Assemblies Correction Factor:

Fuel Assembly Correction Factor = 177 ÷ (Step 1.3)

= 177 ÷ __**100**__ = __**1.77   (1.8 acceptable)**__

3.3   CALCULATE Overall Correction Factor:

Overall Correction Factor = (Step 3.1) × (Step 3.2)

= __**3.3979**__ × __**1.77**__ = __**6.01 (6.0 acceptable)**__

ADMINISTRATIVE JOB PERFORMANCE MEASURE

DETERMINATION OF RCS TIME TO BOIL, TIME TO 200°F, TIME TO SATURATION, AND TIME TO CORE UNCOVERY [NOCS 095314]

6.2 OBTAIN Time to 200°F from Table 6 for the RCS temperature and level recorded in Steps 1.1 and 1.2.

Time to 200°F (Table 6) = _____ min

6.3 OBTAIN Time to Saturation from Table 10 for the RCS temperature and level recorded in Steps 1.1 and 1.2.

Time to Saturation (Table 10) = _____ min

6.4 OBTAIN Time to Core Uncovery from Table 14 for the RCS temperature and level recorded in Steps 1.1 and 1.2.

Time to Core Uncovery (Table 14) = _____ min

6.5 Apply the Overall Correction Factor to determine the current Time to Boil:

Time to Boil = (Step 3.3) x (Step 6.1)
= _____ x _____ = _____ min

6.6 Apply the Overall Correction Factor to determine the current Time to 200°F:

Time to 200°F = (Step 3.3) × (Step 6.2)
= _____ x _____ = _____ min

6.7 Apply the Overall Correction Factor to determine the current Time to Saturation:

Time to Saturation = (Step 3.3) × (Step 6.3)
= _____ x _____ = _____ min

6.8 Apply the Overall Correction Factor to determine the current Time to Core Uncovery:

Time to Core Uncovery = (Step 3.3) × (Step 6.4)
= _____ × _____ = _____ min

7.0 RCS Intact (NOT Vented):

7.1 OBTAIN Time to Boil from Table 3 for the RCS temperature and level recorded in Steps 1.1 and 1.2.

Time to Boil (Table 3) = __**26.94   (27 min acceptable)**__ min

7.2 OBTAIN Time to 200°F from Table 7 for the RCS temperature and level recorded in Steps 1.1 and 1.2.

Time to Saturation (Table 7) = _____ min

ADMINISTRATIVE JOB PERFORMANCE MEASURE

DETERMINATION OF RCS TIME TO BOIL, TIME TO 200°F, TIME TO SATURATION, AND TIME TO CORE UNCOVERY [NOCS 095314]

7.3   OBTAIN Time to Saturation from Table 11 for the RCS temperature and level recorded in Steps 1.1 and 1.2.

Time to Saturation (Table 11) = _____ min

7.4   OBTAIN Time to Core Uncovery from Table 15 for the RCS temperature and level recorded in Steps 1.1 and 1.2.

Time to Core Uncovery (Table 15) = ___ **363.17   (363 acceptable)** ___   min

7.5   Apply the Overall Correction Factor to determine the current Time to Boil:

Time to Boil = (Step 3.3) × (Step 7.1)
= ___ **6.01** ___ × ___ **26.94** ___ = ___ **161.91 (158 min to 165 min acceptable band)** ___ min

7.6   Apply the Overall Correction Factor to determine the current Time to 200°F:

Time to 200°F = (Step 3.3) x (Step 7.2)
= _____ x _____ = _____ min

7.7   Apply the Overall Correction Factor to determine the current Time to Saturation:

Time to Saturation = (Step 3.3) x (Step 7.3)
= _____ x _____ = _____ min

7.8   Apply the Overall Correction Factor to determine the current Time to Core Uncovery:

Time to Core Uncovery = (Step 3.3) × (Step 7.4)

= ___ **6.01** ___ × ___ **363.17** ___ = ___ **2182.65 (2156 min to 2204 min acceptable band)** ___ min

Completed by: _____ Date: _____

Verified by: _____ Date: _____

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

READ TO THE OPERATOR

INITIAL CONDITIONS

You are the Chief Nuclear Operator

Plant is in MODE 5 following a refueling outage
77 new fuel assemblies were loaded in the core
RCS temperature is 120° F
RCS pressure is 12 psig
RCS level is 154 feet
Plant was shutdown at 0800 on 08/03/09
Current date and time is 0800 on 08/29/09

INITIATING CUES

The CRS has directed you to determine the current time to boil AND current time to core uncovery for these conditions.

