

V.C. SUMMER NUCLEAR STATION JOB PERFORMANCE MEASURE

JPM

JPA-029

Identify and Apply the Applicable Overtime Restrictions

APPROVAL:

APPROVAL DATE:

REV NO:

CANDIDATE

EXAMINER:

SRO ONLY

THIS JPM IS NOT APPROVED

TASK:

TASK STANDARD:

The examinee had identified that operator #1 would violate the restriction of working > 72 hours within a 7 Day period and operator #6 would violate the restriction of working > 24 hours within a 48 hour period.

PREFERRED EVALUATION LOCATION

SIMULATOR

PREFERRED EVALUATION METHOD

PERFORM

REFERENCES:

TOOLS: SAP-152
Tech Specs
Shift Schedule (Attached)

EVALUATION TIME 15 **TIME CRITICAL** NO **10CFR55:**

CANDIDATE:

TIME START:

TIME FINISH:

PERFORMANCE RATING:

SAT: UNSAT:

QUESTION GRADE:

PERFORMANCE

EXAMINER:

SIGNATURE

DATE

COMMENTS:

INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

SAFETY CONSIDERATIONS:

INITIAL CONDITION: You are the Control Room Supervisor. The plant is shutdown following a Reactor Trip. Preparations for Startup are in progress. Today is Tuesday, 12-20-05 Day shift (0700-1900). The Shift Supervisor has directed you to call in additional operators to work assisting the on-shift crew during startup. The operators will work 12 hours on Wednesday, 12-21-05, Day Shift, 0700 to 1900. The Operations Shift Rotation Schedule is attached. Assume all shifts worked (D &N) are 12.0 hours. Admin shifts (A) are 8.0 hours.

INITIATING CUES: Identify the operators, if any, that would violate overtime restrictions if called in to work on Wednesday, 12-21-05, Day shift. Also identify the overtime restriction(s), if any, that would be violated.

HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!

JPM BRIEFING SHEET

OPERATOR INSTRUCTIONS:

SAFETY CONSIDERATIONS:

INITIAL CONDITION: You are the Control Room Supervisor. The plant is shutdown following a Reactor Trip. Preparations for Startup are in progress. Today is Tuesday, 12-20-05 Day shift (0700-1900). The Shift Supervisor has directed you to call in additional operators to work assisting the on-shift crew during startup. The operators will work 12 hours on Wednesday, 12-21-05, Day Shift, 0700 to 1900. The Operations Shift Rotation Schedule is attached. Assume all shifts worked (D &N) are 12.0 hours. Admin shifts (A) are 8.0 hours.

INITIATING CUES: Identify the operators, if any, that would violate overtime restrictions if called in to work on Wednesday, 12-21-05, Day shift. Also identify the overtime restriction(s), if any, that would be violated.

**HAND THIS PAPER BACK TO YOUR
EVALUATOR WHEN YOU FEEL THAT YOU
HAVE SATISFACTORILY COMPLETED THE
ASSIGNED TASK.**

STEPS

CR SEQ

STEP: 1

Yes No

The examinee references SAP-152 and/or Technical Specifications Section 6 for overtime policy.

STEP STANDARD:

The examinee reviews the Shift Rotation Schedule and determines that operator #1 and operator #6 would both violate the overtime restriction policy if both were called work on Wednesday, 12-16-05, day shift 0700-1900. Operator #1 would violate the policy of working >72 hours within 7 days; operator #6 would violate the policy of working >24 hours within a 48 hour period.

CUES:

SAT

COMMENTS:

UNSAT

Examiner ends JPM at this point.

JPM SETUP SHEET

JPM NO: JPA-029

DESCRIPTION: Identify and Apply the Applicable Overtime Restrictions

IC SET:

INSTRUCTIONS:

COMMENTS:

December

2005

REVISION 1

		December																														
SHIFT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
ROTATION	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	
Operator 1	N					D	D	D	D			A	A		D	D	D	D	D	D				HA								
Operator 2	N					D	D	D	D			A	A	A		D	D	D	D	D	D				N	N	N	N				
Operator 3	N					D	D	D	D			A	A	A	D		D	D	D	D					N	N	N	N				
Operator 4	N					D	D	D	D			A	A	A	A	A	D	D	D	D					N	N	N	N				
Operator 5	N					D	D	D	D			A	A	A	A	D		D	D	D					N	N	N	N				
Operator 6	N					D	D	D	D			A	A	A	A		D	D	D	D	D+4				N	N	N	N				
Operator 7	N					D	D	D	D			A	A	A	A	A	D	D	D	D					N	N	N	N				
Operator 8	N					D	D	D	D			A	A	A		D	D	D	D		A				N	N	N	N				
Operator 9	N					D	D	D	D			A	A	A	A	A	D	D	D		D				N	N	N	N				
Operator 10	N					D	D	D	D			A	A	A	D		D	D	D		D				N	N	N	N				

V.C. SUMMER NUCLEAR STATION JOB PERFORMANCE MEASURE

JPM

JPA-026

EOP-18.2 Maximum Allowable Head Vent Calculation

APPROVAL:

APPROVAL DATE:

REV NO:

CANDIDATE

EXAMINER:

THIS JPM IS NOT APPROVED

TASK:

TASK STANDARD:

Calculation of Head Venting time of approximately 22.5 minutes.

PREFERRED EVALUATION LOCATION

PREFERRED EVALUATION METHOD

CLASSROOM

REFERENCES:

TOOLS: EOP-18.2
Calculator
Pen

EVALUATION TIME

15

TIME CRITICAL

10CFR55:

CANDIDATE:

TIME START:

TIME FINISH:

PERFORMANCE RATING:

SAT:

UNSAT:

QUESTION GRADE:

PERFORMANCE

EXAMINER:

SIGNATURE

DATE

COMMENTS:

INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

SAFETY CONSIDERATIONS: None

INITIAL CONDITION: The following conditions exist:

1. RB Pressure is 0.9 psig on PI-950.
2. RB Temperature is 140°F on TI-9201A and TI-9203A.
3. Hydrogen Concentration is 1.8% on CI-8257 and CI-8258.
4. RCS Pressure is 290 psig on PI-402 and PI-403.

INITIATING CUES: The CRS has directed you to perform EOP-18.2 step 17 to determine the maximum allowable head venting time.

HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!

JPM BRIEFING SHEET

OPERATOR INSTRUCTIONS:

SAFETY CONSIDERATIONS: None

INITIAL CONDITION: The following conditions exist:

1. RB Pressure is 0.9 psig on PI-950.
2. RB Temperature is 140°F on TI-9201A and TI-9203A.
3. Hydrogen Concentration is 1.8% on CI-8257 and CI-8258.
4. RCS Pressure is 290 psig on PI-402 and PI-403.

INITIATING CUES: The CRS has directed you to perform EOP-18.2 step 17 to determine the maximum allowable head venting time.

**HAND THIS PAPER BACK TO YOUR
EVALUATOR WHEN YOU FEEL THAT YOU
HAVE SATISFACTORILY COMPLETED THE
ASSIGNED TASK.**

STEPS

CR SEQ

STEP: 1

STEP STANDARD:

No No

Record values for the following parameters:

- a. TI-9201A, RB TEMP "F. "F
- b. TI-9203A, RB TEMP "F. "F
- c. CI-8257, RB H2 CONC %. %H2
- d. CI-8258, RB H2 CONC %. %H2
- e. PI-402, RCS WR PRESS PSIG. psig
- f. PI-403, RCS WR PRESS PSIG. Psig

140°F is entered for TI-9201A and TI-9203A; 1.8 % Hydrogen Concentration is entered for CI-8257 and CI-8258; 290 psig is entered for PI-402 and PI- 403.

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ

STEP: 2

STEP STANDARD:

Yes No

Use the higher of the two readings recorded above to calculate:

- a. Reactor Building volume (at standard temperature and pressure):
RB AIR VOLUME = (1.84E6 ft3) x [492°R/(RB TEMP ("F) + 460)]
RB AIR VOLUME = ft3
- b. Maximum hydrogen volume to be vented (when RB H2 CONC is LESS THAN 3%):

RB Air Volume is approximately 1.51E6 ft3 and Max Vented Volume is approximately 1.81E4 ft3.

MAX VENTED VOL = (3% - RB H2 CONC %) x (RB AIR VOLUME (STP)) ft3/100%

MAX VENTED VOL = ft3

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ STEP: 3

Yes No From the graph on the next page, determine the hydrogen flow rate using the higher RCS pressure recorded from Step 1:
HYDROGEN FLOW RATE = SCFM

STEP STANDARD:

SCFM calculated to be approximately 800 SCFM. A tolerance of 800 plus or minus 25 SCFM is acceptable.

CUES:

**SAT
UNSAT**

COMMENTS:

CR SEQ STEP: 4

Yes No Calculate maximum allowable head venting period:
MAXIMUM ALLOWABLE HEAD VENTING TIME
= (MAX VENTED VOL) ft³ / (HYDROGEN
FLOW RATE) SCFM
MAXIMUM ALLOWABLE HEAD VENTING TIME
= Minutes

STEP STANDARD:

A calculated Maximum Allowable Head Venting Time of approximately 22.5 minutes. Based on a plus or minus 25 SCFM tolerance, the maximum allowable venting time should be from 21.9 minutes to 23.4 minutes.

CUES:

**SAT
UNSAT**

COMMENTS:

Examiner ends JPM at this point.

