System JPM A

EVALUATION SHEET

Alternate Path: Yes Facility JPM #: New Safety Function: 1 Title: Chemical and Volume Control System K/A 004 A2.06 Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS: and based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Inadvertent boration/dilution Rating(S): 4.2/4.3 CER: 41.5/43/5/45/3/45/5 Preferred Evaluation Location: Preferred Evaluation Method: Simulator X In-Plant Perform X Simulate References: AP/1/A/5500/013 (Boron Dilution) rev. 24 Task Standard: Starts the 1A NI (Safety Injection) pump. Validation Time: 15 minutes Time Critical: Yes No X Applicant: NAME Docket # Time Finish:	Task: R(ond to ar	n inadvertent di n), Case II (Bor	lution while sł on Dilution W	nutdown p /hile Shute	oer AP/1/ down)	A/550	0/013		
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Applicant: Time Start: NAME Docket # Performance Rating: Performance Time SAT UNSAT Examiner: / NAME SIGNATURE DATE	Validation Ti	<u>me:</u>	15 mir	nutes		Time Critic	al:	Yes _		No	<u> </u>	
Performance Rating: Performance Time	Applicant: NAME				Docke	t #		Time S Time Fi	tart: inish:			
SAT UNSAT Examiner: / NAMESIGNATURE DATE COMMENTS	Performance	Rating	<u>g:</u>					Perform	nance	Time		
Examiner: / NAME SIGNATURE DATE COMMENTS	SAT UI	NSAT _										
COMMENTS	Examiner:		N	AME			SIGNAT	URE		/ C	DATE	
					COMN	IENTS						

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #168.
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event
	LOA-NI004 (RACKOUT NI PMP 1B)	RACK OUT				
	LOA-NV067 (RACKOUT NV PMP 1B)	RACK OUT				
	LOA-NV066 (RACKOUT NV PMP 1A)	RACK OUT				2
	Ensure EVENT 2 = x10i167c (NV-353 & 364 MIXED BED DEMIN 1A ISOL "CLOSE" pushbutton)					

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

Unit 1 is in MODE 5 Unit 1 RMWST is aligned for VCT makeup.

INITIATING CUES:

• A boron dilution event is in progress, you have been instructed to perform AP/1/A/5500013 (Boron Dilution), Case II (Boron Dilution While Shutdown).

EXAMINER NOTE: After reading cue, provide the applicant with a copy of AP/1/A/5500/013

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1: 1. Verify boron dilution event - IN PROGRESS.	CAT
STANDARD:	UNSAT
Applicant determines a boron dilution event is in progress per the initiating cue.	
COMMENTS:	

STEP 2 Verify Reactor Trip:	SAT
 All rod bottom lights - LIT All reactor trip and bypass breakers - OPEN. 	UNSAT
STANDARD:	
Applicant verifies the reactor is tripped by verifying all rod bottom lights are lit on the DRPI monitors and that the green OPEN lights are lit for RX TRIP BKR 1A and RX TRIP BKR 1B on 1MC-1.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 3 3. Verify core alterations - IN PROGRESS.	SAT
STANDARD:	
Applicant verifies that core alterations are NOT because the unit is in MODE 5 and proceeds to the RNO.	UNSAT
COMMENTS:	

STEP 4 3. RNO GO TO Step 5.	SAT
STANDARD:	UNSAT
Applicant proceeds to step 5	
COMMENTS:	

STEP 5 5. Evacuate personnel from reactor building using the following:	CRITICAL STEP
Containment evacuation alarmPlant page.	SAT
STANDARD:	UNSAT
Applicant depresses the red ON pushbutton for the UNIT 1 CONT EVAC ALARM on 1MC-1 and makes a plant page.	
This step is critical to perform either action to protect the health and safety of the people working inside containment.	
COMMENTS:	

STEP/STANDARD

SAT/UNSAT

STEP 6 6. Stop any dilutions in progress as follows: a. Place "NC MAKEUP CONTROL" switch to "STOP". STANDARD:	SAT UNSAT
Applicant places the "NC MAKEUP CONTROL" to the STOP position 1MC-10.	
<u>COMMENTS:</u>	

STEP 7 6. b. Verify Unit 1 RMWST aligned for VCT makeup.	
STANDARD:	SAT
Applicant verifies the Unit 1 RMWST is aligned per the initial conditions.	UNSAT
COMMENTS.	

STEP 8 6. c. Place both reactor makeup water pumps to "OFF".	
STANDARD:	SAT
Applicant places RX M/U WTR PUMP 1A and RX M/U WTR PUMP 1B to the "OFF" position on 1MC-10.	UNSAT
<u>COMMENTS:</u>	

STEP/STANDARD	SAT/UNSAT
<u>STEP 9</u> 6. d. Isolate the NV demineralizers as follows: 1) Place 1NV-153A (Letdn Hx Otlt 3-Way Valve) in the "VCT" position.	CRITICAL STEP SAT
STANDARD:	UNSAT
Applicant places 1NV-153A in the "VCT" position on 1MC-10.	
This step is critical to prevent un-saturating the Mixed Bed Demineralizers.	
COMMENTS:	

STEP 10 6. d. 2) Ensure the following valves - CLOSED:	CAT
 1NV-353 & 364 (Mixed Bed Demin 1A Isol) 1NV-368 & 379 (Mixed Bed Demin 1B Isol). 	UNSAT
Applicant depresses the green CLOSE pushbutton for NV-353 & 364 MIXED BED DEMIN 1A ISOL and verifies the green CLSD light is lit for NV-368 & 379 MIXED BED DEMIN 1A ISOL on 1MC-10.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
NOTE Unit shutdown alignments may have established alternate boration flowpaths.	SAT
STEP 11 7. Ensure proper BDMS operation as follows:	
a. Verify at least one of the following alarm(s) - LIT:	UNSAT
• 1AD-2, E/2 "TRAIN A SHUTDOWN MARGIN ALARM"	
OR	
• 1AD-2, F/2 "TRAIN B SHUTDOWN MARGIN ALARM".	
STANDARD:	
Applicant verifies at least one of the alarms is lit.	
COMMENTS:	

 <u>STEP 12</u> 7. b. Ensure the following valves - OPEN: 1NV-252A (NV Pumps Suct From FWST) 1NV-253B (NV Pumps Suct From FWST). 	SAT UNSAT
STANDARD:	
Applicant verifies the red OPEN lights are lit for 1NV-252A and 1NV-253B on 1MC-10.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 13 7. c. Ensure the following valves - CLOSED:	SAT
 1NV-188A (VCT Otlt Isol) 1NV-189B (VCT Otlt Isol). 	UNSAT
Applicant verifies that the green CLSD lights are lit for 1NV-188A and 1NV-189B on 1MC-10.	
<u>COMMENTS:</u>	

STEP 14 7. d. Verify NV pump - ON.	
STANDARD:	SAT
Applicant determines that no NV pumps are on and proceeds to the RNO.	UNSAT
<u>COMMENTS:</u>	

STEP 15 7. d. RNO d. Perform the following:	CAT
 <u>IF</u> NV pump 1A <u>AND</u> 1B boration flowpath <u>NOT</u> available, <u>THEN GO TO</u> Enclosure 1 (NI or ND Pump Boron Injection Alignment). 	UNSAT
STANDARD:	
Applicant proceeds to Enclosure 1.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
Enclosure 1	
STEP 16 1. Align NC system boration flowpath as follows:	SAT
a. IF establishing NC system boration, THEN GO TO Step 2.	UNSAT
STANDARD:	
Applicant proceeds to step 2.	
COMMENTS:	
STEP 17 2. Initiate NC system boration flow as required using at least one of the following boration flowpaths.	SAT
 <u>IF</u> NI Pump 1A aligned to provide boron injection flowpath, <u>THEN</u> perform the following to establish NI Pump 1A injection flow: 	UNSAT
a. Ensure 1NI-118A (NI Pump 1A C-Leg Inj Isol) - OPEN. <u>STANDARD</u> :	
Applicant verifies that the red OPEN light is lit for 1NI-118A on 1MC-11	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 18b. START NI Pump 1A.STANDARD:	CRITICAL STEP
Applicant depresses the red ON pushbutton for NI PMP 1A	SAT
This step is critical to initiate NC system boration flow.	UNSAT
NOTE TO EXAMINER: No other flow paths will be aligned.	
COMMENTS:	

STEP 19 3. WHEN NC system boration no longer required, THEN perform Step 5.	SAT
STANDARD:	UNSAT
Applicant acknowledges step.	
<u>COMMENTS:</u>	

STEP 20 4. GO TO Case II (Boron Dilution While Shutdown), Step 9.	
STANDARD:	SAT UNSAT
Applicant proceeds to Case II, Step 9.	0.107.11
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
NOTE A time delay of up to 3-5 minutes can be expected before indication of negative reactivity insertion is obtained on excore instrumentation.	SAT
STEP 21 9. Verify neutron flux level - STABLE OR DECREASING.	UNSAT
STANDARD:	
Applicant reads the step.	
Examiner Cue: "Another operator will complete the procedure."	
COMMENTS:	
END OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM A

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INITIAL CONDITIONS:

Unit 1 is in MODE 5 Unit 1 RMWST is aligned for VCT makeup.

INITIATING CUES:

• A boron dilution event is in progress, you have been instructed to perform AP/1/A/5500013 (Boron Dilution), Case II (Boron Dilution While Shutdown).

JPM B

EVALUATION SHEET

<u>Task:</u>		Trans	sfer the E	mergency Core	Coolant System	n to the C	old Leg Re	circulati	on
Alternate Pat	<u>th:</u>	Yes							
Facility JPM	<u>#:</u>	NI-08	88						
Safety Funct	ion:	2	<u>Title:</u>	Emergency	Core Cooling S	System (E	CCS)		
<u>K/A</u>	006 A	4.07	Ability to pumps a	manually operand valves.	ate and/or monit	or in the c	ontrol roon	n: ECC	S
Rating(s):	4.4/4	.4	<u>CFR:</u>	41.7 / 45.5 to 4	5.8				
Preferred Ev	aluatio	on Loc	cation:		Preferred Eva	luation M	lethod:		
S imulator	X	_ In- P	lant		Perform	X	Simulate	e	
<u>References</u> :		EP/1,	/A/5000/E	S-1.3 (Transfei	to Cold Leg Re	circulation	ר)		
<u>Task Standa</u>	<u>rd:</u>	EP/1/ and t Inject	/A/5000/E he 1A and tion Syste	S-1.3 Transfer 1 1B NV (Chem m) pumps are s	to Cold Leg Red ical Volume and secured.	circulation Control S) step 6 is System) an	oerform d NI (Sa	ed afety
Validation Ti	me:	15 mi	nutes		Time Critical:	_ Y	es	No	X
Applicant:				Docket	#	Tir Tir	me Start: me Finish:		
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SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #169
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event
	VLV-NI037F (NI184B CNMT SUMP LINE 1B ISOL (STEM) FAIL TO POSITION)	0				
	MAL-NC013A (NC COLD LEG A LEAK)	27.5				
	VLV-ND005F (ND28A ND HX A OUTLET TO CHARG A <u>B</u> FAIL TO POSITION.	0				

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INITIAL CONDITIONS:

• A LOCA has occurred on Unit 1.

