REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.1.a

TITLE: Perform a Dropped Rod Test

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Perform a Dropped Rod Test

Alternate Path: NONE

Facility JPM #: 2000NRCJPM B.1-04

K/A: 001K4.14 Importance: SRO: 2.8 RO: 2.6

K/A Statement: Knowledge of CRDS design features/interlocks which provide for the following: operation parameters, including proper rod speed.

Task Standard: Control Rod drop test timing is completed for Rod 31.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: RO-22, Control Rod Drop Times

Validation Time: __20___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

Control Rod Drop Time Testing is being performed using the Plant Process Computer. Shutdown Margin has been verified to be greater than 2%.

INITIATING CUES:

The Control Room Supervisor has directed you to perform Sections 5.4.1 and 5.4.3 of RO-22, "Control Rod Drop Times" for Control Rod 31 only. Section 5.4.2 has already been performed. All Plant and System Conditions have been met per Section 3.3 and 3.4 of RO-22.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Obtains and refers to RO-22, Section 5.4 and Attachment 1.	S U
Comment:			
NOTE: Provide copy of RO-22 to candidate.			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
5.4.1	Set start and stop position for dropped rod timing on PPC.	As indicated on PPC (page 420) start position at 130, stop position at 13.	S U
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
5.4.3.a	Ensure shutdown margin greater than or equal to 2%.	*Info previously provided in Initial Conditions.*	S U
Comment:			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
5.4.3.b	Obtains copy of SOP-6 to withdraw Rod 31.	Obtains SOP-6 and refers to Section 7.4.	S U
Comment:			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
SOP-6 7.4.c	Selects Rod 31 for withdrawal.	Group 2 ROD SELECT switch selected to "31".	S U
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
SOP-6 7.4.d	Selects Rod Group containing Rod 31.	ROD CONTROL GROUP SELECT switch to "2".	S U
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
SOP-6 7.4.e	Aligns rod control to allow movement of an individual rod.	ROD CONTROL MODE SELECT switch to "MI".	S U
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
SOP-6 7.4.f	Withdraw Rod 31 to Upper Electrical Limit (UEL).	___ ROD CONTROL switch to RAISE. ___ Rod 31 at UEL.	S U
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
RO-22 5.4.3.c	Record full out rod position for Rod 31.	Refers to PPC display 412 and records full out position on Attachment 1 for Rod 31 as 131 $\pm$ 0.5.	**S U**
Comment:			
Note: Expected alarms include: * EK-0911 (ARP-5), Rod Position 4 Inches Deviation **EK-0916 (ARP-5), Control Rods Out of Sequence**			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
5.4.3.d.1	Enter rod number for rod to be tested.	On PPC display 420, Rod 31 entered.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 11	STANDARD	Grade
5.4.3.d.2	Verify start position for Rod 31 is set to 130.	Refers to PPC display 420. Verifies Rod 31 start position indicates 130.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 12	STANDARD	Grade
5.4.3.d.3	Verify stop position for Rod 31 is set to 13.	Refers to PPC display 420. Verifies Rod 31 stop position indicates 13.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 13	STANDARD	Grade
5.4.3.e	Start testing sequence on PPC.	On PPC display 420, sets START NEW TEST to YES.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 14	STANDARD	Grade
5.4.3.f	Trip the selected rod.	___ Observes PPC display 420. ___ Notes TEST STATUS change to TESTING. ___ Proceeds to Rod Drop Test Panel. ___ Within 30 seconds places Rod 31 toggle to CLUTCH OFF.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 15	STANDARD	Grade
5.4.3.g	Verify test completion on PPC.	On PPC display 420, verifies TEST STATUS indicates COMPLETE.	**S U**
Comment: ***NOTE:*** ***If test failure due to rod being dropped from below 130 inches or due to not placing toggle in CLUTCH OFF within 30 seconds, it is acceptable to repeat test for Rod 31.***			

Proc.Step	TASK ELEMENT 16	STANDARD	Grade
5.4.3.i	Reset trip toggle for Rod 31.	Rod 31 toggle switch at Rod Drop Test Panel selected to CLUTCH ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 17	STANDARD	Grade
5.4.3.j	Record Rod Drop Clutch Time for Rod 31.	Records Rod 31 Rod Drop Clutch Time per PPC display on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 18	STANDARD	Grade
5.4.3.k	Verify Dropped Rod alarm (EK-0948) and record on Attachment 1.	___ Dropped Rod alarm verified. ___ Dropped Rod alarm recorded on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 19	STANDARD	Grade
5.4.3.l	Withdraw dropped rod to clear rod drop alarm.	___ Operates ROD CONTROL joystick to RAISE. ___ Rod 31 withdrawn to between 2.0" to 4.0". ___ Observes Dropped Rod alarm clears.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 20	STANDARD	Grade
5.4.3.m	Record rod position at which Dropped Rod alarm clears.	~2"-4" recorded in "Alarm Reset Position" box for Rod 31 on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 21	STANDARD	Grade
5.4.3.n	Insert rod to Lower Electrical Limit (LEL) position.	___ Operates ROD CONTROL joystick to LOWER. ___ Rod 31 is at LEL (rod motion stops).	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 22	STANDARD	Grade
5.4.3.o	Record LEL position.	~2.9" recorded in "Rod Position At LEL" for Rod 31 on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 23	STANDARD	Grade
5.4.3.p	Print rod drop position display 3 seconds profile and drop times from PPC.	PPC displays 421 and 422 printed.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

Control Rod Drop Time Testing is being performed using the Plant Process Computer. Shutdown Margin has been verified to be greater than 2%.

INITIATING CUES:

The Control Room Supervisor has directed you to perform Sections 5.4.1 and 5.4.3 of RO-22, "Control Rod Drop Times" for Control Rod 31 only. Section 5.4.2 has already been performed. All Plant and System Conditions have been met per Section 3.3 and 3.4 of RO-22.

SIMULATOR OPERATOR INSTRUCTIONS

- Any Mode 3 (recommend IC-11) with PCS temperature >525° F.
- All PCPs running.
- Steam bubble and normal water level in PZR.
- Insert all rods, including Part Lengths to bottom of core.
  * Use RD05A, RD05B, RD05G to put all rods in.
- Perform Sections 5.2 and 5.3 of RO-22.
- Provide candidate with attached RO-22, Attachment 1.
- Place Part Length rods back to 3.5"
  * OVRD 42 - 45 matrix GREEN lights ON
- Ensure Dropped Rod alarm NOT on. (if setup is done properly, it won't be.)
- RO-22, Att. 1 two 2 lines filled in.
- Have a yellow hi-lighter available.
- Ensure test toggle switch to UP (back of panel C-06)
- Have a working copy of RO-22 for examiner to provide.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.1.b

TITLE: Align Charging Pump Suction to SIRWT

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Align Charging Pump Suction to SIRWT (Safety Injection Refueling Water Tank)

Alternate Path: NA

Facility JPM #: NEW

K/A: 004A4.07 Importance: SRO: 3.7 RO: 3.9

K/A Statement: Ability to manually operate and/or monitor in the control room boration/dilution

Task Standard: Emergency boration has been secured and operating charging pump is taking suction from the SIRW tank.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: EOP Supplement 40, Section 2.0, rev 5

Validation Time: __20__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant was at full power when an Excess Steam Demand Event occurred. The reactor was manually tripped. Safety Injection initiated as designed, and emergency boration is in progress. Subsequently, Safety Injection throttling criteria was met, and Safety Injection was throttled. Adequate Shutdown Margin HAS been verified. Letdown is in service. P-55A is in service. P-55B and P-55C are in AUTO.

INITIATING CUES:

To prevent excess boron in the PCS, you have been directed to secure Emergency Boration and align Charging Pump suction to the SIRW Tank per EOP Supplement 40, Section 2.0.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
	Obtain correct procedure.	Obtains EOP Supplement 40 and refers to Section 2.0.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
1	Open Charging Pumps Suction From SIRWT Valve, MO-2160.	Operate handswitch for MO-2160 to OPEN and releases (seal in). Observes red light come ON and green light go OFF.	**S U**
Comment: *NOTE: It is acceptable if candidate does not release control switch.* **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
2	Stop the Boric Acid Pumps.	Operates the following control switches: ● P-56B (42-191CS) to TRIP and notes green target, red light OFF, green light ON. ● P-56A (42-207CS) to TRIP and notes green target, red light OFF, green light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
3	Close the following valves: ● Boric Acid Pump Feed Valve, MO-2140 ● Gravity Feed Valves * MO-2169 * MO-2170	Operates handswitch for each valve to OPEN and releases (seal in). ● MO-2140 (42-227-CS) _____ ● MO-2169 (42-127-CS) _____ ● MO-2170 (42-107-CS) _____	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
4	Ensure CLOSED Charging Pumps Suction VCT Outlet Valve, MO-2087.	Notes green light ON and red light OFF for MO-2087.	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
5	Operate each Charging Pump for at least five minutes.	• Ensures P-55A run for at least five minutes with the new suction source: ___ *Notes green light OFF and red light ON for 52-1205CS *May also check charging flow indication. ***CUE: 5 1/2 minutes have elapsed.*** • It is acceptable if candidate elects to leave P-55A running.	**S U**
		• Operates P-55B for at least five minutes: ___ *Operates "Charging Pumps Control Select" switch 43-1106/SS to MANUAL(Panel C-12). ___ *Operates 52-1206CS to CLOSE and notes green target changes to red. Observes green light OFF and red light ON. *May also check charging flow indication. ***CUE: 5 1/2 minutes have elapsed.*** • It is acceptable if candidate elects to leave P-55B running.	**S U**
		• Operates P-55C for at least 5 minutes: ___ *Operate "Charging Pumps Control Select" switch 43-1105/SS to MANUAL. ___ *Operates 52-1105CS to CLOSE and notes green target changes to red. Observes green light OFF and red light ON. *May also check charging flow indication. ***CUE: 5 1/2 minutes have elapsed.*** • It is acceptable if candidate elects to leave P-55C running.	**S U**
Comment: *NOTE: This step allows any combination of charging pumps to be operated for at least five minutes.* **CRITICAL STEP**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant was at full power when an Excess Steam Demand Event occurred. The reactor was manually tripped. Safety Injection initiated as designed, and emergency boration is in progress. Subsequently, Safety Injection throttling criteria was met, and Safety Injection was throttled. Adequate Shutdown Margin HAS been verified. Letdown is in service. P-55A is in service. P-55B and P-55C are in AUTO.

INITIATING CUES:

To prevent excess boron in the PCS, you have been directed to secure Emergency Boration and align Charging Pump suction to the SIRW Tank per EOP Supplement 40, Section 2.0.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to any full power IC.
- Initiate an Excess Steam Demand Event (e.g.,MSLB) and carry out EOP-1.0 Immediate Actions. (Use MS15B at 100%)
- When Safety Injection initiates allow charging to restore PZR level to ~40% and secure the following pumps:

  P-55B
  P-55C

- Ensure P-55A in service with normal letdown.

Note: Requires ~11 minutes to achieve desired conditions from time of MS15B insertion.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.1.c

TITLE: Alternate PZR Pressure Controllers

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Alternate Pressurizer Pressure Controllers

Alternate Path: N/A

Facility JPM #: ASFE-01

K/A: 010A3.02 Importance: SRO: 3.5 RO: 3.6

K/A Statement: Ability to monitor automatic operation of the PZR PCS, including: PZR pressure.

Task Standard: PIC-0101A pressure controller is in AUTO and controlling PCS pressure normally.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: SOP-1, 7.3.2.b.3

Validation Time: __10___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is at full power steady state. PIC-0101B Pressurizer Pressure controller is in service.

INITIATING CUES:

For the normal weekly alternating of Pressurizer Pressure Controllers, the Control Room Supervisor directs you to alternate Pressurizer Pressure controllers per SOP-1, Section 7.3.2.b.3. The desired operating mode for PIC-0101A is AUTO.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtain current procedure.	Obtains SOP-1 and refers to Section 7.3.2.b.3.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
3 (a)	Verify controller to be selected in MANUAL.	Operator checks PIC-0101A in MANUAL by noting small "M" light ON. *Also acceptable if operator pushes M button.*	S U
Comment:			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
3 (b)	Adjust output of controller to be selected to match output of current controller.	Operate PIC-0101A manual slide lever and match output to that of PIC-0101B.	S U
Comment:			
			CRITICAL STEP

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
3 (c)	Place selector switch 1/PRC-0101 to position for controller to be selected.	Operates 1/PRC-0101 switch to CHANNEL A.	S U
Comment:			
			CRITICAL STEP

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
3 (d)	Place the selected controller in AUTO.		**S U**
(1)	Ensure PZR Heater Control Selector in CHAN A&B.	___ Checks "HEATER CONTROL SELECTOR" switch 1/LIC-0101 in CHAN A&B.	
(2)	Ensure selected controller setpoint pressure set at desired PCS pressure.	___ Checks setpoint (BLUE pen) of PIC-0101A at ~2060 psia.	
(3)	Adjust selected controller output to match indicated PZR pressure with setpoint pressure.	___ Uses manual lever to adjust actual PZR pressure (RED pen) with setpoint (BLUE pen).	
(4)	Depress "A" pushbutton on selected controller.	___ Depresses "A" pushbutton on PIC-0101A. AUTO light LIT.	
Comment:			
			CRITICAL STEP

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
3 (e)	Place the unselected controller in MANUAL, with a 50% output signal.	___ Pushes "M" pushbutton on PIC-0101B. AUTO light OFF, MANUAL light comes ON. ___ PCS pressure is steady at approx. 2060 psia.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is at full power steady state. PIC-0101B Pressurizer Pressure controller is in service.

INITIATING CUES:

For the normal weekly alternating of Pressurizer Pressure Controllers, the Control Room Supervisor directs you to alternate Pressurizer Pressure controllers per SOP-1, Section 7.3.2.b.3. The desired operating mode for PIC-0101A is AUTO.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to any full power IC.
- Ensure Pressurizer Pressure controller PIC-0101B is in service.
- Put BLUE pointer on PIC-0101A at approximately 2020. (This will require the candidate to have to make an adjustment of the setpoint when swapping controllers.)