Time to Boil = _____

Time to Core Uncovery = _____

_____

_____

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

ADMIN JPM #EC1

NRC 2009

RO & SRO

Perform a Monthly NI Imbalance Comparison

PREPARED BY: _____Alan Kennedy_____   Date: _07/09/09____

VALIDATED BY: _____Rop / Taylor_____   Date: _07/15/09____

APPROVAL BY: _____Lawrence / Vansicklen_____   Date: _07/20/09____
                            (Nuclear Training Supervisor)

CONCURRED BY: ____Mike Kelly_____   Date: _07/20/09____
                            (Operations Representative)

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ADMINISTRATIVE JOB PERFORMANCE MEASURE

JPM #:   Admin EC1 – NRC 2009 [Bank #286]

Task: Perform a Monthly NI Imbalance Comparison, SP-312B/ SRO - Perform safety and technical reviews of plant procedures.

Alternate Path: ☐ YES   ☒ NO

PRA Top Critical Action: ☐ YES   ☒ NO

Safety Function: NA

K/A Rating/Importance: G2.2.12   RO 3.7   SRO 4.1

Task Number: 0150202004 / RO   1190101029 / SRO

Position: ☐SRO ONLY   ☒RO/SRO   ☐NLO/RO/SRO

Task Standard: Perform a Monthly NI Imbalance Comparison, SP-312B
SRO - Perform safety and technical reviews of plant procedures.

Preferred Evaluation Location: **Preferred Evaluation Method**

☐ SIM   ☐ PLANT   ☒ ADMIN   ☒ PERFORM   ☐ SIMULATE

References:

SP-312B, Rev. 9

Validation Time: 25 / 5 minutes   **Time Critical:** ☐ YES ☒ NO

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

                                    Time Finished: _____

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

Examiner: _____   _____   _____
                    Printed Name   Signature   Date

Comment: _____

_____

ADMINISTRATIVE JOB PERFORMANCE MEASURE

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

Copy of SP-312B, Rev 9
ITS – Reference
Calculator

READ TO THE OPERATOR

INITIAL CONDITIONS:

You are the Reactor Operator.

The plant is in normal power operation.
SP-312B, Monthly NI Imbalance Comparison, is required.
The Tag Status Verification Sheet has been completed; all instruments are within their allowable calibration frequency.
The plant has been at steady state conditions for > 15 minutes.
The plant computer is out of service.
Control Console NI power is as follows: NI-5 - 52%
NI-6 - 53%
NI-7 - 53%
NI-8 - 52%
PT-138 has been completed. Incore imbalance is -4.8% RTP.
SP-312D has been completed. Thermal power is 1340 MWT.

INITIATING CUE:

You are requested to perform SP-312B (voltage readings are attached).

Return Enclosures 1 & 2 with completed JPM.

SROs only: Upon completion of the above, evaluate your results and list any actions required.

Per SP-312B the action(s) below must be completed.

STEP 1: Provide candidate with copy of SP-312B. STANDARD: COMMENTS:	
STEP 2: (step 4.2.1 & 4.2.2) Have the craft personnel connect the DVM to the Delta Flux Amplifier Module (DFAM) "E_{out}" jack for NI-5 through NI-8. Measure and record the voltage readings (from the DVMs of step 4.2.1), for each Power Range NI Channel on Enclosure 2. STANDARD: N/A **EXAMINER NOTE:** Voltage readings are supplied for this JPM. COMMENTS:	
STEP 3: (step 4.2.3) Using the conversion factors of Enclosure 2, convert the voltage readings to %RTP imbalance. STANDARD: Candidate accurately converts voltages to %RTP imbalance. Values recorded must agree within ± 0.25% of the value given on the JPM key. COMMENTS:	**Critical Step** **Basis: Accurate calculation required to determine %RTP imbalance.** SAT_____ UNSAT_____

STEP 4: (step 4.2.4) Record the NI Imbalance values for NI-5, NI-6, NI-7, and NI-8 (from Enclosure 2) on Enclosure 1 under Column A designated "NI Imbalance" (API_O) STANDARD: Candidate accurately transfers data from Enclosure 2 to Enclosure 1. COMMENTS:	SAT_____ UNSAT_____
STEP 5: (step 4.2.5) Using PT-138, Hand Axial Power Imbalance Calculations, determine the In-Core Imbalance. STANDARD: N/A **EXAMINER NOTE:** This information is supplied in the cue. COMMENTS:	SAT_____ UNSAT_____
STEP 6: (step 4.2.6) Record the Incore Imbalance determined in Step 4.2.5 on Enclosure 1 under Column B designated as "Incore Imbalance (API_I)". STANDARD: Candidate accurately transfers data from the initial conditions (supplied) to Enclosure 1. COMMENTS:	SAT_____ UNSAT_____