JPM SETUP SHEET

JPM NO: JPA-026

DESCRIPTION: EOP-18.2 Maximum Allowable Head Vent Calculation

IC SET:

INSTRUCTIONS:

COMMENTS:

CALCULATION OF MAXIMUM ALLOWABLE HEAD
 VENTING TIME

OPERATOR ACTIONS

1. Record the following parameters:

- | | | | |
|----|------------------------------------|------------|-----------------|
| a. | TI-9201A, RB TEMP °F. | <u>140</u> | °F |
| b. | TI-9203A, RB TEMP °F. | <u>140</u> | °F |
| c. | CI-8257, RB H ₂ CONC %. | <u>1.8</u> | %H ₂ |
| d. | CI-8258, RB H ₂ CONC %. | <u>1.8</u> | %H ₂ |
| e. | PI-402, RCS WR PRESS PSIG. | <u>290</u> | psig |
| f. | PI-403, RCS WR PRESS PSIG. | <u>290</u> | psig |

2. Use the higher of the two readings recorded above to calculate:

a. Reactor Building volume

(at standard temperature and pressure):

$$RB\ AIR\ VOLUME = (1.84E6\ ft^3 \times [492^\circ\ R / (RB\ TEMP\ (^\circ F) + 460)])$$

$$RB\ AIR\ VOLUME = \underline{1.51E6} \quad (1.84 \times 0.82)\ ft^3$$

b. Maximum hydrogen volume to be vented

(when RB H₂ CONC is LESS THAN 3%):

$$MAX\ VENTED\ VOL = \frac{(3\% - RB\ H_2\ CONC\ \%)\ X\ (RB\ AIR\ VOLUME\ (STP))\ ft^3}{100\%}$$

$$MAX\ VENTED\ VOL = \underline{1.81E4} \quad (1.2 \times 1.51/100)\ ft^3$$

3. From the graph on the next page, determine the hydrogen flow rate using the higher RCS pressure recorded from Step 1:

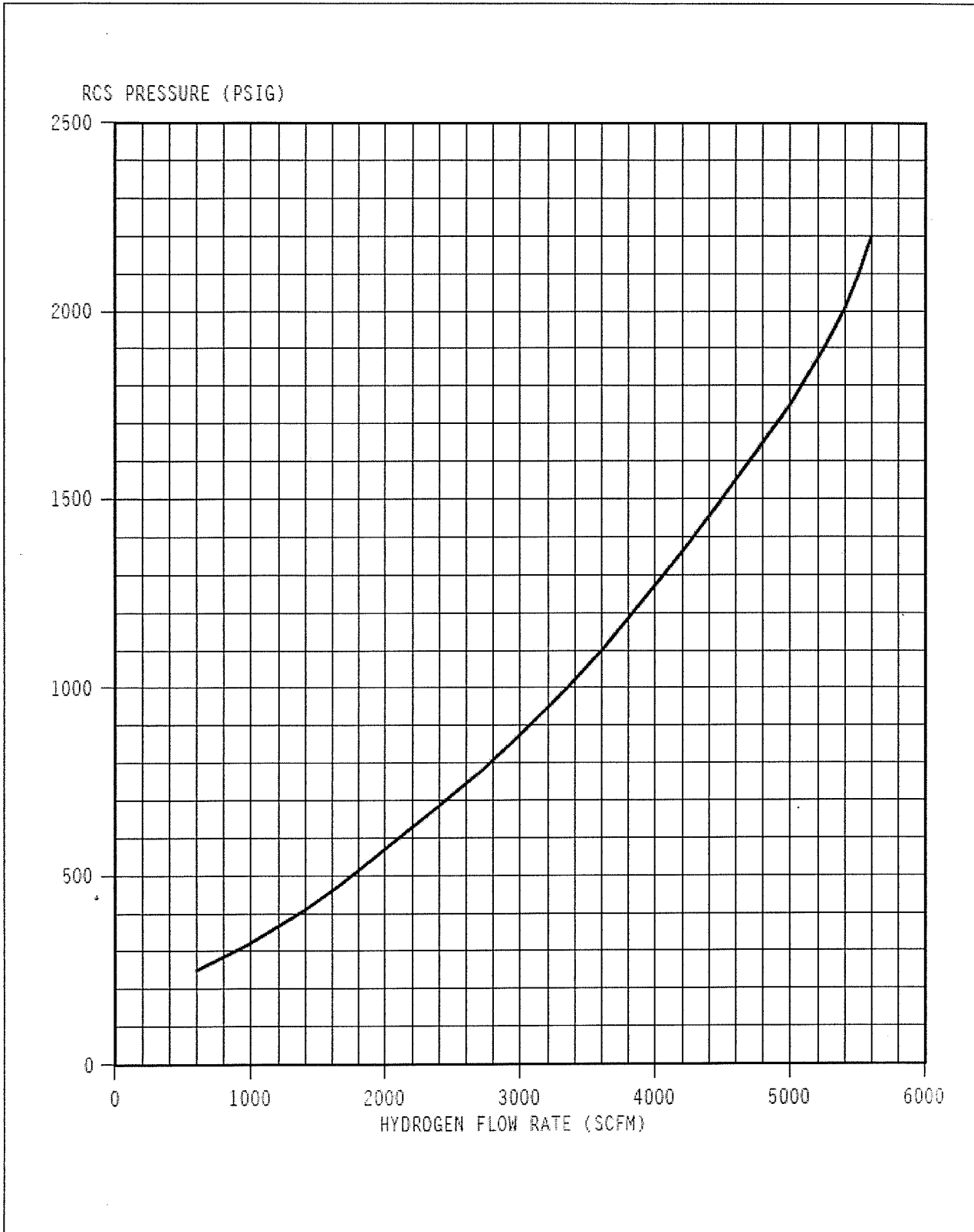
$$HYDROGEN\ FLOW\ RATE = \underline{800\ +/-25}\ SCFM$$

4. Calculate maximum allowable head venting period:

$$MAXIMUM\ ALLOWABLE\ HEAD\ VENTING\ TIME = \frac{(MAX\ VENTED\ VOL)\ ft^3}{(HYDROGEN\ FLOW\ RATE)\ SCFM}$$

$$MAXIMUM\ ALLOWABLE\ HEAD\ VENTING\ TIME = \underline{22.6\ +/-0.8} \quad (1,81/800)\ minutes$$

CALCULATION OF MAXIMUM ALLOWABLE HEAD
VENTING TIME



10/10/10

5/10/10

V.C. SUMMER NUCLEAR STATION JOB PERFORMANCE MEASURE

JPM JPA-001

REVIEW WORK PACKAGE FOR SFP HEX 'A'

APPROVAL: DOW APPROVAL DATE: 12/7/2005

REV NO: 0

CANDIDATE

EXAMINER:

SRO ONLY

THIS JPM IS APPROVED

TASK:

TASK STANDARD:

Work package reviewed and the following are noted:

- 1) No EOOS Stamp on the green PM Task Sheet *(NOT CRITICAL)*
- 2) Component Log tags XVD16656 vs. XVD16659.
- 3) Waste Holdup Tank is too full to accept drainage from the SFP HEX (via the Miscellaneous Waste Drain Tank).

PREFERRED EVALUATION LOCATION

CLASSROOM

PREFERRED EVALUATION METHOD

PERFORM

REFERENCES:

TOOLS:

SAP-205, STATUS CONTROL AND REMOVAL AND RESTORATION
 SAP-201, ATTACHMENT 1C
 PMTS FOR XVR16662-SF
 D-302-651, SPENT FUEL COOLING
 D-302-736, LIQUID WASTE SYSTEM
 E-911-103, BUILDING SERVICE FLOOR & EQUIPMENT DRAINS STATION
 DRAINAGE FLOW DIAGRAM - AUXILIARY BUILDING 412' TO 374'
 FEEDER EFFECTS LIST FOR XPP00032A, A SPENT FUEL COOLING
 PUMP
 TECH SPEC CROSS REFERENCE FOR XVR16662-SF
 OAP-102.1, CONDUCT OF OPERATIONS SCHEDULING UNIT
 SAP-201 ATT. IV, DANGER TAGOUT REQUEST FORM
 SSP-001 ATT. I, WORK PACKAGE ORGANIZER

EVALUATION TIME 20 **TIME CRITICAL** NO **10CFR55:** 45(a)8

CANDIDATE:

TIME START:

TIME FINISH:

PERFORMANCE RATING:

SAT: UNSAT:

QUESTION GRADE:

PERFORMANCE

EXAMINER:

SIGNATURE

DATE

COMMENTS:

INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

SAFETY CONSIDERATIONS:

INITIAL CONDITION: The plant is operating at 100% power. A1 Maintenance Work Week. A Refurbishment and bench test of XVR-16662-SF is to be performed. A work package for this test has been completed.

INITIATING CUES: As the Shift Supervisor, you are to review this work package prior to allowing the tagout to be hung and the work to begin. Assume all Scheduling pre-reviews have been performed as required.

HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!

JPM BRIEFING SHEET

OPERATOR INSTRUCTIONS:

SAFETY CONSIDERATIONS:

INITIAL CONDITION: The plant is operating at 100% power. A1 Maintenance Work Week. A Refurbishment and bench test of XVR-16662-SF is to be performed. A work package for this test has been completed.

INITIATING CUES: As the Shift Supervisor, you are to review this work package prior to allowing the tagout to be hung and the work to begin. Assume all Scheduling pre-reviews have been performed as required.

**HAND THIS PAPER BACK TO YOUR
EVALUATOR WHEN YOU FEEL THAT YOU
HAVE SATISFACTORILY COMPLETED THE
ASSIGNED TASK.**

STEPS

CR SEQ **STEP:** 1
Ye No Checks tagout for accuracy.

STEP STANDARD:
Notes that valve XVD16656-SF is incorrectly identified to be tagged on the Component Log (vs. valve XVD16659-SF).

CUES:

SAT
UNSAT

COMMENTS:

CR SEQ **STEP:** 2
Ye No Checks Equipment Lineup Request Form

STEP STANDARD:
Reviews form and notes remarks on Miscellaneous Waste Drain Tank and WHT

CUES:

SAT
UNSAT

COMMENTS:

CR SEQ **STEP:** 3
Ye No Checks level in Misc Waste Drain Tank and Waste Holdup Tank.

STEP STANDARD:
Notes inadequate inventory in WHUT to accept full drainage from SFP HEX. Indicates that work would not be allowed to proceed until WHT was processed.

CUES:

If examinee explains he/she would check the IPCS and/or the Liquid Waste System Status/Turnover Sheet, to ensure the Misc Drain Tank and the WHT have adequate inventory to accept drainage from the SFP HEX, Evaluator cues examinee that Misc Waste Drain Tank level is 10% and WHT level is 92%.

SAT
UNSAT

COMMENTS:

CR SEQ **STEP:** 4
Ye No Checks Danger Tagout Request Form.

STEP STANDARD:

Notes that tagout requester incorrectly asked for XVD16656 to be tagged open (vs. XVD16659).

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ **STEP:** 5
~~No~~ X~~e~~ No Reviews the green Preventive Task Sheet.

STEP STANDARD:

Notes that the "EOOS" Stamp is missing.

CUES:

SAT

UNSAT

If asked, Evaluator, as the Ops Scheduling Supervisor, informs examinee that a new PM task sheet will be generated with an "EOOS" stamp. Examinee should assume that this task sheet DOES have an "EOOS" stamp and "N" is circled. The stamp is initialed and dated by the Ops Scheduling Supervisor.