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.1.d

TITLE: Latch and Rollup the Main Turbine

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Latch and Rollup the Main Turbine

Alternate Path: N/A

Facility JPM #: NEW

K/A: 045A4.02 Importance: SRO: 2.6 RO: 2.7

K/A Statement: Ability to manually operate and/or monitor in the control room: T/G controls, including breakers.

Task Standard: Main Turbine is latched and rolling at 520 rpm

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: SOP-8, 7.1.2, rev 58

Validation Time: __30__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The Plant is in Mode 2. Reactor power is approximately 4%. The Main Turbine is on the Turning Gear. GOP-4, "MODE 2 to MODE 1" is in progress and all steps up to and INCLUDING Attachment 1, Step 3.1 have been completed.

INITIATING CUES:

You have been directed to Latch (from the Control Room) and Roll the Main Turbine to 520 rpm and hold turbine speed at 520 rpm for special eccentricity monitoring per SOP-8, 7.1.2, up to and including step 7.1.2.m. The rate of 100 rpm/min. is to be used for this evolution.

An Auxiliary Operator is stationed as required for this evolution. An NCO will control the reactor and other plant systems not directly related to your task.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Obtains SOP-8 and refers to Section 7.1.2.b. May also refer to GOP-4, Att. 1, Step 3.1 but not required.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
7.1.2.a	Start P-24, High Pressure Seal Oil Backup Pp.	Operates 42-113CS to RUN and observes RED light ON and GREEN light OFF.	S U
Comment: *Info to EXAMINER: This pump provides control oil pressure for latching.*			**CRITICAL STEP**

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
7.1.2.b	Perform the following to latch the turbine:		S U
b.1	Latch the turbine from the Control Room **CRITICAL STEP**	___ Pushes and holds LATCH lighted pushbutton on DEH Panel. ___ LATCH button must be held long enough for LATCH lamp to illuminate (several seconds).	S U
b.3	Check LATCH lamp and TURBINE TRIPPED lamp.	Notes LATCH lamp ON and TURBINE TRIPPED lamp off	S U
b.4	Check OPEN the following valves as EHC pressure is established: • Main Stop Valves • Intercept Valves • Reheat Stop Valves **CRITICAL STEP**	Observes DEH CRT screen and notes: ___ All 4 Main Stop Valves indicate OPEN. ___ All 4 Intercept Valves indicate OPEN. ___ All 4 Reheat Stop Valves indicate OPEN.	S U
Comment:			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
7.1.2.c	If DEH Controller is in MANUAL, then perform the following:		**S U**
c.1	RAISE Limiter ABOVE 0%. ___ Depress UNIT OVERVIEW (or Control Setpoint) to access the UNIT OVERVIEW (or Control Setpoint) screen. ___ Depress SET LIMITER to access the SET LIMITER subscreen. ___ Press SELECT on the numeric keypad. ___ Press LIMIT RAISE or LIMIT LOWER until Limiter is above 0%,	Limiter is above 0%.	**S U**
c.2	PLACE to IN the Speed Loop. ___ Press "Feedback Loops" on Displays keypad. ___ Move cursor to desired feedback loop field using TAB keys on Cursor Keypad. ___ Press SELECT on numeric keypad. ___ Press START on Control Keypad to placed Speed Loop in service.	Speed Loop is IN (highlighted on DEH screen). **Note: May use different screens and just read Speed Loop is IN on the screen in use.**	**S U**
c.3	SELECT Operator Auto: ___ Press OPERATOR AUTO SELECT on DISPLAYS keypad. ___ Observe GREEN Operator Auto by cursor. ___ Press SELECT on numeric keypad. ___ Observe Operator Auto turns WHITE. ___ Press START on Control keypad. ___ Observe in CONTROL MODE field that "Manual Control" switches to "Operator Auto".	Operator Auto selected as indicated by: ___ Operator Auto backlit by WHITE bar. ___ CONTROL MODE field indicates "Operator Auto"	**S U**

Comment:

NOTE: Candidate may either refer to SOP-8, Att. 10, "DEH Information" OR may refer to instructions on the DEH screen for these operations.

CRITICAL STEP

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
7.1.2.d	Ensure in SINGLE VALVE MODE the DEH Controller.	DEH Controller in SINGLE VALVE MODE as indicated by any of the following: ___ GOVERNOR SINGLE indicated on any DEH screen.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
7.1.2.e	Ensure CLOSED Governor Valves.	Checks all 4 Governor Valves indicating CLOSED on "Valve Test Display " screen. Also acceptable to check 4 analog instruments on Panel C-01.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
7.1.2.f	Press UNIT EMERGENCY TURBINE TRIP button to operate Solenoid Trip and check closed the following valves: ● Main Stop Valves ● Intercept Valves ● Reheat Stop Valves	Observes "Valve Test Display" screen and checks: ___ All 4 Main Stop Valves CLOSED. ___ All 4 Intercept Valves CLOSED. ___ All 4 Reheat Stop Valves CLOSED.	**S U**
Comment: *NOTE: Limiter goes back to 0 on a turbine trip.*			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
7.1.2.g	When at least 30 seconds have elapsed then perform the following:		**S U**
	1. RESET relay 386 AST.	___ 386 AST is RESET.	
	2. LATCH turbine.	___ Main Turbine is latched.	
	3. RAISE Limiter to approx. 10%.	___ Limiter is at approx. 10%.	
Comment: **CRITICAL STEP** ***NOTE: Relay 386 AST is on the back of main electrical panel C-04.***			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
7.1.2.h	Perform the following to test the Overspeed Protection Controller:		**S U**
	1. Obtain Key #49 from Shift Manager's Key Cabinet and insert key in Overspeed Protection Controller Switch.	___ Key #49 obtained and inserted in Overspeed Protection Controller Switch on DEH Panel.	
	2. Turn COUNTERclockwise to "OPC TEST" position Key #49.	___ OPC Controller Switch in "OPC TEST."	
	3. Verify rapid closure of Turbine Intercept Valves.	___ Turbine Intercept Valves indicate CLOSED.	
	4. Turn to "NORMAL" position Key #49.	___ OPC Controller Switch in "NORMAL".	
	5. Verify reopening of Intercept Valves.	___ Observes Intercept Valves reopening as indicated on "Valve Test Display" DEH screen.	
	6. Remove Key #49 and return to Shift Manager.	___ Key #49 returned to Shift Manager.	
Comment:			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
7.1.2.i	SET desired Speed, Rate of Increase and Valve Position Limiter as follows:		**S U**
1.	Set to 520 rpm the speed on Setter. ● Press CONTROL SETPOINT on the DISPLAYS keypad. ● Enter Setter value on the numeric keypad. ● Press SELECT on numeric keypad and observe the following: *HOLD will be displayed in upper right of CRT screen. *HOLD light/pushbutton LIT on Manual Panel. **CRITICAL STEP**	___ Setter field indicates 520 rpm. ___ HOLD displayed on CRT screen. ___ HOLD light/button LIT.	
2.	Set to $\leq$ 100 rpm/min the rate of increase. ● Press TAB RIGHT on CURSOR keypad to move cursor to "Rate" field on CRT display. ● Enter desired acceleration rate using numeric keypad. ● Press SELECT on numeric keypad. **CRITICAL STEP**	___ Rate field indicates 100 rpm/min.	
3.	Set to approx. 10% the Valve Position Limiter. **CRITICAL STEP**	___ Limiter set at approx. 10%.	
Comment:			

Proc.Step	TASK ELEMENT 11	STANDARD	Grade
7.1.2.j	Initiate GO (per any one of the following methods): ● Press GO button on Manual Panel. ● Press GO/HOLD on DISPLAY keypad and then press P1 on Programmable Keypad. **CRITICAL STEP**	Main Turbine is in GO and rolling at 100 rpm/min up to 520 rpm.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 12	STANDARD	Grade
7.1.2.k	Perform the following:		**S U**
	1. Verify turbine speed rises to 520 rpm at the selected rate.	___ Observes turbine speed rising at 100 rpm/min using digital indication on Panel C-01 or indication on DEH screen.	
	2. If eccentricity reaches 9 mils, then initiate HOLD and investigate.	**CUE: Not required due to special monitoring equipment setup by Engineering.**	
	3. If necessary to stop raising speed the initiate HOLD.		
	4. If turbine speed rises to 1400 rpm then TRIP the turbine and notify Engineering.		

Comment:

Note: Expected alarm EK-0318, Turbine Panel Trouble, Impulse Pressure Transducer Monitor #1 Failed, may annunciate.

Proc.Step	TASK ELEMENT 13	STANDARD	Grade
7.1.2.l	Adjust to maintain temperatures within bands cooling water to Turbine Generator auxiliaries as required.	**CUE: Auxiliary Operators are monitoring and making required adjustments for cooling water to Turbine Generator auxiliaries.**	**S U**

Comment:

Proc.Step	TASK ELEMENT 14	STANDARD	Grade
7.1.2.m	Maintain speed at 520 RPM. **CRITICAL STEP**	Observes turbine in HOLD and speed at 520 rpm. **CUE: Bearing temps, rubs are being monitored by Engineering.**	**S U**

Comment:

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The Plant is in Mode 2. Reactor power is approximately 4%. The Main Turbine is on the Turning Gear. GOP-4, "MODE 2 to MODE 1" is in progress and all steps up to and INCLUDING Attachment 1, Step 3.1 have been completed.

INITIATING CUES:

You have been directed to Latch (from the Control Room) and Roll the Main Turbine to 520 rpm and hold turbine speed at 520 rpm for special eccentricity monitoring per SOP-8, 7.1.2, up to and including step 7.1.2.m. The rate of 100 rpm/min. is to be used for this evolution.

An Auxiliary Operator is stationed as required for this evolution. An NCO will control the reactor and other plant systems not directly related to your task.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to IC-12
- Ensure DEH Speed Loop is OUT.
- Refer to GCL 4, and ensure all steps appropriate for the Simulator have been completed up to and INCLUDING Step 3.1.
- Refer to SOP-8, and ensure all steps appropriate for the Simulator have been completed up to and INCLUDING 7.1.1.y.
- Ensure Caution Tag is REMOVED from turbine Latch button. Then after all JPMs are complete, reinstall this Caution Tag for normal Simulator operations.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.1.e

TITLE: Vent Non-Condensible Gases from the Reactor Vessel Head

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Vent Non-Condensible Gases from the Reactor Vessel Head

Alternate Path: Vent path to Quench Tank, PRV-1072, fails to open when required.

Facility JPM #: 2000CERTJPMRO-B.1-04

K/A: 007A3.01 Importance: SRO: 2.9 RO: 2.7

K/A Statement: Ability to monitor automatic operation of the PRTS, including: Components which discharge to the PRT.

Task Standard: Non-condensible gases have been vented from Reactor Vessel Head to Containment atmosphere.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: EOP Supplement 26, "PCS Void Removal"

Validation Time: ___15___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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. There are indications of non-condensible gases in the Reactor vessel head. The following Containment monitoring instruments are in service:

- One (1) Hydrogen Monitor
- One (1) Hydrogen Recombiner

INITIATING CUES:

You have been directed to vent the non-condensible gases from the Reactor vessel head using the preferred method in accordance with EOP Supplement 26, Section 3.0, Step 1.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Refers to EOP Supplement 26, Section 3.0.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
3.1.a	Ensure at least one Hydrogen Monitor in operation.	*Provided in Initial Conditions.*	S U
Comment: **CUE:** **If candidate attempts to verify status using SOP-38, provide cue that this has already been performed.**			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
3.1.b	Ensure at least one Hydrogen Recombiner in operation.	*Provided in Initial Conditions.*	S U
Comment: **CUE:** **If candidate attempts to verify status using SOP-5, provide cue that this has already been performed.**			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
3.1.c	Open PRV-1072, Vent Path to Quench Tank (preferred method).	___ Obtains Key 110. ___ Places HS-1072 to RESET and then to OPEN. ___ Identifies that PRV-1072 RED light remains OFF and GREEN light remains ON.	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
---	Notifies Control Room Supervisor that preferred method is not available since PRV-1072 will NOT open.	Control Room Supervisor notified that preferred method is not available.	S U
Comment: **CUE: CRS directs: "We need to get the Reactor vessel head vented. What do you suggest?"**			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
3.1.c	Open PRV-1071, Vent Path to Containment Building.	___ Obtains Key 109. ___ Places HS-1071 to RESET and then to OPEN. ___ Verifies that PRV-1072 has opened (RED light is ON and GREEN light is OFF).	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
3.1.d	Vent the Reactor Vessel Head by opening ONE of the following valves for 5-10 minutes: • PRV-1067	___ Obtains Key 105. ___ Places HS-1067 to RESET and then to OPEN. ___ Verifies that PRV-1067 has opened (RED light is ON and GREEN light is OFF).	S U
	OR		
	• PRV-1068	___ Obtains Key 106. ___ Places HS-1068 to RESET and then to OPEN. ___ Verifies that PRV-1068 has opened (RED light is ON and GREEN light is OFF).	
Comment: **CRITICAL STEP** ***Note: Use of either valve is acceptable.***			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
3.1.d	After 5-10 minutes, secure Reactor Vessel Head venting.	Vents Reactor Vessel Head for 5-10 minutes.	**S U**
Comment: **CUE: 10 minutes have elapsed.**			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
3.1.e	Secures Reactor Vessel Head venting by closing the appropriate valve which was opened: • PRV-1067	___ Using Key 105 places HS-1067 to CLOSE. ___ Verifies that PRV-1067 has closed (RED light is OFF and GREEN light is ON).	**S U**
	OR		
	• PRV-1068	___ Using Key 106 places HS-1068 to CLOSE. ___ Verifies that PRV-1068 has closed (RED light is OFF and GREEN light is ON).	
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
3.1.e	Ensure closed PRV-1071, Vent Path to Containment Atmosphere.	___ Using Key 109 places HS-1071 to CLOSE. ___ Verifies that PRV-1071 has closed (RED light is OFF and GREEN light is ON).	**S U**
Comment: **CRITICAL STEP**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

A large break LOCA has occurred. There are indications of non-condensible gases in the Reactor vessel head. The following Containment monitoring instruments are in service:

- One (1) Hydrogen Monitor
- One (1) Hydrogen Recombiner

INITIATING CUES:

You have been directed to vent the non-condensible gases from the Reactor vessel head using the preferred method in accordance with EOP Supplement 26, Section 3.0, Step 1.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to IC-17
- INSERT MF RC01 (Large Break LOCA)
- Trip all PCPs.
- INSERT OVRD for PRV-1072 handswitch to prevent opening.
  (HS-1072-1 OVRD OFF)

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.1.f

TITLE: Shift Operating CCW Pumps

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Shift Operating Component Cooling Water Pumps

Alternate Path: The CCW pump selected to be started will trip when started. The third CCW pump must be manually started to maintain CCW.

