Facility: St. Lucie		Date of Examination:	2/21/11
	\		
Examination Level (circle of	one): RO/SI	RO Operating Test Number:	NRC
Administrative Topic	Туре	Describe activity to be pe	erformed
(see Note)	Code*		
Conduct of Oppositions	M, R	A1	
Conduct of Operations		Perform a Manual Calorimetric – Unit 2	
Conduct of Operations	N, R	A2	
Conduct of Operations		Determine time SDC entry conditions at available CST level.	re required based on
	N, R	A3	
Equipment Control Develop Equipment Clearance Order for 2A HPSI Pump			
	M, R	A4	
Radiation Control		(SRO) Determine Exposure Limits L Conditions	Inder Emergency
		A5	
		(RO) Determine Exposure Limits Un	nder Normal
		Conditions	
	N, S or R	A6	
Emergency Plan		(SRO) Respond to Security Event	
		l d for SROs. RO applicants require on ministrative topics, when all 5 are req	
*Type Codes & Criteria:	(C)ontrol ro	om, (S)imulator, or Class(R)oom	
	, ,	m bank (≤ 3 for ROs; ≤ 4 for SROs & I	RO retakes)
	*	l)odified from bank (≥ 1)	
	(P)revious 2	2 exams (≤ 1; randomly selected)	

DRAFT

ADMINISTRATIVE JPM SUMMARY

- A1: Conditions given on Unit 2 at 30% power. Direction given to perform a manual calorimetric. Plant data is given on cue sheet so calculation can be performed in the classroom in a group setting.
- A2: Given CST level and plant conditions determine time SDC entry conditions required.
- A3: Develop ECO to replace defective shaft seals on the 2A High Pressure Safety Injection pump. Identification of applicable Technical Specifications when removing the 2A HPSI from service are also required.
- A4: SRO: A LOCA has occurred with an isolable leak on the Charging pump. Given the dose rate and time to isolate the leak the SRO is to determine if an individual can perform this evolution without exceeding the Emergency Plan guidelines.
- A5: RO: Radiological conditions are given to repair the refueling machine. Four individuals (two FPL and two contract personnel) are assigned to perform the repair. The individuals past exposure is given. The RO is to determine if the individuals can perform the repairs without the Site Vice Presidents approval.
- A6: TIME CRITICAL. Conditions will be given that armed intruders have entered the protected area. Direction is given to implement 0-AOP-72.01, 'Response to Security Events'. This will lead into implementing EPIPS.

PERFORM A MANUAL CALORIMETRIC UNIT 2

A1

CANDIDATE	
EXAMINER	

PERFORM A MANUAL CALORIMETRIC UNIT 2

KA Statement:	2.1.7 Ability to evaluate p judgments based on oper and instrument interpreta	rating characte	
KA #:	4.4 / 4.7		
References:	2-3200020, Primary System Steam Tables Enthalpy Tables for Plant Calculator	Manual Calorii	netric
Candidate:	Name		Time Start
Performance R	ating: Sat	Unsat	_
Validation Time	e 20 minutes		
Examiner:		Signature	-
Comments			

PERFORM A MANUAL CALORIMETRIC UNIT 2

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

It is Wednesday, 2-21-11. Unit 2 is at approximately 30% (DCS calorimetric power is 30.28%), returning from a Short Notice Outage. A Chemistry hold is in effect until further notice.

Initiating Cue

The Unit Supervisor has instructed you to perform a primary system manual calorimetric IAW 2-3200020. No computers are available to perform this calculation.

Data Sheet if performed in classroom

Steam Pressures

PI-8013A: 885 psia PI-8023A: 886 psia PI-8013B: 887 psia PI-8023B: 886 psia PI-8013C: 888 psia PI-8023C: 887 psia PI-8013D: 889 psia PI-8023D: 886 psia

Feedwater temperatures are 330 degrees F

Total blowdown = 80 gpm

Feed flow 9011-2 (ERDADS) = 1.56 x10E6 lbm/hr

Feed flow 9021-2 (ERDADS) = 1.56 x10E6 lbm/hr

DCS pt KFA = 29101

DCS pt KFB = 29345

Charging and Letdown are in operation

S	T	41	₹	T	T	I	VI	E	:	
---	---	----	---	---	---	---	----	---	---	--

	Data Sheet 1 of OP 2-3200020 "Primary System Manual Calormetric"	
STEP 1:	Date and Time	
STANDARD:	ENTER 2/21/11 and current time.	SAT
COMMENTS:		UNSAT
STEP 2:	ENTER MAIN STEAM PRESSURE PI-8013A PI-8024A	CRITICAL STEP
	PI-8013B PI-8023B PI-8013C	SAT
	PI-8023C PI-8013D PI-8023D	UNSAT
STANDARD:	ENTER correct reads from PIs on RTGB-206 of Simulator Band: (886 – 887) Or 887 average for all pressures per classroom data	
COMMENTS:		
STEP 3: A. Loo	COMPUTE TOTAL FEEDWATER FLOW p x x 10 ⁶ lb/hr (FT9011-2 (ERDADS), or FR 9011) (DCS PT KFA)	CRITICAL STEP
STANDARD:	ENTER and CALCULATE	SAT
A. Loo	p <u>1.56</u> x <u>29101</u> ÷ 29178 = <u>1.5559</u> x 10 ⁶ lb/hr (FT9011-2 (ERDADS), or FR 9011) (DCS PT KFA) Band: (1.54 – 1.58) Band: (1.53 – 1.58)	UNSAT
COMMENTS:		

B. Loo STANDARD: B. Loo	COMPUTE TOTAL FEEDWATER FLOW $ \begin{array}{cccccccccccccccccccccccccccccccccc$	CRITICAL STEPSATUNSAT
COMMENTS:		
STEP 5: STANDARD: COMMENTS:	COMPUTE TOTAL FEEDWATER FLOW $M_{FW} = $	CRITICAL STEPSATUNSAT
STEP 6: STANDARD:	Average Steam Pressure = divided by 8	CRITICAL STEPSATSAT
COMMENTS:		