COMMENTS:

Examiner ends JPM at this point.

JPM SETUP SHEET

JPM NO: JPA-001

DESCRIPTION: REVIEW WORK PACKAGE FOR SFP HEX 'A'

IC SET:

INSTRUCTIONS:

COMMENTS:

SCHEDULING PACKAGE CHECKLIST

SYSTEM/COMPONENT XVR16662-SF _____

Date Scheduled: 12/16/05

Tagout #: 05-0001

YES	N/A			
X		Correct train work week:	Work Week (circle) <input checked="" type="checkbox"/> A1 <input type="checkbox"/> A2 <input type="checkbox"/> B1 <input type="checkbox"/> B2	
X		Is tagout as requested?		
X		All work within tagout boundary?		
	X	Instruments affected by tagout evaluated for impact on system?		
X		Power secured?		
	X	DC Control Power breakers in REALIGNMENT Section or tagged as required?		
X		Install sequence correct?		
X		Work document numbers on WPO and tagout?		
X		WPO Index number?		
X		Restoration lineup verified per SOP?		
	X	Component worked in REALIGNMENT Section?		
	X	Switch and/or Fuse Hold tags included in package, if necessary?		
X		Each Discipline is assigned to the correct requested tags on the tagout. (X in Box)		
X		Tagout has index number (and # is on all work documents)?		
X		System/Electrical drawings are verified to be: Current revision, marked with tagout index #, reviewed, and included? If the latest drawing revision, CHAMPS, or equipment ID are not available, generate a CER and get Ops Management approval prior to proceeding.	CHG G	
	X	Electrical feeder list reviewed and included, if necessary?		
	X	Vent and drain information sheet included, if necessary?		
X		Tech Spec Cross Reference List included, if necessary?		
X		R&R written, if necessary?		
X		Equipment Lineup Request , Included if needed:		
X		Special conditions/equipment lineup changes (including welding boundary purge path)?		
X		SOP, EMP, MMP, or other procedure used to coordinate work?		
	X	Tagout requires coordination between groups (including contact)?		
	X	Shift Test Specialist notified of any work that may require Fire Protection related compensatory actions.		
Emergent or FIN Team Work Review Requirements				CHG G
	X	This work reviewed for impact on the integrity of the Control Room Pressure Boundary. If the Control Room boundary is impacted: <ul style="list-style-type: none"> • Are compensatory measures provided by Engineering Services? or • Already provided by the applicable procedure? 	CHG C	
	X	Tagout involves risk (include management approval)?	CHG G	
X		Reviewed for Reactivity Management and stamped, if necessary?		
X		Reviewed for Maintenance Rule and stamped, if necessary?		
X		EOOS Assessment: Moderate <input type="checkbox"/> Elevated <input type="checkbox"/> High <input type="checkbox"/> (Att. II, Ops signoff)	CHG G	
	X	Retest reviewed?		
	X	GTP-214 reviewed?		
	X	GTP-702 reviewed?		
	X	Shop sign-on sheet included in package?		
<input type="checkbox"/> Remarks (if checked see attached)				CHG G

03 →
01 →

WORK PACKAGE ORGANIZER

NOTE: If there is an R&R associated with this WPO - attach a copy of completed WPO to R&R.
 This WPO impacts EOOS Risk Assessment Calculation **YES / NO**

MRF/ECR OPERABILITY REQUIRED YES / NO MRF/ECR NUMBER ASSOCIATION CODE/FEG N/A PAGE 1 OF 1
 SCHEDULED DATE 12/16/05 SCHEDULED COMPLETION DATE 12/16/05 TRAIN A WPO # 05-0212

R&R # _____ TAGOUT # 05-0501 FBRPSN # N/A EQUIPMENT # XVR16662-SF SYS SF

SCHEDULING GROUP SECTION											PERFORMER SECTION *		OPERATIONS REVIEW			
Equipment ID	TASK #	RESP. GROUP	R & R REQ.		RED TAGS REQ		OPS RETEST REQ.		MAINT. RETEST		PROC. NO.	WORK COMPLETE OR READY FOR RETEST (signature)	RETEST * COMPLETE (signature)	OPS RETEST		SS, SE OR CRS REVIEW COMPLETE (signature)
			Y	N	Y	N	Y	N	Y	N				PROC	STTS	
XVR16662	0500001	Mech	X		X			X	X		External leakage					
Comments/Retest:																
Comments/Retest:																
Comments/Retest:																
Comments/Retest:																
Comments/Retest:																

* PERFORMER SIGNATURE INDICATES TASK IS COMPLETE OR READY FOR RETEST. WHEN RETEST IS COMPLETE, THE PERFORMER WILL SIGN THE RETEST COMPLETE COLUMN.

2. SPECIAL INSTRUCTIONS _____
3. RESPONSIBLE SUPERVISOR FOR WORK: ELECT _____ MECH _____ I&C _____ CIVIL _____
4. LEAD GROUP _____

WORK PACKAGE ORGANIZER

CONTINUATION SHEET

ASSOCIATION CODE/FEG _____

PAGE _____ OF _____
 WPO # _____

SCHEDULING GROUP SECTION											PERFORMER SECTION *		OPERATIONS REVIEW				
Equipment ID	TASK #	RESP. GROUP	R & R REQ.		RED TAGS REQ		OPS RETEST REQ.		MAINT. RETEST		PROC. NO.	WORK COMPLETE OR READY FOR RETEST (signature)	RETEST * COMPLETE (signature)	OPS RETEST		SS, SE OR CRS REVIEW COMPLETE (signature)	
			Y	N	Y	N	Y	N	Y	N				PROC	STTS		
Comments/Retest:																	
Comments/Retest:																	
Comments/Retest:																	
Comments/Retest:																	
Comments: /Retest:																	
Comments/Retest:																	
Comments/Retest:																	
Comments/Retest:																	
Comments/Retest:																	

The purpose of the WPO is to inform the Control Room of all work that is taking place on a piece of equipment, an association code/FEG or other grouping of work related items. This includes all work tagged or untagged that is associated.

The Scheduling Coordinator shall complete the following:

1. Fill in the scheduled date when known (start date) and the scheduled complete date.
2. Fill in train block, system, equipment number, and association code.
3. Fill in WO task number in the Scheduling Group Section.
4. Fill in responsible group for each task performed.
5. Fill in if the item requires red tags or not.
6. Fill in any special instructions if known.

The Scheduling Operations representative shall complete the following:

1. Fill in the R&R required.
2. Fill in operations retest required Yes or No. If yes, fill in Proc # in Operations Review Section.
3. Fill in the WPO #.
4. Determine if an MRF/ECR operability is required. Circle Yes and denote the MRF/ECR Number.

The Control Room shall fill in the R&R # (if applicable), the tag out # (if applicable) and the STTS # (if applicable) in Operations Review Section.

The Fire Protection Officer shall fill in the FBRPSN # (if applicable).

The rest of the WPO is filled in at the completion of work as discussed in Sections 4.4.5 and 4.4.6.

COMPONENT LOG

TAG	ISSUED TO				HOLD TAG INST	COMPONENT ID	PLANT LOC	REQ'D TAG POSIT	INST SEQ	INST BY	VER BY	HOLD TAG REM	REM SEQ	TAG REM BY	REQ'D OPER POSIT	COMP REST	
		E	M	I&C												OTHER	REST BY
1	GROUP		X			XSW1DA2 06D A SF CLG PP	IB-463	OPEN/ RACK ED OUT	1						RACK ED IN		
	CLEAR																
2	GROUP		X			XVG06654-SF SPENT FUEL COOLING PUMP A DISCHARGE VALVE	AB-412	CLOS ED	2						OPEN		
	CLEAR																
3	GROUP		X			XVG06650-SF SPENT FUEL COOLING PUMP A SUCTION VALVE	AB-412	CLOS ED	3						OPEN		
	CLEAR																
4	GROUP		X			XVT06720-SF SF COOLING HDR A RAD MONITOR OUTLET VALVE	AB-412	CLOS ED	3						OPEN		
	CLEAR																
5	GROUP		X			XVT06722-SF SF COOLING HDR A RAD MONITOR INLET VALVE	AB-412	CLOS ED	3						OPEN		
	CLEAR																
6	GROUP		X			XVT06658-SF SPENT FUEL HEAT EXCHANGER A OUTLET VALVE	AB-388	CLOS ED	3						9 TURN S OPEN		
	CLEAR																

EQUIPMENT LINEUP REQUEST

Due to work scheduled for 12/16/05, the following system/equipment lineups are needed.

System(s) Affected: Spent Fuel Cooling

Liquid Waste

Reason/
Requirements

Need to drain 'A' Spent Fuel Cooling Heat Exchanger

(XHE0007A) to the Waste Holdup Tank via the Miscellaneous

Waste Drain Tank. Ensure adequate volume exists for the

draining. Approximate volume of the Heat Exchanger is 1100

gallons.

Contact Person(s)
If Problem is
Incurred

Needed By

Mike Johnson/ 12/7/05
Signature Date

DANGER TAGOUT REQUEST FORM

DATE: 12/2/05 REQUESTED BY: MECHANICAL PLANNER

I.	<u>WORK DOC</u>	<u>EQUIP ID</u>	<u>WORK DOC</u>	<u>EQUIP ID</u>
	<u>PMTS 0500001</u>	<u>XVR16662-SF</u>	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

II. Work Summary: Refurb and Bench test according to MMP-445.005 requirements.

III. Special Conditions/Safety Considerations: Ensure isolated, vented and drained.

IV. Instrumentation Affected (Include Instrumentation not directly identified by work summary): _____
N/A

V. Recommended Boundaries (Required):

<u>COMPONENT</u>	<u>POSITION</u>	<u>COMPONENT</u>	<u>POSITION</u>
<u>XSW1DA1 06D</u>	<u>Racked down</u>	<u>XVD16660-SF</u>	<u>OPEN</u>
<u>XVG06654-SF</u>	<u>CLOSED</u>	<u>XVD16656-SF</u>	<u>OPEN</u>
<u>XVT06722-SF</u>	<u>CLOSED</u>	<u>XVD16661-SF</u>	<u>OPEN</u>
<u>XVT06658-SF</u>	<u>CLOSED</u>	_____	_____

VI. Equipment Restoration (List any equipment not covered in another program that may require restoration prior to clearing tags):

<u>COMPONENT</u>	<u>POSITION</u>	<u>COMPONENT</u>	<u>POSITION</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

VII. Referenced Drawings: D-302-651

CONTINUED ON PAGE 2.