Facility JPM #: JPM RO-6/SIM

K/A: 008A2.01 Importance: SRO: 3.6 RO:3.3

K/A Statement: Ability to predict impacts of loss of CCW pump and correct, control, or mitigate the consequences.

Task Standard: P-52B running.

Preferred Evaluation Location: Simulator ___X___ In Plant _____

Preferred Evaluation Method: Perform ___X__ Simulate _____

References: ONP-6.2, SOP-16

Validation Time: __15___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is at full power. BOTH CCW Heat Exchangers are in operation. CCW Pump P-52A is running. P-52B and P-52C are in STANDBY. P-52A CCW Pump has indications of a high vibration and is to be secured. Radwaste Evaporators are NOT in service.

INITIATING CUES:

The Control Room Supervisor directs you to shift operating CCW pumps per SOP-16, 7.3.6. P-52C is to be started and P-52B is to be left in STANDBY. P-52A is to be secured and used for emergencies, and ONLY with the specific permission of the Shift Supervisor.

Do NOT place P-52A in Standby.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
--	Obtains current procedure.	Locates and refers to SOP-16, Section 7.3.6.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
7.3.6.a	Ensure LOCKED OPEN CCW pump P-52C suction and discharge valves.	Contacts AO to ensure MV-CC921 and MV-CC945 OPEN. **CUE: AO reports MV-CC921 and MV-CC945 OPEN.**	S U
Comment: ***NOTE: This step is not required, since normal plant configuration is to have these valves locked OPEN.***			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
7.3.6.b	Operate P-52C pump casing vent petcock to vent air from pump casing.	Contacts AO to cycle MV-CC558 open and closed. **CUE: AO reports MV-CC558 cycled open and closed.**	S U
Comment:			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
7.3.6.c	Verify both CCW Heat Exchangers in operation.	Both CCW Heat Exchangers in operation.	S U
Comment: *NOTE: This info previously provided in Initial Conditions.* ***If candidate asks for initial CCW Heat Exchanger dP give the following*** **CUE: E-54A ∆P is 6.6 psid. E-54B ∆P is 6.8 psid. (This is NOT required.)**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
7.3.6.d	START selected CCW Pump.	P-52C CCW pump running. RED light above handswitch ON, GREEN light OFF.	**S U**
Comment: ***NOTE: P-52C will trip after ~7 seconds AND prior to securing of P-52A (due to a malfunction).*** **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
---	Refers to ARP-7, window 67 and notifies CRS of P-52C trip and the need to reference ONP-6.2.	CRS notified.	**S U**
Comment: **CUE: If asked about any required actions for P-52A, tell candidate to follow procedures.** **NOTE TO EXAMINER: Actual ONP entry is NOT required; CRS is directing use of ONP-6.2, 4.1.a step to start desired CCW pump.**			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
ONP-6.2 **4.1.a**	IF less than 10 minutes has elapsed since loss of CCW, then start available CCW pumps as appropriate (based on suction supply).	___ Checks CCW Surge Tank level to ensure adequate inventory. ___ Starts P-52B.	**S U**
Comment: *NOTE: IF candidate asks AO to check P-52B suction and discharge valves locked OPEN and to operate casing vent petcock, provide the following :* **CUE: MV-CC920, MV-CC942 are locked OPEN.** **MV-CC557 has been cycled open and closed.** **CRITICAL STEP**			

NOTE TO EXAMINER:

If candidate requests CCW Hx at this point, provide the following CUE: E-54A ∆P = 14.1 psid.

E-54B ∆P = 14.2 psid.
(Not required)

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
SOP-16 7.3.6.e	STOP selected CCW Pump.	P-52A has been stopped using handswitch. RED light OFF, GREEN light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
7.3.6.h	If required, adjust CCW Heat Exchanger ΔP OR CCW Pump discharge pressure. ___ Requests AO report on new CCW Hx ΔP values.	Ensures CCW Heat Exchanger ΔP values are acceptable.	**S U**
Comment: **CUE: When requested, as AO report: E-54A Hx ΔP = 6.8 psid** **E-54B Hx ΔP = 6.5 psid**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is at full power. BOTH CCW Heat Exchangers are in operation. CCW Pump P-52A is running. P-52B and P-52C are in STANDBY. P-52A CCW Pump has indications of a high vibration and is to be secured. Radwaste Evaporators are NOT in service.

INITIATING CUES:

The Control Room Supervisor directs you to shift operating CCW pumps per SOP-16, 7.3.6. P-52C is to be started and P-52B is to be left in STANDBY. P-52A is to be secured and used for emergencies, and ONLY with the specific permission of the Shift Supervisor.

Do NOT place P-52A in Standby.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to IC-17
- Secure any running CCW pumps so that ONLY P-52A is running.
- Place CCW Pump P-52B and P-52C in STANDBY
- P-52C MUST trip BEFORE candidate secures P-52A.
- INSERT MF CC02C for CCW Pump P-52C to ACTIVE.
- ZL01P(51) = P-52C RED light
- Event 1 - Trip P-52C (time delay 7 seconds).

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.1.g

TITLE: Manually Divert to Radwaste

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Manually Divert to Radwaste

Alternate Path: Task is to lower VCT level ~2% by manually diverting to radwaste. When diverting is complete, gaseous waste radiation monitor will alarm. Candidate is required to transition to the Alarm Response Procedure to determine required actions. Candidate will have to recognize that a damper did not automatically close as expected and take manual action to close the damper. ***Based on actual recent plant events.***

Facility JPM #: NEW

K/A: 004A4.06 Importance: SRO: 3.1 RO: 3.6

K/A Statement: Ability to manually operate and/or monitor in the control room: Letdown isolation and flow control valves.

Task Standard: Volume Control Tank level has been lowered ~2% and damper PO-1839 is closed.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: SOP-2A, 7.4.4

Validation Time: __25____ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is at full power following a refueling outage. The Vacuum Degasifier is in service. The Waste Gas System is in service with adequate space available as required. T-64C Clean Waste Receiver Tank is in service. Volume Control Tank is currently at 72%.

INITIATING CUES:

The Control Room Supervisor has directed you to LOWER Volume Control Tank level by ~ 2% by manually diverting to radwaste. The Shift Supervisor has directed that an AO is NOT required at Radwaste panel C-40.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
--	Obtains current procedure.	Candidate locates and refers to SOP-2A, section 7.4.4	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
--	Notifies Health Physics of diverting evolution.	Health Physics notified of diversion.	S U
Comment: **CUE: Health Physics is aware of diverting evolution.**			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
7.4.4.a	Ensure Vacuum Degasifier in service or bypassed.	Vacuum Degasifier verified in service.	S U
Comment: *NOTE: This info was previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
7.4.4.b	Ensure adequate space available in T-68s/T-101s.	Adequate space available in Waste Gas Decay tanks.	S U
Comment: *Note: This info was previously provided in Initial Conditions.* **Examiner Info:** *These are Waste Gas Decay tanks.***:**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
7.4.4.c	Ensure Waste Gas System in service.	Verifies that Waste Gas System in service.	**S U**
Comment: *NOTE: This info was previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
7.4.4.d.	Ensure adequate space available in the in service T-64, Clean Waste Receiver Tank.	Verifies adequate space in T-64C.	**S U**
Comment: *NOTE: This info was previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
7.4.4.e.1	If desired, station an AO to:	This is NOT required.	**S U**
	(a) Monitor Vacuum Degasifier level		
	(b) Maintain Vacuum Degasifier pressure		
	(c) Attempt to maintain WGST 14.9 - 15.7 psia		
	(d) Monitor T-68s / T-101s.		
	(e) Monitor T-64s.		
Comment: *NOTE: This info previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
7.4.4.e.2	Place CV-2056, VCT SELECT to CLEAN WASTE RCVR TANKS position.	___ Handswitch AMS-2056 selected to "TO CWRT" position. ___ "TO VCT" RED light OFF. ___ "A" AMBER light OFF. ___ "TO CWRT" RED light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
7.4.4.e.4	If in solid Plant conditions, monitor PCS pressure.	-------	**S U**
Comment: *NOTE: THIS STEP DOES NOT APPLY.*			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
7.4.4.e.5	When desired VCT level is achieved, then ensure CV-2056, VCT SELECT, to AUTO.	___ VCT level has been reduced by ~2%. ___ "TO CWRT" RED light OFF. ___ "A" AMBER light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 11	STANDARD	Grade
7.4.4.f	If letdown flow as read on FIC-0202, Letdown Flow, is abnormally high, then purge sensing lines.	Candidate determines that letdown flow is normal.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 12	STANDARD	Grade
NONE	NONE	NONE	**N/A**
NOTE TO EXAMINER: After CV-2056 is closed the following alarms will annunciate: *EK-1364, "Gaseous Waste Monitoring Hi Radiation" will annunciate.* *EK-1154, "Radwaste Area Vent Fan V10, V14A/B Tripped"* **This simulates a puff release in the radwaste area due to the diverting evolution.**			

Proc.Step	TASK ELEMENT 13	STANDARD	Grade
EK-1364	Respond to Gaseous Waste Monitoring Hi Radiation alarm (ARP-8).	Refers to Alarm Response Procedure and diagnoses that RIA-1809 is cause of the alarm.	**S U**
	Ensure auto actions occurred.	___ Notes V-10 fan tripped by observing GREEN light ON and RED light OFF.	**S U**
		___ Determines that V-14A was the Exhaust Fan in STANDBY by observing RADWASTE EXH STANDBY SELECT switch selected to STDBY V-14A. *NOTE: This step is not required. The candidate is only required to note ONE of the V-14s has tripped and that one is still running.*	
		___ Notes V-14A has tripped by observing GREEN light ON and RED light OFF.	
		___ Notes Supply Damper PO-1809 has NOT closed ***(it should have)*** by observing RED light ON and GREEN light OFF.	
		___ Manually closes PO-1809 by taking handswitch to CLOSE. Observes GREEN light ON and RED light OFF. **CRITICAL STEP**	
		___ Dispatches an AO to verify PO-1839 is closed. **CUE: AO reports that PO-1839 indicates closed.**	
	Notify Health Physics.	Health Physics notified. **CUE: Health Physics has noted the occurrence. The release was a short puff release. Trending of RIA-1809 is NOT required.**	**S U**
	Check Plant Process Computer for RIA-1809 trend.	NOT required, per HP direction.	
Comment: *NOTE: Acceptable if candidate responds to EK-1154 first.*			

Proc.Step	TASK ELEMENT 14	STANDARD	Grade
EK-1154	Respond to Radwaste Area Vent Fan V10, V14A/B Tripped alarm.	Refers to Alarm Response Procedure.	**S U**
	Check RIA-1809; if high radiation is indicated, then ensure operating one Exhaust Fan V-14A or V-14B and notify Health Physics.	___ Determines that high radiation was indicated on RIA-1809. ___ Notes V-14B is operating by observing RED light ON and GREEN light OFF. ___ Health Physics notified. **CUE: Health Physics has noted the occurrence. The release was a short puff release. Trending of RIA-1809 is NOT required.**	
Comment: *NOTE: Acceptable if candidate performs this step prior to EK-1364. Actions for both are similar.*			

Proc.Step	TASK ELEMENT 15	STANDARD	Grade
NONE	Notifies Control Room Supervisor all auto actions occurred EXCEPT PO-1809 had to be manually closed.	Control Room Supervisor notified.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is at full power following a refueling outage. The Vacuum Degasifier is in service. The Waste Gas System is in service as required. T-64C Clean Waste Receiver Tank is in service. Volume Control Tank is currently at 72%.

INITIATING CUES:

The Control Room Supervisor has directed you to LOWER Volume Control Tank level by ~ 2% by manually diverting to radwaste. The Shift Supervisor has directed that an AO is NOT required at Radwaste panel C-40.

SIMULATOR OPERATOR INSTRUCTIONS

Initial Setup	
1.	___ Reset to a full power IC.
2.	___ Ensure V-14A is in STANDBY (Operate RADWASTE EXH STANDBY SELECT switch on C-13 to "STDBY V-14A" position.
3.	___ Ensure V-10, V-14A, and V-14B are operating.
4.	___ Ensure RIA-1809 (Radwaste Area) is in service.
5.	___ INSERT: ___ OVRD PO-1809 RED light ON ___ OVRD PO-1809 GREEN light OFF.

Simulator Operator Actions
Event #1
After diverting is complete and when candidate selects CV-2056 (on Panel C-02) to AUTO, insert:
___ OVRD EK-1364 (GASEOUS WASTE MONIITORING HI RADIATION) to ON
___ OVRD EK-1154 (RADWASTE AREA VENT FAN V10, V14A/B TRIPPED) to ON.
___ OVRD RIA-1809 (Radwaste Ventilation) YELLOW light to ON
___ OVRD RIA-1809 RED light to ON
___ OVRD to trip V-14A (V-14A-R to OFF; V-14A-G to ON)
___ OVRD to trip V-10 (V-10-R to OFF; V-10-G to ON)
Event #2
WHEN candidate operates handswitch for PO-1809 (Panel C-03) to CLOSE, perform the following:
___ DELETE OVRD PO-1809 RED light.
___ DELETE OVRD PO-1809 GREEN light
___ .NOT. ZDI1P(315) PO-1809 to CLOSE
___ DOR PO-1809-G
Event #3
___ .NOT.ZDI1P(315)
___ DOR PO-1809-R

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.2.a

TITLE: Alternate Methods of Auxiliary Feedwater

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Alternate Methods of Auxiliary Feedwater

Alternate Path: N/A

Facility JPM #: TBAE-02. JPM / ISKG-07.JPM

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

K/A Statement: Ability to predict impacts of automatic control malfunction and use procedures to correct or mitigate the consequences.