STEP 7:	ENTER FEEDWATER TEMPERATURE TR-09-5B Channel 1 °F hind RTGB 202) Channel 2 °F	CRITICAL STEP
STANDARD:	ENTER TR-09-5B Channel 1 330 °F chind RTGB 202) Channel 2 330 °F	UNSAT
COMMENTS:		
STEP 8:	Average Feedwater Temperature = divided by 2 = AVERAGE	CRITICAL STEP
STANDARD: COMMENTS:	ENTER and CALCULATE Average Feedwater Temperature = 660 divided by 2 = 330 AVERAGE Band: (656 – 664) Band: (328 – 332)	SAT
STEP 9:	From the steam tables, enter the enthalpy of the average steam pressure: hsteam=BTU/lbm	CRITICAL STEP
STANDARD:	ENTER hsteam= 1196.95 BTU/lbm Band: (1197.30 – 1196.20)	SAT
COMMENTS:		

STEP 10:	Calculate the heat output due to steam flow (QSTEAM): 10^610^610_6 BTU/hr hsteam x [Mfw - Mbd] = QSTEAM	CRITICAL STEP
STANDARD: COMMENTS:	ENTER and CALCULATE 1196.95 3.1317 10 ⁶ .039599 10 ⁶ 3748.44 10 ⁶ BTU/hr hsteam x [Mrw - Mbd] = Qsteam Band: (3700 - 3800)	SAT
STEP 11:	From the steam tables, enter the enthalpy of the average feedwater temperature: h_Fw =	CRITICAL STEP
STANDARD:	ENTER hew = 300.8 BTU Ibm Band: (298.7 – 302.9)	SAT
COMMENTS:		
STEP 12:	Calculate the heat feedwater heat input (Q _{FW}): (x 10 ⁶) x () = x 10 ⁶ BTU M _{FW} hr	CRITICAL STEP
STANDARD:	ENTER and CALCULATE $(3.1317 \times 10^{6}) \times (300.8) = 942.02 \times 10^{6} \frac{BTU}{Q_{FW}}$ MFW AFW AFW AFW AFW AFW AFW AFW AFW AFW A	UNSAT
COMMENTS:		

corresp (Interpo	the total blowdown flow conding heat output: lation is not required, circle t r the lower flow if between flow rative.)	he closest blowdown flow	SAT
Total blowdown flow (both steam generated 40 GPM 80 GPM 120 GPM 160 GPM	ors) of blowdown Mbd .019799 x 10 ⁶ lbm/hr .039599 x 10 ⁶ lbm/hr .059398 x 10 ⁶ lbm/hr .079198 x 10 ⁶ lbm/hr	Heat output from blowdown QBD 9.728 x 10 ⁶ BTU/hr 19.456 x 10 ⁶ BTU/hr 29.183 x 10 ⁶ BTU/hr 38.912 x 10 ⁶ BTU/hr	UNSAT
Total blowdown flow		48.639 x 10 ⁶ BTU/hr 58.367 x 10 ⁶ BTU/hr Heat output from	
(both steam generated 40 GPM 80 GPM 120 GPM 160 GPM 200 GPM	.019799 x 10 ⁶ lbm/hr .039599 x 10 ⁶ lbm/hr .059398 x 10 ⁶ lbm/hr .079198 x 10 ⁶ lbm/hr .098997 x 10 ⁶ lbm/hr	blowdown QBD 9.728 x 10 ⁶ BTU/hr 19.456 x 10 ⁶ BTU/hr 29.183 x 10 ⁶ BTU/hr 38.912 x 110 ⁶ BTU/hr 48.639 x 10 ⁶ BTU/hr	
240 GPM COMMENTS:	.118797 x 10 ⁶ lbm/hr	58.367 x 10 ⁶ BTU/hr	

If	calculate the heat output from the core: charging and letdown flow is secured for any reason, use a alue of 48.952 for Qотнек.	CRITICAL STEP
1	charging and letdown flow is operating normally, use a value f 46.905 for Qother.	SAT UNSAT
[QSTEAM	-	
STANDARD: E	NTER and CALCULATE	
[<u>3748.44</u> - Qsteam	— 942.02 + 19.456 — 46.905] x 10 ⁶ BTU = 2778.97 x 10 ⁶ BTU QFW QBD QOTHER hr QCORE hr Band: (2760 – 2810)	
COMMENTS:		

NOTE Calculated Power in percent must be within 2% of DCS Calorimetric power. If not, notify the US / SM. Initiate W/R for ICM to adjust ΔT power.	CRITICAL STEP
STEP 15: Calculate percent core power:	UNSAT
Core Power = $\frac{10^6}{100}$ x 10 ⁶ divided by (92.128 x 10 ⁶) = $\frac{100}{100}$ Manual Calorimetric Power	
STANDARD: ENTER and CALCULATE	
Core Power = 2778.97 x 10 ⁶ divided by (92.128 x 10 ⁶) = 30.16 % Calorimetric Power Band: (29.89 – 30.49)	
Record DCS Calorimetric Power (QRP% 10 Minute ave). (QRPP (instantaneous) should be used below if the reactor has <u>not</u> been in a stable configuration for at least 10 minutes)	
DCS Calorimetric Power =%	
COMMENTS:	

STEP (done): Inform Candidate JPM is complete.	
STANDARD:	SAT
EXAMINER'S CUE: THIS JPM IS COMPLETE.	O/\
COMMENTS:	UNSAT
END OF TASK	

STOP TIME: _____

CANDIDATE COPY (TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

It is Wednesday, 2-21-11. Unit 2 is at approximately 30% (DCS calorimetric power is 30.28%), returning from a Short Notice Outage. A Chemistry hold is in effect until further notice.