INITIATING CUES:

- 1AD-9, E/8 'FWST LO-LO LEVEL' annunciator is lit and the Control Room Supervisor instructs you, as the BOP, to transfer to Cold Leg Recirculation using EP/1/A/5000/ES-1.3 (Transfer to Cold Leg Recirculation) step 6.
- **EXAMINER NOTE:** After reading the cue, provide the applicant with a copy of EP/1/A/5000/ES-1.3 (Transfer to Cold Leg Recirculation) complete through step 8 with step 6 flagged.

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1:6.WHEN FWST level decreases to 5% (1AD-9, E/8 "FWST LO-LO LEVEL"), THEN align NV and NI Systems for recirc as follows:a. Ensure Enclosure 1 (Foldout Page) is monitored.	SAT UNSAT
STANDARD:	
Applicant reads the step.	
Examiner Cue: The OATC will monitor Enclosure 1	
COMMENTS:	

NOTE CSF	should not be implemented until directed by this procedure.	
STEP 2	b. Verify at least one of the following annunciators - LIT:	SAT
	 1AD-20, B/2 "CONT. SUMP LEVEL >2.5 ft" 	UNSAT
	OR	
	 1AD-21, B/2 "CONT. SUMP LEVEL >2.5 ft". 	
STANDARD	2:	
Applican	t determines that one or both annunciators are lit.	
COMMENT:	<u>S:</u>	

STEP/STANDARD	SAT/UNSAT
<u>STEP 3</u> c. Verify both ND pumps - ON. <u>STANDARD</u> :	SAT
Applicant determines that only 1 ND pump is running and transitions to the RNO	UNSAT
COMMENTS:	

STEP 4 6.c. RNO c. Perform the following:	SAT
 IF 1NI-185A (ND Pump 1A Cont Sump Suct) is open, <u>THEN</u> start ND pump 1A. 	UNSAT
STANDARD:	
Applicant determines that ND PUMP 1A is on by verifying the red ON light is lit on 1MC-11.	
COMMENTS:	

<u>STI</u>	<u>EP 5</u>	2) <u>IF</u> 1NI-184B (ND Pump 1B Cont Sump Suct) is open, <u>THEN</u> start ND pump 1B.	SAT
<u>ST/</u>	ANDARD:		UNSAT
	Applicant determi CLSD light is lit o applicable.	nes that 1NI-184B is not open by verifying the green n 1MC-11 and determines that the step is not	
<u>CO</u>	<u>MMENTS:</u>		

	STEP/STANDARD	SAT/UNSAT
STEP 6	 IF any ND pump running with suction aligned to sump, <u>THEN</u> GO TO Step 6.d. 	SAT
STANDARD:		UNSAT
Applicant detern to the sump and	nines that ND Pump 1A is running with suction aligned proceeds to step 6.d.	
COMMENTS:		

 <u>STEP 7</u> 6. d. Ensure the following valves - CLOSED: 1ND-32A (ND Train 1A Hot Leg Inj Isol) 1ND-65B (ND Train 1B Hot Leg Inj Isol). 	CRITICAL STEP SAT
STANDARD:	UNSAT
Applicant depresses the green CLOSE pushbuttons for 1ND-32A and 1ND-65B on 1MC-11.	
This step is critical to prevent pump run out should only one ND pump be running.	
Examiner NOTE: Only one of the valves need to be closed to satisfy the critical step since the valves are in series.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 8 6. e. Isolate NI Pump Miniflow as follows:	SAT
1) Verify NC pressure - LESS THAN 1620 PSIG.	0A1
STANDARD:	UNSAT
Applicant determines that NC (Reactor Coolant System) pressure is less than 1620 psig.	
<u>COMMENTS:</u>	

<u>STEP 9</u>	 2) Ensure the following valves - CLOSED: 1NI-115A (NI Pump 1A Miniflow Isol) 1NI-144A (NI Pump 1B Miniflow Isol). 	SAT UNSAT
STANDARD:		
Applicant c and 1NI-14	letermines that the green CLSD lights are lit for 1NI-115A I4A on 1MC-11.	
COMMENTS:		

<u>STEP 10</u>	 Ensure "PWR DISCON FOR 1NI-147B" switch in "ENABLE". 	SAT
STANDARD:		UNSAT
Applicant ("ENABLE"	determines that the "PWR DISCON FOR 1NI-147B" is in on 1MC-11.	
COMMENTS:		

STEP/STANDARD	SAT/UNSAT
STEP 11 4) Ensure 1NI-147B (NI Miniflow Hdr To FWST Isol) - CLOSED.	SAT
STANDARD:	UNSAT
Applicant determines that the green CLSD light is lit for 1NI-147B on 1MC-11.	
<u>COMMENTS:</u>	

STEP 12 6. f. Verify at least one of the following NV pumps miniflow valves - CLOSED:	SAT
1NV-203A (NV Pumps A&B Recirc Isol)	UNSAT
OR	
1NV-202B (NV Pmps A&B Recirc Isol).	
STANDARD:	
Applicant determines that the green CLSD lights is lit for 1NV-203A or 1NV-202B on 1MC-10.	
COMMENTS:	

STEP 13 g. Ensure 1NI-334B (NI Pump Suct X-Over From ND) - OPEN	N.
STANDARD:	SAT
Applicant determines the red OPEN light is lit for 1NI-334B on 1MC-11	UNSAT
COMMENTS	
COMMENTS.	

STEP/STANDARD

SAT/UNSAT

STEP 14h. OPEN the following valves:•1NI-332A (NI Pump Suct X-Over From ND)•1NI-333B (NI Pump Suct From ND).	SAT UNSAT			
STANDARD:				
Applicant depresses the red OPEN pushbuttons for 1NI-332A and 1NI- 333B on 1MC-11.				
<u>COMMENTS:</u>				

<u>STEP 15</u>	 Align ND discharge to suction of NI and NV pumps as follows: 	SAT
	1) OPEN 1ND-28A (ND Supply To NV & 1A NI Pmps).	UNSAT
<u>STANDAR</u>	<u>D</u> :	
Application 11 and	nt depresses the red OPEN pushbutton for 1ND-28A on 1MC- determines that the valve will not open and continues.	
<u>COMMENT</u>	- <u>S:</u>	

STEP/STANDARD	SAT/UNSAT
STEP 162) OPEN 1NI-136B (ND Supply To NI Pump 1B).STANDARD:	SAT
Applicant depresses the red OPEN pushbutton for 1NI-136B on 1MC- 11, determines that the valve will not open and proceeds to the next step.	0NSAT
Examiner NOTE: 1NI-136B will not open due to an interlock with 1NI- 184B	
<u>COMMENTS:</u>	

<u>STEP 17</u> j. Verify at least one ND train aligned to provide suction to NV and NI as follows:	SAT
• <u>A Train</u> :	UNSAT
 1A ND pump running 1ND-28A (ND Supply To NV & 1A NI Pmps) - OPEN. 	
STANDARD:	
Applicant determines no train can be aligned to provide suction to NV and NI and proceeds to the RNO.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
 <u>STEP 18</u> 6.j. RNO j. Perform the following: 1) <u>IF</u> either valve is in intermediate position, <u>THEN</u> allow 20 seconds for valve to open. 	SAT UNSAT
Applicant determines that this step does not apply.	
<u>COMMENTS:</u>	

<u>STEP 19</u>	 <u>IF</u> either valve is open <u>AND</u> its associated ND pump on, <u>THEN</u> <u>GO</u> <u>TO</u> Step 6.k. 	SAT
STANDARD:		UNSAT
Applicant determi	nes that this step does not apply.	
COMMENTS:		

	STEP/STANDARD	SAT/UNSAT
<u>STEP 20</u>	 IF both A train and B train unavailable, <u>THEN</u> trip all NV and NI pumps. 	CRITICAL STEP
STANDARD:		SAT
Applicant determin depresses the gree NI PMP 1A and NI	es both A train and B train are unavailable and en OFF pushbuttons for NV PMP 1A, NV PUMP 1B, PUMP 1A.	UNSAT
This step is critical to loss of suction and a has been refilled.	o protect the NV and NI pumps from damage from Illow them to be available later when the FWST	
COMMENTS:		

 <u>STEP 21</u> k. Isolate FWST from NV and NI pumps as follows: 1) Place "PWR DISCON FOR 1NI-100B" switch in "ENABLE". 	SAT UNSAT		
STANDARD:			
Applicant places the switch for "PWR DISCON FOR 1NI-100B" in the ENABLE position.			
COMMENTS:			

STEP/STAND	ARD SAT/UNSAT
<u>STEP 22</u> 2) CLOSE 1NI-100B (NI Pn <u>STANDARD</u> :	nps Suct From FWST).
Applicant depresses the green CLOSE 1MC-11.	pushbutton for 1NI-100B on
COMMENTS:	

<u>STEP 23</u>	 3) CLOSE the following valves: 1NV-252A (NV Pumps Suct From FWST) 1NV-253B (NV Pumps Suct From FWST). 	SAT UNSAT
STANDARD:		
Applicant d 1NV-253B		
COMMENTS:		
	END OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) May 2014 NRC Initial License Exam JPM B

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

• A LOCA has occurred on Unit 1.

INITIATING CUES:

• 1AD-9, E/8 'FWST LO-LO LEVEL' annunciator is lit and the Control Room Supervisor instructs you, as the BOP, to transfer to Cold Leg Recirculation using EP/1/A/5000/ES-1.3 (Transfer to Cold Leg Recirculation) step 6.

System JPM C

EVALUATION SHEET

<u>Task:</u>	Perform PT/1/A/4200/023B (NC PORV and Air Supply Stroke Test), Enclosure 13.4 (NC PORV Cycle)							
Alternate Path:	No							
Facility JPM #:	New							
Safety Function:	3	<u>Title:</u>	Pressurizer	Pressure Co	ontrol			
<u>K/A</u> 010 A	.4.03 Ability to manually operate and/or monitor in the control room: PORV and block valves				ORV and			
Rating(s): 4.0 / 3	8.8 <u>(</u>	CFR: 4	1.5 / 43.5 / 45	.3 / 45.13				
Preferred Evaluation	on Loca	ation:		Preferred E	valuation	Method	<u>1:</u>	
Simulator X	_ In- P la	ant		Perform	X	Sim	nulate	
<u>References</u> :	PT/1/A (NC PC	√4200/023 ORV Cycle	BB (NC PORV e) rev. 017	and Air Sup	ply Stroke	Test), E	nclosure	13.4
Task Standard:	Enclos associ	sure 13.4 s ated valve	successfully cost are returned	ompleted for to the as for	1NC-32B und positi	(PZR PC on.	ORV) and	I the
Validation Time:	7 minut	tes		Time Critica	<u>al:</u>	Yes	No	<u> </u>
Applicant: NAME			Docket	#		Time Sta Time Fin	art: ish:	
Performance Ratin	<u>g:</u>					Performa	ance Tim	ie
SAT UNSAT _								
Examiner:	NA	ME			SIGNATI	JRE	/	DATE
COMMENTS								

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #170
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

Unit 1 is in MODE 3.

INITIATING CUES:

• The Control Room Supervisor instructs you to perform PT/1/A/4200/023B, Enclosure 13.4 for 1NC-32B.