Task Standard: AFW flow control valve CV-0749 is manually throttled as needed to achieve ~165 gpm flow to "A" S/G.

Preferred Evaluation Location: Simulator _____ In Plant __X__

Preferred Evaluation Method: Perform _____ Simulate __X__

References: EOP Supplement 19

Validation Time: __20__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

From full power the plant was tripped due to a loss of all feedwater. During the transient, several Auxiliary Operators were injured, and are being transported to the hospital.

P-8B has been restored and is supplying Auxiliary Feedwater to "B" S/G. Flow to "A" S/G cannot be controlled from the Control Room, C-150, or C-33. The two remaining AOs are busy with other important duties and are NOT available to assist with this task.

INITIATING CUES:

The Control Room Supervisor has directed you to establish and manually control AFW flow to "A" S/G from AFW Pp. P-8B at 165 gpm per the applicable portions of EOP Supplement 19, section 5.0.

Step #	TASK ELEMENT 1	STANDARD	Grade
---	Refers to current procedure.	Locates and refers to EOP Supplement 19, section 5.0.	S U
Comment:			
NOTE: Examiner may provide a copy of EOP Supplement 19 to candidate.			

Step #	TASK ELEMENT 2	STANDARD	Grade
5.1.d.1)	Manually operate the selected control valve handwheel to the FULL CLOSED position. **CRITICAL STEP**	___ Locates CV-0749. ___ Operates handwheel in clockwise direction to fully close CV-0749.	S U
Comment:			
CUE: **CV-0749 handwheel is rotated fully in clockwise direction and will turn no further (local indicator down).**			
NOTE: CV-0749 is located in the SE Corner of CCW Hx Room, near the Containment wall. **CRITICAL STEP**			

Step #	TASK ELEMENT 3	STANDARD	Grade
5.1.d.2)	Isolate the air supply to the selected control valve. **CRITICAL STEP**	___ Locates MV-CA385. ___ Closes valve by operating to full clockwise position.	S U
Comment:			
CUE: **MV-CA385 manual operator is operated fully to clockwise.**			

Step #	TASK ELEMENT 4	STANDARD	Grade
5.1.d.3)	Bleed off air pressure through the PCV/filter drain. **CRITICAL STEP**	Opens drain on PCV-0749.	S U
Comment:			
CUE: **Air flow noise is heard.** **After 3 seconds→→CUE:** **Air flow noise has slowly stopped.**			
NOTE: It is acceptable to leave bleedoff valve open, OR to close it.			

Step #	TASK ELEMENT 5	STANDARD	Grade
---	Establish communications with Control Room for coordinating desired flowrate.	Communications with Control Room established.	S U
Comment:			
CUE: **Control Room will maintain communications while throttling.**			

Step #	TASK ELEMENT 6	STANDARD	Grade
---	Control Room directs commencing feeding "A" S/G at 165 gpm.	Operator acknowledges order.	S U
Comment:			
CUE: **Control Room will maintain communications while throttling.**			

Step #	TASK ELEMENT 7	STANDARD	Grade
5.1.d.4)	Throttle open the selected control valve with the handwheel to achieve the desired S/G feedrate. **CRITICAL STEP**	Operator throttles open the handwheel for CV-0749 , contacting the Control Room as needed to establish ~165 gpm flow.	S U
Comment:			
CUE: **Control Room says that the flow to "A" S/G is 165 gpm.**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

From full power the plant was tripped due to a loss of all feedwater. During the transient, several Auxiliary Operators were injured, and are being transported to the hospital.

P-8B has been restored and is supplying Auxiliary Feedwater to "B" S/G. Flow to "A" S/G cannot be controlled from the Control Room, C-150, or C-33. The two remaining AOs are busy with other important duties and are NOT available to assist with this task.

INITIATING CUES:

The Control Room Supervisor has directed you to establish and manually control AFW flow to "A" S/G from AFW Pp. P-8B at 165 gpm per the applicable portions of EOP Supplement 19, section 5.0.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.2.b

TITLE: Manually Transfer Y-50 ABT

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Manually Align Y-50 ABT

Alternate Path: MCC-2 breaker 52-236 is OFF and must be placed to ON.

Facility JPM #: Bank 99NRC

K/A: 062A2.11 Importance: SRO: 4.1 RO: 3.7

K/A Statement: Ability to predict impacts of aligning standby equipment with correct emergency power source (D/G) and use procedures to control the operations.

Task Standard: Instrument AC Bus Y-01 is being supplied by MCC-2 with the automatic transfer function defeated.

Preferred Evaluation Location: Simulator _____ In Plant __X__

Preferred Evaluation Method: Perform _____ Simulate __X__

References: SOP-30, Station Power

Validation Time: __20__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is in MODE 6 for refueling. Work is scheduled for breaker 52-145 this shift, requiring Instrument AC bus Y-01 to be fed from MCC-2. The Load Connected to Normal (MCC-1) light is LIT. The Load Connected to Emergency (MCC-2) light is NOT lit.

INITIATING CUES:

You have been directed to manually align Instrument AC Bus Y-01 to the Emergency power supply (MCC-2).

Step #	TASK ELEMENT 1	STANDARD	Grade
---	Refers to current procedure.	Locates and refers to SOP-30, Section 7.6.2.	S U
Comment:			
NOTE: Examiner may provide a copy of SOP-30, 7.6.2 to candidate.			

Step #	TASK ELEMENT 2	STANDARD	Grade
7.6.2.b	Remove screws from and open door to Y50 Transfer Switch Cabinet.	Screws removed and Y50 Transfer Switch Cabinet opened.	S U
NOTE: **Do not allow candidate to actually remove screws. Provide ATTACHMENT 1 ("Y-50 Automatic Transfer Switch") of this JPM to allow explanation of operation.**			
CRITICAL STEP			

Step #	TASK ELEMENT 3	STANDARD	Grade
7.6.2.c	Check indicating light lit for desired power source.	Determines EMERGENCY POWER SOURCE bulb is NOT lit.	S U
CUE: **Emergency Power Source bulb is NOT lit.**			

Step #	TASK ELEMENT 4	STANDARD	Grade
7.6.2.c.2	Check bulb and replace is necessary.	Checks and/or replaces bulb and determines it to be good.	S U
CUE: **Light bulb is GOOD.**			
CUE: **Emergency Power Source bulb is still NOT lit.**			

Step #	TASK ELEMENT 5	STANDARD	Grade
---	Check closed appropriate source breaker.	On MCC-2, checks breaker 52-236 and determines it to be OFF.	S U
CUE: **Breaker 52-236 is in the OFF position.** **Note to Examiner: MCC-2 is in another cabinet nearby.**			

Step #	TASK ELEMENT 6	STANDARD	Grade
---	Close appropriate source breaker.	Obtains permission from Shift Supervisor and places breaker 52-236 on MCC-2 to ON.	S U
CUE: **Shift Supervisor directs you to place breaker 52-236 to ON. Checking Y50 fuses is NOT required.** **CRITICAL STEP**			

Step #	TASK ELEMENT 7	STANDARD	Grade
---	Recheck the Emergency Power Source available light.	In Y50 Transfer Cabinet, determines EMERGENCY POWER SOURCE light is LIT.	S U
CUE: **EMERGENCY POWER SOURCE light is LIT.**			

Step #	TASK ELEMENT 8	STANDARD	Grade
7.6.2.d	Determine next step to perform.	Based on Y01 currently being supplied by Normal and desire to transfer to Emergency, determines Step 7.6.2.e is appropriate.	S U

Step #	TASK ELEMENT 9	STANDARD	Grade
7.6.2.e	Hold Transfer Test Switch to TEST position.	Holds Transfer Test toggle switch to TEST position until LOAD CONNECTED TO EMERGENCY lamp lights.	**S U**
CUE: **Transfer Test Switch is being held in TEST position.** **CRITICAL STEP**			

Step #	TASK ELEMENT 10	STANDARD	Grade
7.6.2.e.2	Release Transfer Test Switch when Y01 has transferred to EMERGENCY power source.	Determines RED light LOAD CONNECTED TO EMERGENCY is lit, GREEN light LOAD CONNECTED TO NORMAL is OFF, and releases Transfer Test toggle switch.	**S U**
CUE: **Load Connected to Emergency light is LIT.** **Load Connected to Normal light is OFF.**			

Step #	TASK ELEMENT 11	STANDARD	Grade
7.6.2.f.1	Operate and hold TGL-1 Lock Release Switch in the direction indicated for the power source.	Within 30 seconds of transfer, holds TGL-1 Lock Release toggle switch to EMERGENCY.	**S U**
CUE: **TGL-1 is being held in the EMERGENCY position.** **CONDITION CUE:** **If not held within 30 seconds of releasing Transfer Test Switch, RED light LOAD CONNECTED TO EMERGENCY is OFF, and GREEN light LOAD CONNECTED TO NORMAL is LIT.** **Special Note:** **If the load transfers back to NORMAL, candidate may resume transfer to EMERGENCY by going back to Task Element #9 and performing all steps again.** **CRITICAL STEP**			

Step #	TASK ELEMENT 12	STANDARD	Grade
7.6.2.f.2	Place the Bypass Handle to the position indicated for the desired power source.	Within 30 seconds of transfer, places the Bypass Handle to EMERGENCY.	**S U**
CUE: **Bypass Handle is in the EMERGENCY position.** **CONDITION CUE:** **If not held within 30 seconds of releasing Transfer Test Switch, RED light LOAD CONNECTED TO EMERGENCY is OFF, and GREEN light LOAD CONNECTED TO NORMAL is LIT.** **Special Note:** **If the load transfers back to NORMAL, candidate may resume transfer to EMERGENCY by going back to Task Element #9 and performing all steps again.** **CRITICAL STEP**			

Step #	TASK ELEMENT 13	STANDARD	Grade
7.6.2.f.3	Ensure Bypass Handle is fully engaged into desired power source position.	Ensures Bypass Handle is fully engaged in the EMERGENCY position.	**S U**
CUE: **Bypass Handle is fully engaged.**			

Step #	TASK ELEMENT 14	STANDARD	Grade
7.6.2.f.4	Release TGL-1 Lock Release Switch.	TGL-1 Lock Release toggle switch is released.	**S U**
CUE: **TGL-1 Lock Release has been released.**			

Step #	TASK ELEMENT 15	STANDARD	Grade
7.6.2.g	Close door to Y50 Transfer Switch Cabinet and reinstall screws.	Y50 Transfer Switch Cabinet door closed with screws reinstalled.	**S U**
CUE: **Door is closed, with screws installed.**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is in MODE 6 for refueling. Work is scheduled for breaker 52-145 this shift, requiring Instrument AC bus Y-01 to be fed from MCC-2. The Load Connected to Normal (MCC-1) light is LIT. The Load Connected to Emergency (MCC-2) light is NOT lit.

INITIATING CUES:

You have been directed to manually align Instrument AC Bus Y-01 to the Emergency power supply (MCC-2).

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM RO - B.2.c

TITLE: Manually Start P-41 Fire Pump

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Manually Start P-41 Fire Pump

Alternate Path: N/A

Facility JPM #: NEW

K/A: 086A2.02 Importance: SRO: 3.3 RO: 3.0

K/A Statement: Ability to predict impacts of low FPS header pressure and use procedures to mitigate the consequences.

Task Standard: Diesel Fire Pump P-41 started and running.

Preferred Evaluation Location: Simulator _____ In Plant __X__

Preferred Evaluation Method: Perform _____ Simulate __X__

References: SOP-21, 7.4.1

Validation Time: __15___ minutes Time Critical:

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is shutdown for a refueling outage. A fire at the Cooling Towers requires the use of Diesel Fire Pump P-41, which has NOT automatically started. Jockey Pump P-13 is operating and there are NO Service Water Booster Pumps (P-25A/B/C) in service. Annunciator EK-3533, "Fire Pump Day Tank T-40 Level Hi-Lo" is NOT alarming.

INITIATING CUES:

The Shift Supervisor has directed you to manually start Diesel Fire Pump P-41 per SOP-21, Section 7.4.1.

Step #	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Locates and refers to SOP-21, Section 7.4.1.	S U
Comment: **Examiner may provide candidate copy of SOP-21 excerpt.**			

Step #	TASK ELEMENT 2	STANDARD	Grade
7.4.1.a	Verify Diesel Engine Day Tank T-40 level normal.	Verifies EK-3533, "Fire Pump Day Tank T-40 Level Hi-Lo" NOT alarming.	S U
Comment: *NOTE: This info previously provided in Initial Conditions.*			

Step #	TASK ELEMENT 3	STANDARD	Grade
7.4.1.b	Place Rotary Control Switch to MANUAL A or MANUAL B.	Rotary Control Switch in MANUAL A or MANUAL B.	S U
Comment: **Either position is acceptable. Provide CUE based on which position selected by candidate.** **CRITICAL STEP**			

Step #	TASK ELEMENT 4	STANDARD	Grade
7.4.1.c	Check Diesel Driver K-10 lube oil crankcase level using dipstick.	K-10 lube oil crankcase level verified checked.	S U
Comment: **CUE: K-10 crankcase level is normal with no significant fuel oil odor.**			

Step #	TASK ELEMENT 5	STANDARD	Grade
7.4.1.e	If Diesel Driver K-10 crankcase check is satisfactory, then press START pushbutton.	START pushed for K-10.	**S U**
Comment: **CUE: K-10 has started and the engine is running.** **CRITICAL STEP**			

Step #	TASK ELEMENT 6	STANDARD	Grade
7.4.1.f	If Jockey Pump P-13 is operating, then place control switch to OFF.	Locates P-13 switch and selects to OFF.	**S U**
Comment: **CUE: P-13 switch is in OFF, pump is NOT running, GREEN indicating light is OFF.**			

Step #	TASK ELEMENT 7	STANDARD	Grade
7.4.1.g	If Attachment 2 is in effect, stop selected Service Water Booster Pump.	N / A	**S U**
Comment: *NOTE: This info previously provided in Initial Conditions.*			

Step #	TASK ELEMENT 8	STANDARD	Grade
7.4.1.h	Observe K-10 for proper operation.	Parameters verified as follows:	**S U**
	1. No unusual vibration.	___ No unusual vibration **CUE: There is no unusual vibration.**	
	2. No oil or water leaks.	___ No oil or water leaks. **CUE: There are no oil or water leaks.**	
	3. Adequate lube oil pressure.	___ Adequate lube oil pressure. **CUE: Lube oil pressure is adequate. (~120 psi)**	
Comment: **Note: Candidate may check pump discharge pressure.** **CUE: If asked, discharge pressure is approximately 155 psig.**			

Step #	TASK ELEMENT 9	STANDARD	Grade
----	Makes proper notifications that P-41 is operating.	SS or CRS notified that P-41 is operating.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is shutdown for a refueling outage. A fire at the Cooling Towers requires the use of Diesel Fire Pump P-41, which has NOT automatically started. Jockey Pump P-13 is operating and there are NO Service Water Booster Pumps (P-25A/B/C) in service. Annunciator EK-3533, "Fire Pump Day Tank T-40 Level Hi-Lo" is NOT alarming.