V. C. SUMMER NUCLEAR STATION -- ~~PREVENTATIVE TASK SHEET~~

SAP-143 ATT. I REV. 10 PAGE 1 OF 3

PMTS: 0500001 DUE DATE: 12/16/05 SCH DATE: 12/16/05 END DATE: 12/31/05

OLD TASK SHEET NUMBER: 0500001

EQUIP ID: XVR16662-SF PROCEDURE: MMP-445.005 DEPT: Mechanical

TSK DSC: Testing and Repair/Refurbishment of Relief Valves PM CAT: 3

TASK TYPE: Refurbish and test as applicable FREQ: 1A1

TASK NOTES OR REQUIREMENTS:

REMOVE XVR16662-SF FROM A SPENT FUEL HEAT EXCHANGER, REFURB AND BENCH TEST ACCORDING TO ABOVE MMP REQUIREMENT.

EQUIP NAME: SPENT FUEL HX A SF SIDE RELIEF VALVE PMTS ORIG DATE: 9/21/05

SYS: SF TRAIN: A LOCATION: AB-388

MECH CLASS: SR ELEC CLASS: NA CC: C3 SEIS: S1

EQ: REG 1.97: TECH MANUAL:

SIZE: 1 INCH SERIAL NO:

FLOW DIAGRAM: D-302-651 CKT

DRAWINGS:

EQUIPMENT REMARKS:

FEEDER: ACCURACY:

INPUT: OUTPUT:

MANDATORY:

Safety Requirements: ENSURE ISOLATED, VENTED, DRAINED TRANS COMBUSTIBLE:

RF REQ: NA OUTAGE TASK CODE: NA

RED TAGS: Y RED TAG STD-ID: RED TAG INDEX: 05-0501

RWP REQ: Y RWP NO: 05-0121 LAST RED TAG INDEX: 04-0303

EQUIP AFFECTED:

LAST REVIEW COMMENTS:

NONE.

RETEST INFORMATION: EXTERNAL LEAK CHECK / /

EQUIPMENT DOWN TIME HOURS: 30 HOURS

ACCT NMBR:

R&R: NO.: 05-0011 OPS APPROVAL _____ DATE __/__/__

***** PM CURRENT WORK SECTION *****

TEST EQ USED _____

MATERIAL REQUISITION _____

"AS FOUND" COND ____

SHOULD BE STAMPED

V. C. SUMMER NUCLEAR STATION -- PREVENTATIVE TASK SHEET
 ~~~~~  
 SAP-143 ATT. I REV. 10 PAGE 2 OF 3

PMTS: ~~~~~ EQUIP ID: ~~~~~ PROCEDURE: ~~~~~

| SEQ   | STEP  | DESCRIPTION | TRADE | QC    |
|-------|-------|-------------|-------|-------|
| ~~~~~ | ~~~~~ | ~~~~~       | ~~~~~ | ~~~~~ |

SCHEDULE START: ~~~~~ SCHEDULE COMPLETE: ~~~~~

QC INSP NUM: ~~~~~

NEED DATE: ~~~~~ STEP INSTRUCTIONS

~~~~~  
 ~~~~~  
 ~~~~~

ADDITIONAL TEXT: ~ TOTAL STEPS: ~~~

MR EXISTS: ~ PR EXISTS: ~ PO EXISTS: ~

SAFETY REQ: ~~~~~

EQUIP REF: ~~~~~

PLANNED BY: ~~~~~

CALLBACK REQUIRED: ___ REP-TAG REMOVED: ___

DATE STARTED: __/__/__ TIME: __:___ DATE COMPLETED: __/__/__ TIME: __:___

COMPLETION REMARKS

STEP	BADGE	DATE	REG HRS	OT HRS	OT CODE	DIFF CODE
___	_____	__/__/__	__:__	__:__	___	___
___	_____	__/__/__	__:__	__:__	___	___
___	_____	__/__/__	__:__	__:__	___	___
___	_____	__/__/__	__:__	__:__	___	___

COMPLETED BY: _____ DATE COMPLETED: __/__/__

1
2
3 Area Reserved For Barcode
4
5

REMOVAL AND RESTORATION CHECKSHEET

Section 1 - Summary Data

TYPE: <input type="checkbox"/> Action <input checked="" type="checkbox"/> Tracking	SERVICE IMPACT: <input checked="" type="checkbox"/> Removed From Service <input type="checkbox"/> Restricted Service	TRAIN: <input checked="" type="checkbox"/> 'A' Train <input type="checkbox"/> 'X' Train <input type="checkbox"/> 'B' Train <input type="checkbox"/> N/A	R&R NUMBER:
SYSTEM: SF	EQUIPMENT ID: XHE0007A-SF	EQUIPMENT NAME: SPENT FUEL HEAT EXCHANGER A	
REASON INOPERABLE: Remove XVR16662-SF for Refurbishment and Testing			

Section 2 - Removal Requirements

COMPENSATORY REQUIREMENTS: <input checked="" type="checkbox"/> None	Required By Date/Time	Completed Date/Time	TECHNICAL SPECIFICATIONS: 4.0.5
<input type="checkbox"/> Trip/Bypass Bistables?	/	/	TECH. SPEC. 3.0.4 APPLIES: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Restraining Mode: N/A Mode Discovered: 1____ REDUNDANT EQUIPMENT OPERABLE: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A SUPPORTING DOCUMENTATION: SAP-205
<input type="checkbox"/> Backup Fire Suppression?	/	/	
<input type="checkbox"/> Roving Fire Watch?	/	/	
<input type="checkbox"/> Continuous Fire Watch?	/	/	
<input type="checkbox"/> Alternate Radiation Monitoring?	/	/	
<input type="checkbox"/> Smoke Detectors Operable?	/	/	
<input type="checkbox"/> GTP-702 Att. _____	/	/	
<input type="checkbox"/> Other:	/	/	
REMOVAL COMMENTS:			

Section 3 - Restoration Req./Related Documents

RESTORATION REQUIREMENTS:			RELATED DOCUMENTS:			
Operable STP	STTS #	Completed Date/Time	Document Type*	Document #	Completed Initials/Date	Comments
		/	PMTS	0500001	/	
		/	RTO	05-0501	/	
		/			/	
		/			/	
All compensatory requirements restored or terminated?		ECR Operability Form?				
<input type="checkbox"/> Yes		<input type="checkbox"/> Yes				
<input type="checkbox"/> No		<input type="checkbox"/> No				
<input type="checkbox"/> N/A		<input type="checkbox"/> N/A		<input type="checkbox"/> Continued on Attachment VII. *ECR, MWR, NCN, PMTS, RTO, STTS, WPO, etc.		
RESTORATION COMMENTS:						

Section 4 - Removal/Restoration Status

REMOVAL/RESTORATION STATUS:	SS Authorization	OATC Concurrence	Date/Time	Updated		
				MCB	BISI	EOOS
Declared Inoperable			/	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Time Limit to Declare Operable						
Restoration Required By			/			
Downgraded to:	<input type="checkbox"/> Tracking		/			
	<input type="checkbox"/> Restricted Service		/			<input type="checkbox"/> Yes <input type="checkbox"/> No
Declared Operable			/	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Total Time:	Inoperable					
	Non-Functional					
COMMENTS:						

11-11-11

V.C. SUMMER NUCLEAR STATION JOB PERFORMANCE MEASURE

JPM

JPA-028

Gamma Radiation Shielding Calculations

APPROVAL:

APPROVAL DATE:

REV NO: 0

CANDIDATE

EXAMINER:

THIS JPM IS NOT APPROVED

TASK:

TASK STANDARD:

The exact minimum number of half value layers (6) and tenth value layers (3) are calculated. See attached answer key.

PREFERRED EVALUATION LOCATION

CLASSROOM

PREFERRED EVALUATION METHOD

PERFORM

REFERENCES:

TOOLS: Calculator

EVALUATION TIME 15 **TIME CRITICAL** NO **10CFR55:**

CANDIDATE:

TIME START:

TIME FINISH:

PERFORMANCE RATING:

SAT: UNSAT:

QUESTION GRADE:

PERFORMANCE

EXAMINER:

SIGNATURE

DATE

COMMENTS:

INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

SAFETY CONSIDERATIONS: None

INITIAL CONDITION: The "no shielding" gamma radiation levels are given for an area and the desired "shielded" area gamma radiation levels are given.

INITIATING CUES: You have been directed to work in an area where the Gamma Radiation intensity is 10,000 Rad/Hr with NO shielding. You cannot work in the area unless the field is reduced to LESS THAN or EQUAL to 200 Rad/Hr. You have been directed to calculate the following two scenarios.

1. Calculate the minimum number of HALF-VALUE layers (HVLs) required to reduce the Gamma level of 10,000 Rad/Hr to LESS THAN to 200 Rad/Hr.
2. Calculate the minimum number of TENTH-VALUE layers (TVLs) required to reduce the Gamma level of 10,000 Rad/Hr to LESS THAN 100 Rad/Hr.

HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!

JPM BRIEFING SHEET

OPERATOR INSTRUCTIONS:

SAFETY CONSIDERATIONS: None

INITIAL CONDITION: The "no shielding" gamma radiation levels are given for an area and the desired "shielded" area gamma radiation levels are given.

INITIATING CUES: You have been directed to work in an area where the Gamma Radiation intensity is 10,000 Rad/Hr with NO shielding. You cannot work in the area unless the field is reduced to LESS THAN or EQUAL to 200 Rad/Hr. You have been directed to calculate the following two scenarios.

1. Calculate the minimum number of HALF-VALUE layers (HVLs) required to reduce the Gamma level of 10,000 Rad/Hr to LESS THAN to 200 Rad/Hr.
2. Calculate the minimum number of TENTH-VALUE layers (TVLs) required to reduce the Gamma level of 10,000 Rad/Hr to LESS THAN 100 Rad/Hr.

**HAND THIS PAPER BACK TO YOUR
EVALUATOR WHEN YOU FEEL THAT YOU
HAVE SATISFACTORILY COMPLETED THE
ASSIGNED TASK.**

STEPS

CR SEQ

STEP: 1

STEP STANDARD:

Yes No

Calculate the minimum number of HALF-VALUE layers (HVLs) required to reduce the Gamma level of 10,000 Rad/Hr to LESS THAN to 200 Rad/Hr.