EXAMINER NOTE: After reading cue, provide the applicant with a copy of PT/1/A/4200/023B, Enclosure 13.4.

STEP/STANDARD

SAT/UNSAT

START TIME: _____

<u>STEP 1</u> : 1.1 <u>IF</u> testing 1NC-32B (Pzr PORV), perform the following: 1.1.1 Record the as found position of 1NC-31B (Pzr PORV Isol) below:	SAT UNSAT
<u>STANDARD</u> :	
Applicant records OPEN as the as found position.	
COMMENTS:	

STEP 2 1.1.2 Ensure 1NC-31B (Pzr PORV Isol) is closed.	CRITICAL STEP
STANDARD:	SAT
Applicant places the switch for 1NC-31B to the CLOSE or OVERRIDE position.	UNSAT
This step is critical to prevent a pressure transient when 1NC-32B is opened.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 3 1.1.3 Record the as found position of 1NC-32B (Pzr PORV) below:	SAT
STANDARD:	UNSAT
Applicant records CLOSED as the as found position for 1NC-32B	
<u>COMMENTS:</u>	

<u>STEP 4</u>	1.1.4 Circle below the as found switch position of 1NC-32B (Pzr PORV).Close Open Auto	SAT UNSAT
STANDARD:		
Applicant circles Auto as the as found switch position of 1NC-32B.		
COMMENTS	<u>>:</u>	

STEP 5	1.1.5 Ensure 1NC-32B (Pzr PORV) is closed.	0.17
STANDARD:		SAI
Applicant determines that 1NC-32B is closed.		
<u>COMMENTS</u>	<u>.</u>	

STEP/STANDARD	SAT/UNSAT
STEP 61.1.6 Cycle 1NC-32B (Pzr PORV) from closed to open to closed from the control room.	CRITICAL STEP
STANDARD:	SAT
Applicant places the switch for 1NC-32B to the OPEN position and then to the AUTO or CLOSE position.	UNSAT
This step is critical to cycle 1NC-32B.	
<u>COMMENTS:</u>	

STEP 7	1.1.7 Return 1NC-32B (Pzr PORV) to the as found position, as recorded in Step 1.1.3 of this enclosure.	SAT
<u>STANDARD</u>		UNSAT
Applicant recorded	determines that 1NC-32B is in the as found position as in step 1.1.3.	
COMMENTS	<u>):</u>	

STEP 8	1.1.8 Return switch for 1NC-32B (Pzr PORV) to the as found position, as recorded in Step 1.1.4 of this enclosure.	CRITICAL STEP
<u>STANDARD</u>	:	SAT
Applicant places the switch for 1NC-32B to the AUTO position.		UNSAT
This step is critical to return the switch for 1NC-32B to the as found position.		
	<u>S:</u>	
	STEP/STANDARD	SAT/UNSAT
-------------------------	---	------------------
STEP 9	1.1.9 Return 1NC-31B (Pzr PORV Isol) to the as found position, as recorded in Step 1.1.1 of this enclosure.	CRITICAL STEP
<u>STANDARD</u>	:	SAT
Applicant	UNSAT	
This step is make 1NC-3		
COMMENTS	<u>S:</u>	
	END OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM C

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

Unit 1 is in MODE 3.

INITIATING CUES:

• The Control Room Supervisor instructs you to perform PT/1/A/4200/023B, Enclosure 13.4 for 1NC-32B.

System JPM D

EVALUATION SHEET

				EVALUATI	ON SHEET				
Task: Sta		Star	t Reactor	Coolant Pump	1B				
Alternate Path:		Yes	Yes						
Facility JPN	<u>1 #:</u>	NCF	2081 (mod	dified)					
Safety Fund	tion:	4P	<u>Title:</u>	Reactor Coolant Pump System					
<u>K/A</u> 003 A1.01 At ex inc		Ability to exceedi includin	o predict and/or ng design limits g: RCP vibratio	monitor changes i associated with o on.	in param operating	eters (to p the RCP	orevent S contro	ol	
Rating(s):	2.9/2	2.9	<u>CFR:</u>	41.5 / 45.5					
Preferred E	valuati	on Lo	cation:		Preferred Evalu	ation M	ethod:		
S imulator	X	In-I	Plant		Perform	Х	S imula	te	
<u>References</u>	:	OP/ [,]	1/A/6150/	002A (Reactor	Coolant Pump) rev	/. 068			
Task Stands	ard: Time:	1B F NC 20 m	Reactor C oump trip	oolant Pump is criteria.	tripped when vibra	ation is no	oted to be	greate	r than x
		=====	=======			======			
Applicant: NAME				Docke	t #	Tin Tin	ne Start: ne Finish:		
Performanc	e Ratir	<u>ng:</u>				Pe	rformance	e Time _	
SAT L	JNSAT								
Examiner:		1	NAME		SIG	NATUR	Ē	_/	ATE
СОММЕНТЯ									

1. Reset to any 100% power IC set.

2. Manually trip the reactor at 1MC-1.

3. Trip all (4) four NCP breakers at 1MC-10.

4. Place CF pump in service for auto S/G level control and secure CA.

5. Insert MAL-NCP005FXB (NCP VIB B MOUNT HORIZ FAILURE) Initial =0 Ramp =240 Value=10, EVENT =1, Delay = 5

6. Insert MAL-NCP005FYB (NCP VIB B MOUNT VERT FAILURE) Initial =0 Ramp =240 Value=10, EVENT =1, Delay = 5

7. Insert MAL-NCP005SXB (NCP VIB B MOUNT HORIZ FAILURE) Initial =0 Ramp =120 Value=30, EVENT =1, Delay = 5

8. Insert MAL-NCP005SYB (NCP VIB B MOUNT VERT FAILURE) Initial =0Ramp =120 Value=30, EVENT =1, Delay = 5

- 9. Insert EVENT 1 = x10d185M >400 (NCP B AMPS>400)
- 10. Freeze simulator and write to a snap.

IC SELECTED:

SIMULATOR OPERATOR INSTRUCTIONS:

ENSURE BENTLEY NEVADA VIBRATION MONITORS ON BACK BOARD ARE RESET AND THAT ALARMS 1AD-6 A/5 AND B/5 ARE CLEARED BETWEEN STUDENTS.

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #171
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event
	MAL-NCP005FXB (NCP VIB 1B MOUNT HORZ FAILURE)	10	5	4 MIN		1
	MAL-NCP005FYB (NCP VIB 1B MOUNT VERT FAILURE)	10	5	4 MIN		1
	MAL-NCP005SXB (NCP VIB 1B SHAFT HORZ FAILURE)	30	5	2 MIN		1
	MAL-NCP005SYB (NCP VIB 1B SHAFT VERT FAILURE)	30	5	2 MIN		1
	Ensure EVENT 1 = x10d185m>400 (NCP B AMF	PS > 400)				

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

EP/1/A/5000/ES-0.2, Natural Circulation Cooldown has been implemented following a Reactor Trip caused by a lightning strike in the switchyard. Normal power has been restored.

INITIATING CUES:

Start NC Pump 1B by completing OP/1/A/6150/002A, NC Pump Operation Enclosure 4.1 beginning at Step 3.14.

EXAMINER NOTE: After reading cue, provide the applicant with a copy of OP/1/A/6150/002A (Reactor Coolant Pump Operation), Enclosure 4.1 (Startup and Operation of the NC Pumps) signed off up to Step 3.14.

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1 3.14 Two minutes prior to starting NC pump, start one oil lift pump for NCP to be started by pressing the "ON" pushbutton for:	CRITICAL STEP
"NC PUMP OIL LIFT PUMP B1"	SAT
"NC PUMP OIL LIFT PUMP B2"	UNSAT
STANDARD:	
Applicant depresses the red ON pushbutton for NC PMP OIL LIFT PMP B1 or B2 approximately two minutes prior to starting the 1B NC Pump.	
This step is critical to lift and lubricate the pump so that it can be started.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
NOTE: 1. If NC pump is <u>NOT</u> started, the oil lift pump shall be secured to minimize stress on oil nozzles.	CRITICAL STEP
 The Degraded Bus Voltage Relays (27N) may actuate on the essential bus being supplied by the 6.9KV Switchgear associated with the NC Pump to be started in the following step. 	SAT
The alarm condition is expected to clear within 36 seconds.{PIP 95-0287}	UNSAT
STEP 2 3.15 Start desired NC pump by pressing the "ON" pushbutton for: (R.M.)	
• "NC PUMP 1B"	
STANDARD:	
Applicant depresses the red ON pushbutton for NC PMP 1B. Once Hi Hi vibration is verified, the pump should be tripped.	
This step is critical to start the 1B NC Pump and then trip the pump upon verification of Hi Hi Vibration to protect the pump from further damage.	
NOTE TO EXAMINER: Approximately 5 seconds after the NCP is started, the Hi Hi Vibration alarm will come in. The shaft vibration will reach 20 mils prior to reaching 5 on the mount. Per the annunciator response, the pump should be tripped at >20 mils in Modes 1 and 2, but not until >30 mils in Mode 3 (current condition). At 5 mils on the mount, the pump is tripped regardless of mode. 5 mils on the mount will occur before 30 mils on the shaft.	
EXAMINER CUE: <u>AFTER</u> the pump is tripped: "The CRS has pulled AP/1/A/5500/004 (Loss of Reactor Coolant Pump) and is ready to proceed."	
COMMENTS:	
END OF TASK	

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM D

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

EP/1/A/5000/ES-0.2, Natural Circulation Cooldown has been implemented following a Reactor Trip caused by a lightning strike in the switchyard. Normal power has been restored.

INITIATING CUES:

Start NC Pump 1B by completing OP/1/A/6150/002A, NC Pump Operation Enclosure 4.1 beginning at Step 3.14.

System JPM E

EVALUATION SHEET

<u>Task:</u>	Synchronize the Generation	tor to the Grid			
Alternate Path:	Yes				
Facility JPM #:	NEW				
Safety Function:	4S <u>Title:</u> Main a	and Reheat Steam Syste	em (MRSS)		
<u>K/A</u> 045 A4.0	02 Ability to manually controls, including	manually operate and/or monitor in the control room: T/G including breakers			
Rating(s): 2.7 / 2	6 <u>CFR:</u> 41.7 / 45.	5 to 45.8			
Preferred Evaluation	on Location:	Preferred Evalua	tion Method:		
Simulator X	In- P lant	Perform	X Simula	ate	
<u>References</u> :	OP/1/B/6300/001 (Turbir	ne Generator) rev. 099			
Task Standard:	Synchronizes the genera	tor to the grid and pick ι	up load.		
Validation Time:	15 minutes	Time Critical:	Yes	_ No	X
Applicant: NAME	Do		Time Start: Time Finish	:	
Performance Ratin	<u>g:</u>		Performanc	e Time	
SAT UNSAT _					
Examiner:				/	
	NAME ===================	5IGN =============	IATURE ========	DA ======	====
	C	OMMENTS			

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #172
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event
	OVR-EP006B (GEN BKR 1B TRIP ENABLE PB)	ON				2
	OVR-EP006C (GEN BKR 1B TRIP PB)	ON				2
	OVR-EP007B (GEN BKR 1A TRIP ENABLE PB)	ON				4
	OVR-EP007C (GEN BKR 1A TRIP PB)	ON				4
	Ensure EVENT 2 = x01i120a & !x01i148e					
	Ensure EVENT 4 = x01i120b & !x01i147e					

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- Unit 1 is in MODE 1 at 14% power.
- Turbine Generator startup is in progress per OP/1/B/6300/001 (Turbine Generator) Enclosure 4.1 (Turbine Generator Startup).