INITIATING CUES:

The Shift Supervisor has directed you to manually start Diesel Fire Pump P-41 per SOP-21, Section 7.4.1.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.1.a

TITLE: Perform a Dropped Rod Test

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Perform a Dropped Rod Test

Alternate Path: NONE

Facility JPM #: 2000NRCJPM B.1-04

K/A: 001K4.14 Importance: SRO: 2.8 RO: 2.6

K/A Statement: Knowledge of CRDS design features/interlocks which provide for the following: operation parameters, including proper rod speed.

Task Standard: Control Rod drop test timing is completed for Rod 31.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: RO-22, Control Rod Drop Times

Validation Time: __20___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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INITIAL CONDITIONS:

Control Rod Drop Time Testing is being performed using the Plant Process Computer. Shutdown Margin has been verified to be greater than 2%.

INITIATING CUES:

The Control Room Supervisor has directed you to perform Sections 5.4.1 and 5.4.3 of RO-22, "Control Rod Drop Times" for Control Rod 31 only. Section 5.4.2 has already been performed. All Plant and System Conditions have been met per Section 3.3 and 3.4 of RO-22.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Obtains and refers to RO-22, Section 5.4 and Attachment 1.	S U
Comment:			
NOTE: Provide copy of RO-22 to candidate.			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
5.4.1	Set start and stop position for dropped rod timing on PPC.	As indicated on PPC (page 420) start position at 130, stop position at 13.	S U
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
5.4.3.a	Ensure shutdown margin greater than or equal to 2%.	*Info previously provided in Initial Conditions.*	S U
Comment:			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
5.4.3.b	Obtains copy of SOP-6 to withdraw Rod 31.	Obtains SOP-6 and refers to Section 7.4.	S U
Comment:			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
SOP-6 7.4.c	Selects Rod 31 for withdrawal.	Group 2 ROD SELECT switch selected to "31".	**S U**
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
SOP-6 7.4.d	Selects Rod Group containing Rod 31.	ROD CONTROL GROUP SELECT switch to "2".	**S U**
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
SOP-6 7.4.e	Aligns rod control to allow movement of an individual rod.	ROD CONTROL MODE SELECT switch to "MI".	**S U**
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
SOP-6 7.4.f	Withdraw Rod 31 to Upper Electrical Limit (UEL).	___ ROD CONTROL switch to RAISE. ___ Rod 31 at UEL.	**S U**
Comment:			
CRITICAL STEP			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
RO-22 5.4.3.c	Record full out rod position for Rod 31.	Refers to PPC display 412 and records full out position on Attachment 1 for Rod 31 as 131 $\pm$ 0.5.	**S U**
Comment:			
Note: Expected alarms include: * EK-0911 (ARP-5), Rod Position 4 Inches Deviation **EK-0916 (ARP-5), Control Rods Out of Sequence**			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
5.4.3.d.1	Enter rod number for rod to be tested.	On PPC display 420, Rod 31 entered.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 11	STANDARD	Grade
5.4.3.d.2	Verify start position for Rod 31 is set to 130.	Refers to PPC display 420. Verifies Rod 31 start position indicates 130.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 12	STANDARD	Grade
5.4.3.d.3	Verify stop position for Rod 31 is set to 13.	Refers to PPC display 420. Verifies Rod 31 stop position indicates 13.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 13	STANDARD	Grade
5.4.3.e	Start testing sequence on PPC.	On PPC display 420, sets START NEW TEST to YES.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 14	STANDARD	Grade
5.4.3.f	Trip the selected rod.	___ Observes PPC display 420. ___ Notes TEST STATUS change to TESTING. ___ Proceeds to Rod Drop Test Panel. ___ Within 30 seconds places Rod 31 toggle to CLUTCH OFF.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 15	STANDARD	Grade
5.4.3.g	Verify test completion on PPC.	On PPC display 420, verifies TEST STATUS indicates COMPLETE.	**S U**
Comment: ***NOTE:*** ***If test failure due to rod being dropped from below 130 inches or due to not placing toggle in CLUTCH OFF within 30 seconds, it is acceptable to repeat test for Rod 31.***			

Proc.Step	TASK ELEMENT 16	STANDARD	Grade
5.4.3.i	Reset trip toggle for Rod 31.	Rod 31 toggle switch at Rod Drop Test Panel selected to CLUTCH ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 17	STANDARD	Grade
5.4.3.j	Record Rod Drop Clutch Time for Rod 31.	Records Rod 31 Rod Drop Clutch Time per PPC display on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 18	STANDARD	Grade
5.4.3.k	Verify Dropped Rod alarm (EK-0948) and record on Attachment 1.	___ Dropped Rod alarm verified. ___ Dropped Rod alarm recorded on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 19	STANDARD	Grade
5.4.3.l	Withdraw dropped rod to clear rod drop alarm.	___ Operates ROD CONTROL joystick to RAISE. ___ Rod 31 withdrawn to between 2.0" to 4.0". ___ Observes Dropped Rod alarm clears.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 20	STANDARD	Grade
5.4.3.m	Record rod position at which Dropped Rod alarm clears.	~2"-4" recorded in "Alarm Reset Position" box for Rod 31 on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 21	STANDARD	Grade
5.4.3.n	Insert rod to Lower Electrical Limit (LEL) position.	___ Operates ROD CONTROL joystick to LOWER. ___ Rod 31 is at LEL (rod motion stops).	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 22	STANDARD	Grade
5.4.3.o	Record LEL position.	~2.9" recorded in "Rod Position At LEL" for Rod 31 on Attachment 1.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 23	STANDARD	Grade
5.4.3.p	Print rod drop position display 3 seconds profile and drop times from PPC.	PPC displays 421 and 422 printed.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

Control Rod Drop Time Testing is being performed using the Plant Process Computer. Shutdown Margin has been verified to be greater than 2%.

INITIATING CUES:

The Control Room Supervisor has directed you to perform Sections 5.4.1 and 5.4.3 of RO-22, "Control Rod Drop Times" for Control Rod 31 only. Section 5.4.2 has already been performed. All Plant and System Conditions have been met per Section 3.3 and 3.4 of RO-22.

SIMULATOR OPERATOR INSTRUCTIONS

- Any Mode 3 (recommend IC-11) with PCS temperature >525° F.
- All PCPs running.
- Steam bubble and normal water level in PZR.
- Insert all rods, including Part Lengths to bottom of core.
  * Use RD05A, RD05B, RD05G to put all rods in.
- Perform Sections 5.2 and 5.3 of RO-22.
- Provide candidate with attached RO-22, Attachment 1.
- Place Part Length rods back to 3.5"
  * OVRD 42 - 45 matrix GREEN lights ON
- Ensure Dropped Rod alarm NOT on. (if setup is done properly, it won't be.)
- RO-22, Att. 1 two 2 lines filled in.
- Have a yellow hi-lighter available.
- Ensure test toggle switch to UP (back of panel C-06)
- Have a working copy of RO-22 for examiner to provide.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.1.b

TITLE: Align Charging Pump Suction to SIRWT

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Align Charging Pump Suction to SIRWT (Safety Injection Refueling Water Tank)

Alternate Path: NA

Facility JPM #: NEW

K/A: 004A4.07 Importance: SRO: 3.7 RO: 3.9

K/A Statement: Ability to manually operate and/or monitor in the control room boration/dilution

Task Standard: Emergency boration has been secured and operating charging pump is taking suction from the SIRW tank.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: EOP Supplement 40, Section 2.0, rev 5

Validation Time: __20__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant was at full power when an Excess Steam Demand Event occurred. The reactor was manually tripped. Safety Injection initiated as designed, and emergency boration is in progress. Subsequently, Safety Injection throttling criteria was met, and Safety Injection was throttled. Adequate Shutdown Margin HAS been verified. Letdown is in service. P-55A is in service. P-55B and P-55C are in AUTO.

INITIATING CUES:

To prevent excess boron in the PCS, you have been directed to secure Emergency Boration and align Charging Pump suction to the SIRW Tank per EOP Supplement 40, Section 2.0.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
	Obtain correct procedure.	Obtains EOP Supplement 40 and refers to Section 2.0.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
1	Open Charging Pumps Suction From SIRWT Valve, MO-2160.	Operate handswitch for MO-2160 to OPEN and releases (seal in). Observes red light come ON and green light go OFF.	**S U**
Comment: *NOTE: It is acceptable if candidate does not release control switch.* **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
2	Stop the Boric Acid Pumps.	Operates the following control switches: ● P-56B (42-191CS) to TRIP and notes green target, red light OFF, green light ON. ● P-56A (42-207CS) to TRIP and notes green target, red light OFF, green light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
3	Close the following valves: ● Boric Acid Pump Feed Valve, MO-2140 ● Gravity Feed Valves * MO-2169 * MO-2170	Operates handswitch for each valve to OPEN and releases (seal in). ● MO-2140 (42-227-CS) _____ ● MO-2169 (42-127-CS) _____ ● MO-2170 (42-107-CS) _____	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
4	Ensure CLOSED Charging Pumps Suction VCT Outlet Valve, MO-2087.	Notes green light ON and red light OFF for MO-2087.	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
5	Operate each Charging Pump for at least five minutes.	• Ensures P-55A run for at least five minutes with the new suction source: ___ *Notes green light OFF and red light ON for 52-1205CS *May also check charging flow indication. ***CUE: 5 1/2 minutes have elapsed.*** • It is acceptable if candidate elects to leave P-55A running.	**S U**
		• Operates P-55B for at least five minutes: ___ *Operates "Charging Pumps Control Select" switch 43-1106/SS to MANUAL(Panel C-12). ___ *Operates 52-1206CS to CLOSE and notes green target changes to red. Observes green light OFF and red light ON. *May also check charging flow indication. ***CUE: 5 1/2 minutes have elapsed.*** • It is acceptable if candidate elects to leave P-55B running.	**S U**
		• Operates P-55C for at least 5 minutes: ___ *Operate "Charging Pumps Control Select" switch 43-1105/SS to MANUAL. ___ *Operates 52-1105CS to CLOSE and notes green target changes to red. Observes green light OFF and red light ON. *May also check charging flow indication. ***CUE: 5 1/2 minutes have elapsed.*** • It is acceptable if candidate elects to leave P-55C running.	**S U**
Comment: *NOTE: This step allows any combination of charging pumps to be operated for at least five minutes.* **CRITICAL STEP**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant was at full power when an Excess Steam Demand Event occurred. The reactor was manually tripped. Safety Injection initiated as designed, and emergency boration is in progress. Subsequently, Safety Injection throttling criteria was met, and Safety Injection was throttled. Adequate Shutdown Margin HAS been verified. Letdown is in service. P-55A is in service. P-55B and P-55C are in AUTO.

INITIATING CUES:

To prevent excess boron in the PCS, you have been directed to secure Emergency Boration and align Charging Pump suction to the SIRW Tank per EOP Supplement 40, Section 2.0.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to any full power IC.
- Initiate an Excess Steam Demand Event (e.g.,MSLB) and carry out EOP-1.0 Immediate Actions. (Use MS15B at 100%)
- When Safety Injection initiates allow charging to restore PZR level to ~40% and secure the following pumps:

  P-55B
  P-55C

- Ensure P-55A in service with normal letdown.

Note: Requires ~11 minutes to achieve desired conditions from time of MS15B insertion.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.1.c

TITLE: Alternate PZR Pressure Controllers

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Alternate Pressurizer Pressure Controllers

Alternate Path: N/A

Facility JPM #: ASFE-01

K/A: 010A3.02 Importance: SRO: 3.5 RO: 3.6

K/A Statement: Ability to monitor automatic operation of the PZR PCS, including: PZR pressure.

Task Standard: PIC-0101A pressure controller is in AUTO and controlling PCS pressure normally.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: SOP-1, 7.3.2.b.3

Validation Time: __10___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is at full power steady state. PIC-0101B Pressurizer Pressure controller is in service.

INITIATING CUES:

For the normal weekly alternating of Pressurizer Pressure Controllers, the Control Room Supervisor directs you to alternate Pressurizer Pressure controllers per SOP-1, Section 7.3.2.b.3. The desired operating mode for PIC-0101A is AUTO.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtain current procedure.	Obtains SOP-1 and refers to Section 7.3.2.b.3.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
3 (a)	Verify controller to be selected in MANUAL.	Operator checks PIC-0101A in MANUAL by noting small "M" light ON. *Also acceptable if operator pushes M button.*	S U
Comment:			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
3 (b)	Adjust output of controller to be selected to match output of current controller.	Operate PIC-0101A manual slide lever and match output to that of PIC-0101B.	S U
Comment:			
			CRITICAL STEP

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
3 (c)	Place selector switch 1/PRC-0101 to position for controller to be selected.	Operates 1/PRC-0101 switch to CHANNEL A.	S U
Comment:			
			CRITICAL STEP

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
3 (d)	Place the selected controller in AUTO.		**S U**
(1)	Ensure PZR Heater Control Selector in CHAN A&B.	___ Checks "HEATER CONTROL SELECTOR" switch 1/LIC-0101 in CHAN A&B.	
(2)	Ensure selected controller setpoint pressure set at desired PCS pressure.	___ Checks setpoint (BLUE pen) of PIC-0101A at ~2060 psia.	
(3)	Adjust selected controller output to match indicated PZR pressure with setpoint pressure.	___ Uses manual lever to adjust actual PZR pressure (RED pen) with setpoint (BLUE pen).	
(4)	Depress "A" pushbutton on selected controller.	___ Depresses "A" pushbutton on PIC-0101A. AUTO light LIT.	
Comment:			
			CRITICAL STEP

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
3 (e)	Place the unselected controller in MANUAL, with a 50% output signal.	___ Pushes "M" pushbutton on PIC-0101B. AUTO light OFF, MANUAL light comes ON. ___ PCS pressure is steady at approx. 2060 psia.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is at full power steady state. PIC-0101B Pressurizer Pressure controller is in service.