Initiating Cue

The Unit Supervisor has instructed you to perform a primary system manual calorimetric IAW 2-3200020. No computers are available to perform this calculation.

SIMULATOR JPM SETUP

- 1. **RESTORE** IC-3, 29% power, MOL.
- 2. **UNFREEZE** simulator.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

DETERMINE TIME SDC ENTRY CONDITIONS ARE REQUIRED BASED ON AVAILABLE CST LEVEL – UNIT 1

NRC A2

Developed/Revised by:	Larry Rich	
T-n-in-in-n- Mana-ana-ana-ana-ana-ana-ana-ana-ana-ana		Date
Training Management Approval:		
		Date

JOB PERFORMANCE MEASURE

Task:

Given a set of conditions, determine time SDC entry conditions are

required based on available CST level- Unit 1.

Faulted JPM?

No

Facility JPM #:

New

<u>K/A:</u> 2.1.25 Ability to interpret reference materials, such as graphs, curves, tables, etc.

K/A Rating(s):

3.9 / 4.2

Duty Area(s):

N/A

Task Information:

07200105

Task Standard:

Determine time SDC entry conditions are required based on available CST level

Evaluation Location:

Performance Level:

Simulator

In Plant

Lab

Other x

Perform X

Simulate

Discuss

References:

1-EOP-99, Appendices/Figures/Tables/Data Sheets, Revision 39B

Validation Time:

10 minutes

Time Critical:

NO

Tools/Equipment/Procedures Needed:

- 1-EOP-99, Appendices/Figures/Tables/Data Sheets, Data Sheet 1, Figures 3, 4, 5, 6, 7 and 8
- Calculator, Straight edge

<u>Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.</u>

None

Radiological Protection and RWP Requirements:

None

JOB PERFORMANCE MEASURE INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: determine time SDC entry conditions are required based on available CST level – Unit 1.
- The performance level to be used for this JPM is Perform.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

- A Unit 1 reactor trip occurred from 100% power two (2) hours ago.
- One (1) RCP in each loop is operating.
- Reactor Coolant System Toold is 530°F.
- Condensate Storage Tank (CST) level is 25 feet.

INITIATING CUES:

The Unit Supervisor has directed you to perform 1-EOP-99, Data Sheet 1, 'Determination Of Condensate Required to remove Decay Heat and RCP Heat' and determine time SDC entry is required.

	JOB PERFORMANCE MEASURE	
START TIME: _		
DETERMINA	DATA SHEET 1 ATION OF CONDENSATE REQUIRED TO REMOVE DECAY HEAT A	ND RCP HEAT
STEP 1 (1):	RECORD the current CST level below.	
STANDARD:	RECORDS 25 feet on Data Sheet 1 step 3.	SAT
	EXAMINER'S NOTE: PROVIDE Data Sheet 1 and Figures 3, 4, 5, 6, 7, and 8	UNSAT
COMMENTS:		011071
STEP 2 (2):	DETERMINE the number of CST feet needed to cool down from present RCS temperature to 300°F from Figure 3 and RECORD below.	CRITICAL STEP
STANDARD:	RECORDS 3.8 feet on step 3, 'Figure 3 Value'	SAT
	EXAMINER'S NOTE: Acceptable range 3.75 to 3.85 feet	UNSAT
COMMENTS:		
STEP 3 (3):	SUBTRACT Figure 3 value from current CST level. The result is CST inventory available for RCS cooldown.	CRITICAL STEP
STANDARD:	RECORD 21.2 on step 3 'Available CST level'	SAT
	EXAMINER'S NOTE: Acceptable range 21.25 to 21.42 CST level	SA1
COMMENTS:		UNSAT
1		

JOB PERFORMANCE MEASURE

STEP 4 (4):	Utilize the available CST level value from above <u>and</u> DETERMINE the time until SDC entry conditions are required using Figure 4, 5, 6, 7, or 8 depending on the number of RCPs that are operating.	CRITICAL
STANDARD:	<u>DETERMINES</u> Figure 6 is used based on 2 RCPs running.	SAT
	DETERMINES 19 hours until SDC entry is required	LINICAT
	EXAMINER'S NOTE: Acceptable range 18 to 20 hours based on 2 hours after shutdown and 21.2 feet available in CST.	UNSAT
EXAM	IINER'S CUE: When Data Sheet 1 is handed back, STATE: "This JPM is complete."	
COMMENTS:		
	END OF TASK	

STOP TIME: _____

JOB PERFORMANCE MEASURE CANDIDATE CUE SHEET

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

INITIAL CONDITIONS:

- A Unit 1 reactor trip occurred from 100% power two (2) hours ago.
- One (1) RCP in each loop is operating.
- Reactor Coolant System Toold is 530°F.
- Condensate Storage Tank (CST) level is 25 feet.

INITIATING CUES:

The Unit Supervisor has directed you to perform 1-EOP-99, Data Sheet 1, 'Determination Of Condensate Required to remove Decay Heat and RCP Heat' and determine time SDC entry is required.

Develop ECO for 2A HPSI Pump and Determine Associated Technical Specifications - UNIT 2

A3

CANDIDATE	
EXAMINER	

Develop ECO for 2A HPSI pump

K/A: 2.2.13 Knowledge of tagging and clearance procedur	cedures.
--	----------

K/A Rating(s): 4.1 / 4.3

References:

P&ID 2998-G-078 SH 130A P&ID 2998-G-083 SH 1 P&ID 2998-G-078 SH 105A

ADM-09.08 Operations In-Plant Equipment Clearance Orders

2-ADM-03.01A Unit 2 Power Distribution Breaker List

Operations Policy OPS-406 Clearance Database Conventions

Candidate:		Time Start
	Name	Time Finish
Performance Rating:	Sat	Unsat
Validation Time20	<u>minutes</u>	
Examiner:		Signature:
Comments		

Develop ECO for 2A HPSI pump

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference normally available in the Control Room to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

Unit 2 is at 100% power. The 2A HPSI pump has defective shaft seals and they are to be replaced. The 2B HPSI pump shaft seals have been determined to be satisfactory. No other equipment is out of service.