6 half value layers calculated

CUES:

IF $I = I_0 e^{-ux}$ (formula) is used, CUE examinee that $u = .772 \text{ cm}^{-1}$

SAT

UNSAT

COMMENTS:

CR SEQ

STEP: 2

STEP STANDARD:

Yes No

Calculate the minimum number of TENTH-VALUE layers (TVLs) required to reduce the Gamma level of 10,000 Rad/Hr to LESS THAN 100 Rad/Hr.

3 tenth value layers calculated

CUES:

SAT

UNSAT

COMMENTS:

Examiner ends JPM at this point.

JPM SETUP SHEET

JPM NO: JPA-028

DESCRIPTION: Gamma Radiation Shielding Calculations

IC SET:

INSTRUCTIONS:

COMMENTS:

Answer Key

*1. Calculate the number of HVLs

6 HVLs calculated.

S / U

Examinee may use one of the following methods:

1. $10,000/2 = 5000$
2. $5000/2 = 2500$
3. $2500/2 = 1250$
4. $1250/2 = 625$
5. $625/2 = 312.5$

6. $312.5/2 = 156.25$

OR

$$I_{\text{shielded}} = I_{\text{unshielded}} (1/2)^{\#HVL} \quad \text{where } \#HVL = \frac{\text{shield thickness (cm)}}{\text{HVL (cm)}}$$

$$\begin{aligned} I_{\text{shielded}} &= 10,000 (1/2)^{\#HVL} \\ &= 10,000 (1/2)^4 = 625 \\ &= 10,000 (1/2)^5 = 312.5 \\ &= \underline{\underline{10,000 (1/2)^6 = 156.25}} \end{aligned}$$

OR

Shielding equation $I = I_0 e^{-\mu x}$ where

- I = exposure rate with the shield (Rad/ Hr)
- I_0 = unshielded exposure rate (Rad/ Hr)
- X = shield thickness
- μ = total linear attenuation coefficient (cm^{-1})

CUE: IF shielding equation is used, the total linear attenuation coefficient (μ) is 0.772 cm^{-1}

$$I = I_0 e^{-\mu x} \text{ solving for } X \text{ with } (\mu) = 0.772 \text{ cm}^{-1} \text{ gives one half thickness} = .9 \text{ cm (rounded)}$$

$$5 \text{ half thicknesses} = 4.5 \text{ cm}$$

$$I = I_0 e^{-\mu x} ; I = 10,000 e^{-(.772)(4.5)} ; I = 390$$

6 half thicknesses = 5.4 cm

$I = I_0 e^{-\mu x} ; I = 10,000 e^{-(.772)(5.4)} ; I = 154$

*2. Calculate the number of TVLs

3 TVLs calculated.

S / U

Examinee may use one of the following methods:

1. $10,000/10 = 1000$

2. $1000/10 = 100$

3. $100/10 = 10$

OR

$$I_{\text{shielded}} = I_{\text{unshielded}} (1/10)^{\# \text{TVL}} \quad \text{where} \quad \# \text{TVL} = \frac{\text{shield thickness (cm)}}{\text{TVL (cm)}}$$

$$\begin{aligned} I_{\text{shielded}} &= 10,000 (1/10)^{\# \text{TVL}} \\ &= 10,000 (1/10)^2 = 100 \\ &= \underline{\underline{10,000 (1/10)^3 = 10}} \end{aligned}$$

OR

Shielding equation $I = I_0 e^{-\mu x}$ where I = exposure rate with the shield (Rad/ Hr)

I_0 = unshielded exposure rate (Rad/ Hr)

X = shield thickness

μ = total linear attenuation coefficient (cm^{-1})

CUE: IF shielding equation is used, the total linear attenuation coefficient (μ) is 0.772 cm^{-1}

$I = I_0 e^{-\mu x}$ solving for X with $(\mu) = 0.772 \text{ cm}^{-1}$ gives one tenth thickness = 2.3 cm (rounded)

2 tenth thicknesses = 4.6 cm

$$I = I_0 e^{-\mu x} ; I = 10,000 e^{-(.772)(4.6)} ; I = 287$$

3 tenth thicknesses = 6.9 cm

$$\underline{\underline{I = I_0 e^{-\mu x} ; I = 10,000 e^{-(.772)(6.9)} ; I = 48}}$$

V.C. SUMMER NUCLEAR STATION JOB PERFORMANCE MEASURE

JPM JPA-018

CLASSIFY EMERGENCY PLAN EVENT

APPROVAL: APPROVAL DATE:

REV NO: 6

CANDIDATE

EXAMINER:

SRO ONLY

THIS JPM IS NOT APPROVED

TIME CRITICAL JPM

TASK:

344-023-03-02 DIRECT EMERGENCY RESPONSE AS INTERIM EMERGENCY DIRECTOR

TASK STANDARD:

Plant conditions classified as a SITE AREA EMERGENCY, due to loss of offsite and loss of onsite AC

PREFERRED EVALUATION LOCATION

CLASSROOM

PREFERRED EVALUATION METHOD

PERFORM

REFERENCES:

EPP-002

COMMUNICATION AND NOTIFICATION

EPP-001

ACTIVATION AND IMPLEMENTATION OF THE EMERGENCY

PLAN

TOOLS:

EPP-001

EPP-1.3

EPP-002 (Including Notification Forms)

EVALUATION TIME

30

TIME CRITICAL

YES

10CFR55: 45(a)11

CANDIDATE:

TIME START:

TIME FINISH:

PERFORMANCE RATING:

SAT:

UNSAT:

QUESTION GRADE:

PERFORMANCE

EXAMINER:

SIGNATURE

DATE

COMMENTS:

INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

SAFETY CONSIDERATIONS:

INITIAL CONDITION: The plant was at 100% when the initiating plant event occurred. 15 minutes has elapsed since the plant event was fully initiated.
The following conditions exist:
A D/G was tagged out for scheduled maintenance and will not be available for 36 hours.
B D/G slipped an electrical pole when started and is unavailable for loading.
A tornado touched down at the PARR plant; the resultant damage to the VC SUMMER feeder lines rendered them unavailable.
A second tornado breached the VCS switchyard, resulting in loss of power to all BOP bus feeder circuits.
XTF-31 and XTF-32 were impacted by debris and are unavailable for supplying their respective busses.

INITIATING CUES: Classify the event per EPP-001 and perform notification responsibilities of IED

THIS IS A TIME CRITICAL JPM!

HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!

JPM BRIEFING SHEET

OPERATOR INSTRUCTIONS:

SAFETY CONSIDERATIONS:

INITIAL CONDITION: The plant was at 100% when the initiating plant event occurred. 15 minutes has elapsed since the plant event was fully initiated.
The following conditions exist:
A D/G was tagged out for scheduled maintenance and will not be available for 36 hours.
B D/G slipped an electrical pole when started and is unavailable for loading.
A tornado touched down at the PARR plant; the resultant damage to the VC SUMMER feeder lines rendered them unavailable.
A second tornado breached the VCS switchyard, resulting in loss of power to all BOP bus feeder circuits.
XTF-31 and XTF-32 were impacted by debris and are unavailable for supplying their respective busses.

INITIATING CUES: Classify the event per EPP-001 and perform notification responsibilities of IED

**HAND THIS PAPER BACK TO YOUR
EVALUATOR WHEN YOU FEEL THAT YOU
HAVE SATISFACTORILY COMPLETED THE
ASSIGNED TASK.**

STEPS

CR SEQ

STEP: 1

Ye Yes

Evaluates plant based on the given data and classifies event.

STEP STANDARD:

Classifies event as a SITE AREA EMERGENCY; based on a LOSS OF OFFSITE POWER AND LOSS OF ONSITE AC POWER FOR MORE THAN 15 MINUTES. Initiating Condition - 341
Detection Method:
ALL of the following (1 AND 2 AND 3)
Lost for a period greater than 15 minutes
1. BOTH Diesel Generators unavailable,
AND
2. Loss of 115KV Potential Lights
AND
3. Loss of 230KV ESF Potential Lights

CUES:

SAT

NOTE: If student does not explain basis for the classification, the evaluator must **UNSAT** ask him to describe the basis. If the basis is not justified, this constitutes failure, even if the classification is correct. Time Critical - declaration must be made within 15 minutes after the condition existed.

COMMENTS:

CR SEQ

STEP: 2

No Yes

For an Alert or higher emergency classification, inform the Shift Communicator to activate the Pager System Statewide and Local group calls for the utility's Emergency Response Organization (ERO), designating whether the Emergency Operations Facility (EOF) or Backup EOF is to be used.

STEP STANDARD:

Shift Communicator informed

CUES:

SAT

CUE: If requested cue the examinee that the EOF will be activated. The examinee may correctly make the argument that the pager system would have been activated when the alert was declared about 10 minutes ago

UNSAT

COMMENTS:

CR SEQ **STEP:** 3
Ye Yes Complete lines 4 through 13 on Attachment I, Page 1, Nuclear Power Plant Emergency Notification Form, with all the available information.

STEP STANDARD:
Attachment I lines 4 through 13 completed.

CUES:

CUE: Upon request, provide the following information and nothing else: 1) No release is occurring. 2) meteorological data not yet available. 3) Shutdown occurred about 20 minutes ago.

SAT
UNSAT

COMMENTS:

CR SEQ **STEP:** 4
No No Direct the Shift Communicator to make the initial notification to the State and local governments.

STEP STANDARD:
shift communicator directed

CUES:

NOTE: Time critical - shift communicator directed within 15 minutes of declaration

SAT
UNSAT

COMMENTS:

Examiner ends JPM at this point.