INITIATING CUES:

The CRS has instructed you synchronize the generator to the grid in auto and pick up load starting at Step 3.62. Peer Checks have been waived.

EXAMINER NOTE: After reading cue, provide the applicant with a copy of OP/1/B/6300/001 (Turbine Generator) Enclosure 4.1 (Turbine Generator Startup).

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1:3.62Synchronize the Generator to the grid as follows:3.62.1Prior to placing the turbine generator on line, ensure Rx power is between 13% and 15% power.	SAT UNSAT
STANDARD:	
Applicant determines Rx power is approximately 14%.	
COMMENTS:	

STEP 2 3.62.2 Announce the following over the plant page:	SAT
"Placing Unit 1 Main Turbine on line, please clear the Transformer Yard".	UNSAT
STANDARD:	
Applicant makes an announcement using the beige phone on 1MC-1	
COMMENTS:	

	STEP/STANDARD	SAT/UNSAT
NOTE: If "MAN/AUTO RE Generator is requi	G" (1MC1) indicates "MAN", Manual sync of ired.	
<u>STEP 3</u> 3.62.3 <u>IF</u> A the	Auto sync of the Generator is desired, perform following:	SAT UNSAT
3.62	2.3.1 Verify "MAN/AUTO REG" in "AUTO" (1MC1).	
STANDARD:		
Applicant determines a initiating cue and deter REG is LIT	uto sync of the generator is desired per the mines that the AUTO light for MAN/AUTO	
COMMENTS:		

STEP/STANDARD	SAT/UNSAT
NOTE: 1. When "GEN SYNC SELECT" switch is turned to "AUTO 1A" or "AUTO 1B", the AVR Auto Sync Relay automatically adjusts Terminal voltage and Turbine speed and closes the selected breaker.	SAT
2. The following will occur when the Generator Breaker closes:	UNSAT
 6-7 MWe is picked up. A Target of 60 MWe is automatically input. A Load Rate of 12 MW/MIN is automatically input. The MW feedback loop is placed in service. The turbine is placed in "HOLD". 	
STEP 43.62.3.2 Turn "GEN SYNC SELECT" switch (1MC1) to "AUTO 1A" or "AUTO 1B" position.	
STANDARD:	
Applicant places the GEN SYNC SELECT switch to either the AUTO 1A or AUTO 1B position.	
EXAMINER NOTE: The first breaker selected will fail to close.	
COMMENTS:	

STEP 5	3.62.3.3 IF the selected Generator Breaker did NOT close, perform the following:	SAT
STANDARD:	 A. Depress "Auto Sync Enable" on Turbine Control panel. 	UNSAT
Applicant depr Control Panel.	resses the "Auto Sync Enable" button on the Turbine	
COMMENTS:		

	STEP/STANDARD	SAT/UNSAT
STEP 6 STANDARD: Applicant determines th returns to step 3.62.3.2 COMMENTS:	 B. IF selected Generator Breaker fails to close within 5 minutes, perform Steps 3.62.3.2 - 3.62.3.3 for opposite breaker. at the generator breaker failed to close and for the opposite breaker. 	SAT UNSAT
<u>STEP 7</u> 3.62 <u>STANDARD</u> :	.3.2 Turn "GEN SYNC SELECT" switch (1MC1) to "AUTO 1A" or "AUTO 1B" position.	CRITICAL STEP SAT
Applicant places the GE position than was select	EN SYNC SELECT switch to the opposite ted the first time.	UNSAT
This step is critical to clo generator grid. <u>COMMENTS:</u>	se a generator breaker and synchronize the	
<u>STEP 8</u> 3.62	.3.3 IF the selected Generator Breaker did NOT close, perform the following:	SAT

STANDARD:

Applicant determines the step does not apply this time.

COMMENTS:

UNSAT

	SAT/UNSAT	
STEP 9	3.62.3.4 Return "GEN SYNC SELECT" switch to the "MAN" position.	SAT
STANDARD:	UNSAT	
Applicant place		
COMMENTS:		

<u>STEP 10</u>	3.62.4 IF Manual sync of Generator is desired, perform the following:	SAT
STANDARD:		UNSAT
Applicant d	etermines that this step does not apply.	
COMMENTS:		

STEP 11 3.62.5 After Generator Breaker 1A (or 1B) has closed, verify the following:	SAT
3.62.5.1 A Target of 60 MWe.	UNSAT
3.62.5.2 A Load Rate of 12 MW/Min.	
STANDARD:	
Applicant verifies a target of 60 MWe and a Load Rate of 12MW/Min is present on the Turbine Control Panel or the Turbine Graphic.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 12 3.62.6 Select "GO" to pick up load. STANDARD:	CRITICAL STEP
Applicant depresses the "GO" button on the Turbine Control Panel	SAT
This step is critical allow the turbine generator control system to throttle open the control valves to pick up load.	UNSAT
COMMENTS:	
STEP 133.62.7 WHILE continuing with the power increase, but before 50% power, place other Generator Breaker in service as follows:	SAT
STANDARD:	
Applicant reads the step.	
EXAMINER CUE: "Another operator will place the other breaker in service."	
COMMENTS:	
END OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM E

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- Unit 1 is in MODE 1 at 14% power.
- Turbine Generator startup is in progress per OP/1/B/6300/001 (Turbine Generator) Enclosure 4.1 (Turbine Generator Startup).

INITIATING CUES:

The CRS has instructed you synchronize the generator to the grid in auto and pick up load starting at Step 3.62. Peer Checks have been waived.

System JPM F

EVALUATION SHEET

<u>Task:</u>		Restoration of Offsite Power							
Alternate Pa	ernate Path: No								
Facility JPN	<u> #:</u>	New							
Safety Func	Safety Function: 6 <u>Title:</u> A.C. Electrical Distribution								
<u>K/A</u>	K/A 062 A4.01 Ability to manually operate and/or monitor in the control room: All breakers (including available switchyard.								
Rating(s):	3.3/3	3.1	CFR:	41.7 / 45.5 to	45.8				
Preferred Ev	valuati	on Lo	cation:		Preferred Evalu	ation Me	ethod:		
S imulator	X	In- I	Plant		Perform	X	S imulate		
<u>References</u> :	:	AP/1 Pow	/A/5500/ er) rev. 0	007 (Loss of No 71	ormal Power), Enclo	osure 4 (F	Restoratio	n of Of	fsite
Task Standa	ard:	All 6	.9 KV bu	sses energized.					
Validation T	<u>ime:</u>	15 m	inutes		Time Critical:	Ye	s	No _	X
Applicant:				Docke		Tim Tim	e Start: e Finish:		
Performanc	e Ratir	<u>ig:</u>				Per	formance ⁻	Time _	
SAT L	INSAT								
<i>c,</i> († 0									
Examiner:								/	
		۱ =====	NAME ======		SIG ====================================	NATURE		D/ =====	ΑΤΕ ====
COMMENTS									

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #173
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event	
	OVR-CM024A (HW PMP 1A SEL SW OFF LT)	ON				1	
	OVR-CM024B (HW PMP 1A SEL SW ON LT)	OFF				1	
	OVR-CM025A (HW PMP 1B SEL SW OFF LT)	ON	20 SEC			1	
	OVR-CM025B (HW PMP 1B SEL SW ON LT)	OFF	20 SEC			1	
	OVR-CM026A (HW PMP 1C SEL SW OFF LT)	ON	1 MIN			1	
	OVR-CM026B (HW PMP 1C SEL SW ON LT)	OFF	1 MIN			1	
	OVR-EP023B (PCB 15 TRIP TRIP PB)	ON					
	OVR-CM024A (HW PMP 1A SEL SW OFF LT)	ON			1 SEC	4	
	OVR-CM024B (HW PMP 1A SEL SW ON LT)	OFF			1SEC	4	
	OVR-CM025A (HW PMP 1B SEL SW OFF LT)	ON			1SEC	6	
	OVR-CM025B (HW PMP 1B SEL SW ON LT)	OFF			1SEC	6	
	OVR-CM026A (HW PMP 1C SEL SW OFF LT)	ON			1SEC	8	
	OVR-CM026B (HW PMP 1C SEL SW ON LT)	OFF			1SEC	8	
	Ensure EVENT 4 = x11o063r (7KV 1TA FDR FRM 1T2A CLSD Light)						
	Ensure EVENT 6 = x11o147r (7KV 1TB FDR FRM 1T2A CLSD Light)						
	Ensure EVENT 8 = x11o345r (7KV 1TD FDR FRM 1T1A CLSD Light)						

READ TO APPLICANT

DIRECTION TO APPLICANT:

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INITIAL CONDITIONS:

- Unit 1 is recovering from a Loss of Offsite Power Event.
- The TCC has informed the Control Room that the electrical grid has remained energized and adequate switchyard voltage and grid reliability is available to reenergize 6.9 KV busses with motor breakers open.
- The status of all 6.9 KV bus lockout relays has been determined.
- Power restoration has been approved by station management.

INITIATING CUES:

The SRO instructs you restore offsite power to the 6.9 KV busses per AP/1/A/5500/007 (Loss of Normal Power), Enclosure 4 (Restoration of Offsite Power).

EXAMINER NOTE: After reading cue, provide the applicant with a copy of AP/1/A/5500/007 (Loss of Normal Power), Enclosure 4 (Restoration of Offsite Power).