Initiating Cue

On the attached matrix, develop an Equipment Clearance Order for the 2A HPSI Pump that would facilitate replacing the pump shaft seals. Identify any applicable Technical Specifications associated with removing the 2A HPSI pump from service.

Component	Name	Position	Tag (type)
2A HPSI Control	2-CS-237	Off	Info Tag
Room Pump Switch			_
*Breaker 2-20201	2A HPSI Pump	Racked Out Plus	Danger
Breaker 2-20201	Trip Fuse	Removed	N/A
Breaker 2-20201	Close Fuse	Removed	N/A
*V3427	2A HPSI Pump	Locked Closed Plus	Danger
	Discharge Valve		Danigo:
*V3470	2A HPSI Pump	Locked Closed Plus	Danger
	Suction Valve	4	J
*V3202	2A HPSI Pump Recirc	Locked Closed Plus	Danger
	Valve		
*V14259	2A HPSI Pump	Locked Closed Plus	Danger
	Cooling Inlet Isol		<u> </u>
*V14262	2A HPSI Pump	Locked Closed Plus	Danger
	Cooling Outlet to		
	Return Hdr A Isol		
NOTE: The following d	rains and vent may be op	ened and tagged but onl	y ONE VENT and ONE
DRAIN is needed to b	be opened to meet the cr	itical step. #As per Ops F	Policy 406, 'Vents and
Drains do		g. It is preferred, but not r	
V3679	2A HPSI Pump	Open	#Danger
*V3938	Casing Drain	Onen	#Danasa
V3936	2A HPSI Pump Suct. Vent	Open	♥ #Danger
V3678	2A HPSI Pump Open 7		#Danger
	Casing Drain	•	
4			
43	N. Control of the con		

*Technical Specification:

3.5.2 Action a.2 Restore within 72 Hours or HSB next 6 hours HSD the following 6 hours

*Critical Step

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference normally available in the Control Room to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

Unit 2 is at 100% power. The 2A HPSI pump has defective shaft seals and they are to be replaced. The 2B HPSI pump shaft seals have been determined to be satisfactory. No other equipment is out of service.

Initiating Cue

On the attached matrix, develop an Equipment Clearance Order for the 2A HPSI Pump that would facilitate replacing the pump shaft seals. Identify any applicable Technical Specifications associated with removing the 2A HPSI pump from service.

DETERMINE EXPOSURE LIMITS UNDER EMERGENCY CONDITIONS

SRO A4

CANDIDATE	-	 ***************************************		
EXAMINER				

EVALUATE PERSONNEL EXPOSURE LIMITS

KA Statement:	2.3.4 Knowledge of radiation emergency conditions.	n exposure limits	s under normal or
KA #:	3.2 / 3.7		
References:	EPIP-02, Duties and Respon	nsibilities of the	Emergency Coordinator
NOTE: No refere	ences to be handed out for th	nis task	
Candidate:	Name		Time Start Time Finish
Performance R	ating: Sat	Unsat	
Validation Time	e10 minutes		
Examiner:		Signature:	
Comments			

EVALUATE PERSONNEL EXPOSURE LIMITS

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

A Large Break LOCA occurred on Unit 2 six hours ago. 2-EOP-03, "LOCA" is being used and all safety functions are being met. The 2B and 2C charging pumps are operable. An isolable leak had developed on the 2A Charging header and a reentry team that was attempting to close a valve to isolate the leak was unsuccessful due to a broken reach rod. Isolation of the leak is needed to prevent damage to the 2A Charging pump. Dose rates initially taken three (3) feet from the valve were 2.8 R/hr. HP states the person performing this task will be working within two (2) feet of the valve. The job is estimated to take 45 minutes to perform with ingress and egress dose negligible. The person performing this task has a year to date dose of 280 mR.

Initiating Cue

As the EC (Emergency Coordinator) you have been asked to authorize a second reentry team tasked with disconnecting the reach rod linkage at the valve hand wheel and closing the valve. Determine the following:

- 1. Calculate dose that will be received while performing the task.
- 2. State the procedural limits for this task.
- 3. State whether this task will be allowable under current guidelines.

START TIM	E:	
STEP 1:	Calculate dose that will be received while performing the task.	CRITICAL STEP
STANDARD:	Use Inverse square law to calculate dose rate at 2 feet. DR_2 = DR_1 $(R_1)^2$ / $(R_2)^2$	SAT
	$DR_2 = (2.8 \text{ R/hr}) (3 \text{ ft})^2 / (2 \text{ ft})^2 = 6.3 \text{ R/hr}$	UNSAT
	Apply 45 minutes to work valve:	
	6.3 R/hr x 45 minutes x 1 hr/60 minutes = 4.725 R	
EXAN	INER'S CUE: NONE	
COMMENTS:		
STEP 2:	Procedure limits for this task	CRITICAL STEP
STANDARD:	DETERMINES ACTIONS THAT WOULD NOT DIRECTLY MITIGATE THE EVENT. LIMIT = $5\mathrm{R}$	SAT
EXAN	IINER'S CUE: NONE	UNSAT
COMMENTS:		
STEP 3:	State whether this task will be allowable under current guidelines.	CRITICAL STEP
STANDARD:	YES 4.725 R < 5 R LIMIT	SAT
EXAM	IINER'S CUE: ACKNOWNLEDGE	UNSAT
EXAM	INERS NOTE: If applicant incorrectly adds his 280 mr. exposure for the year to the 4.725 R for this task he / she will be > 5 R and may incorrectly NOT ALLOW THIS TASK.	
COMMENTS:		

S	$\Gamma \cap$	P	TIN	ΛF	•	

CANDIDATE COPY

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

Initial Conditions

A Large Break LOCA occurred on Unit 2 six hours ago. 2-EOP-03, "LOCA" is being used and all safety functions are being met. The 2B and 2C charging pumps are operable. An isolable leak had developed on the 2A Charging header and a reentry team that was attempting to close a valve to isolate the leak was unsuccessful due to a broken reach rod. Isolation of the leak is needed to prevent damage to the 2A Charging pump. Dose rates initially taken three (3) feet from the valve were 2.8 R/hr. HP states the person performing this task will be working within two (2) feet of the valve. The job is estimated to take 45 minutes to perform with ingress and egress dose negligible. The person performing this task has a year to date dose of 280 mr.