INITIATING CUES:

For the normal weekly alternating of Pressurizer Pressure Controllers, the Control Room Supervisor directs you to alternate Pressurizer Pressure controllers per SOP-1, Section 7.3.2.b.3. The desired operating mode for PIC-0101A is AUTO.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to any full power IC.
- Ensure Pressurizer Pressure controller PIC-0101B is in service.
- Put BLUE pointer on PIC-0101A at approximately 2020. (This will require the candidate to have to make an adjustment of the setpoint when swapping controllers.)

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.1.d

TITLE: Latch and Rollup the Main Turbine

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Latch and Rollup the Main Turbine

Alternate Path: N/A

Facility JPM #: NEW

K/A: 045A4.02 Importance: SRO: 2.6 RO: 2.7

K/A Statement: Ability to manually operate and/or monitor in the control room: T/G controls, including breakers.

Task Standard: Main Turbine is latched and rolling at 520 rpm

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: SOP-8, 7.1.2, rev 58

Validation Time: __30__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The Plant is in Mode 2. Reactor power is approximately 4%. The Main Turbine is on the Turning Gear. GOP-4, "MODE 2 to MODE 1" is in progress and all steps up to and INCLUDING Attachment 1, Step 3.1 have been completed.

INITIATING CUES:

You have been directed to Latch (from the Control Room) and Roll the Main Turbine to 520 rpm and hold turbine speed at 520 rpm for special eccentricity monitoring per SOP-8, 7.1.2, up to and including step 7.1.2.m. The rate of 100 rpm/min. is to be used for this evolution.

An Auxiliary Operator is stationed as required for this evolution. An NCO will control the reactor and other plant systems not directly related to your task.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Obtains SOP-8 and refers to Section 7.1.2.b. May also refer to GOP-4, Att. 1, Step 3.1 but not required.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
7.1.2.a	Start P-24, High Pressure Seal Oil Backup Pp.	Operates 42-113CS to RUN and observes RED light ON and GREEN light OFF.	S U
Comment: *Info to EXAMINER: This pump provides control oil pressure for latching.*			**CRITICAL STEP**

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
7.1.2.b	Perform the following to latch the turbine:		S U
b.1	Latch the turbine from the Control Room **CRITICAL STEP**	___ Pushes and holds LATCH lighted pushbutton on DEH Panel. ___ LATCH button must be held long enough for LATCH lamp to illuminate (several seconds).	S U
b.3	Check LATCH lamp and TURBINE TRIPPED lamp.	Notes LATCH lamp ON and TURBINE TRIPPED lamp off	S U
b.4	Check OPEN the following valves as EHC pressure is established: • Main Stop Valves • Intercept Valves • Reheat Stop Valves **CRITICAL STEP**	Observes DEH CRT screen and notes: ___ All 4 Main Stop Valves indicate OPEN. ___ All 4 Intercept Valves indicate OPEN. ___ All 4 Reheat Stop Valves indicate OPEN.	S U
Comment:			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
7.1.2.c	If DEH Controller is in MANUAL, then perform the following:		**S U**
c.1	RAISE Limiter ABOVE 0%. ___ Depress UNIT OVERVIEW (or Control Setpoint) to access the UNIT OVERVIEW (or Control Setpoint) screen. ___ Depress SET LIMITER to access the SET LIMITER subscreen. ___ Press SELECT on the numeric keypad. ___ Press LIMIT RAISE or LIMIT LOWER until Limiter is above 0%,	Limiter is above 0%.	**S U**
c.2	PLACE to IN the Speed Loop. ___ Press "Feedback Loops" on Displays keypad. ___ Move cursor to desired feedback loop field using TAB keys on Cursor Keypad. ___ Press SELECT on numeric keypad. ___ Press START on Control Keypad to placed Speed Loop in service.	Speed Loop is IN (highlighted on DEH screen). **Note: May use different screens and just read Speed Loop is IN on the screen in use.**	**S U**
c.3	SELECT Operator Auto: ___ Press OPERATOR AUTO SELECT on DISPLAYS keypad. ___ Observe GREEN Operator Auto by cursor. ___ Press SELECT on numeric keypad. ___ Observe Operator Auto turns WHITE. ___ Press START on Control keypad. ___ Observe in CONTROL MODE field that "Manual Control" switches to "Operator Auto".	Operator Auto selected as indicated by: ___ Operator Auto backlit by WHITE bar. ___ CONTROL MODE field indicates "Operator Auto"	**S U**

Comment:

NOTE: Candidate may either refer to SOP-8, Att. 10, "DEH Information" OR may refer to instructions on the DEH screen for these operations.

CRITICAL STEP

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
7.1.2.d	Ensure in SINGLE VALVE MODE the DEH Controller.	DEH Controller in SINGLE VALVE MODE as indicated by any of the following: ___ GOVERNOR SINGLE indicated on any DEH screen.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
7.1.2.e	Ensure CLOSED Governor Valves.	Checks all 4 Governor Valves indicating CLOSED on "Valve Test Display " screen. Also acceptable to check 4 analog instruments on Panel C-01.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
7.1.2.f	Press UNIT EMERGENCY TURBINE TRIP button to operate Solenoid Trip and check closed the following valves: ● Main Stop Valves ● Intercept Valves ● Reheat Stop Valves	Observes "Valve Test Display" screen and checks: ___ All 4 Main Stop Valves CLOSED. ___ All 4 Intercept Valves CLOSED. ___ All 4 Reheat Stop Valves CLOSED.	**S U**
Comment: *NOTE: Limiter goes back to 0 on a turbine trip.*			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
7.1.2.g	When at least 30 seconds have elapsed then perform the following:		**S U**
	1. RESET relay 386 AST.	___ 386 AST is RESET.	
	2. LATCH turbine.	___ Main Turbine is latched.	
	3. RAISE Limiter to approx. 10%.	___ Limiter is at approx. 10%.	
Comment: **CRITICAL STEP** ***NOTE: Relay 386 AST is on the back of main electrical panel C-04.***			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
7.1.2.h	Perform the following to test the Overspeed Protection Controller:		**S U**
	1. Obtain Key #49 from Shift Manager's Key Cabinet and insert key in Overspeed Protection Controller Switch.	___ Key #49 obtained and inserted in Overspeed Protection Controller Switch on DEH Panel.	
	2. Turn COUNTERclockwise to "OPC TEST" position Key #49.	___ OPC Controller Switch in "OPC TEST."	
	3. Verify rapid closure of Turbine Intercept Valves.	___ Turbine Intercept Valves indicate CLOSED.	
	4. Turn to "NORMAL" position Key #49.	___ OPC Controller Switch in "NORMAL".	
	5. Verify reopening of Intercept Valves.	___ Observes Intercept Valves reopening as indicated on "Valve Test Display" DEH screen.	
	6. Remove Key #49 and return to Shift Manager.	___ Key #49 returned to Shift Manager.	
Comment:			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
7.1.2.i	SET desired Speed, Rate of Increase and Valve Position Limiter as follows:		**S U**
1.	Set to 520 rpm the speed on Setter. ● Press CONTROL SETPOINT on the DISPLAYS keypad. ● Enter Setter value on the numeric keypad. ● Press SELECT on numeric keypad and observe the following: *HOLD will be displayed in upper right of CRT screen. *HOLD light/pushbutton LIT on Manual Panel. **CRITICAL STEP**	___ Setter field indicates 520 rpm. ___ HOLD displayed on CRT screen. ___ HOLD light/button LIT.	
2.	Set to $\leq$ 100 rpm/min the rate of increase. ● Press TAB RIGHT on CURSOR keypad to move cursor to "Rate" field on CRT display. ● Enter desired acceleration rate using numeric keypad. ● Press SELECT on numeric keypad. **CRITICAL STEP**	___ Rate field indicates 100 rpm/min.	
3.	Set to approx. 10% the Valve Position Limiter. **CRITICAL STEP**	___ Limiter set at approx. 10%.	
Comment:			

Proc.Step	TASK ELEMENT 11	STANDARD	Grade
7.1.2.j	Initiate GO (per any one of the following methods): ● Press GO button on Manual Panel. ● Press GO/HOLD on DISPLAY keypad and then press P1 on Programmable Keypad. **CRITICAL STEP**	Main Turbine is in GO and rolling at 100 rpm/min up to 520 rpm.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 12	STANDARD	Grade
7.1.2.k	Perform the following:		**S U**
	1. Verify turbine speed rises to 520 rpm at the selected rate.	___ Observes turbine speed rising at 100 rpm/min using digital indication on Panel C-01 or indication on DEH screen.	
	2. If eccentricity reaches 9 mils, then initiate HOLD and investigate.	**CUE: Not required due to special monitoring equipment setup by Engineering.**	
	3. If necessary to stop raising speed the initiate HOLD.		
	4. If turbine speed rises to 1400 rpm then TRIP the turbine and notify Engineering.		

Comment:

Note: Expected alarm EK-0318, Turbine Panel Trouble, Impulse Pressure Transducer Monitor #1 Failed, may annunciate.

Proc.Step	TASK ELEMENT 13	STANDARD	Grade
7.1.2.l	Adjust to maintain temperatures within bands cooling water to Turbine Generator auxiliaries as required.	**CUE: Auxiliary Operators are monitoring and making required adjustments for cooling water to Turbine Generator auxiliaries.**	**S U**

Comment:

Proc.Step	TASK ELEMENT 14	STANDARD	Grade
7.1.2.m	Maintain speed at 520 RPM. **CRITICAL STEP**	Observes turbine in HOLD and speed at 520 rpm. **CUE: Bearing temps, rubs are being monitored by Engineering.**	**S U**

Comment:

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The Plant is in Mode 2. Reactor power is approximately 4%. The Main Turbine is on the Turning Gear. GOP-4, "MODE 2 to MODE 1" is in progress and all steps up to and INCLUDING Attachment 1, Step 3.1 have been completed.

INITIATING CUES:

You have been directed to Latch (from the Control Room) and Roll the Main Turbine to 520 rpm and hold turbine speed at 520 rpm for special eccentricity monitoring per SOP-8, 7.1.2, up to and including step 7.1.2.m. The rate of 100 rpm/min. is to be used for this evolution.

An Auxiliary Operator is stationed as required for this evolution. An NCO will control the reactor and other plant systems not directly related to your task.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to IC-12
- Ensure DEH Speed Loop is OUT.
- Refer to GCL 4, and ensure all steps appropriate for the Simulator have been completed up to and INCLUDING Step 3.1.
- Refer to SOP-8, and ensure all steps appropriate for the Simulator have been completed up to and INCLUDING 7.1.1.y.
- Ensure Caution Tag is REMOVED from turbine Latch button. Then after all JPMs are complete, reinstall this Caution Tag for normal Simulator operations.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.1.e

TITLE: Vent Non-Condensible Gases from the Reactor Vessel Head

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Vent Non-Condensible Gases from the Reactor Vessel Head

Alternate Path: Vent path to Quench Tank, PRV-1072, fails to open when required.

Facility JPM #: 2000CERTJPMRO-B.1-04

K/A: 007A3.01 Importance: SRO: 2.9 RO: 2.7

K/A Statement: Ability to monitor automatic operation of the PRTS, including: Components which discharge to the PRT.

Task Standard: Non-condensible gases have been vented from Reactor Vessel Head to Containment atmosphere.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: EOP Supplement 26, "PCS Void Removal"

Validation Time: ___15___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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. There are indications of non-condensible gases in the Reactor vessel head. The following Containment monitoring instruments are in service:

- One (1) Hydrogen Monitor
- One (1) Hydrogen Recombiner

INITIATING CUES:

You have been directed to vent the non-condensible gases from the Reactor vessel head using the preferred method in accordance with EOP Supplement 26, Section 3.0, Step 1.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Refers to EOP Supplement 26, Section 3.0.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
3.1.a	Ensure at least one Hydrogen Monitor in operation.	*Provided in Initial Conditions.*	S U
Comment: **CUE:** **If candidate attempts to verify status using SOP-38, provide cue that this has already been performed.**			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
3.1.b	Ensure at least one Hydrogen Recombiner in operation.	*Provided in Initial Conditions.*	S U
Comment: **CUE:** **If candidate attempts to verify status using SOP-5, provide cue that this has already been performed.**			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
3.1.c	Open PRV-1072, Vent Path to Quench Tank (preferred method).	___ Obtains Key 110. ___ Places HS-1072 to RESET and then to OPEN. ___ Identifies that PRV-1072 RED light remains OFF and GREEN light remains ON.	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
---	Notifies Control Room Supervisor that preferred method is not available since PRV-1072 will NOT open.	Control Room Supervisor notified that preferred method is not available.	S U
Comment: **CUE: CRS directs: "We need to get the Reactor vessel head vented. What do you suggest?"**			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
3.1.c	Open PRV-1071, Vent Path to Containment Building.	___ Obtains Key 109. ___ Places HS-1071 to RESET and then to OPEN. ___ Verifies that PRV-1072 has opened (RED light is ON and GREEN light is OFF).	S U
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
3.1.d	Vent the Reactor Vessel Head by opening ONE of the following valves for 5-10 minutes: • PRV-1067	___ Obtains Key 105. ___ Places HS-1067 to RESET and then to OPEN. ___ Verifies that PRV-1067 has opened (RED light is ON and GREEN light is OFF).	S U
	OR		
	• PRV-1068	___ Obtains Key 106. ___ Places HS-1068 to RESET and then to OPEN. ___ Verifies that PRV-1068 has opened (RED light is ON and GREEN light is OFF).	
Comment: **CRITICAL STEP** ***Note: Use of either valve is acceptable.***			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
3.1.d	After 5-10 minutes, secure Reactor Vessel Head venting.	Vents Reactor Vessel Head for 5-10 minutes.	**S U**
Comment: **CUE: 10 minutes have elapsed.**			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
3.1.e	Secures Reactor Vessel Head venting by closing the appropriate valve which was opened: • PRV-1067	___ Using Key 105 places HS-1067 to CLOSE. ___ Verifies that PRV-1067 has closed (RED light is OFF and GREEN light is ON).	**S U**
	OR		
	• PRV-1068	___ Using Key 106 places HS-1068 to CLOSE. ___ Verifies that PRV-1068 has closed (RED light is OFF and GREEN light is ON).	
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
3.1.e	Ensure closed PRV-1071, Vent Path to Containment Atmosphere.	___ Using Key 109 places HS-1071 to CLOSE. ___ Verifies that PRV-1071 has closed (RED light is OFF and GREEN light is ON).	**S U**
Comment: **CRITICAL STEP**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

A large break LOCA has occurred. There are indications of non-condensible gases in the Reactor vessel head. The following Containment monitoring instruments are in service:

- One (1) Hydrogen Monitor
- One (1) Hydrogen Recombiner

INITIATING CUES:

You have been directed to vent the non-condensible gases from the Reactor vessel head using the preferred method in accordance with EOP Supplement 26, Section 3.0, Step 1.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to IC-17
- INSERT MF RC01 (Large Break LOCA)
- Trip all PCPs.
- INSERT OVRD for PRV-1072 handswitch to prevent opening.
  (HS-1072-1 OVRD OFF)

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.1.f

TITLE: Shift Operating CCW Pumps

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Shift Operating Component Cooling Water Pumps

Alternate Path: The CCW pump selected to be started will trip when started. The third CCW pump must be manually started to maintain CCW.