STEP 7: (step 4.2.7) Using SP-312D, Backup Heat Balance Calculations, determine the thermal power. STANDARD: N/A **EXAMINER NOTE:** This information is supplied in the cue. COMMENTS:	SAT_____ UNSAT_____
STEP 8: (step 4.2.8) Record the value for the thermal power determined in Step 4.2 7 on Enclosure 1 under Column C designated as "Thermal Power (TP)". STANDARD: Candidate accurately transfers data from information supplied in initial conditions to enclosure 1. COMMENTS:	SAT_____ UNSAT_____
STEP 9: (step 4.2.9) Complete Enclosure 1 and notify the SM/CRS of the results. STANDARD: Candidate accurately calculates values indicated on Enclosure 1 and notifies CRS/SSO of results (completes cue sheet). **EXAMINER NOTE:** **Values recorded must agree within ± 0.25% of the value given on the JPM key.** COMMENTS:	**Critical Step** **Basis: Accurate calculation required to determine Imbalance error.** SAT_____ UNSAT_____

TERMINATION CRITERIA: **Accurate Imbalance error determined.**	
RO – END OF TASK	
STEP 10: **SRO ONLY** (Step 5.2.1) If Imbalance Error (Enclosure 1), is greater than 2.5% RTP for any NI Channel, then immediately inform the SM/CRS and refer to ITS SR 3.3.1.3. (Step 5.2.2) If NI recalibration is required, then SP-113G, Power Range Nuclear Instrument Gain Adjustment, is to be used to perform the calibration. (Step 5.2.3) If NI recalibration is required, then reperform this procedure within one hour after the calibration is completed. STANDARD: Candidate refers to SR 3.3.1.3 and determines that an NI calibration is required. COMMENTS:	**Critical Step** **Basis: Correct actions required to be determined.** SAT_____ UNSAT_____
TERMINATION CRITERIA: **Correct actions per SP-312B and SR 3.3.1.3 determined.**	
SRO - END OF TASK	

ANSWER KEY
MONTHLY NI AXIAL POWER IMBALANCE TO INCORE
AXIAL POWER IMBALANCE CORRELATION

		A	B	C
		NI	INCORE	THERMAL
RPS		IMBALANCE	IMBALANCE	POWER
CHANNEL	DETECTOR	(API$_o$)	(API$_I$)	(TP)
A	NI-5	-4.88 % RTP	-4.8 % RTP	1340 MWth
B	NI-6	-4.63 % RTP	-4.8 % RTP	1340 MWth
C	NI-7	-4.75 % RTP	-4.8 % RTP	1340 MWth
D	NI-8	-5.00 % RTP	-4.8 % RTP	1340 MWth

Imbalance Error Calculations
(Values From Columns A, B, and C above)

$D_{(NI-x}$ = | **A** - **B** | X (2609 / **C**) = Imbalance Error, % RTP

$D_{(NI-5}$ = | -4.88 - (-4.8)| X (2609 / 1340) = 0.16 % RTP

$D_{(NI-6}$ = | -4.63 - (-4.8)| X (2609 / 1340) = 0.33 % RTP

$D_{(NI-7)}$ = | -3.13 - (-4.8)| X (2609 / 1340) = 3.25 % RTP

$D_{(NI-8}$ = | -5.0 - (-4.8)| X (2609 / 1340) = 0.39 % RTP

        IF Imbalance Error for any NI Channel is greater than 2.5% RTP,
        THEN immediately inform the CRS/SSO
        AND refer to ITS SR 3.3.1.3.

Performed By: _____ Date:

Verified By: _____ Date:

ADMINISTRATIVE JOB PERFORMANCE MEASURE
ANSWER KEY
NI POWER IMBALANCE MEASUREMENT

Channel	Time		DFAM "E_{OUT}"
NI-5	0300	√AM PM	- 4.61 VDC
NI-6	0300	√AM PM	- 4.63 VDC
NI-7	0300	√AM PM	- 4.75 VDC
NI-8	0300	√AM PM	- 4.60 VDC

NI Power Imbalance Calculations

NI Imbalance Equation:

$$\text{NI Imbalance (\%RTP)} = (-12.5\ \%RTP/VDC \times \underline{\quad VDC}) - 62.5\ \%RTP$$

Example: NI-5 DFAM "E_{OUT}" is measured at -2.5 VDC

NI-5 Imbalance = (-12.5 %RTP/VDC x -2.5VDC) - 62.5 %RTP

NI-5 Imbalance = (+31.25 %RTP) - 62.5 %RTP

NI-5 Imbalance = -31.25 %RTP

Calculations:

NI-5 %RTP = (-12.5 %RTP/VDC x -4.61 VDC) - 62.5 %RTP =   -4.88 %RTP

NI-6 %RTP = (-12.5 %RTP/VDC x -4.63 VDC) - 62.5 %RTP =   - 4.63 %RTP

NI-7 %RTP = (-12.5 %RTP/VDC x -4.75 VDC) - 62.5 %RTP =   -3.13 %RTP

NI-8 %RTP = (-12.5 %RTP/VDC x -4.60 VDC) - 62.5 %RTP =   -5.0 %RTP

Performed By _____   Date _____

Verified By _____   Date _____

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ADMINISTRATIVE JOB PERFORMANCE MEASURE

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

INITIAL CONDITIONS:

You are the Reactor Operator.