Initiating Cue

As the EC (Emergency Coordinator) you have been asked to authorize a second reentry team tasked with disconnecting the reach rod linkage at the valve hand wheel and closing the valve. Determine the following:

- 1. Calculate dose that will be received while performing the task
- 2. Determine your allowable dose for this task
- 3. State whether this task will be allowable under current guidelines

ST. LUCIE NUCLEAR PLANT ADMINISTRATIVE JPM

DETERMINE EXPOSURE LIMITS UNDER NORMAL CONDITIONS

RO A5

CANDIDATE	
EXAMINER	

ST LUCIE NUCLEAR PLANT ADMINISTRATIVE JPM

ST. LUCIE RADIATION REQUIREMENTS

KA Statement:	2.3.4 Knowledge of radia emergency conditions.	ation exposure li	mits under normal or
KA #:	3.2 / 3.7		
References:	HP-2, FP&L Health Phys	sics Manual	
NOTE: No reference	es to be handed out for th	nis task.	
Candidate:	Name		Time Start
Performance Ratir	ng: Sat	Unsat	
Validation Time _	15 minutes		
Examiner:		_ Signature:	

Comments

ST. LUCIE RADIATION REQUIREMENTS

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

Unit 2 is in a refueling outage and refueling equipment preparations are under way. The Refueling Machine Hoist Box will need to be rebuilt.

The Hoist Box rebuild will take 45 minutes in a 2700 mR/hr field.

Below are the employee's dose records:

Contract Consult.	Age	Lifetime Dose (TEDE)	Current Year FPL at St. Lucie (TEDE)	Current Year total at all sites (TEDE)
1	25	27 R	350 mR	2550 mR
2	38	35 R	550 mR	2000 mR

FPL Employee	Age	Lifetime Dose (TEDE)	Current Year FPL at St. Lucie (TEDE)	Current Year total at all sites (TEDE)
1	40	27 R	550 mR	650 mR
2	38	33 R	450 mR	450 mR

Initiating Cue

What dose would be received for each person and which employee(s) are allowed to rebuild the Hoist Box <u>without</u> the Site Vice President's approval?

START TIME:	·	
STEP 1:	Calculates the dose the employee will receive performing the rebuild.	
STANDARD:	CALCULATES 2700 mR/hr x 45 min x 1 hr/60 min = 2025 mR.	
COMMENTS:		SAT
		UNSAT
HP-2, FP&L He	ealth Physics Manual	CRITICAL
STEP 2:	Determines Contract employee #1"s FPL Site and Total for All Sites doses.	STEP
STANDARD:	<u>DETERMINES</u> that Contract employee #1 will exceed 4500 mR/year for All Sites and will need the St. Vice President approval. Therefore Contract employee #1 can NOT be used.	SAT
	EXAMINERS NOTE: Contract employee #1 would receive 2375 mR for St. Lucie site and 4575 mR for all sites.	UNSAT
COMMENTS:		
STEP 3:	Determines Contract employee #2"s FPL Site and Total for All Sites doses.	CRITICAL STEP
STANDARD:	<u>DETERMINES</u> that Contract employee #2 will not exceed FPL Site and Total for All Sites dose limits. Therefore Contract employee #2 CAN be used.	
	EXAMINERS NOTE: Contract employee #2 would receive 2575 mR for St. Lucie site and 4025 mR for all sites.	SAT
COMMENTS:		UNSAT

STEP 4:	Determines FPL employee #1"s FPL Site and Total for All Sites doses.	CRITICAL STEP
STANDARD: COMMENTS:	<u>DETERMINES</u> that FPL employee #1 will exceed 2500 mR/year for St. Lucie Site and will need the St. Vice President approval. Therefore FPL employee #1 can NOT be used. <u>EXAMINERS NOTE:</u> FPL employee #1 would receive 2575 mR for St. Lucie site and 2675 mR for all sites.	SAT UNSAT
STEP 5:	Determines FPL employee #2"s FPL Site and Total for All Sites doses.	CRITICAL STEP
STANDARD:	<u>DETERMINES</u> that FPL employee #2will not exceed FPL Site and Total for All Sites dose limits. Therefore FPL employee #2 CAN be used.	
	EXAMINERS NOTE: FPL employee #2 would receive 2475 mR for St. Lucie site and 2475 for all sites.	SAT
COMMENTS:		UNSAT
STEP (done): 0	Candidate informs the Examiner that the task is complete.	
STANDARD: INFORMS the Examiner that the task is complete.		
EXAMINER'S	CUE: TASK IS COMPLETE	SAT
COMMENTS:		UNSAT
	END OF TARK	
	END OF TASK	

S	LOP	TIM	E.

CANDIDATE COPY (TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

Unit 2 is in a refueling outage and refueling equipment preparations are under way. The Refueling Machine Hoist Box will need to be rebuilt.

The Hoist Box rebuild will take 20 minutes in a 6000 mR/hr field.

Below are the employee's dose records:

Contract Consult.	Age	Lifetime Dose (TEDE)	Current Year FPL at St. Lucie (TEDE)	Current Year total at all sites (TEDE)
1	25	27 R	350 mR	2550 mR
2	38	35 R	550 mR	2000 mR

FPL Employee	Age	Lifetime Dose (TEDE)	Current Year FPL at St. Lucie (TEDE)	Current Year total at all sites (TEDE)
1	40	27 R	550 mR	650 mR
2	38	33 R	450 mR	450 mR

Initiating Cue

Which employee(s) are allowed to rebuild the Hoist Box <u>without</u> the Site Vice President's approval?