Facility JPM #: JPM RO-6/SIM

K/A: 008A2.01 Importance: SRO: 3.6 RO:3.3

K/A Statement: Ability to predict impacts of loss of CCW pump and correct, control, or mitigate the consequences.

Task Standard: P-52B running.

Preferred Evaluation Location: Simulator ___X___ In Plant _____

Preferred Evaluation Method: Perform ___X__ Simulate _____

References: ONP-6.2, SOP-16

Validation Time: __15___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is at full power. BOTH CCW Heat Exchangers are in operation. CCW Pump P-52A is running. P-52B and P-52C are in STANDBY. P-52A CCW Pump has indications of a high vibration and is to be secured. Radwaste Evaporators are NOT in service.

INITIATING CUES:

The Control Room Supervisor directs you to shift operating CCW pumps per SOP-16, 7.3.6. P-52C is to be started and P-52B is to be left in STANDBY. P-52A is to be secured and used for emergencies, and ONLY with the specific permission of the Shift Supervisor.

Do NOT place P-52A in Standby.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
--	Obtains current procedure.	Locates and refers to SOP-16, Section 7.3.6.	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
7.3.6.a	Ensure LOCKED OPEN CCW pump P-52C suction and discharge valves.	Contacts AO to ensure MV-CC921 and MV-CC945 OPEN. **CUE: AO reports MV-CC921 and MV-CC945 OPEN.**	S U
Comment: ***NOTE: This step is not required, since normal plant configuration is to have these valves locked OPEN.***			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
7.3.6.b	Operate P-52C pump casing vent petcock to vent air from pump casing.	Contacts AO to cycle MV-CC558 open and closed. **CUE: AO reports MV-CC558 cycled open and closed.**	S U
Comment:			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
7.3.6.c	Verify both CCW Heat Exchangers in operation.	Both CCW Heat Exchangers in operation.	S U
Comment: *NOTE: This info previously provided in Initial Conditions.* ***If candidate asks for initial CCW Heat Exchanger dP give the following*** **CUE: E-54A ∆P is 6.6 psid. E-54B ∆P is 6.8 psid. (This is NOT required.)**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
7.3.6.d	START selected CCW Pump.	P-52C CCW pump running. RED light above handswitch ON, GREEN light OFF.	**S U**
Comment: ***NOTE: P-52C will trip after ~7 seconds AND prior to securing of P-52A (due to a malfunction).*** **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
---	Refers to ARP-7, window 67 and notifies CRS of P-52C trip and the need to reference ONP-6.2.	CRS notified.	**S U**
Comment: **CUE: If asked about any required actions for P-52A, tell candidate to follow procedures.** **NOTE TO EXAMINER: Actual ONP entry is NOT required; CRS is directing use of ONP-6.2, 4.1.a step to start desired CCW pump.**			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
ONP-6.2 **4.1.a**	IF less than 10 minutes has elapsed since loss of CCW, then start available CCW pumps as appropriate (based on suction supply).	___ Checks CCW Surge Tank level to ensure adequate inventory. ___ Starts P-52B.	**S U**
Comment: *NOTE: IF candidate asks AO to check P-52B suction and discharge valves locked OPEN and to operate casing vent petcock, provide the following :* **CUE: MV-CC920, MV-CC942 are locked OPEN.** **MV-CC557 has been cycled open and closed.** **CRITICAL STEP**			

NOTE TO EXAMINER:

If candidate requests CCW Hx at this point, provide the following CUE: E-54A ∆P = 14.1 psid.

E-54B ∆P = 14.2 psid.
(Not required)

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
SOP-16 7.3.6.e	STOP selected CCW Pump.	P-52A has been stopped using handswitch. RED light OFF, GREEN light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
7.3.6.h	If required, adjust CCW Heat Exchanger ΔP OR CCW Pump discharge pressure. ___ Requests AO report on new CCW Hx ΔP values.	Ensures CCW Heat Exchanger ΔP values are acceptable.	**S U**
Comment: **CUE: When requested, as AO report: E-54A Hx ΔP = 6.8 psid** **E-54B Hx ΔP = 6.5 psid**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is at full power. BOTH CCW Heat Exchangers are in operation. CCW Pump P-52A is running. P-52B and P-52C are in STANDBY. P-52A CCW Pump has indications of a high vibration and is to be secured. Radwaste Evaporators are NOT in service.

INITIATING CUES:

The Control Room Supervisor directs you to shift operating CCW pumps per SOP-16, 7.3.6. P-52C is to be started and P-52B is to be left in STANDBY. P-52A is to be secured and used for emergencies, and ONLY with the specific permission of the Shift Supervisor.

Do NOT place P-52A in Standby.

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to IC-17
- Secure any running CCW pumps so that ONLY P-52A is running.
- Place CCW Pump P-52B and P-52C in STANDBY
- P-52C MUST trip BEFORE candidate secures P-52A.
- INSERT MF CC02C for CCW Pump P-52C to ACTIVE.
- ZL01P(51) = P-52C RED light
- Event 1 - Trip P-52C (time delay 7 seconds).

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.1.g

TITLE: Manually Divert to Radwaste

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Manually Divert to Radwaste

Alternate Path: Task is to lower VCT level ~2% by manually diverting to radwaste. When diverting is complete, gaseous waste radiation monitor will alarm. Candidate is required to transition to the Alarm Response Procedure to determine required actions. Candidate will have to recognize that a damper did not automatically close as expected and take manual action to close the damper. ***Based on actual recent plant events.***

Facility JPM #: NEW

K/A: 004A4.06 Importance: SRO: 3.1 RO: 3.6

K/A Statement: Ability to manually operate and/or monitor in the control room: Letdown isolation and flow control valves.

Task Standard: Volume Control Tank level has been lowered ~2% and damper PO-1839 is closed.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: SOP-2A, 7.4.4

Validation Time: __25____ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is at full power following a refueling outage. The Vacuum Degasifier is in service. The Waste Gas System is in service with adequate space available as required. T-64C Clean Waste Receiver Tank is in service. Volume Control Tank is currently at 72%.

INITIATING CUES:

The Control Room Supervisor has directed you to LOWER Volume Control Tank level by ~ 2% by manually diverting to radwaste. The Shift Supervisor has directed that an AO is NOT required at Radwaste panel C-40.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
--	Obtains current procedure.	Candidate locates and refers to SOP-2A, section 7.4.4	S U
Comment:			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
--	Notifies Health Physics of diverting evolution.	Health Physics notified of diversion.	S U
Comment: **CUE: Health Physics is aware of diverting evolution.**			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
7.4.4.a	Ensure Vacuum Degasifier in service or bypassed.	Vacuum Degasifier verified in service.	S U
Comment: *NOTE: This info was previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
7.4.4.b	Ensure adequate space available in T-68s/T-101s.	Adequate space available in Waste Gas Decay tanks.	S U
Comment: *Note: This info was previously provided in Initial Conditions.* **Examiner Info:** *These are Waste Gas Decay tanks.***:**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
7.4.4.c	Ensure Waste Gas System in service.	Verifies that Waste Gas System in service.	**S U**
Comment: *NOTE: This info was previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
7.4.4.d.	Ensure adequate space available in the in service T-64, Clean Waste Receiver Tank.	Verifies adequate space in T-64C.	**S U**
Comment: *NOTE: This info was previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
7.4.4.e.1	If desired, station an AO to:	This is NOT required.	**S U**
	(a) Monitor Vacuum Degasifier level		
	(b) Maintain Vacuum Degasifier pressure		
	(c) Attempt to maintain WGST 14.9 - 15.7 psia		
	(d) Monitor T-68s / T-101s.		
	(e) Monitor T-64s.		
Comment: *NOTE: This info previously provided in Initial Conditions.*			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
7.4.4.e.2	Place CV-2056, VCT SELECT to CLEAN WASTE RCVR TANKS position.	___ Handswitch AMS-2056 selected to "TO CWRT" position. ___ "TO VCT" RED light OFF. ___ "A" AMBER light OFF. ___ "TO CWRT" RED light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
7.4.4.e.4	If in solid Plant conditions, monitor PCS pressure.	-------	**S U**
Comment: *NOTE: THIS STEP DOES NOT APPLY.*			

Proc.Step	TASK ELEMENT 10	STANDARD	Grade
7.4.4.e.5	When desired VCT level is achieved, then ensure CV-2056, VCT SELECT, to AUTO.	___ VCT level has been reduced by ~2%. ___ "TO CWRT" RED light OFF. ___ "A" AMBER light ON.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 11	STANDARD	Grade
7.4.4.f	If letdown flow as read on FIC-0202, Letdown Flow, is abnormally high, then purge sensing lines.	Candidate determines that letdown flow is normal.	**S U**
Comment: **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 12	STANDARD	Grade
NONE	NONE	NONE	**N/A**
NOTE TO EXAMINER: After CV-2056 is closed the following alarms will annunciate: *EK-1364, "Gaseous Waste Monitoring Hi Radiation" will annunciate.* *EK-1154, "Radwaste Area Vent Fan V10, V14A/B Tripped"* **This simulates a puff release in the radwaste area due to the diverting evolution.**			

Proc.Step	TASK ELEMENT 13	STANDARD	Grade
EK-1364	Respond to Gaseous Waste Monitoring Hi Radiation alarm (ARP-8).	Refers to Alarm Response Procedure and diagnoses that RIA-1809 is cause of the alarm.	**S U**
	Ensure auto actions occurred.	___ Notes V-10 fan tripped by observing GREEN light ON and RED light OFF.	**S U**
		___ Determines that V-14A was the Exhaust Fan in STANDBY by observing RADWASTE EXH STANDBY SELECT switch selected to STDBY V-14A. *NOTE: This step is not required. The candidate is only required to note ONE of the V-14s has tripped and that one is still running.*	
		___ Notes V-14A has tripped by observing GREEN light ON and RED light OFF.	
		___ Notes Supply Damper PO-1809 has NOT closed ***(it should have)*** by observing RED light ON and GREEN light OFF.	
		___ Manually closes PO-1809 by taking handswitch to CLOSE. Observes GREEN light ON and RED light OFF. **CRITICAL STEP**	
		___ Dispatches an AO to verify PO-1839 is closed. **CUE: AO reports that PO-1839 indicates closed.**	
	Notify Health Physics.	Health Physics notified. **CUE: Health Physics has noted the occurrence. The release was a short puff release. Trending of RIA-1809 is NOT required.**	**S U**
	Check Plant Process Computer for RIA-1809 trend.	NOT required, per HP direction.	
Comment: *NOTE: Acceptable if candidate responds to EK-1154 first.*			

Proc.Step	TASK ELEMENT 14	STANDARD	Grade
EK-1154	Respond to Radwaste Area Vent Fan V10, V14A/B Tripped alarm.	Refers to Alarm Response Procedure.	**S U**
	Check RIA-1809; if high radiation is indicated, then ensure operating one Exhaust Fan V-14A or V-14B and notify Health Physics.	___ Determines that high radiation was indicated on RIA-1809. ___ Notes V-14B is operating by observing RED light ON and GREEN light OFF. ___ Health Physics notified. **CUE: Health Physics has noted the occurrence. The release was a short puff release. Trending of RIA-1809 is NOT required.**	
Comment: *NOTE: Acceptable if candidate performs this step prior to EK-1364. Actions for both are similar.*			

Proc.Step	TASK ELEMENT 15	STANDARD	Grade
NONE	Notifies Control Room Supervisor all auto actions occurred EXCEPT PO-1809 had to be manually closed.	Control Room Supervisor notified.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is at full power following a refueling outage. The Vacuum Degasifier is in service. The Waste Gas System is in service as required. T-64C Clean Waste Receiver Tank is in service. Volume Control Tank is currently at 72%.

INITIATING CUES:

The Control Room Supervisor has directed you to LOWER Volume Control Tank level by ~ 2% by manually diverting to radwaste. The Shift Supervisor has directed that an AO is NOT required at Radwaste panel C-40.

SIMULATOR OPERATOR INSTRUCTIONS

Initial Setup	
1.	___ Reset to a full power IC.
2.	___ Ensure V-14A is in STANDBY (Operate RADWASTE EXH STANDBY SELECT switch on C-13 to "STDBY V-14A" position.
3.	___ Ensure V-10, V-14A, and V-14B are operating.
4.	___ Ensure RIA-1809 (Radwaste Area) is in service.
5.	___ INSERT: ___ OVRD PO-1809 RED light ON ___ OVRD PO-1809 GREEN light OFF.