The plant is in normal power operation.
SP-312B, Monthly NI Imbalance Comparison, is required.
The Tag Status Verification Sheet has been completed; all instruments are within their allowable calibration frequency.
The plant has been at steady state conditions for > 15 minutes.
The plant computer is out of service.
Control Console NI power is as follows: NI-5 - 52%
                                          NI-6 - 53%
                                          NI-7 - 53%
                                          NI-8 - 52%
PT-138 has been completed. Incore imbalance is -4.8% RTP.
SP-312D has been completed. Thermal power is 1340 MWT.

INITIATING CUE:

You are requested to perform SP-312B (voltage readings are attached).

Return Enclosures 1 & 2 with completed JPM.

SROs only: Upon completion of the above, evaluate your results and list any actions required.

Per SP-312B the action(s) below must be completed.

| |
| |
| |

ADMINISTRATIVE JOB PERFORMANCE MEASURE
<u>NI POWER IMBALANCE MEASUREMENT</u>

Channel	Time		DFAM "E$_{OUT}$"
NI-5	0300	√AM PM	- 4.61 VDC
NI-6	0300	√AM PM	- 4.63 VDC
NI-7	0300	√AM PM	- 4.75 VDC
NI-8	0300	√AM PM	- 4.60 VDC

DVM ID#   TI-4020

Cal Due Date   05/09/2010

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

ADMIN JPM #RC1

NRC 2009

RO / SRO

CALCULATE THE MAXIMUM PERMISSIBLE STAY TIME WITHIN EMERGENCY DOSE LIMITS

PREPARED/REVIEWED BY: _____Alan Kennedy_____   Date: _07/09/09_____

VALIDATED BY: _____Rop / Taylor_____   Date: _07/15/09_____

APPROVAL BY: _____Lawrence / Vansicklen_____   Date: _07/20/09_____
                        (Nuclear Training Supervisor)

CONCURRED BY: _____Mike Kelly_____   Date: _07/20/09_____
                        (Operations Representative)

Validation is not required for minor enhancements, procedure revisions that do not affect the JPM or individual step changes that do not affect the flow of the JPM.

Operations concurrence is required for new JPMs and changes that affect the flow, critical steps or time critical steps of the JPM. Operations concurrence is not required for changes that are required due to a procedure revision.

ADMINISTRATIVE JOB PERFORMANCE MEASURE

JPM #: Admin RC1- NRC 2009 [Modified]

Task: Comply with plant radiation exposure criteria.

Alternate Path: ☐ YES ☒ NO

PRA Top Critical Action: ☐ YES ☒ NO

Safety Function: NA

K/A Rating/Importance: G2.3.4 RO 3.2 SRO 3.7

Task Number: 1190102008 - RO

Position: ☐ SRO ONLY ☒ RO/SRO ☐ NLO/RO/SRO

Task Standard: Calculate the maximum permissible stay time within Emergency Dose Limits (± 5 minutes)

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

☐ SIM ☐ PLANT ☒ ADMIN   ☒ PERFORM ☐ SIMULATE

References:

EM-202, Rev 85

Validation Time: 5 minutes   **Time Critical:** ☐ YES ☒ 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.   None

TOOLS/EQUIPMENT/PROCEDURES NEEDED

1.   EM-202, Rev 85   Reference
2.   Calculator

ADMINISTRATIVE JOB PERFORMANCE MEASURE

READ TO THE OPERATOR

INITIAL CONDITIONS

You are the Balance of Plant operator.

An emergency event is in progress.
Emergency Dose Limits (EDL) are in effect.
The PPO has received 1.62 Rem TEDE this year.
The use of High Pressure Aux Spray will increase the pressure reduction rate.
This evolution is required to protect valuable plant equipment.
The Emergency Coordinator has approved this evolution.

The following tasks are to be performed to align High Pressure Aux Spray:

#	TASK	TIME	DOSE RATE
1	Open MUV-273	22 minutes	5.31 R/hr
2	Open DHV-95	7 minutes	19.75 R/hr
3	Open DHV-126		3.65 R/hr

Note: Assume no dose is received while traveling between tasks.

INITIATING CUES

The PPO has completed tasks 1 and 2 in the times listed above. How long does he have to complete Task #3 without exceeding his Emergency Dose Limit?

ADMINISTRATIVE JOB PERFORMANCE MEASURE

Note: Candidate may perform these steps in a different order.

Note: Candidate should understand the following:
      1.   EDL is 10 Rem for this event (may use EM-202 as a reference).
      2.   Current exposure for the year is not counted toward the EDL.