JPM SETUP SHEET

JPM NO: JPA-018

DESCRIPTION: CLASSIFY EMERGENCY PLAN EVENT

IC SET: 10

INSTRUCTIONS:

1. Activate

MAL-EPS006A	SELECT=FAIL	D/G 'A' Failure
MAL-EPS006B	SELECT=FAIL	D/G 'B' Failure
MAL-EPS003		XTF-32 Lockout
MAL-EPS018A		XTF-4 Trip

3. RUN

4. Insert manual reactor trip and trip RCPs.

5. Perform steps 1-9 of EOP-6.0.

6. FREEZE

This setup is N/A for this license exam since this is an ADMIN JPM and the simulator will not be used for setup

COMMENTS:

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

1. DRILL ACTUAL EVENT MESSAGE # _____
2. INITIAL FOLLOW-UP NOTIFICATION: TIME _____ DATE ____/____/____ AUTHENTICATION # _____
3. SITE: V. C. Summer Confirmation Phone # (____) _____

4. EMERGENCY CLASSIFICATION: UNUSUAL EVENT ALERT **SITE AREA EMERGENCY** GENERAL EMERGENCY

BASED ON EAL #341 EAL DESCRIPTION: LOSS OF OFFSITE POWER AND LOSS OF ONSITE AC POWER FOR MORE THAN 15 MINUTES

5. PROTECTIVE ACTION RECOMMENDATIONS: **NONE**
 EVACUATE _____
 SHELTER _____
 CONSIDER THE USE OF KI (POTASSIUM IODIDE) IN ACCORDANCE WITH STATE PLANS AND POLICY.
 OTHER _____

6. EMERGENCY RELEASE: **None** Is Occurring Has Occurred

7. RELEASE SIGNIFICANCE: **Not applicable** Within normal operating limits Above normal operating limits Under evaluation

8. EVENT PROGNOSIS: Improving **Stable** Degrading

9. METEOROLOGICAL DATA: Wind Direction* from _____ degrees Wind Speed* _____ mph
Precipitation* _____ Stability Class* A B C D E F G

10. **DECLARATION** TERMINATION Time NOW Date Today

11. AFFECTED UNIT(S): ¹ 2 3 All

12. UNIT STATUS: (Unaffected Unit(s) Status Not Required for Initial Notifications)
 U1 0 % Power Shutdown at Time **15 minutes ago** Date **Today**
 U2 _____ % Power Shutdown at Time _____ Date ____/____/____
 U3 _____ % Power Shutdown at Time _____ Date ____/____/____

13. REMARKS: NONE

FOLLOW-UP INFORMATION (Lines 14 through 16 Not Required for Initial Notifications) EMERGENCY RELEASE DATA. NOT REQUIRED IF LINE 6 A IS SELECTED.

14. RELEASE CHARACTERIZATION: TYPE: Elevated Mixed Ground UNITS: Ci Ci/sec μ Ci/sec

MAGNITUDE: Noble Gases: _____ Iodines: _____ Particulates: _____ Other: _____

FORM: Airborne Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____

Liquid Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____

15. PROJECTION PARAMETERS: Projection period: _____ Hours Estimated Release Duration _____ Hours

Projection performed: Time _____ Date ____/____/____

16. PROJECTED DOSE: DISTANCE TEDE (mrem) Adult Thyroid CDE (mrem)
Site boundary _____
2 Miles _____
5 Miles _____
10 Miles _____

17. APPROVED BY: _____ Title _____ Time _____ Date ____/____/____
NOTIFIED BY: _____ RECEIVED BY: _____ Time _____ Date ____/____/____

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

1.0 Complete the Emergency Notification Form as follows:

Line #	Action	Source of Information
1.	<p>Check the appropriate blocks.</p> <p>Note: Message numbers are sequentially numbered throughout the emergency/drill.</p>	
2.	<p>Check the appropriate block. Initial Notification is for the declaration of any of the Emergency Action Levels, escalating from one EAL to the next and for the Termination message. Follow-up is for all other messages.</p> <p>The Notification Time is the time that the first agency answers the telephone. See Section 2.5 of this attachment.</p> <p>Authentication # is the number from page 9 of this attachment. See Section 2.8 of this attachment.</p>	
3.	<p>Write in the Confirmation Phone #. The phone number at the V. C. Summer location that a Communicator will be for call back from the State for message confirmation.</p>	
4.	<p>Check the appropriate classification. Write in the EAL number and the exact wording of the Initiating Condition. Do not abbreviate or use acronyms.</p>	EPP-001
5.	<p>For NUE, Alert and Site Area Emergency, check NONE. For General Emergency, write in the appropriate zones.</p> <p>If the release meets the following conditions, recommend sheltering in the affected zones:</p> <ol style="list-style-type: none"> 1. Controlled so that the release cannot exceed initial expectations of duration and magnitude <p style="text-align: center;">AND</p> <ol style="list-style-type: none"> 2. Short Duration <p style="text-align: center;">AND</p> <ol style="list-style-type: none"> 3. The area near the plant CANNOT be evacuated in time. <p>If the release does NOT meet the requirements for sheltering, THEN the minimum plant based PAR is: Evacuate A-0 and the 5-mile Zone(s) downwind. Shelter all other zones. If a release is in progress, perform a dose assessment and adjust PARs outward if required. PARs that have been recommended to the State and counties cannot be rescinded or downgraded, only expanded.</p>	<p>EPP-001.4 EPP-005</p>

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

Line #	Action	Source of Information
6.	<p>Check the appropriate block.</p> <ul style="list-style-type: none"> • A. NONE: Clearly NO emergency release associated with the emergency event is occurring or has occurred. • B. IS OCCURRING: Meets the below condition. • C HAS OCCURRED: Previously met the below condition. <p>1. An emergency release is any unplanned, quantifiable release to the environment associated with a declared emergency event. Base the determination of the emergency release on:</p> <ul style="list-style-type: none"> * RMS readings, * Containment pressure and other readings, * Field monitoring results, * Knowledge of the event and its impact on systems operation and resultant release paths. <p>2. An emergency release is occurring if any one or more of the following bulleted conditions are met associated with the declared emergency:</p> <ul style="list-style-type: none"> * Containment monitors (RM-G7 and 18) readings indicate greater than 1.5 R/hr, <p style="text-align: center;"><u>AND</u></p> <p>An actual containment breach is known to exist.</p> <ul style="list-style-type: none"> * Plant vent particulate, gaseous or iodine monitor (RM-A3 or RM-A13) readings indicate an increase in activity, * Confirmed activity in the environment reported by Field Monitoring Team(s), * Knowledge of the event and its impact on systems operation and resultant release paths (IED/ED discretion). 	
7.	<p>Check the appropriate block. If there is no release in progress, check A. Not Applicable. If there is a release in progress and it has not been quantified, check D. Under Evaluation.</p>	

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

Item #	Action	Source of Information
8.	<p>Check the appropriate Plant Prognosis.</p> <p><u>Improving:</u> Plant conditions involve at least one of the following:</p> <ul style="list-style-type: none"> • Plant parameters (ex. temperature, pressure, level, voltage, frequency) are trending favorably toward expected or desired values <u>AND</u> plant conditions could result in a lower classification or emergency termination. • Site environmental conditions (EX. wind, ice/snow, ground tremors, hazardous/toxic/radioactive material leak, fire) have become less of a threat to plant operations or personnel safety <u>AND</u> plant conditions could result in a lower classification (can not downgrade classifications) or emergency termination. <p><u>Stable:</u> Plant conditions are neither <u>degrading</u> nor <u>improving</u>.</p> <p><u>Degrading:</u> Plant conditions involve at least one of the following:</p> <ul style="list-style-type: none"> • Plant parameters (ex. temperature, pressure, level, voltage, frequency) are trending unfavorably away from expected or desired values <u>AND</u> plant conditions could result in a higher classification or Protective Action Recommendation. • Site environmental conditions (EX. wind, ice/snow, ground tremors, hazardous/toxic/radioactive material leak, fire) impacting plant operations or personnel safety are worsening <u>AND</u> plant conditions could result in a higher classification or Protective Action Recommendation. 	

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

Line #	Action	Source of Information
9.	Write in the appropriate data and check the appropriate block: 1. Obtain the 15-minute interval data marked preferred on the EARMET screen in SPDS. <p style="text-align: center;"><u>OR</u></p> 2. If met tower information is not available on the SPDS, dispatch I&C personnel to gather data via radio link or directly from the met tower in accordance with STP-393.005, Met Tower Instrumentation Calibration. <p style="text-align: center;"><u>OR</u></p> 3. Obtain the information from the National Weather Service. Refer to the EP Telephone Directory for the number.	EPP-005
10.	Check the appropriate block and write in the appropriate data.	
11.	Check block 1.	
12.	Enter the appropriate information in Block 1.	
13.	Write in information that would be of interest to the offsite agencies (EX. non-radioactive steam discharges, injured personnel, non-essentials evacuated to an Offsite Holding Area). Be sensitive to the fact that certain descriptive technical terms may elicit unanticipated reactions from offsite agencies.	

Chg.
C

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

(FOLLOW-UP INFORMATION)

Line #	Action	Source of Information
14.	Check C. GROUND for TYPE of release. The information in the remainder of this section comes from the dose assessment results.	EPP-005
15.	The information in this section comes from the dose assessment results.	EPP-005
16.	The information in this section comes from the dose assessment results.	EPP-005
17.	<p>APPROVED BY: Write in the name of the individual (IED, ED or OEC) that approves this ENF, his/her ERO title and time and date of approval.</p> <p>NOTIFIED BY: Write in the name of the Communicator that verbally provides this information to the offsite agencies. Record the time that the first agency answers the telephone during the notification call.</p>	

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

2.0 Transmission of the Emergency Notification Form

NOTE 2.1

- a. All initial notifications are verbal. Avoid using abbreviations, acronyms or jargon likely to be unfamiliar to the State and counties.
- b. The backup means of communications are the direct incoming Bell lines in each facility. See the EP Telephone Directory, Facilities Section, for locations. Additional backup means are the county radio channels and the SC EMD Radio in the EOF.

Chg.
B

- _____ 2.1 If an upgrade in classification occurs prior to transmitting the initial message, discontinue process for old classification and immediately begin process for new classification.
- _____ 2.2 If an upgrade in classification occurs while transmitting any message,
 - _____ 2.2.1 Notify the agencies that an upgrade has occurred and that new information will be supplied within 15 minutes.
 - _____ 2.2.2 Suspend any further transmission of the message that was being transmitted.
- _____ 2.3 Use the ESSX telephone by depressing *11 for the group call function.
- _____ 2.4 As the State and counties answer, check them off on Attachment II. If one or more parties fail to answer, proceed with the transmission and contact the missing parties individually after the initial call using ESSX codes posted near the ESSX phone.

NOTE 2.5

The time when the first party answers is the official notification time and should be recorded in Line 2 of the current Emergency Notification Form.

- _____ 2.5 Verify all available State and counties are on the line and document the time that the first party answered in Line 2 of the Emergency Notification Form. This time should not exceed 15 minutes from the declaration time in Line 10 of the current Emergency Notification Form.
- _____ 2.6 Tell them that you have an emergency notification from the V. C. Summer Nuclear Station and to get out the Emergency Notification Form.
- _____ 2.7 Read the complete Emergency Notification Form line by line, beginning with Line 1 allowing time to copy. Use the phonetic alphabet for all block designators.