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1: 1. Verify both turbine generator breakers - OPEN.		
STANDARD:	SAT	
Applicant determines that the green OPEN lights are lit for GEN BKR 1B and GEN BKR 1A on 1MC-11, 1MC-1, or via the OAC.	UNSAT	
<u>COMMENTS:</u>		

<u>NOTE</u> If loss of grid has occurred, then it may take 6-8 hours to restore power to CNS switchyard.	
STEP 2 2. Verify with TCC - ELECTRICAL GRID HAS REMAINED ENERGIZED.	SAT UNSAT
STANDARD:	
Applicant determines that the electrical grid has remained energized per the initiating cue.	
BOOTH OPERATOR CUE: IF TCC is contacted, "The electrical grid has remained energized."	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 3 3. Verify switchyard - ENERGIZED.	TAP
STANDARD:	341
Applicant determines that the switchyard is energized via the OAC.	UNSAT
COMMENTS:	

STEP 4 4. Ensure both main transformer's MODs - CLOSED.	SAT
STANDARD:	
Applicant determines that red CLSD lights are lit for MOD 1A and MOD 1B on 1MC-11, or that the MODs are closed via the OAC	0.00/11
COMMENTS:	

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STEP 5 5. Verify with TCC that adequate switchyard voltage and grid reliability available to re-energize affected 6.9 KV busses with motor breakers open.	SAT UNSAT
<u>STANDARD</u> :	
Applicant determines that switchyard voltage and grid reliability is available per the initiating cue.	
BOOTH OPERATOR CUE: IF TCC is contacted, "Adequate switchyard voltage and grid reliability is available."	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 6 6. Place switches for the following pumps in "OFF" position:	CRITICAL STEP
All de-energized KR pumps	SAT
 All de-energized notwell pumps All de-energized condensate booster pumps. 	UNSAT
STANDARD:	
Applicant places the switches for HTWL PUMP 1A, 1B, 1C, and CM BSTR PUMP 1A, 1B, and 1C to the OFF position. Applicant also depresses the green OFF pushbutton for KR PUMP A and KR PUMP B.	
This step is critical to NOT depress the green OFF pushbutton for KR PUMP B, which is powered from Unit 2, allowing KR Pump B to supply cooling water to Unit 2 loads.	
NOTE TO EXAMINER: KR is the Recirculated Cooling Water System.	
COMMENTS:	

STEP 7 7. Dispatch operator to ensure breakers for all motor loads on all de-energized 6.9 KV busses open. REFER TO Enclosure 22 (Local Load Shed of 6.9 KV Busses).	SAT
STANDARD:	UNSAT
Applicant dispatches an operator by calling the simulator booth operator.	
NOTE TO BOOTH OPERATOR: <u>WHEN</u> notified to dispatch operator, <u>REPEAT</u> back the information and <u>THEN</u> INSERT EVENT 1.	
<u>COMMENTS:</u>	

STEP/STANDARD	SAT/UNSAT
STEP 8 8. Do not continue in this procedure until the following are satisfied:	SAT
Status of 6.9 KV bus lockout relays are determined	UNSAT
Station management has approved power restoration.	
 Enclosure 22 (Local Load Shed of 6.9 KV Busses) is complete. 	
STANDARD:	
Applicant determines that lockout relay status is determined and that station management has approved power restoration per the initial conditions, however, does not continue until contacted by the Booth Operator that Enclosure 22 is complete.	
NOTE TO BOOTH OPERATOR: <u>AFTER</u> items triggered from EVENT 1 have timed out, <u>CALL</u> the Control Room and <u>INFORM</u> the applicant that Enclosure 22 is complete	
<u>COMMENTS:</u>	

<u>STEP 9</u> 9. Notify TCC prior to re <u>STANDARD</u> : Applicant calls the Booth Opera	e-energizing affected 6.9 KV busses.	SAT UNSAT
NOTE TO BOOTH OPERATOR:	<u>WHEN</u> notified about re-energizing the 6.9 KV busses, <u>REPEAT</u> back the information.	
COMMENTS:		

STEP/STANDARD	SAT/UNSAT
NOTE Zone A or B lockout will occur if at least one main transformer cooling circuit is not restored within 15 minutes of re-energizing main transformer.	SAT
STEP 10 10. Energize 6.9 KV busses as follows:	UNSAT
a. Announce "Energizing Unit 1 main power. All personnel stand clear."	
STANDARD:	
Applicant makes a plant page via the grey phone on 1MC-1.	
COMMENTS:	

<u>STEP 11</u>	 b. Close at least one of the following PCBs: PCB 15 	CRITICAL STEP
	 PCB 18. 	SAT
STANDARD:		UNSAT
Applicant de and PCB 18	presses the red CLOSE pushbuttons for PCB 15 CLOSE CLOSE on 1 MC-11.	
NOTE TO EVAL	UATOR: PCB 15 will not close.	
This step is cri offsite.	tical to align power the 1A Main Transformer from	
COMMENTS:		

STEP/STANDARD	SAT/UNSAT
<u>STEP 12</u> c. <u>IF</u> "TRANSF 1A" energized, <u>THEN</u> perform the following for each affected 6.9 KV bus:	CRITICAL STEP
• 1TD:	SAT
 Place "7KV BUS 1TD MODE SEL" switch in "MAN A & TIE". 	UNSAT
2) Close "7KV 1TD FDR FRM 1T1A".	
STANDARD:	
Applicant places the switch for 7KV BUS 1TD MODE SEL in the MAN A & TIE position as depresses the red CLOSE pushbutton for 7KV 1TD FDR FRM 1T1A.	
This step is critical to energize 1TD.	
COMMENTS:	

STEP 13	1TC:	CRITICAL STEP
1) Place "7KV BUS 1TC MODE SEL" switch in "MAN A & TIE".	SAT
2) Close "7KV 1TC FDR FRM 1T1A".	UNSAT
STANDARD:		
Applicant places the & TIE position as a FDR FRM 1T1A.	he switch for 7KV BUS 1TC MODE SEL in the MAN A depresses the red CLOSE pushbutton for 7KV 1TC	
This step is critical to energize 1TC.		
COMMENTS:		

	STEP/STANDARD	SAT/UNSAT
<u>STEP 14</u>	• 1TB:	CRITICAL STEP
	 Place "7KV BUS 1TB MODE SEL" switch in "MAN A & TIE". 	SAT
	2) Close "7KV 1TB FDR FRM 1T2A".	UNSAT
STANDARD:		
Applicant place & TIE position a FDR FRM 1T2/	es the switch for 7KV BUS 1TB MODE SEL in the MAN A as depresses the red CLOSE pushbutton for 7KV 1TB A.	
This step is critic	al to energize 1TB.	
COMMENTS:		

• 1TA:	CRITICAL STEP
 Place "7KV BUS 1TA MODE SEL" switch in "MAN A & TIE". 	SAT
2) Close "7KV 1TA FDR FRM 1T2A".	UNSAT
STANDARD:	
Applicant places the switch for 7KV BUS 1TA MODE SEL in the MAN A & TIE position as depresses the red CLOSE pushbutton for 7KV 1TA FDR FRM 1T2A.	
This step is critical to energize 1TA.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 16d. IF "TRANSF 1B" energized, THEN perform the following for each affected 6.9 KV bus:	SAT
STANDARD:	UNSAT
Applicant determines that this step does not apply.	
COMMENTS:	

<u>STEP 17</u>	e. <u>IF</u> "TRANSF 1A" <u>AND</u> "TRANSF 1B" are energized, <u>THEN</u> place mode select switch for all 6.9KV busses in auto position.	SAT
STANDARD:		UNSAT
Applicant de	termines that this step does not apply.	
COMMENTS:		

<u>STEP 18</u>	f. Verify all 6.9 KV switchgear - ENERGIZED.	
STANDARD:		SAT
		UNSAT
Applicant de gauges on 1	termines that all 6.9 KV switchgear is energized via voltage MC-11 or via the OAC electrical graphic.	
<u>COMMENTS:</u>		

STEP/STANDARD	SAT/UNSAT
STEP 19 11. RETURN TO step in effect. STANDARD:	SAT
Applicant reads the step.	
COMMENTS:	
END OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM F

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- Unit 1 is recovering from a Loss of Offsite Power Event.
- The TCC has informed the Control Room that the electrical grid has remained energized and adequate switchyard voltage and grid reliability is available to reenergize 6.9 KV busses with motor breakers open.
- The status of all 6.9 KV bus lockout relays has been determined.

INITIATING CUES:

The SRO instructs you restore offsite power to the 6.9 KV busses per AP/1/A/5500/007 (Loss of Normal Power), Enclosure 4 (Restoration of Offsite Power).

System JPM G
EVALUATION SHEET

<u>Task:</u>		Shift Lower Containment Vent Units						
Alternate Pa	<u>ith:</u>	No						
Facility JPM	#:	New						
Safety Func	<u>tion:</u>	5	<u>Title:</u>	Containm	ent Cooling System			
<u>K/A</u>	022 A	4.01	Ability to r	manually ope	rate and/or monitor	in the control roo	m: CC	S Fans
Rating(s):	3.6/3	3.6	CFR:	41.7 / 45.5 to	45.8			
Preferred Ev	valuati	on Lo	cation:		Preferred Evalua	ation Method:		
S imulator	X	_ Cor	ntrol Room		Perform	S imula	te	X
References:		OP/1	I/A/6450/00	01 (Containm	ent Ventilation (VV)	Systems rev.040)	
Task Standa	ard:	1B L	CVU runnii	ng and 1A LC	:VU off.			
Validation T	ime:	15 mi	inutes		Time Critical:	Yes	No	х
======================================				Docke	 .t #	Time Start: Time Finish:		
Performanc.	e Ratir	<u>ıg:</u>				Performance	e Time	
SAT U	NSAT							
Examiner: _							_/	
		۲ =====	NAME =======		SIG1 =========	NATURE ========] =====	DATE =====
				СОМ	MENTS			

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC 175
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

Unit 1 is in MODE 1.

INITIATING CUES:

- The Control Room Supervisor has instructed you to shift Lower Containment Vent Units by stopping the 1A LCVU and starting the 1B LCVU.
- Steps 3.1 and 3.3 were marked N/A during the pre-job brief.
- Peer check has been waived.

EXAMINER NOTE: After reading cue, provide the applicant with a copy of OP/1/A/6450/001 Containment Ventilation (VV) Systems, Enclosure 4.13.

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1: 3.2 IF three LCVUs are operating AND it is desired, shift the operating units as follows:	CRITICAL STEP
3.2.1 IF the LCVUs are operating in "LOW" speed, perform the following:	SAT
3.2.1.1 Stop the LCVU to be removed from service by placing its control switch in the "OFF" position:	UNSAT
"VV LCVU 1A"	
STANDARD:	
Applicant places the switch for VV LCVU 1A to the OFF position.	
This step is critical to shut down the desired Lower Containment Vent Unit	
COMMENTS:	

NOTE: The procedure before comp	ure may continue up to and including Step 3.2.1.8 pleting the following step.	CAT
STEP 2	3.2.1.2 Verify the green indicating light illuminates for the LCVU stopped.	UNSAT
STANDARD:		
Applicant determ	nines the green indicating light is LIT for VV LCVU 1A.	
COMMENTS:		

	STEP/STANDARD	SAT/UNSAT
<u>STEP 3</u> <u>STANDARD</u> :	3.2.1.3 Verify the red "MAX" indicating light extinguishes for the LCVU stopped.	SAT
Applicant detern MAX is DARK.	mines the red "MAX" indicating light for VV LCVU 1A	
COMMENTS:		

<u>STEP 4</u>	3.2.1.4	Verify the green "CLOSED" indicating light illuminates for the LCVU damper associated with the LCVU stopped.	
STANDARD:			UNSAT
Applicant deterr D-1 LWR CON	mines the T VENT D	green "CLOSED" indicating light for 1LCVU- DAMPER is LIT.	
COMMENTS:			

STEP/STANDARD	SAT/UNSAT
NOTE: If Unit 1 is in Mode 1 and LCVU 1C or 1D is the idle unit that is being placed in service, a delay of approximately 15 to 30 minutes may be needed before starting LCVU 1C or 1D to allow lower containment air temperature to increase. This will prevent exceeding the Tech Spec low limit for air temperature. {PIP 00-0763, PIP 05-3785}	CRITICAL STEP SAT
STEP 53.2.1.5Start the idle LCVU by placing its control switch in the "LOW" position:	UNSAT
 "VV LCVU 1B" 	
STANDARD:	
Applicant places the switch for VV LCVU 1B in the LOW position.	
This step is critical to start the desired LCVU.	
COMMENTS:	

STEP 6	3.2.1.6 Verify the red indicating light illuminates for the LCVU placed in service.	SAT
STANDARD:		UNSAT
Applicant deterr	mines the red (middle) indicating light for VV LCVU 1B is	
COMMENTS:		