<div align="right">TIME START _____</div>

<u>STEP 1</u>: Determine dose received while performing Task #1. <u>STANDARD:</u> Candidate determines dose received while performing Task #1. 5.31 R/hr X 1hr/60 min X 22 min = 1.95 R **<u>EXAMINER NOTE:</u>** **If JPM is not performed in the simulator then provide candidate with a copy of EM-202, Duties of the Emergency Coordinator.** <u>COMMENTS</u>:	SAT _____ UNSAT ___
<u>STEP 2</u>: Determine dose received while performing Task #2. <u>STANDARD:</u> Candidate determines dose received while performing Task #2. 19.75 R/hr X 1hr/60 min X 7 min = 2.30 R <u>COMMENTS</u>:	SAT _____ UNSAT ___

ADMINISTRATIVE JOB PERFORMANCE MEASURE

STEP 3: Determine dose remaining for EDL. STANDARD: Candidate determines dose remaining for EDL. 10.0 R – 1.95 R – 2.30 R = 5.75 R COMMENTS:	**Critical Step** **Basis:** **Required calculation for maximum stay time.** SAT ____ UNSAT ___
STEP 4: Determine the time available for the PPO to complete Task #3 without exceeding the EDL. STANDARD: Candidate determines (± **5 minutes**) the time available for the PPO to complete Task #3 without exceeding the EDL. $$\frac{\text{Available Dose}}{\text{Dose Rate}} = \frac{5.75\ R}{3.65\ R/hr} = 1.58\ hr \times \frac{60\ min}{1\ hr} = \textbf{\textit{94.8 min}}$$ COMMENTS:	**Critical Step** **Basis:** **Required calculation for maximum stay time.** SAT ____ UNSAT ___
TERMINATION CUE: **Time limit determined.**	
END OF TASK	

TIME STOP   _____

Step 1	5.31 R/hr X 1hr/60 min X 22 min = 1.95 R
Step 2	19.75 R/hr X 1hr/60 min X 7 min = 2.30 R
Step 3	10.0 R – 1.95 R – 2.30 R = 5.75 R
Step 4	$\dfrac{\text{Available Dose}}{\text{Dose Rate}} = \dfrac{5.75\ R}{3.65\ R/hr} = 1.58\ hr\ X\ \dfrac{60\ min}{1\ hr} = \textbf{\textit{94.8 min}}$

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS

You are the Balance of Plant operator.

An emergency event is in progress.
Emergency Dose Limits (EDL) are in effect.
The PPO has received 1.62 Rem TEDE this year.
The use of High Pressure Aux Spray will increase the pressure reduction rate.
This evolution is required to protect valuable plant equipment.
The Emergency Coordinator has approved this evolution.

The following tasks are to be performed to align High Pressure Aux Spray:

#	TASK	TIME	DOSE RATE
1	Open MUV-273	22 minutes	5.31 R/hr
2	Open DHV-95	7 minutes	19.75 R/hr
3	Open DHV-126		3.65 R/hr

Note: Assume no dose is received while traveling between tasks.

INITIATING CUES

The PPO has completed tasks 1 and 2 in the times listed above. How long does he have to complete Task #3 without exceeding his Emergency Dose Limit?

CRYSTAL RIVER UNIT 3
JPM COVER SHEET

ADMIN JPM #EP1

NRC 2009

ALTERNATE PATH

TIME CRITICAL

RO

MAKE REQUIRED NOTIFICATIONS TO SWPT (STATE WARNING POINT TALLAHASSEE)

PREPARED BY: _____Alan Kennedy_____   Date: __07/09/09__

VALIDATED BY: _____Rop / Taylor_____   Date: __07/15/09__

APPROVAL BY: _____Lawrence / Vansicklen_____   Date: __07/20/09__
                    (Nuclear Training Supervisor)

CONCURRED BY: _____Mike Kelly_____   Date: __07/20/09__
                    (Operations Representative)

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ADMINISTRATIVE JOB PERFORMANCE MEASURE

JPM #: Admin EP1 – NRC 2009 [BANK]

Task: Make required notifications per EM-202.

Alternate Path: ☒ YES ☐ NO

PRA Top Critical Action: ☐ YES ☒ NO

Safety Function: NA

K/A Rating/Importance: G2.4.43 RO 3.2 SRO 3.8

Task Number: 1150402005

Position: ☐ SRO ONLY ☒ RO/SRO ☐ NLO/RO/SRO

Task Standard: Make required notifications per EM-202.

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

☐ SIM ☐ PLANT ☒ ADMIN   ☒ PERFORM ☐ SIMULATE

References:

EM-202, Rev 85

Validation Time: 10 minutes   **Time Critical:** ☒ YES ☐ NO

===

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

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

Examiner: _____   _____/_____
                          Printed Name   Signature   Date

Comment: _____

_____

_____

SIMULATOR SETUP INSTRUCTIONS

NA

SIMULATOR OPERATOR INSTRUCTIONS

Do not answer the SHRD phone when called.