NUCLEAR POWER PLANT EMERGENCY NOTIFICATION FORM

- _____ 2.8 When the end of Line 2 is reached, ask the State or a county if authentication is needed. If so, the agency should provide a number to which you will provide the corresponding code word from Page 10 of this attachment. Write in the authentication number on the form.
- _____ 2.9 After communicating the message, ask if there are any questions. If so, provide the answers. Record individuals' names on Attachment II. The time is the same time as Line 2.

NOTE 2.10

If the classification is either Site Area Emergency or General Emergency, EPP-021 shall be implemented. Retain the State Emergency Operations Center (EOC) on the line. If the State EOC is not activated, retain Fairfield County on the line.

- _____ 2.10 Tell the agencies that this is the end of this message and that they may hang up.
- _____ 2.11 Fax the Emergency Notification Form to the State and counties using the dedicated Fax machine in the facility.
- _____ 2.11.1 Place the copy face down on the Fax machine.
- _____ 2.11.2 Press the "Initial Notific." button.
- _____ 2.11.3 Press the START button.
- _____ 2.11.4 Verify that the form was sent to each location by an "OK" in the Status Column of the Fax report issued by the Fax machine.
- _____ 2.12 Continuous attempts must be made to contact the missing agencies. Document the time that these agencies are notified on Attachment II.

AUTHENTICATION PROCEDURE

1. This Authentication Code List is for use with Warning Messages of nuclear incidents/accidents.
2. To use the code, the person receiving the message randomly selects a number and instructs the person sending the message to: "Authenticate number (and states the number selected from the attached code list)." For instance, from the sample code list below, a message could be authenticated as follows:
 - A. Person receiving the message: "Authentication number 100".
 - B. Person sending the message: "I authenticate number 100 as Ranger".

Chg.
A

Authentication Code List

- | | | |
|----------------|----------------|------------------|
| 1. Accord | 47. Explorer | 93. Odyssey |
| 2. Aerostar | 48. Fairlane | 94. Oldsmobile |
| 3. Alero | 49. Ferrari | 95. Pathfinder |
| 4. Altima | 50. Firebird | 96. Plymouth |
| 5. Armada | 51. Focus | 97. Pontiac |
| 6. Astro | 52. Ford | 98. Porsche |
| 7. Audi | 53. Forrester | 99. Ram |
| 8. Automatic | 54. Fury | 100. Ranger |
| 9. Avalanche | 55. Galaxy | 101. Regal |
| 10. Axiom | 56. Gasoline | 102. Renegade |
| 11. Barracuda | 57. Gremlin | 103. Sable |
| 12. Beetle | 58. Hatchback | 104. Saturn |
| 13. Blazer | 59. Highlander | 105. Sebring |
| 14. Bonneville | 60. Hummer | 106. Sedan |
| 15. Buick | 61. Impala | 107. Sedona |
| 16. Cadillac | 62. Infinity | 108. Sentra |
| 17. Camaro | 63. Intrepid | 109. Skylark |
| 18. Camry | 64. Ion | 110. Stratus |
| 19. Caprice | 65. Isuzu | 111. Subaru |
| 20. Caravan | 66. Jaguar | 112. Suburban |
| 21. Cavalier | 67. Jeep | 113. Suzuki |
| 22. Cherokee | 68. Jetta | 114. Tahoe |
| 23. Chevelle | 69. Jimmy | 115. Taurus |
| 24. Chevy | 70. Kia | 116. Thunderbird |
| 25. Chrysler | 71. Laredo | 117. Titan |
| 26. Civic | 72. Lebaron | 118. Toyota |
| 27. Cobra | 73. Lesabre | 119. Tracker |
| 28. Compact | 74. Lexus | 120. Trooper |
| 29. Contour | 75. Lincoln | 121. Tundra |
| 30. Corvette | 76. Lumina | 122. Valiant |
| 31. Cougar | 77. Luxury | 123. Viper |
| 32. Coupe | 78. Malibu | 124. Volkswagon |
| 33. Cruiser | 79. Maverick | 125. Volvo |
| 34. Daimler | 80. Mazda | 126. Wagon |
| 35. Dakota | 81. Mercedes | 127. Windstar |
| 36. Dart | 82. Mercury | 128. Wrangler |
| 37. Diesel | 83. Metro | 129. Xterra |
| 38. Dodge | 84. Millennia | 130. Yukon |
| 39. Echo | 85. Mirage | |
| 40. Eclipse | 86. Mitsubishi | |
| 41. Edsel | 87. Montero | |
| 42. Escape | 88. Mustang | |
| 43. Escort | 89. Navigator | |
| 44. Esteem | 90. Neon | |
| 45. Excursion | 91. Nissan | |
| 46. Expedition | 92. Nova | |

Chg.
A

V.C. SUMMER NUCLEAR STATION JOB PERFORMANCE MEASURE

JPM

JPA-025

Perform RCS Leakrate Calculation in Mode 4 IAW STP-114.002

APPROVAL:

APPROVAL DATE:

REV NO: 0

CANDIDATE

EXAMINER:

THIS JPM IS NOT APPROVED

TASK:

TASK STANDARD:

leak quantified to be .525 GPM +/- .04 GPM

PREFERRED EVALUATION LOCATION

CLASSROOM

PREFERRED EVALUATION METHOD

PERFORM

REFERENCES:

TS-3.4.6.2

RCS Operational Leakage

STP-114.002

OPERATIONAL LEAK TEST

TOOLS:

Calculator

STP-114.002 Attachment 1

VCS Station Curve book

EVALUATION TIME

1

TIME CRITICAL

NO

10CFR55:

CANDIDATE:

TIME START:

TIME FINISH:

PERFORMANCE RATING:

SAT:

UNSAT:

QUESTION GRADE:

PERFORMANCE

EXAMINER:

SIGNATURE

DATE

COMMENTS:

INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

SAFETY CONSIDERATIONS: none

INITIAL CONDITION: The plant is in Mode 4
No Reactor Coolant Makeup System or diverting of primary water to the Recycle Holdup Tanks will occur during the performance of this test.
Chemical additions or primary samples will not be performed during this test.
RCS Tavg is being maintained within a 1°F band.
RCS pressure is being maintained between 350 psig and 400 psig or between 2220 psig and 2250 psig..
Reactor Power is being maintained within a 1% band.
VCT level less than 65%

INITIATING CUES: The CRS has directed you to perform an Operational Leak Rate Calculation in accordance with STP-114.002 beginning at step 6.4.a.1. The initial set of data is to be collected from SIPCS then the final data will be given. Since this is an RO JPM, a Tech Spec evaluation is not required.

HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!

JPM BRIEFING SHEET

OPERATOR INSTRUCTIONS:

SAFETY CONSIDERATIONS: none

INITIAL CONDITION: The plant is in Mode 4
No Reactor Coolant Makeup System or diverting of primary water to the Recycle Holdup Tanks will occur during the performance of this test.
Chemical additions or primary samples will not be performed during this test.
RCS Tavg is being maintained within a 1°F band.
RCS pressure is being maintained between 350 psig and 400 psig or between 2220 psig and 2250 psig.
Reactor Power is being maintained within a 1% band.
VCT level less than 65%

INITIATING CUES: The CRS has directed you to perform an Operational Leak Rate Calculation in accordance with STP-114.002 beginning at step 6.4.a.1. The initial set of data is to be collected from SIPCS then the final data will be given. Since this is an RO JPM, a Tech Spec evaluation is not required.

**HAND THIS PAPER BACK TO YOUR
EVALUATOR WHEN YOU FEEL THAT YOU
HAVE SATISFACTORILY COMPLETED THE
ASSIGNED TASK.**

STEPS

CR SEQ **STEP:** 1
No No Use Group Trend S114.002 or GRPDIS
S114.002 and record information on
Attachment I:

STEP STANDARD:
Initial parameters recorded

CUES:

SAT
UNSAT

COMMENTS:

CR SEQ **STEP:** 2
No No Upon completion of the test period, record the
monitored parameters from
Step 6.4.a.1) as well as the test stop time in
the appropriate column of Attachment I.

STEP STANDARD:
final parameters recorded

CUES:

Test period is 60 minutes (compress to 1 - 2 minutes)

SAT
UNSAT

COMMENTS:

CR SEQ **STEP:** 3
No No Determine the RCS inventory deviation due to
changes in Tavg,

STEP STANDARD:
change/deviation calculated accurately
with correct polarity

CUES:

CUE: Skip step 6.4.c due to the simulator being kept frozen during this JPM

SAT
UNSAT

COMMENTS:

CR SEQ **STEP:** 4
No No Determine the RCS inventory deviation due to
Pressurizer level change

STEP STANDARD:
change/deviation calculated accurately
with correct polarity

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ **STEP:** 5
No No Determine the RCS inventory deviation due to
VCT level change

STEP STANDARD:
change/deviation calculated accurately

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ **STEP:** 6
No No Determine the RCS inventory deviation due to
PRT level change

STEP STANDARD:
change/deviation calculated accurately

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ **STEP:** 7

No No Determine the RCS inventory deviation due to
RCDT level change

STEP STANDARD:

change/deviation calculated accurately

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ **STEP:** 8

Ye No Perform calculations as indicated on
Attachment I, Part 2.

STEP STANDARD:

final leak rate is within +/- .04 gpm

CUES:

Chemistry reports the latest CHP-307 shows no primary to secondary leakage

SAT

UNSAT

COMMENTS:

Examiner ends JPM at this point.