	STEP/STANDARD	SAT/UNSAT
STEP 7	3.2.1.7 Verify the red "OPEN" indicating light illuminates for the LCVU damper associated with the LCVU started.	SAT
STANDARD:		UNSAT
Applicant deter LWR CONT VE	mines the red "OPEN" indicating light for 1LCVU-D-2 ENT DAMPER.	
COMMENTS:		
<u>COMMENTS:</u>		

STEP 8 3.2.1.8 Verify the red "MAX" indicating light illuminat LCVU placed in service.	es for the SAT
STANDARD:	UNSAT
Applicant determines the red light for VV LCVU 1B MAX is LIT	
COMMENTS:	

STEP 9 3.2.2 IF the LCVUs are operating in "HIGH" speed, perform	
the following:	SAT
	UNSAT
Applicant determines that this step does not apply.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
 <u>STEP 10</u> 3.4 Indicate below the operating Pipe Tunnel Booster Fan: "PIPE TUNNEL BSTR FAN 1A" "PIPE TUNNEL BSTR FAN 1B" 	SAT UNSAT
STANDARD:	
Applicant marks the box for the operating Pipe Tunnel Booster Fan.	
COMMENTS:	

STEP 11 3.5 Indicate below the operating LCVUs: • "VV LCVU 2A" • "VV LCVU 2B" • "VV LCVU 2C" • "VV LCVU 2D"	SAT UNSAT
STANDARD:	
Applicant marks the blocks for the 1B, 1C and 1D LCVUs.	
COMMENTS:	
END OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM G

READ TO APPLICANT

DIRECTION TO APPLICANT:

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INITIAL CONDITIONS:

Unit 1 is in MODE 1.

INITIATING CUES:

- The Control Room Supervisor has instructed you to shift Lower Containment Vent Units by stopping the 1A LCVU and starting the 1B LCVU.
- Steps 3.1 and 3.3 were marked N/A during the pre-job brief.
- Peer check has been waived.

System JPM H

EVALUATION SHEET

<u>Task:</u>		Place	e Standby	Component C	ooling Train in	Service				
Alternate Pa	ath:	No								
Facility JPN	<u>1 #:</u>	KC-0	82 (Modi	fied)						
Safety Fund	tion:	8	<u>Title:</u>	Componer	t Cooling Wate	er Syster	m			
<u>K/A</u>	008 A	4.01	Ability to indicatio	manually operations and controls	ate and/or mor	nitor in th	ie cor	ntrol roon	n: CCV	V
Rating(s):	3.3 / 3	.1	<u>CFR:</u>	41.7 / 45.5						
Preferred E	valuatio	on Loo	cation:		Preferred Ev	aluatior	<u>1 Me</u>	<u>thod:</u>		
S imulator	X	_ In- P	lant		Perform	X	(S imulate	e	
References	:	OP/1	/A/6400/0	005 (Componer	nt Cooling Syste	em) rev.	116			
Task Stand	ard:	"1B1' TEM for m	" Compo P" positic iniflow.	nent Cooling Pi on. "1A2" KC Pi	ump running a ump stopped a	ind '"B" ind "A" k	KC H (C H)	IX outlet K Outlet '	valve √alve a	in "KC aligned
Validation 1	<u>lime:</u>	20 mi	nutes		Time Critical	<u>l:</u>	Yes	s	No _	X
Applicant:				Docket	#		Time Time	e Start: Finish:		
Performanc	e Ratin	<u>g:</u>					Perf	ormance	Time _	
SAT U	JNSAT _									
Examiner:		N	IAME			SIGNAT	URE		_/ D	ATE
				COMM	IENTS					

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #175
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- Unit 1 is operating at 100% with "1A2" KC Pump in operation.
- KC Pump "1A2" needs to be removed from service to permit preventive maintenance on the pump and motor.

INITIATING CUES:

- The Control Room SRO instructs you to shift trains of KC with 1B1 KC Pump in service and take KC Pump "1A2" out of service beginning at step 3.1.2 in enclosure 4.3 of OP/1/A/6400/005.
- Concurrent verification and peer checks have been waived and the "B" train KC pumps have been "checked out" satisfactorily by a NLO.

EXAMINER NOTE: After reading cue, provide the applicant with a copy of OP/1/A/6400/005 (Component Cooling System), Enclosure 4.3 (Shifting Trains).

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1: 3.1.2 Ensure 1RN-347B (KC Hx 1B Inlet Isol) is open.	CAT
STANDARD:	UNSAT
Applicant determines that 1RN-347B is open by verifying the red OPEN light is LIT or via the OAC.	
COMMENTS:	

STEP 2 3.1.3 Ensure "KC HX 1B OTLT MODE" is in "KC TEMP".	CRITICAL STEP
<u>STANDARD</u> :	SAT
Applicant places the switch for KC HX 1B OTLT MODE in the "KC TEMP" position on 1MC-11.	UNSAT
This step is critical to ensure that the outlet of the KC Heat exchanger is controlled at the proper temperature.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 3 3.1.4 IF letdown is in service per OP/1/A/6200/001 (Chemical and Volume Control System) perform the following: (R.M.)	SAT
3.1.4.1 Verify the Cation Bed Demineralizer is <u>NOT</u> in service per OP/1/A/6200/001 (Chemical and Volume Control System).	UNSAT
STANDARD:	
Applicant determines that letdown is in service and that the Cation Bed Demineralizers are not in service.	
EXAMINER CUE: IF ASKED, "The Cation Bed Demineralizers are not in service."	
COMMENTS:	

STEP 4	3.1.4.2 Record position of 1NV-153A (Letdn Hx Otlt 3-Way VIv). Recorded valve position	SAT UNSAT
STANDARD:		
Applicant d position.	etermines that the position of 1NV-153A is in the "DEMIN"	
COMMENTS:		

	STEP/STANDARD	SAT/UNSAT
<u>STEP 5</u> 3	.1.4.3 IF letdown flow is through the demineralizers, notify Primary Chemistry that the demineralizers will be bypassed while shifting KC Trains. Person notified	SAT UNSAT
STANDARD:		
Applicant dete and notifies P while shifting	ermines that letdown flow is through the demineralizers rimary Chemistry that the demineralizers will be bypassed KC Trains.	
EXAMINER CUE	: "This is Stephanie Jackson from Primary Chemistry, I understand the demineralizers will be bypassed while shifting KC Trains."	
COMMENTS:		

STEP 6	3.1.4.4 IF letdown flow is through the demineralizers, notify Radiation Protection that the demineralizers will be bypassed while shifting KC Trains. Person notified	SAT UNSAT
STANDARD:		
Applicant n bypassed v	otifies Radiation Protection that the demineralizers will be while shifting KC Trains.	
EXAMINER C	UE: "This is Christina Frey from Radiation Protection, I understand that the demineralizers will be bypassed while shifting KC Trains.	
COMMENTS:		

STEP/STANDARD	SAT/UNSAT
STEP 7 3.1.4.5 Place 1NV-153A (Letdn Hx Otlt 3-Way VIv) in the "VCT" position.	CRITICAL STEP
STANDARD:	SAT
Applicant places the switch for 1NV-153A to the "VCT" position.	UNSAT
This step is critical to bypass the demineralizer to prevent a change in reactivity due to the changing boron affinity of the demineralizers caused by letdown temperature changes due to component cooling temperature changes when the trains are shifted. <u>COMMENTS:</u>	

 CAUTION: 5700 gpm discharge header flow per each operating KC pump shall <u>NOT</u> be exceeded. <u>STEP 8</u> 3.1.5 Start either KC Train 1B pump: "KC PUMP B1" 	CRITICAL STEP SAT
STANDARD:	UNSAT
Applicant depresses the red ON pushbutton for KC PUMP 1B on 1MC- 11	
This step is critical to start the desired pump.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 9 3.1.6 Adjust the following flow controllers on 1MC11 to zero gpm flow:	SAT
• 1KC-149 (KF Hx 1A Cool Wtr Otlt)	UNSAT
STANDARD:	
Applicant adjusts the controller for 1KC-149 to zero gpm.	
COMMENTS:	

STEP 10 3.1.7 Stop all KC Train 1A pumps:	CRITICAL STEP
"KC PUMP A2"	SAT
STANDARD:	
Applicant depresses the green OFF pushbutton for KC PUMP A2 on 1MC-11	
This step is critical to secured the desired pump.	
COMMENTS:	

STEP 11 3.1.8 Place "KC HX 1A OTLT MODE" in "MINIFLOW" position.	SAT
<u>STANDARD</u> :	
Applicant places the switch for KC HX 1A OTLT MODE in the "MINIFLOW" position on 1MC-11	UN5A1
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 12 3.1.9 IF AT ANY TIME KC Train flow approaches 5700 gpm while performing the next step, ensure 1KC-C40B (Train B Miniflow Isol) is closed.	SAT
STANDARD:	UNSA1
Applicant ensures that 1KC-40B is closed on 1MC-11.	
COMMENTS:	

STEP 13 3.1.10 Perform the following for the KF cooling loops that are in service:	SAT
 Adjust 1KC-149 (KF Hx 1A Cool Wtr Otlt) flow controller on 1MC11 to 3000 gpm or as necessary to maintain Spent Fuel Pool temperature < 125°F. 	UNSAT
STANDARD:	
Applicant adjusts 1KC-149 flow controller to less than or \leq 3000 gpm.	
EXAMINER NOTE: Since Spent Fuel Pool temperature is only ~ 115°F, the applicant may decide to adjust 1KC-149 at this time.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
NOTE: One pump running is preferred as long as flow is < 5700 gpm.	
<u>STEP 14</u> 3.1.11 <u>IF</u> KC flow requirement is > 5700 gpm, perform the following:	SAT
STANDARD:	UNSAT
Applicant determines that this step does not apply.	
COMMENTS:	

<u>STEP 15</u> 3.1.12	IF letdown is in service per OP/1/A/6200/001 (Chemical and Volume Control System), WHEN KC flow and temperature have stabilized perform the following: (R.M.)	SAT UNSAT
	3.1.12.1 IF 1NV-153A (Letdn Hx Otlt 3-Way VIv) position was recorded as "DEMIN" in Step 3.1.4.2 <u>AND</u> no other reason exists for it to remain in the "VCT" position, return it to "AUTO" as follows:	
	A. Place 1NV-153A in the "DEMIN" position. (R.M.)	
	B. Verify 1NV-153A returns to "AUTO".	
STANDARD:		
Applicant place position and ret		
COMMENTS:		

	STEP/STANDARD	SAT/UNSAT
<u>STEP 16</u>	3.1.12.2 IF letdown flow is through the demineralizers, notify Primary Chemistry that the demineralizers have been restored to service. Person notified	SAT UNSAT
STANDARD:		
Applicant notitive restored to se	ies Primary Chemistry that the demineralizers have been rvice.	
EXAMINER CUE	: "This is Stephanie Jackson from Primary Chemistry, I understand the demineralizers have been restored to service."	
COMMENTS:		

<u>STEP 17</u>	3.1.12.3 IF letdown flow is through the demineralizers, notify Radiation Protection that the demineralizers have been restored to service. Person notified	SAT UNSAT
STANDARD:		
Applicant notif been restored	fies Radiation Protection that the demineralizers have to service.	
EXAMINER CUE	: "This is Christina Frey from Radiation Protection, I understand the demineralizers have been restored to service."	
COMMENTS:		

STEP/STANDARD	SAT/UNSAT
STEP 18 3.1.13 IF RN miniflow was established per Step 3.1.1.2, secure unneeded flow paths.	SAT
STANDARD:	UNSAT
Applicant determines that this step does not apply.	
COMMENTS:	
END OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM H

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- Unit 1 is operating at 100% with "1A2" KC Pump in operation.
- KC Pump "1A2" needs to be removed from service to permit preventive maintenance on the pump and motor.