TOOLS/EQUIPMENT/PROCEDURES NEEDED

1.   EM-202, Rev 85
2.   Consumable copies of EM-202, Enclosure 2

READ TO THE OPERATOR

INITIAL CONDITIONS

You are the **Reactor Operator.**

An ALERT has been declared.

INITIATING CUES

Using the Florida Nuclear Plant Emergency Notification Form provided make required notifications per EM-202.

This JPM is Time Critical.

ADMINISTRATIVE JOB PERFORMANCE MEASURE

	Critical Step* (15 minute notification required)
STEP 1: Candidate makes required notifications. STANDARD: Candidate makes required notifications. When the SHRD phone goes unanswered the candidate will use the commercial telephone system to contact SWPT. *One of the following phone numbers must be used. 1-850-413-9911 or 1-800-320-0519 or 1-850-413-9900 *Steps 1, 4, 5, 6, 9 & 11 must be communicated to SWPT for satisfactory completion of this JPM. **EXAMINER NOTE:** **Page 3 of Enclosure 2 contains the instructions for using an alternate communication network.** **EXAMINER NOTE:** **When candidate attempts to call SWPT on the commercial line then time critical requirement is met.** **EXAMINER CUE:** **Terminate the JPM when candidate completes notification.** COMMENTS:	SAT ____ UNSAT ___
TERMINATION CRITERIA: When candidate completes notification to SWPT using the commercial phone line this JPM may be terminated.	
END OF TASK	

ADMINISTRATIVE JOB PERFORMANCE MEASURE

1. THIS IS CRYSTAL RIVER UNIT 3. A. ☐ This is a Drill B. ☒ This is an Emergency I HAVE A MESSAGE.
ENSURE: ☐ STATE ☐ CITRUS ☐ LEVY ☐ RADIATION CONTROL – ORLANDO (M-F ONLY) ARE ON LINE.

2. A. Date: ___/ Today /____ B. Contact Time: ___NOW___ C. Reported By: (Name) _____ _____
   D. Message Number: __#1__   E. Reported From: ☒ Control Room ☐ TSC ☐ EOF
   F. ☒ Initial / New Classification   OR   ☐ Update

3. SITE: ☒ CR UNIT 3 ☐ SL UNIT 1 ☐ SL UNIT 2 ☐ TP UNIT 3 ☐ TP UNIT 4

---

4. EMERGENCY CLASSIFICATION: A. ☐ Notification of Unusual Event B. ☒ Alert
                              C. ☐ Site Area Emergency D. ☐ General Emergency

---

5. A. ☒ EMERGENCY DECLARATION: B. ☐ EMERGENCY TERMINATION: Date: ____/ Today /____ Time: _T-5 min

---

6. REASON FOR EMERGENCY DECLARATION: A. ☒ EAL Number(s): __6.1__ OR B. ☐ Description:

_____

_____

7. ADDITIONAL INFORMATION OR UPDATE: A. ☒ None OR B. ☐ Description:

_____

_____

8. WEATHER DATA: A. Wind direction from __349__ degrees B. Downwind Sectors affected ___HJK_____

9. RELEASE STATUS: A. ☒ None (Go to Item 11) B. ☐ In Progress C. ☐ Has occurred, but stopped

10. RELEASE SIGNIFICANCE CATEGORY: (at the Site Boundary)
    A. ☐ Under evaluation   B. ☐ Release is within Normal Operating Limits
    C. ☐ Non-Significant (Fraction of PAG Range) D. ☐ Protective Action Guide Range
    E. ☐ Liquid release (no actions required)

---

11. UTILITY RECOMMENDED PROTECTIVE ACTIONS FOR THE PUBLIC:
    A. ☒ No utility recommended actions at this time. B. ☐ Utility recommends the following protective actions;
                                                          EVACUATE ZONES: _____
                                                          SHELTER ZONES: _____
                                                          AND consider issuance of Potassium Iodide (KI).

If form is completed in the Control Room, go to Item 15. If completed in the TSC or EOF, CONTINUE with Item 12.

12. PLANT CONDITIONS:
    A. Reactor Shutdown? ☐ YES ☐ NO   B. Core Adequately Cooled? ☐ YES ☐ NO
    C. Containment Intact? ☐ YES ☐ NO   D. Core Condition: ☐ Stable ☐ Degrading

13. WEATHER DATA: A. Wind Speed _____ MPH (m/sec x 2.24 = MPH) B. Stability Class _____

14. ADDITIONAL RELEASE INFORMATION: A. ☐ Not Applicable (Go to Item 15)

Distance	Projected Thyroid Dose (CDE) for _____ Hour(s)		Projected Total Dose (TEDE) for _____ Hour(s)	
1 Mile (Site Boundary)	B. _____ mrem		C. _____ mrem	
2 Miles	D. _____ mrem		E. _____ mrem	
5 Miles	F. _____ mrem		G. _____ mrem	
10 Miles	H. _____ mrem		I. _____ mrem	

15. MESSAGE RECEIVED BY: (Name)_____ Date: ____/____/____ Time: _____
    THIS IS CRYSTAL RIVER UNIT 3. ☐ This Is A Drill ☒ This Is An Emergency END OF MESSAGE

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS

You are the **Reactor Operator.**

An ALERT has been declared.