JPM SETUP SHEET

JPM NO: JPA-025

DESCRIPTION: Perform RCS Leakrate Calculation in Mode 4 IAW STP-114.002

IC SET:

INSTRUCTIONS:

COMMENTS:

TEST DATA SHEET

PART 1

TIME	TAVG		PZR LEVEL		VCT LEVEL		PRT LEVEL		RCDT LEVEL	
	MCB TI-___	COMPUTER T0499A/U0091	MCB LI-___	COMPUTER L0480A	MCB LI-___	COMPUTER L0112A	MCB LI-470	COMPUTER L0485A	XPN-0007 ILI01003	COMPUTER L1028
FINAL	T = 60 min	240.5°F		74.5%		36.4%		74.1%		60.0%
INITIAL	T = 0	241.5°F		74.7%		39.4%		74.1%		60.0%
CHANGE	60 min	-1°F		-0.2%		-3%	(4)	(4)	(5)	(5)
FACTOR	(1)	(1)	(2)	(2)	(3)	(3)	N/A	N/A	N/A	N/A
DEVIATION	*	-28 gal (27 - 30)	**	17.5 gal (17 - 18)		42 gal	(6)	(6)	(6)	(6)

PART 2

2a: $\frac{-28 \text{ gallons}}{(6.4.d.3), \text{Tavg}} + \frac{17.5 \text{ gallons}}{(6.4.e.3), \text{PZR Level}} + \frac{42 \text{ gallons}}{(6.4.f.2), \text{VCT Level}} = \frac{31.5 \text{ gallons}}{(6.4.g.3), \text{PRT Level}} \div \frac{60 \text{ minutes}}{(6.4.h.3), \text{RCDT Level}}$

= $0.525 \pm .04$ gallons/minute TOTAL LEAKAGE

2b: $\frac{0 \text{ gallons}}{(6.4.g.3), \text{PRT Level}} + \frac{0 \text{ gallons}}{(6.4.h.3), \text{RCDT Level}} = \frac{0 \text{ gallons}}{(6.4.i), \text{Primary to Secondary leakage}} \div \frac{60 \text{ minutes}}{(6.4.i), \text{Primary to Secondary leakage}}$

= 0 gallons/minute + 0 gallons/minute = 0 gallons/minute IDENTIFIED LEAKAGE

2c: $\frac{0.525 \text{ gallons/minute}}{(2a, \text{Total Leakage})} - \frac{0 \text{ gallons/minute}}{(2b, \text{Identified Leakage})} = \frac{0.525 \pm .04 \text{ gallons/minute}}{(2c, \text{Unidentified Leakage})}$ UNIDENTIFIED LEAKAGE

- (1) Curve V-6 or V-7
- (2) -56.57 gal. @ 2250 psi / -87.6 @ 400 psi
- (3) -14.00 gal.
- (4) Tank Curve #21
- (5) Tank Curve #22
- (6) Record value as zero for negative changes.

* TavG decrease = negative gal./Tavg increase = positive gal. ** Pzr Level decrease = positive gal./Pzr Level increase = negative gal.

***V.C. SUMMER NUCLEAR STATION
JOB PERFORMANCE MEASURE***

JPM JPA-027

TAGOUT 'A' SPENT FUEL HEAT EXHANGER

APPROVAL: DOW APPROVAL DATE: 12/7/2005

REV NO:

CANDIDATE

EXAMINER:

THIS JPM IS APPROVED

TASK:

TASK STANDARD:

The 'A' Spent Fuel Cooling Heat Exchanger is tagged out IAW SAP-201. The Heat Exchanger inlet and outlet valves are tagged closed, RML-4 is isolated from SF Cooling A Train, the feeder breaker for A SF Cooling pump is open/racked out, the vent and drain valves for the HX are tagged open, and the correct sequence is identified for tagging. The Req'd Operable Position should also be filled out, however RO's are not required to complete the CLEARING SEQUENCE since this IAW SAP-201, is the responsibility of the Shift Supervisor and is normally completed during the clearing process.

The following two (2) valves are not required for the tagout, but may be tagged at the RO's discretion:

1. XVG06650-SF, SPENT FUEL COOLING PUMP A SUCTION VALVE
2. XVT06720-SF, SF COOLING HDR A RAD MONITOR OUTLET VALVE

PREFERRED EVALUATION LOCATION

PREFERRED EVALUATION METHOD

CLASSROOM

REFERENCES: SAP-201

DANGER TAGGING

TOOLS:

- SAP-201
- D-302-651, SPENT FUEL COOLING SYSTEM
- D-302-736, LIQUID WASTE PROCESSING
- E-911-103, BS FLOOR AND EQUIPMENT DRAINS STATION DRAINAGE
- FLOW DIAGRAM - AUXILIARY BUILDING
- ELECTRICAL FEEDER LIST FOR XPP00032A-SF
- SOP-123, SPENT FUEL COOLING, ATTACHMENTS 1A - IVA
- OAP-100.5, GUIDELINES FOR CONFIGURATION CONTROL AND OPERATION OF PLANT EQUIPMENT

EVALUATION TIME

30

TIME CRITICAL

10CFR55:

CANDIDATE:

TIME START:

TIME FINISH:

PERFORMANCE RATING:

SAT:

UNSAT:

QUESTION GRADE:

PERFORMANCE

EXAMINER:

Wednesday, December 07, 2005

One of the following two (2) valves should be tagged open to provide a vent path for draining (either SIGNATURE
DATE

COMMENTS: one or both are acceptable):

1. XVD16661-SF, SF HX A SPENT FUEL SIDE VENT VALVE
2. XVD16665-SF, SPENT FUEL HX A OUTLET HDR VENT VALVE

INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

SAFETY CONSIDERATIONS:

INITIAL CONDITION: The plant is in Mode 1. Mechanical Maintenance has requested a tagout to repair relief valve XVR16662-SF, per MWR 0505050. Randy Ruff has requested the tagout.

INITIATING CUES: The SS directs you to prepare a tagout for the 'A' Spent Fuel Cooling Heat Exchanger to cover the replacement of XVR16662-SF. Mechanical Maintenance has requested the tagout. 'B' Train of SF Cooling has been placed in service per SOP-123, SPENT FUEL COOLING. You DO NOT have to fill out the individual Danger Tags, nor do you have to complete any Locked Valve Tracking Sheets.

HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!

JPM BRIEFING SHEET

OPERATOR INSTRUCTIONS:

SAFETY CONSIDERATIONS:

INITIAL CONDITION: The plant is in Mode 1. Mechanical Maintenance has requested a tagout to repair relief valve XVR16662-SF, per MWR 0505050. Randy Ruff has requested the tagout.

INITIATING CUES: The SS directs you to prepare a tagout for the 'A' Spent Fuel Cooling Heat Exchanger to cover the replacement of XVR16662-SF. Mechanical Maintenance has requested the tagout. 'B' Train of SF Cooling has been placed in service per SOP-123, SPENT FUEL COOLING. You DO NOT have to fill out the individual Danger Tags, nor do you have to complete any Locked Valve Tracking Sheets.

**HAND THIS PAPER BACK TO YOUR
EVALUATOR WHEN YOU FEEL THAT YOU
HAVE SATISFACTORILY COMPLETED THE
ASSIGNED TASK.**

STEPS

CR SEQ STEP: 1

No Yes TAG - Enter the sequential tag number.

STEP STANDARD:

See completed Att. 1C.

CUES:

Tag number is not critical, only the sequence is.

SAT

UNSAT

COMMENTS:

CR SEQ STEP: 2

Ye Yes ISSUED TO - Check blocks for which discipline each component is tagged.

STEP STANDARD:

See completed Att. 1C.

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ STEP: 3

No Yes HOLD TAG INSTALLED - Enter a check mark if a Hold Tag is to be placed on a control panel component.

STEP STANDARD:

See completed Att. 1C.

CUES:

SAT

UNSAT

COMMENTS:

CR SEQ **STEP:** 4
Ye Yes COMPONENT I.D. - Enter the complete
 CHAMPS identification number of the
 component being tagged.

STEP STANDARD:
See completed Att. 1C

CUES:

SAT

COMMENTS:

UNSAT

CR SEQ **STEP:** 5
Ye Yes PLANT LOC - Enter the specific plant location
 of the component being tagged.

STEP STANDARD:
See completed Att. 1C.

CUES:

SAT

COMMENTS:

UNSAT

CR SEQ **STEP:** 6
Ye Yes REQ'D TAG POSIT - Enter the position in which
 the component is to be tagged.

STEP STANDARD:
See completed Att. 1C.

CUES:

SAT

Note: For the two possible vent valves to be tagged open, XVD16661-SF and XVD16665-SF, the REQ'D TAG POSIT is OPEN, versus UNCAPPED/OPEN. This is a "skill of the craft" expectation for Operations. **UNSAT**

COMMENTS:

CR SEQ **STEP:** 7

Ye Yes

INST SEQ - Enter sequence that tags are to be installed. If no sequence is needed, place a 1 in each INST SEQ block. If only some tags require a sequence, number these tags in sequence starting with 1 and ending with all tags not requiring sequence having the same number, for example 1,2,3,4,4,4.

STEP STANDARD:

See completed Att. 1C.

CUES:

SAT

COMMENTS:

UNSAT

CR SEQ **STEP:** 8

No Yes

REQUIRED OPERABLE POSITION - Enter the normal operable position of the component as specified in the applicable SOP.

STEP STANDARD:

See completed Att. 1C.

CUES:

SAT

COMMENTS:

UNSAT

Examiner ends JPM at this point.

JPM SETUP SHEET

JPM NO: JPA-027

DESCRIPTION: TAGOUT 'A' SPENT FUEL HEAT EXHANGER

IC SET:

INSTRUCTIONS:

COMMENTS:

COMPONENT LOG

TAG	ISSUED TO				HOLD TAG INST	COMPONENT ID	PLANT LOC	REQ'D TAG POSIT	INST SEQ	INST BY	VER BY	HOLD TAG REM	REM SEQ	TAG REM BY	REQ'D OPER POSIT	COMP REST	
		E	M	I&C												OTHER	REST BY
1	GROUP		X			XSW1DA2 06D A SF CLG PP	IB-463	OPEN/ RACKED OUT	1						RACKED IN		
	CLEAR																
2	GROUP		X			XVG06654-SF SPENT FUEL COOLING PUMP A DISCHARGE VALVE	AB-412	CLOSED	2						OPEN		
	CLEAR																
3	GROUP		X			XVG06722-SF SF COOLING HDR A RAD MONITOR OUTLET VALVE	AB-412	CLOSED	3						OPEN		
	CLEAR																
4	GROUP		X			XVT06658-SF SPENT FUEL HEAT EXCHANGER A OUTLET VALVE	AB-388	CLOSED	3						9 TURNS OPEN		
	CLEAR																
5	GROUP		X			XVD16660-SF SF HX A SPENT FUEL SIDE DRAIN VALVE	AB-388	OPEN	4						CLOSED		
	CLEAR																
6	GROUP		X			XVD16656-SF SF HX B SPENT FUEL SIDE DRAIN VALVE	AB-388	OPEN	4						CLOSED		
	CLEAR																
7	GROUP		X			XVD16661-SF SF HX A SPENT FUEL SIDE VENT VALVE	AB-388	OPEN	5						CLOSED / CAPPED		
	CLEAR																