INITIATING CUES:

- The Control Room SRO instructs you to shift trains of KC with 1B1 KC Pump in service and take KC Pump "1A2" out of service beginning at step 3.1.2 in enclosure 4.3 of OP/1/A/6400/005.
- Concurrent verification and peer checks have been waived and the "B" train KC pumps have been "checked out" satisfactorily by a NLO.

System JPM I In-Plant

	Ca	atawba N J	uclear Stati PM I	on	
	May 20		nitial Licens	se Exam	
<u>Task:</u>	Break Conder	nser Vacuum Lo	cally		
Alternate Path:	None				
Facility JPM #:	CA-084				
Safety Function:	4S <u>Title:</u>	Main Turbi	ne Generator (MT/G	i) System	
<u>K/A</u> 045 A1.0	06 Ability t exceed controls followin	to predict and/or ling design limits s including: Exp ng T/G trip	monitor changes in associated with op ected response of s	parameters (to perating the MT secondary plant	o prevent 7/G system t parameters
Rating(s): 3.3/3	3.7 <u>CFR:</u>	41.5 / 45.5			
Preferred Evaluation	on Location:		Preferred Evaluat	ion Method:	
Simulator	In- P lant	<u> </u>	Perform	S imula	ate X
References:	AP/2/A/5500/0	006 (Loss of S/C	G Feedwater) Enclos	sure 3	
Task Standard:	Enclosure 3 h 10 minutes.	as been comple	ted with the first vac	uum breaker o	pened within
Validation Time:	8 minutes		Time Critical:	Yes X	No
Applicant: NAME			Docket #	Time Sta Time Fini	rt: sh:
Performance Ratin	<u>g:</u> SAT	UNSAT		Performa	nce Time
<u>Examiner:</u>	Examiner: / NAME SIGNATURE DATE				
COMMENTS					

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

• Unit 2 is in Mode 3 following a reactor trip.

INITIATING CUES:

 The Control Room Supervisor instructs you to perform AP/2/A/5500/006 (Loss of S/G Feedwater) Enclosure 3 (Local Actions to Break Condenser Vacuum).

This JPM is TIME CRITICAL; time begins when you acknowledge the task.

EXAMINER NOTE: Provide applicant with a copy of the procedure.

STEP/STANDARD

SAT/UNSAT

START TIME

Examiner NOTE:	
Critical Time Start: Record Time that applicant acknowledges the task	STEP SAT
CAUTION High air flow rates will exist when vacuum breakers are first opened. Stay clear of pipe end.	UNSAT
STEP 1: 1. Break condenser vacuum by opening the following valves:	
 2CM-368 (2A Main Cond Shell Vacuum Bkr) (TB2-600,2F- 2G, 26) (Ladder needed) 	
 2CM-369 (2B Main Cond Shell Vacuum Bkr) (TB2-600, 2F, 24-25) (Ladder needed) 	
 2CM-370 (2C Main Cond Shell Vacuum Bkr) (TB2-609, 2F- 22) (Ladder needed). 	
STANDARD:	
Applicant will describe opening the valves: 2CM-368, 2CM-369, 2CM-370	
This step is critical in order to open correct valves for breaking vacuum.	
Examiner Note: The critical end time is when the applicant describes opening the first valve. Due to the height of the valves, no fall protection will be required.	
Examiner Cue: When applicant describes engaging lever and rotating handwheel counter clockwise to open the following valve then: "A large volume of airflow is heard."	
Critical end time	
<u>COMMENTS:</u>	

STEP/STANDARD	SAT/UNSAT
STEP 2 2. Secure steam to CSAEs as follows:	CRITICAL STEP
a. Close the following valves:	••=
• 2SA-22 (Main Steam To CSAE) (TB2-614, 2M-32)	SAT
• 2SA-27 (Aux Steam To CSAE) (TB-614, 2L-2M, 27).	UNSAT
STANDARD:	
Applicant will describe closing 2SA-22 and 2SA-27	
This step is critical, because if it is not performed, the CSAEs will continue to pull vacuum.	
Examiner Cue: As applicant properly describes closing the valves give cue as appropriate, "Valve turns until resistance is felt."	
COMMENTS:	

<u>WHEN</u> time and manpower permit, <u>THEN</u> complete the shutdown of the CSAEs. REFER TO OP/2/B/6300/006 (Main Vacuum).	SAT
	UNSAT
I read the step	
The Control Room Supervisor has instructed another operator to complete the shutdown of the CSAEs.	
	WHEN time and manpower permit, <u>THEN</u> complete the shutdown of the CSAEs. REFER TO OP/2/B/6300/006 (Main Vacuum). I read the step The Control Room Supervisor has instructed another operator to complete the shutdown of the CSAEs.

STEP/STANDARD	SAT/UNSAT
 <u>STEP 4</u> 3. WHEN requested by Control Room Supervisor, THEN verify condenser vacuum broken as follows: a. Inspect each vacuum breaker for absence of air flow into condenser. b. Notify Control Room Supervisor of results 	SAT UNSAT
b. Notify Control Room Supervisor of results.	
STANDARD:	
Applicant will inspect each vacuum breaker for the absence of air flow into the condenser and will report to the Control Room Supervisor.	
Examiner Cue: After each inspection, "No air flow into condenser."	
COMMENTS:	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JKM I

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

• Unit 2 is in Mode 3 following a reactor trip.

INITIATING CUES:

 The Control Room Supervisor instructs you to perform AP/2/A/5500/006 (Loss of S/G Feedwater) Enclosure 3 (Local Actions to Break Condenser Vacuum).

This JPM is TIME CRITICAL; time begins when you acknowledge the task.

> System JPM J In-Plant

		Ca	tawba Nuclear S	Station	
JPM J May 2014 NDC Initial License Even					
May 2014 NRC Initial License Exam					
Task:	Shift	ing Main Tr	ansformer Auxiliaries		
Alternate Path:	No	-			
Facility JPM #:	EP-0	016			
Safety Function:	6	<u>Title:</u>	Electrical		
<u>K/A</u> 062	(VA 062 A2.01 Ability to (a) predict the impacts of the following malfunctions or operations on the ac distribution system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Types of loads that, if de-energized, would degrade or hinder plant operation.				
Rating(s): 3.4	/ 3.9	<u>CFR:</u> 4	41.5 / 43.5 / 45.3 / 45.13		
Preferred Evalua	tion Lo	cation:	Preferred E	Evaluation Me	ethod:
Simulator	In-F	Plant	X Perform		Simulate X
References:	OP/1	/A/6350/00	05 (Alternate AC Power So	urces) rev. 076	6, Enclosure 4.24
Task Standard:	The	1A Main Tr	ansformer Auxiliaries are ti	ansferred to a	n energized source.
<u>vandation mile:</u>	15 mi	nutes	Time Critic	: <u>al:</u> Ye	s <u>No X</u>
Applicant:	15 mi	nutes -======	<u>Time Critic</u>	r <u>al:</u> Ye ============= Tim Tim	s NoX ===================================
Applicant: NAME	15 mi ====== ting:	inutes	<u>Time Critic</u>	r <u>al:</u> Ye Tim Tim Per	s NoX ======================== e Start: e Finish: formance Time
Applicant: NAME Performance Rat	15 mi 	inutes 	<u>Time Critic</u>	r <u>al:</u> Ye Tim Tim Per	s NoX ========= e Start: e Finish: formance Time
Applicant: NAME Performance Rat SAT Lunsa Examiner:	15 mi ting: T	INUTES	<u>Time Critic</u>	al:Ye Tim Tim Per SIGNATURE	s NoX =================== e Start: e Finish: formance Time formance Time DATE
Performance Rat SAT UNSA Examiner:	15 mi ting: T N	Inutes	<u>Time Critic</u> Docket #	al:Ye Tim Tim Per SIGNATURE	s NoX e Start: e Finish: formance Time / DATE
Performance Rat SAT UNSA Examiner:	15 mi 	INUTES	<u>Time Critic</u> Docket #	al:Ye Tim Tim Per SIGNATURE	s NoX e Start: e Finish: formance Time / DATE
Pandation Time: Applicant: NAME Performance Rat SAT UNSA Examiner:	15 mi <u>ting:</u> T N	INUTES	<u>Time Critic</u> Docket #	al:Ye Tim Tim Per SIGNATURE	s NoX e Start: e Finish: formance Time / DATE
Partoution Time: Applicant: NAME Performance Rat SAT UNSA Examiner:	15 mi	INUTES	<u>Time Critic</u> Docket #	al:Ye Tim Tim Per SIGNATURE	s NoX e Start: e Finish: formance Time / DATE

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- Unit 1 is at 100% power.
- The incoming feeder breaker to 1LXC tripped due to a load center fault.
- As a result, one-half of the 1A Main Transformer Auxiliaries have been deenergized.

INITIATING CUES:

The Unit Supervisor directs you to shift the 1A Main Transformer Auxiliaries to the 1LXD Feeder per Enclosures 4.24 (Shifting Main Transformer 1A Auxiliaries) of OP/1/A/6350/005 (Alternate AC Power Sources).

EXAMINER NOTE: After reading cue, provide the applicant with a copy of OP/1/A/6350/005, Enclosure 4.24.