INITIATING CUES

Using the Florida Nuclear Plant Emergency Notification Form provided make required notifications per EM-202.

This JPM is Time Critical.

FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

1. THIS IS CRYSTAL RIVER UNIT 3.   A. ☐ This is a Drill   B. ☒ This is an Emergency   I HAVE A MESSAGE.
ENSURE: ☐ STATE   ☐ CITRUS   ☐ LEVY   ☐ RADIATION CONTROL – ORLANDO (M-F ONLY) ARE ON LINE.

2. A. Date: ___/ Today /___   B. Contact Time: ___NOW___   C. Reported By: (Name) _____
   D. Message Number: __#1__   E. Reported From: ☒ Control Room ☐ TSC ☐ EOF
   F. ☒ Initial / New Classification   OR   ☐ Update

3. SITE: ☒ CR UNIT 3   ☐ SL UNIT 1   ☐ SL UNIT 2   ☐ TP UNIT 3   ☐ TP UNIT 4

4. EMERGENCY CLASSIFICATION:	A. ☐ Notification of Unusual Event	B. ☒ Alert
	C. ☐ Site Area Emergency	D. ☐ General Emergency

5. A. ☒ EMERGENCY DECLARATION:	B. ☐ EMERGENCY TERMINATION:	Date: ___/ Today /___ min	Time: T-5

6. REASON FOR EMERGENCY DECLARATION: A. ☒ EAL Number(s): __6.1__   OR   B. ☐ Description:
_____
_____

7. ADDITIONAL INFORMATION OR UPDATE: A. ☒ None   OR   B. ☐ Description:
_____

8. WEATHER DATA: A. Wind direction from __349__ degrees   B. Downwind Sectors affected ___HJK___

9. RELEASE STATUS: A. ☒ None (Go to Item 11)   B. ☐ In Progress   C. ☐ Has occurred, but stopped

10. RELEASE SIGNIFICANCE CATEGORY: (at the Site Boundary)
   A. ☐ Under evaluation   B. ☐ Release is within Normal Operating Limits
   C. ☐ Non-Significant (Fraction of PAG Range)   D. ☐ Protective Action Guide Range
   E. ☐ Liquid release (no actions required)

11. UTILITY RECOMMENDED PROTECTIVE ACTIONS FOR THE PUBLIC:	
A. ☒ No utility recommended actions at this time.	B. ☐ Utility recommends the following protective actions;
	EVACUATE ZONES: _____
	SHELTER ZONES: _____
	AND consider issuance of Potassium Iodide (KI).

If form is completed in the Control Room, go to Item 15. If completed in the TSC or EOF, CONTINUE with Item 12.

12. PLANT CONDITIONS:
   A. Reactor Shutdown?   ☐ YES   ☐ NO   B. Core Adequately Cooled?   ☐ YES   ☐ NO
   C. Containment Intact?   ☐ YES   ☐ NO   D. Core Condition: ☐ Stable   ☐ Degrading

13. WEATHER DATA: A. Wind Speed _____ MPH (m/sec x 2.24 = MPH)   B. Stability Class _____

14. ADDITIONAL RELEASE INFORMATION: A. ☐ Not Applicable (Go to Item 15)

Distance	Projected Thyroid Dose (CDE) for _____ Hour(s)		Projected Total Dose (TEDE) for _____ Hour(s)	
1 Mile (Site Boundary)	B. _____ mrem		C. _____ mrem	
2 Miles	D. _____ mrem		E. _____ mrem	
5 Miles	F. _____ mrem		G. _____ mrem	
10 Miles	H. _____ mrem		I. _____ mrem	

15. MESSAGE RECEIVED BY: (Name)_____   Date: ___/___/___   Time: _____
   THIS IS CRYSTAL RIVER UNIT 3.   ☐ This Is A Drill   ☒ This Is An Emergency   END OF MESSAGE

☐ Form Faxed   EC INITIALS ___JK___

ADMIN JPM #EP2

NRC 2009

SRO ONLY

Performed in Classroom

DETERMINE EMERGENCY ACTION LEVEL AND PROTECTIVE ACTION RECOMMENDATIONS

PREPARED BY: _____ Alan Kennedy _____   Date: __07/09/09__

VALIDATED BY: _____ Rop / Taylor _____   Date: __07/15/09__

APPROVAL BY: _____ Lawrence / Vansicklen _____   Date: __07/20/09__
            (Nuclear Training Supervisor)

CONCURRED BY: _____ Mike Kelly _____   Date: 07/20/09
            (Operations Representative)

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ADMINISTRATIVE JOB PERFORMANCE MEASURE

JPM #:   Admin EP2 – NRC 2009 [Bank]

Task: Determine Emergency Action Levels and Protective Action Recommendations.