REGION II ST. LUCIE NUCLEAR PLANT INITIAL LICENSE EXAMINATION ADMINISTRATIVE JPM

RESPOND TO SECURITY EVENT (SRO)

A6

Portions of this JPM are TIME CRITICAL

REGION II ST LUCIE NUCLEAR PLANT INITIAL LICENSE EXAMINATION ADMINISTRATIVE JPM

RESPOND TO SECURITY EVENT

KA Statement: 2.4.28 Knowledge of procedures relating to security event (non-safeguards information)

KA #:	3.2 / 4.1		
References:	0-AOP-72.01, 'Response to Security Events' EPIP-01, 'Classification of Emergencies' EPIP-02, 'Duties and Responsibilities of the Emergency Coordinator' EPIP-08, 'Off-Site Notifications and Protective Action Recommendations'		
Candidate: _	Nane Nane		
Validation Tir	me:30 minutes		
Start Time: _	Finish Time:		
Performance	Rating: Sat Unsat		
Examiner:	Signature:		
Comments			

REGION II ST LUCIE NUCLEAR PLANT INITIAL LICENSE EXAMINATION ADMINISTRATIVE JPM

RESPOND TO SECURITY EVENT

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

Both Units are at 100% power.

Today at current time, **you** as the Shift Manager, receives a report from Security that armed intruders have entered the area and are near the cafeteria. No shots have been fired at this time.

Initiating Cue

You are located in Unit 2.

As the Shift Manager you are to implement 0-AOP-72.01, 'Response to Security Events'

NOTE: Portions of this JPM are time critical

Portions of this JPM are time critical

STA	RT	TIME:	
\sim \cdot \cdot			

0-AOP-72.01, 'Response to Security Events'	TIME CRITICAL START TIME
STEP 1 (4.2.2): VERIFY neither of the following have occurred:	SAT
Security Department reports armed intruders are within the Protected Area.	UNSAT
An aircraft has impacted inside the Protected Area.	
STANDARD: DETERMINES from cue armed intruders are within the prote	ected area.
EXAMINER'S CUE: NONE	
EXAMINERS NOTE: This should be the start time to classify the START TIME	ne event
COMMENTS:	
STEP 2 (4.2.2.2.1): TRIP Unit 1 reactor	CRITICAL STEP
DIRECTS Unit 1 US to trip the reactor.	SAT
STANDARD: DIRECTS Unit 1 US to trip the reactor.	UNSAT
EXAMINER'S CUE: Unit 1 reactor is tripped	
COMMENTS:	

STEP 3 (4.2.2.2.2): TRIP Unit 2 reactor	CRITICAL STEP
STANDARD: DIRECTS Unit 2 US to trip the reactor.	SAT
EXAMINER'S CUE: Unit 2 reactor is tripped	UNSAT
COMMENTS:	
STEP 4 (4.2.2.2.3): DON headset attached to Control Room Security hotline phone.	CRITICAL STEP
	SAT
STANDARD: DELEGATES to another Licensed Operator to DON headset.	UNSAT
EXAMINER'S CUE: Licensed Operator has DONNED headset	
COMMENTS:	
STEP 5 (4.2.3): IMPLEMENT Security Checklist per EPIP-02, Duties and Responsibilities of the Emergency Coordinator.	SAT
STANDARD: REFERS to EPIP-02, Duties and Responsibilities of the Emergency Coordinator, Security Checklist.	UNSAT
EXAMINER'S CUE: NONE	
COMMENTS:	
OOMINIENTO.	

EPIP-02, Duties and Responsibilities of the Emergency Coordinator.	CRITICAL STEP
STEP 6 (5.2): 5.2 Security Checklist for Land-Based Threat	SAT
D. Land-Based Threat	
Verify the Control Rooms are implementing 0-AOP- 72.01, Response to Security Events.	UNSAT
Unit 1Unit 2	
STANDARD: IMPLEMENTS EPIP-02 section 5.2 Security Checklist. CONTACTS Unit 1 and Unit 2 Unit Supervisors and directs Attachment 1, (step 4.2.4 of 0-AOP-72.01) "Response to Land Based Threat" of 0-AOP-72.01 "Response to Security Events", to be implemented.	
EXAMINER'S CUE: Unit 1 and Unit 2 Unit Supervisors acknowledge. EXAMINER'S NOTE: A cue may need to be given that the Control Room crews will perform Attachment 1.	
COMMENTS:	

EPIP-02, Duties and Responsibilities of the Emergency Coordinator.		CRITICAL STEP
<u>STEP 7 :</u>	5.2 Security Checklist	SAT
If a threa	Off-Site Notifications NOTE t has been validated via phone call to the NRC Headquarters, the accelerated notification to the NRC is not required.	UNSAT
	A. §2 Make an accelerated notification to the NRC (reference EPIP-08).	
	This is the St. Lucie Plant. My name isApplicants Name My title isShift Manager I am providing notification of a Security Event. Brief DescriptionArmed Intruders in the protected area Unit 1 is in Mode_ 3 ,0 % Power. Unit 2 is in Mode_ 3 ,0_ %Power. Additional information will be provided as soon as practical.	
STANDARD:	COMMUNICATES to the NRC the above information	
EXAM		
COMMENTS:		