STEP/STANDARD

SAT/UNSAT

START TIME: _____

NOTE: 1. Shifting of power supplies shall be performed without delay.	
All breakers and alarm lights are located inside the cabinet at the Main Transformer.	SAT
 During normal operation, loss of a power supply (from LXC or LXD) will be indicated by the associated "NO VOLTAGE BANK A (B)" alarm light at the transformer. 	UNSAT
 Electrical PPE (high voltage gloves, FR clothing, face shield) is required for shifting power supplies. 	
Examiner Note: Applicant should state that they would acquire the required PPE.	
STEP 1: 3.1 IF shifting Bank A power supplies, perform the following:	
3.1.1 Verify voltage indicated on 1LXD per one of the following:	
 Transformer 1TXD Supply Voltage meter with 1LXD-4B closed 	
OR	
 Transformer 1TXS Supply Voltage meter with 1LXD-8B closed 	
STANDARD:	
Applicant verifies voltage indicated on transformer 1TXD with 1LXD-4B closed or 1TXS with 1LXD-8B closed.	
Examiner Cue: 600 volts is indicated.	
COMMENTS:	
STEP/STANDARD	SAT/UNSAT
--	-----------
STEP 2 3.1.2 IF this is an unexpected loss of power, verify the following at Transformer 1A:	SAT
"NO VOLTAGE BANK A" alarm light illuminated.	UNSAT
• "NO VOLTAGE BANK B" alarm light dark.	
STANDARD:	
Applicant verifies "NO VOLTAGE BANK A" alarm light is illuminated and the "NO VOLTAGE BANK B" alarm light is dark.	
Examiner Cue: NO VOLTAGE BANK A is LIT and NO VOLTAGE BANK B is DARK.	
COMMENTS:	

STEP 3 3.1.3 Open "NORMAL FEEDER 1LXC" breaker.	CRITICAL STEP
STANDARD:	SAT
Applicant describes opening the NORMAL FEEDER 1LXC breaker by placing it in the OFF (down) position.	UNSAT
Examiner Cue: NORMAL FEEDER 1LXC is in the OFF position.	
This step is critical to allow the lockout bar to be slid in the following step.	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
STEP 4 3.1.4 Slide lockout bar to the left.	CRITICAL STEP
STANDARD:	SAT
Applicant describes sliding the lockout bar to the left.	
Examiner Cue: Lockout bar is to the left.	UNSAT
This step is critical to allow closing of the EMERG FEEDER 1LXD breaker in the following step.	
COMMENTS:	

STEP 5 3.1.5 Close "EMERG FEEDER 1LXD" breaker.	RITICAL STEP
<u>STANDARD</u> :	SAT
Applicant describes closing the EMERG FEEDER 1LXD breaker by placing the breaker to the ON (up) position.	UNSAT
Examiner Cue: EMERG FEEDER 1LXD breaker is in the ON position.	
This step is critical to energize the transformer auxiliaries for the 1A Main Transformer	
COMMENTS:	

STEP/STANDARD	SAT/UNSAT
 <u>STEP 6</u> 3.1.6 Acknowledge any alarms present. <u>STANDARD</u>: Applicant describes acknowledging any alarms. <u>Examiner Cue</u>: Alarms have been acknowledged. <u>COMMENTS:</u> 	SAT UNSAT
<u>STEP 7</u> 3.1.7 Complete and file Enclosure 4.29 (Unit 1 Main Transformers Cooler Groups Status) to record status. <u>STANDARD</u> :	SAT UNSAT

Applicant reads the step.

Examiner Cue: Another operator will complete and file enclosure 4.29

NOTE: At this point, Bank A is supplied from 1LXD. Subsequent steps are to return Bank A to 1LXC.

COMMENTS:

END OF TASK

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM J

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- Unit 1 is at 100% power.
- The incoming feeder breaker to 1LXC tripped due to a load center fault.
- As a result, one-half of the 1A Main Transformer Auxiliaries have been deenergized.

INITIATING CUES:

The Unit Supervisor directs you to shift the 1A Main Transformer Auxiliaries to the 1LXD Feeder per Enclosures 4.24 (Shifting Main Transformer 1A Auxiliaries) of OP/1/A/6350/005 (Alternate AC Power Sources).

> System JPM K In-Plant

EVALUATION SHEET

				LVALUAI				
<u>Task:</u>		Place	e the 2A	Hydrogen Ana	lyzer in Service			
Alternate Pa	ath:	No						
Facility JPN	<u>1 #:</u>	VX-0)24					
Safety Fund	tion:	5	<u>Title:</u>	Hydroger	n Recombiner and	Purge Control Sy	stem (H	RPS)
<u>K/A</u>	028 A	1.01	Ability to exceedi includin	o predict and/c ng design limit g): Hydrogen	or monitor changes ts) associated with concentration	in parameter (to operating the HR	prevent PS cont	rols
<u>Rating(s):</u>	3.4/3	3.8	<u>CFR:</u>	41.5 / 45.5				
Preferred E	valuatio	on Lo	cation:		Preferred Eval	uation Method:		
S imulator		In-F	Plant	X	Perform	Simu	ate	X
<u>References</u>	:	•	EP/2/A/ OP/2/A/ 4.9), rev	5000/E-1 (Loss /6450/010 (Cor /. 026	s of Reactor or Sec ntainment Hydroger	ondary Coolant), i n Control Systems	rev. 025 Enclosi	ıre
Task Standa	ard:	Hydr seleo	ogen Ar	alyzer Train osition "1".	2A in Service mo	onitoring upper o	ontainm	ient via
Validation T	<u>ime:</u>	15 mi	nutes		Time Critical:	Yes	No	X
Applicant:				======== Dock	et #	Time Start Time Finis	====== : h:	
Performanc	e Ratin	<u>ig:</u>				Performan	ce Time	
SAT U	JNSAT _							
Examiner:							/	
		٨	NAME		SIC	GNATURE	/ 	DATE
		N 	JAME 	 COM	SIC SIC MENTS	GNATURE	 	DATE =====
		N =====	JAME ======	COM	SIC MENTS	GNATURE		DATE =====
		N 	JAME	COM	SIC MENTS	GNATURE		DATE =====
		N 	JAME	COM	SIC	GNATURE		DATE =====

SIMULATOR OPERATOR INSTRUCTIONS:

- 1. ENSURE NRC Examination Security has been established.
- 2. Reset to IC #168
- 3. Enter the password.
- 4. Select "Yes" on the INITIAL CONDITION RESET pop-up window.
- 5. Ensure simulator setup per table below.
- 6. Place simulator in RUN and acknowledge any alarms.
- 7. ENSURE "Extra Operator" is present in the simulator.
- 8. Place simulator in FREEZE until Examiner cue is given.

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- A large break LOCA has occurred on Unit 2.
- The procedure currently in use is EP/2/A/5000/E-1 (Loss of Reactor or Secondary Coolant).
- Containment Hydrogen Analyzer 2B is tagged for maintenance.

INITIATING CUES:

• The Control Room Supervisor directs you to place Containment Hydrogen Analyzer 2A in service to Position "1" for sampling Upper Containment per OP/2/A/6450/010 (Containment Hydrogen Control Systems) Enclosure 4.9, step 3.1. All initial conditions are complete. Peer check has been waived.

EXAMINER NOTE: After reading cue, provide examinee with a copy of OP/2/6450/010, Enclosure 4.9 with the Initial Conditions signed off.

STEP/STANDARD

SAT/UNSAT

START TIME: _____

STEP 1:3.1 Place Hydrogen Analyzer Train A OR Train B in service.3.1.1 IF aligning Hydrogen Analyzer Train A, proceed as follows:3.1.1.1 Obtain Hydrogen Analyzer Control Panel Train A (2ELCP0251) key (Key #225) from WCC.	SAT UNSAT
STANDARD:	
Applicant determines from the initiating cue that A train needs to be aligned and obtains the key #225	
EXAMINER NOTE: Key not required to be obtained to complete this JPM task. Once key is identified give cue.	
EXAMINER CUE: "Key 225 has been obtained."	
<u>COMMENTS:</u>	

STEP/STANDARD	SAT/UNSAT
NOTE: Steps 3.1.1.2 - 3.1.1.5 will be performed at Hydrogen Analyzer Control Panel Train 2A HACP-2A (2ELCP0251) (AB-579, DD-61).	CRITICAL STEP
 STEP 2 3.1.1.2 Select the desired sample location by positioning the "HYDROGEN ANALYZER SAMPLE VALVES PORTS" switch: Position "1" (for sampling Upper Containment) Position "2" (for sampling operating level) Position "3" (for sampling Steam Generator 1B cavity) Position "ALL" for sampling ALL 3 locations) 	SAT UNSAT
STANDARD:	
Applicant describes placing the HYDROGEN ANALYZER SAMPLE VALVES PORTS" switch in position "1".	
EXAMINER CUE: "Switch is in position 1."	
This step is critical to sample Upper Containment.	
COMMENTS:	

<u>STEP 3</u> <u>STANDARD</u> :	3.1.1.3 Verify the "POS 1: H2 ANALYZER POS 2: POST ACCIDENT SAMPLE PANEL" switch is in "POS. 1".	SAT UNSAT
Applicant descr	ibes verifying the switch is in "POS 1"	
EXAMINER CUE:	"Switch is in position 1."	
COMMENTS:		
<u>COMMENTS:</u>		

	STEP/STANDARD	SAT/UNSAT
<u>STEP 4</u> <u>STANDARD</u> :	3.1.1.4 Insert key in "HYDROGEN ANALYZER CONT ISOLATION VALVES" key switch and turn to "OPEN" position.	CRITICAL STEP SAT UNSAT
Applicant descriposition.	0.00/11	
This step is critica to be able to samp	al to open the containment isolation valves in order ble upper containment.	
EXAMINER CUE:	"Key is in the OPEN position."	
COMMENTS:		

<u>STEP 5</u>	 3.1.1.5 Verify the following indicating lights are lit: "H2 SAMPLE CONT. ISOLATION VALVES OPEN" Sample location(s) selected in Step 3.1.1.2. 	SAT UNSAT
STANDARD:		
Applicant descr Containment Is	ibes verifying the red OPEN light LIT for H2 Sample olation Valves.	
EXAMINER CUE:	"Red OPEN light is lit."	
COMMENTS:		

STEP/STANDARD	SAT/UNSAT
NOTE: Steps 3.1.1.6 - 3.1.1.7 will be performed inside A Train Hydrogen Analyzer Control Unit (PAMS) 2MIMT5320A (AB-579, DD-61).	SAT
STEP 63.1.1.6 Verify the "STANDBY/OFF" switch is in the "STANDBY" position.	
STANDARD:	
Applicant describes verifying the "STANDBY/OFF" switch is in the "STANDBY" position.	
EXAMINER CUE: "Switch is in the 'STANDBY' position."	
COMMENTS:	

STEP 7	3.1.1.7 Place the "ON/OFF" switch in the "ON" position.	CRITICAL STEP
STANDARD:		SAT
Applicant descr	ibes moving the ON/OFF switch up to the "ON" position.	UNSAT
This step is critica		
EXAMINER CUE:	"Switch is in the 'ON' position and the green 'ON' light is lit."	
COMMENTS:		
COMMENTS:		

STEP/STANDARD		SAT/UNSAT
STEP 8 3.1.1.8 Monitor follow	or H₂ concentration at either of the ing locations:	SAT
• "	Hydrogen Analyzer Control Unit 2MIMT5320A" (AB-579, DD-61)	UNSAT
• " r	CONTAINMENT TRN A H2 ANAL" meter (2MIP5320) located on 2MC7.	
STANDARD:		
Applicant describes calling the hydrogen analyzers are in servi on 2MC-7.	control room to inform them that the ice and can be read on the local unit or	
EXAMINER CUE: "Hydrogen cou 7."	ncentration will be monitored on 2MC-	
COMMENTS:		
END	OF TASK	

STOP TIME _____

APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK) 2014 NRC Initial License Exam JPM K

READ TO APPLICANT

DIRECTION TO APPLICANT:

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

INITIAL CONDITIONS:

- A large break LOCA has occurred on Unit 2.
- The procedure currently in use is EP/2/A/5000/E-1 (Loss of Reactor or Secondary Coolant).
- Containment Hydrogen Analyzer 2B is tagged for maintenance.

INITIATING CUES:

• The Control Room Supervisor directs you to place Containment Hydrogen Analyzer 2A in service to Position "1" for sampling Upper Containment per OP/2/A/6450/010 (Containment Hydrogen Control Systems) Enclosure 4.9, step 3.1. All initial conditions are complete. Peer check has been waived.