Alternate Path: ☐ YES   ☒ NO

PRA Top Critical Action: ☐ YES   ☒ NO

Safety Function: NA

K/A Rating/Importance: G2.4.41   RO 2.3   SRO 4.1
                            G2.4.44   RO 2.1   SRO 4.0

Task Number: SSO-24.a / SRO

Position: ☒ SRO ONLY   ☐ RO/SRO   ☐ NLO/RO/SRO

Task Standard: Determine Emergency Action Level and Protective Action Recommendations
to protect the public.

Preferred Evaluation Location: **Preferred Evaluation Method**

☐ SIM   ☐ PLANT   ☒ ADMIN   ☒ PERFORM   ☐ SIMULATE

References:

EM-202, Rev. 85

Validation Time: 10 minutes   **Time Critical:** ☒ YES ☐ 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.   N/A

SIMULATOR OPERATOR INSTRUCTIONS:

1.   N/A

TOOLS/EQUIPMENT/PROCEDURES NEEDED:

1.   EM-202, Rev. 85

READ TO THE OPERATOR

INITIAL CONDITIONS:

You are the Shift Manager.

See attached data sheet.

INITIATING CUE:

Determine the highest Emergency Action Level for the time line provided. Also determine the Protective Action Recommendations (PARs) required, *if any*. Document your answers below.

THIS JPM *IS* TIME CRITICAL

_____

_____

_____

_____

_____

ATTACHMENT 8
ADMINISTRATIVE JOB PERFORMANCE MEASURE

Time Start _____

STEP 1: Obtain a copy of the correct procedure. STANDARD: Candidate obtains a copy of EM-202. **EXAMINER NOTE:** **Provide candidate with a copy of EM-202 when requested.** COMMENTS:	SAT_____ UNSAT_____

STEP 2:   Candidate determines classification for the data provided.
 	
STANDARD: Candidate determines the classification using the Fission Product Barrier Matrix:
 	
       RCS LOSS FACTOR   +4
 	
            (RM-G29 or 30 >10 R/hr for 15 minutes or longer)
 	
       CONTAINMENT POT LOSS   +1.5
 	
            (RB Pressure >30 psig with no Building Spray available)
 	
       TOTAL   +5.5
 	
       SITE AREA EMERGENCY
 	
COMMENTS:
	Critical Step
	
	Basis: Protection of the Public.
	
	SAT_____
	
	UNSAT_____

STEP 3: Candidate determines the "Protective Action Recommendations". STANDARD: The standard for this JPM is that there are **NO** "Protective Action Recommendations" for the general public are required based on a Site Area Emergency. **EXAMINER NOTE:** **Candidate may refer to Enclosure 7 of EM-202.** **Protective Action Recommendations are applicable to General Emergencies only.** **Candidate may refer to Section 4.3 of EM-202, Emergency Coordinator's Guide for Site Area Emergency, Step 4.3.6 and determine using Enclosure 6 that protective actions required for the Energy Complex are to perform assembly and accountability and instruct the fossil control rooms to report results to nuclear security.** COMMENTS:	SAT_____ UNSAT_____
TERMINATION CUE: Emergency Action Level determined and conclusion that NO Protective Action Recommendations for the general public are required.	
END OF TASK	

Time Stop _____

CANDIDATE CUE SHEET

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

INITIAL CONDITIONS:

You are the Shift Manager.

See attached data sheet.

INITIATING CUE:

Determine the highest Emergency Action Level for the time line provided. Also determine the Protective Action Recommendations (PARs) required, *if any*. Document your answers below.

THIS JPM *IS* TIME CRITICAL

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At 1330 today the plant was as 100% power. The plant experiences a transient and the following time line of indications occur:

TIME	1345
RCS PRESSURE	110 PSIG
PRESSURIZER LEVEL	0"
INCORES	370° F
RX BLDG SPRAY FLOW	0 GPM/TRAIN
RX BLDG PRESSURE	48 PSIG
RMG - 29 & 30	15 R/HR

TIME	1400
RCS PRESSURE	110 PSIG
PRESSURIZER LEVEL	0"
INCORES	360° F
RX BLDG SPRAY FLOW	0 GPM/TRAIN
RX BLDG PRESSURE	47.3 PSIG
RMG - 29 & 30	18 R/HR

The containment is intact and no release is in progress.

Based on the above information identify the appropriate EAL.

FOR THIS EXERCISE DO NOT USE ANY EC DISCRETION!