EPIP-02, Duties and Responsibilities of the Emergency Coordinator.	CRITICAL STEP
STEP 8 (1): 5.2 Security Checklist	
3. ERO Activation	SAT
NOTE The PSL Conference Bridge can be used to communicate with the ERO at an alternate location. Refer to the PSL Emergency Response Directory (ERD) for the phone number and password.	UNSAT
A. Normal business hours –	
 Delay activation of the Emergency Response Facilities or direct ERO personnel to an alternate Location. 	
2. Request off-site responders to go to EOF / alternate facility per EPIP-03, Attachment 4.	
B. Off-normal hours - based on site accessibility, consider directing ERO personnel to report to the EOF or alternate location.	
STANDARD: DETERMINES delay or activation of the ERO personnel	
EXAMINER'S CUE: If asked it is normal business hours	
EXAMINERS NOTE: Due to the nature of the event the ERO call out will probably be delayed. Activation of the EOF is permissible due to the EOF location is off site. Call outs should be delegated.	
COMMENTS:	

STEP 9 (1): 5.2 Security Checklist: 4. For further information, go to the appropriate procedure below: A. 0-AOP-72.01, Response to Security Events B. §3 EDMG-01, Guidelines for Responding to Large Area Fire or Explosion Involving Multiple Fire Zones. C. SFI #6310 Threat Assessment and Notifications. STANDARD: DETERMINES 0-AOP-72.01 is already being implemented OR call the Unit Supervisors to ensure the AOP is being implemented then continue with EPIP-02.	
A. 0-AOP-72.01, Response to Security Events B. §3 EDMG-01, Guidelines for Responding to Large Area Fire or Explosion Involving Multiple Fire Zones. C. SFI #6310 Threat Assessment and Notifications. STANDARD: DETERMINES 0-AOP-72.01 is already being implemented OR call the Unit Supervisors to ensure the AOP is being implemented then	
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Fire or Explosion Involving Multiple Fire Zones. C. SFI #6310 Threat Assessment and Notifications. STANDARD: DETERMINES 0-AOP-72.01 is already being implemented OR call the Unit Supervisors to ensure the AOP is being implemented then	
STANDARD: DETERMINES 0-AOP-72.01 is already being implemented OR call the Unit Supervisors to ensure the AOP is being implemented then	
the Unit Supervisors to ensure the AOP is being implemented then	
EXAMINER'S CUE: None or respond as US the AOP is being implemented. EXAMINERS NOTE: The Shift Manager should NOT get involved with the AOP as he / she is the Emergency Coordinator and attention should be focused on the E-Plan. The Unit Supervisors should be implementing the Security AOP at each Unit. COMMENTS:	

EPIP-02, Duties and Responsibilities of the Emergency Coordinator.	
STEP 10 (1): 5.2 Security Checklist:	SAT
Implement appropriate Emergency Plan Implementing Procedures (EPIPs).	UNSAT
STANDARD: IMPLEMENTS EPIP-01 Classification of Emergencies	
EXAMINER'S CUE: NONE	
COMMENTS:	
EPIP-01 Classification of Emergencies	TIME CRITICAL
STEP 11 (1): 5.3 Classifying the Event:	STEP
STANDARD: IMPLEMENTS EPIP-01 Classification of Emergencies and DETERMINES classification of SITE AREA EMERGENCY under HS4 HOSTILE ACTION within the PROTECTED AREA	SAT
EXAMINER'S CUE: NONE EXAMINER'S NOTE: Applicant should refer to Attachment 1 and classify the event at this time.	
CLASSIFICATION TIME	
Must be ≤ 15 minutes from time noted in step 1 of this JPM. This is also the 15 minute start time to notify the State.	
EXAMINER'S CUE: None	
COMMENTS:	

EPIP-08 C	off-Site Notifications and Protective Action Recommendations	
NO.	APPENDIX A TIFICATIONS FROM THE AFFECTED CONTROL ROOM	SAT
STEP 12 (1):	f Security Event, Then go to Step 3.A.1.a NRC Notification or N/A.	UNSAT
STANDARD: DI	ETERMINES step is N/A/ as the NRC has been previously notified	
EXAMIN	ER'S CUE: NONE	
COMMENTS:		
EPIP-08 O	ff-Site Notifications and Protective Action Recommendations	
NO.	APPENDIX A TIFICATIONS FROM THE AFFECTED CONTROL ROOM	SAT
STEP 13 (2):	State Watch Office Notification	UNSAT
	A. Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1).	
STANDARD:	2. All other Security and Non-Security Events - Prepare the State Notification Form in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form.	
	ER'S CUE: NONE	
	ERS NOTE: Per step 5.1.2.A.1 of EPIP-08, lines 1-11 of the notification form shall be completed.	
COMMENTS:		

ATTACHMENT 1 FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM	CRITICAL STEP
STEP 14 (Line 1):	SAT
1.* A. THIS IS A DRILL B. THIS IS AN EMERGENCY	UNSAT
STANDARD: Checks A	
EXAMINER'S CUE: NONE EXAMINER'S NOTE: Per EPIP-08, Attachment 1A step 1, drill, exercises or tests, each message shall be checked "this is a drill"	
COMMENTS:	
STEP 15 (Line 2): 2. A. Date:/B. * Contact Time: C. Reported by: (Name) D. Message Number: E. Reported from: □ Control Room □ TSC □ EOF F. □ Initial / New Classification OR □ Update Notification	CRITICAL STEP
STANDARD: A. Todays Date B. Time contact made – left blank at this time C. Applicants name D. Message # 1 E. Contol Room F. Initial / NewClassification	UNSAT
EXAMINER'S CUE: NONE EXAMINERS NOTE: Part B Contact time must be within 15 minutes of the emergency classification time EXAMINER'S NOTE: Contact time shall be filled in when contact is made with the state. COMMENTS:	

STEP 16 (Line 3): 3.* Site: A. Crystal River Unit 3 B. St. Lucie Unit 1 C. St. Lucie Unit 2 D. Turkey Point Unit 3 E. Turkey Point Unit 4 STANDARD: C, St. Lucie Unit 2 (St. Lucie Unit 2 is expected, Unit 1 is acceptable, but not both marked) EXAMINER'S CUE: NONE EXAMINER'S NOTE: EPIP Attachment 1A step 3 requires only one affected unit be selected (either one can be selected but not both). COMMENTS:	CRITICAL STEP SATUNSAT
STEP 17 (Line 4):	CRITICAL
4.* Emergency Classification:	STEP
A. Notification of Unusual Event B. Alert C. Site Area Emergency D. General Emergency	SAT
STANDARD: C, Site Area Emergency	UNSAT
EXAMINER'S CUE: NONE	
COMMENTS:	

STEP 18 (Line 5): 5.* A. Emergency Declaration: B. Emergency Termination:	CRITICAL STEP
Date:/ _/Time:	SAT
STANDARD: A, Emergency Declaration time and date.	UNSAT
EXAMINER'S CUE: NONE EXAMINERS NOTE: NONE This is the time emergency declaration is made. (Step 11 of this JPM)	
COMMENTS:	
STEP 19 (Line 6): 6.* Reason for Emergency Declaration:	CRITICAL STEP
A. OR B. Description:	
	SAT
STANDARD: A. EAL Number HS4, Hostile Action	UNSAT
EXAMINER'S CUE: NONE	
COMMENTS:	

 STEP 20 (Line 7): 7. Additional Information or Update: A. None OR B. Description: 	CRITICAL STEP
STANDARD: B. ADD additional information "armed intruders in the protected area" Unit and Unit 2 are affected.	SAT 1 UNSAT
EXAMINER'S CUE: NONE EXAMINERS NOTE: If both Units affected, should state in the additional information section.	
COMMENTS:	
STEP 21 (Line 8):	CRITICAL
STEP 21 (Line 8): 8.* Weather Data:	CRITICAL STEP
8.* Weather Data: A. Wind direction from degrees B. Downwind Sectors Affected:	
8.* Weather Data:	STEPSAT
8.* Weather Data: A. Wind direction from degrees B. Downwind Sectors Affected:	STEPSATUNSAT
8.* Weather Data: A. Wind direction from degrees B. Downwind Sectors Affected: STANDARD: DETERMINES sectors affected MNP (step 8G, Page 45 of EPIP-08) EXAMINER'S CUE: Wind Direction from 94° EXAMINERS NOTE: Applicant should determine sectors affected MNP (step 8G, Page 45)	STEPSATUNSAT
8.* Weather Data: A. Wind direction from degrees B. Downwind Sectors Affected: STANDARD: DETERMINES sectors affected MNP (step 8G, Page 45 of EPIP-08) EXAMINER'S CUE: Wind Direction from 94° EXAMINERS NOTE: Applicant should determine sectors affected MNP (step 8G, Page 45)	STEPSATUNSAT
A. Wind direction from degrees B. Downwind Sectors Affected: STANDARD: DETERMINES sectors affected MNP (step 8G, Page 45 of EPIP-08) EXAMINER'S CUE: Wind Direction from 94° EXAMINERS NOTE: Applicant should determine sectors affected MNP (step 8G, Page 45 of EPIP-08)	STEPSATUNSAT

STEP 22 (Line 9): 9.* Release Status: A. None (Go to Item 11) B. In progress C. Has occurred, but stopped (Go to Item 11)	CRITICAL STEP
STANDARD: NONE (Go to item 11) EXAMINER'S CUE: NONE COMMENTS:	SAT
STEP 23 (Line 11): 11.* UTILITY PROTECTIVE ACTION RECOMMENDATIONS FOR THE PUBLIC: A. \[\sum \] No utility recommended actions at this time.	CRITICAL STEP
If form is completed in the Control Room, go to Item 15	SAT
STANDARD: A. No utility protective action recommendations for the public. Goes to item 15	UNSAT
EXAMINER'S CUE: NONE	
COMMENTS:	

STEP 24 (Line 15): Emergency Coordinator (EC) approval.	CRITICAL STEP
15.(Do Not Read) EC or RM Approval Signature:Date:/ / Time:	
STANDARD: Documents approval including date and time.	SAT
EXAMINER'S CUE: NONE	UNSAT
COMMENTS:	
STEP 25 (2.C): Using the State HOT RINGDOWN PHONE, dial 100	CRITICAL STEP
STANDARD: Dials 100 on the State HOT RINGDOWN PHONE.	SAT
EXAMINER'S CUE: 100 has been dialed.	UNSAT
COMMENTS:	

		·
STEP 26 (.2.D):	Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce:	TIME CRITICAL STEP
	"This is St. Lucie Nuclear Plant [as applicable (Unit 1, 2)] with an emergency message. Contact Time is I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy."	SAT
	Allow the Duty Officer to contact St. Lucie County, Martin County and the Bureau of Radiation Control prior to transmitting the information from the notification form. When the parties are on line, provide the information slowly (e.g., in three word intervals) and deliberately, providing time for the information to be written down.	
On-line Verification:	SWP/DEMDOH/BRCSt. Lucie County/Ft. PierceMartin County	
	TIES the above are on line. Communicates message. States the ct time as the current time.	
EXAMINER'S CUE:	Answer as the State Watch Office. The above agencies are on	
EXAMINERS NOTE:	line. Contact time above is Stop time for time critical step. This time	
EXAMINERS NOTE:	must be less than 15 minutes from the time listed in step 11. Applicant should go back to step 2 of this form and fill in Contact Time.	
EXAMINERS NOTE:	Upon completion of communication, terminate the task.	
Time classified event	(step 11) Time contact made to state	
COMMENTS:		
	END OF TASK	
1		

STOP TIME_____

CANDIDATE COPY (TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

Both Units are at 100% power.

Today at current time, **you** as the Shift Manager, receives a report from Security that armed intruders have entered the area and are near the cafeteria. No shots have been fired at this time.

Initiating Cue

You are located in Unit 2.

As the Shift Manager you are to implement 0-AOP-72.01, 'Response to Security Events'

NOTE: Portions of this JPM are time critical