Simulator Operator Actions
Event #1
After diverting is complete and when candidate selects CV-2056 (on Panel C-02) to AUTO, insert:
___ OVRD EK-1364 (GASEOUS WASTE MONIITORING HI RADIATION) to ON
___ OVRD EK-1154 (RADWASTE AREA VENT FAN V10, V14A/B TRIPPED) to ON.
___ OVRD RIA-1809 (Radwaste Ventilation) YELLOW light to ON
___ OVRD RIA-1809 RED light to ON
___ OVRD to trip V-14A (V-14A-R to OFF; V-14A-G to ON)
___ OVRD to trip V-10 (V-10-R to OFF; V-10-G to ON)
Event #2
WHEN candidate operates handswitch for PO-1809 (Panel C-03) to CLOSE, perform the following:
___ DELETE OVRD PO-1809 RED light.
___ DELETE OVRD PO-1809 GREEN light
___ .NOT. ZDI1P(315) PO-1809 to CLOSE
___ DOR PO-1809-G
Event #3
___ .NOT.ZDI1P(315)
___ DOR PO-1809-R

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.2.a

TITLE: Alternate Methods of Auxiliary Feedwater

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Alternate Methods of Auxiliary Feedwater

Alternate Path: N/A

Facility JPM #: TBAE-02. JPM / ISKG-07.JPM

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

K/A Statement: Ability to predict impacts of automatic control malfunction and use procedures to correct or mitigate the consequences.

Task Standard: AFW flow control valve CV-0749 is manually throttled as needed to achieve ~165 gpm flow to "A" S/G.

Preferred Evaluation Location: Simulator _____ In Plant __X__

Preferred Evaluation Method: Perform _____ Simulate __X__

References: EOP Supplement 19

Validation Time: __20__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

From full power the plant was tripped due to a loss of all feedwater. During the transient, several Auxiliary Operators were injured, and are being transported to the hospital.

P-8B has been restored and is supplying Auxiliary Feedwater to "B" S/G. Flow to "A" S/G cannot be controlled from the Control Room, C-150, or C-33. The two remaining AOs are busy with other important duties and are NOT available to assist with this task.

INITIATING CUES:

The Control Room Supervisor has directed you to establish and manually control AFW flow to "A" S/G from AFW Pp. P-8B at 165 gpm per the applicable portions of EOP Supplement 19, section 5.0.

Step #	TASK ELEMENT 1	STANDARD	Grade
---	Refers to current procedure.	Locates and refers to EOP Supplement 19, section 5.0.	S U
Comment: *NOTE: Examiner may provide a copy of EOP Supplement 19 to candidate.*			

Step #	TASK ELEMENT 2	STANDARD	Grade
5.1.d.1)	Manually operate the selected control valve handwheel to the FULL CLOSED position. **CRITICAL STEP**	___ Locates CV-0749. ___ Operates handwheel in clockwise direction to fully close CV-0749.	S U
Comment: **CUE: CV-0749 handwheel is rotated fully in clockwise direction and will turn no further (local indicator down).** *NOTE: CV-0749 is located in the SE Corner of CCW Hx Room, near the Containment wall.* **CRITICAL STEP**			

Step #	TASK ELEMENT 3	STANDARD	Grade
5.1.d.2)	Isolate the air supply to the selected control valve. **CRITICAL STEP**	___ Locates MV-CA385. ___ Closes valve by operating to full clockwise position.	S U
Comment: **CUE: MV-CA385 manual operator is operated fully to clockwise.**			

Step #	TASK ELEMENT 4	STANDARD	Grade
5.1.d.3)	Bleed off air pressure through the PCV/filter drain. **CRITICAL STEP**	Opens drain on PCV-0749.	S U
Comment: **CUE: Air flow noise is heard. After 3 seconds→→CUE: Air flow noise has slowly stopped.** *NOTE: It is acceptable to leave bleedoff valve open, OR to close it.*			

Step #	TASK ELEMENT 5	STANDARD	Grade
---	Establish communications with Control Room for coordinating desired flowrate.	Communications with Control Room established.	S U
Comment:			
CUE: **Control Room will maintain communications while throttling.**			

Step #	TASK ELEMENT 6	STANDARD	Grade
---	Control Room directs commencing feeding "A" S/G at 165 gpm.	Operator acknowledges order.	S U
Comment:			
CUE: **Control Room will maintain communications while throttling.**			

Step #	TASK ELEMENT 7	STANDARD	Grade
5.1.d.4)	Throttle open the selected control valve with the handwheel to achieve the desired S/G feedrate. **CRITICAL STEP**	Operator throttles open the handwheel for CV-0749 , contacting the Control Room as needed to establish ~165 gpm flow.	S U
Comment:			
CUE: **Control Room says that the flow to "A" S/G is 165 gpm.**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

From full power the plant was tripped due to a loss of all feedwater. During the transient, several Auxiliary Operators were injured, and are being transported to the hospital.

P-8B has been restored and is supplying Auxiliary Feedwater to "B" S/G. Flow to "A" S/G cannot be controlled from the Control Room, C-150, or C-33. The two remaining AOs are busy with other important duties and are NOT available to assist with this task.

INITIATING CUES:

The Control Room Supervisor has directed you to establish and manually control AFW flow to "A" S/G from AFW Pp. P-8B at 165 gpm per the applicable portions of EOP Supplement 19, section 5.0.

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.2.b

TITLE: Manually Transfer Y-50 ABT

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Manually Align Y-50 ABT

Alternate Path: MCC-2 breaker 52-236 is OFF and must be place ON.

Facility JPM #: Bank 99NRC

K/A: 062A2.11 Importance: SRO: 4.1 RO: 3.7

K/A Statement: Ability to predict impacts of aligning standby equipment with correct emergency power source (D/G) and use procedures to control the operations.

Task Standard: Instrument AC Bus Y-01 is being supplied by MCC-2 with the automatic transfer function defeated.

Preferred Evaluation Location: Simulator _____ In Plant __X__

Preferred Evaluation Method: Perform _____ Simulate __X__

References: SOP-30, Station Power

Validation Time: __20__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is in MODE 6 for refueling. Work is scheduled for breaker 52-145 this shift, requiring Instrument AC bus Y-01 to be fed from MCC-2. The Load Connected to Normal (MCC-1) light is LIT. The Load Connected to Emergency (MCC-2) light is NOT lit.

INITIATING CUES:

You have been directed to manually align Instrument AC Bus Y-01 to the Emergency power supply (MCC-2).

Step #	TASK ELEMENT 1	STANDARD	Grade
---	Refers to current procedure.	Locates and refers to SOP-30, Section 7.6.2.	S U
Comment:			
NOTE: Examiner may provide a copy of SOP-30, 7.6.2 to candidate.			

Step #	TASK ELEMENT 2	STANDARD	Grade
7.6.2.b	Remove screws from and open door to Y50 Transfer Switch Cabinet.	Screws removed and Y50 Transfer Switch Cabinet opened.	S U
NOTE: **Do not allow candidate to actually remove screws. Provide ATTACHMENT 1 ("Y-50 Automatic Transfer Switch") of this JPM to allow explanation of operation.**			
CRITICAL STEP			

Step #	TASK ELEMENT 3	STANDARD	Grade
7.6.2.c	Check indicating light lit for desired power source.	Determines EMERGENCY POWER SOURCE bulb is NOT lit.	S U
CUE: **Emergency Power Source bulb is NOT lit.**			

Step #	TASK ELEMENT 4	STANDARD	Grade
7.6.2.c.2	Check bulb and replace is necessary.	Checks and/or replaces bulb and determines it to be good.	S U
CUE: **Light bulb is GOOD.**			
CUE: **Emergency Power Source bulb is still NOT lit.**			

Step #	TASK ELEMENT 5	STANDARD	Grade
---	Check closed appropriate source breaker.	On MCC-2, checks breaker 52-236 and determines it to be OFF.	S U
CUE: **Breaker 52-236 is in the OFF position.** **Note to Examiner: MCC-2 is in another cabinet nearby.**			

Step #	TASK ELEMENT 6	STANDARD	Grade
---	Close appropriate source breaker.	Obtains permission from Shift Supervisor and places breaker 52-236 on MCC-2 to ON.	S U
CUE: **Shift Supervisor directs you to place breaker 52-236 to ON. Checking Y50 fuses is NOT required.** **CRITICAL STEP**			

Step #	TASK ELEMENT 7	STANDARD	Grade
---	Recheck the Emergency Power Source available light.	In Y50 Transfer Cabinet, determines EMERGENCY POWER SOURCE light is LIT.	S U
CUE: **EMERGENCY POWER SOURCE light is LIT.**			

Step #	TASK ELEMENT 8	STANDARD	Grade
7.6.2.d	Determine next step to perform.	Based on Y01 currently being supplied by Normal and desire to transfer to Emergency, determines Step 7.6.2.e is appropriate.	S U

Step #	TASK ELEMENT 9	STANDARD	Grade
7.6.2.e	Hold Transfer Test Switch to TEST position.	Holds Transfer Test toggle switch to TEST position until LOAD CONNECTED TO EMERGENCY lamp lights.	**S U**
CUE: **Transfer Test Switch is being held in TEST position.** **CRITICAL STEP**			

Step #	TASK ELEMENT 10	STANDARD	Grade
7.6.2.e.2	Release Transfer Test Switch when Y01 has transferred to EMERGENCY power source.	Determines RED light LOAD CONNECTED TO EMERGENCY is lit, GREEN light LOAD CONNECTED TO NORMAL is OFF, and releases Transfer Test toggle switch.	**S U**
CUE: **Load Connected to Emergency light is LIT.** **Load Connected to Normal light is OFF.**			

Step #	TASK ELEMENT 11	STANDARD	Grade
7.6.2.f.1	Operate and hold TGL-1 Lock Release Switch in the direction indicated for the power source.	Within 30 seconds of transfer, holds TGL-1 Lock Release toggle switch to EMERGENCY.	**S U**
CUE: **TGL-1 is being held in the EMERGENCY position.** **CONDITION CUE:** **If not held within 30 seconds of releasing Transfer Test Switch, RED light LOAD CONNECTED TO EMERGENCY is OFF, and GREEN light LOAD CONNECTED TO NORMAL is LIT.** **Special Note:** **If the load transfers back to NORMAL, candidate may resume transfer to EMERGENCY by going back to Task Element #9 and performing all steps again.** **CRITICAL STEP**			

Step #	TASK ELEMENT 12	STANDARD	Grade
7.6.2.f.2	Place the Bypass Handle to the position indicated for the desired power source.	Within 30 seconds of transfer, places the Bypass Handle to EMERGENCY.	**S U**
CUE: **Bypass Handle is in the EMERGENCY position.** **CONDITION CUE:** **If not held within 30 seconds of releasing Transfer Test Switch, RED light LOAD CONNECTED TO EMERGENCY is OFF, and GREEN light LOAD CONNECTED TO NORMAL is LIT.** **Special Note:** **If the load transfers back to NORMAL, candidate may resume transfer to EMERGENCY by going back to Task Element #9 and performing all steps again.** **CRITICAL STEP**			

Step #	TASK ELEMENT 13	STANDARD	Grade
7.6.2.f.3	Ensure Bypass Handle is fully engaged into desired power source position.	Ensures Bypass Handle is fully engaged in the EMERGENCY position.	**S U**
CUE: **Bypass Handle is fully engaged.**			

Step #	TASK ELEMENT 14	STANDARD	Grade
7.6.2.f.4	Release TGL-1 Lock Release Switch.	TGL-1 Lock Release toggle switch is released.	**S U**
CUE: **TGL-1 Lock Release has been released.**			

Step #	TASK ELEMENT 15	STANDARD	Grade
7.6.2.g	Close door to Y50 Transfer Switch Cabinet and reinstall screws.	Y50 Transfer Switch Cabinet door closed with screws reinstalled.	**S U**
CUE: **Door is closed, with screws installed.**			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is in MODE 6 for refueling. Work is scheduled for breaker 52-145 this shift, requiring Instrument AC bus Y-01 to be fed from MCC-2. The Load Connected to Normal (MCC-1) light is LIT. The Load Connected to Emergency (MCC-2) light is NOT lit.

INITIATING CUES:

You have been directed to manually align Instrument AC Bus Y-01 to the Emergency power supply (MCC-2).

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM SRO - B.2.c

TITLE: Manually Start P-41 Fire Pump

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Manually Start P-41 Fire Pump

Alternate Path: N/A

Facility JPM #: NEW

K/A: 086A2.02 Importance: SRO: 3.3 RO: 3.0

K/A Statement: Ability to predict impacts of low FPS header pressure and use procedures to mitigate the consequences.

Task Standard: Diesel Fire Pump P-41 started and running.

Preferred Evaluation Location: Simulator _____ In Plant __X__

Preferred Evaluation Method: Perform _____ Simulate __X__

References: SOP-21, 7.4.1

Validation Time: __15___ minutes Time Critical:

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

Tools/Equipment/Procedures Needed:

EXAMINER COPY ONLY

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant is shutdown for a refueling outage. A fire at the Cooling Towers requires the use of Diesel Fire Pump P-41, which has NOT automatically started. Jockey Pump P-13 is operating and there are NO Service Water Booster Pumps (P-25A/B/C) in service. Annunciator EK-3533, "Fire Pump Day Tank T-40 Level Hi-Lo" is NOT alarming.

INITIATING CUES:

The Shift Supervisor has directed you to manually start Diesel Fire Pump P-41 per SOP-21, Section 7.4.1.

Step #	TASK ELEMENT 1	STANDARD	Grade
---	Obtains current procedure.	Locates and refers to SOP-21, Section 7.4.1.	S U
Comment: **Examiner may provide candidate copy of SOP-21 excerpt.**			

Step #	TASK ELEMENT 2	STANDARD	Grade
7.4.1.a	Verify Diesel Engine Day Tank T-40 level normal.	Verifies EK-3533, "Fire Pump Day Tank T-40 Level Hi-Lo" NOT alarming.	S U
Comment: *NOTE: This info previously provided in Initial Conditions.*			

Step #	TASK ELEMENT 3	STANDARD	Grade
7.4.1.b	Place Rotary Control Switch to MANUAL A or MANUAL B.	Rotary Control Switch in MANUAL A or MANUAL B.	S U
Comment: **Either position is acceptable. Provide CUE based on which position selected by candidate.** **CRITICAL STEP**			

Step #	TASK ELEMENT 4	STANDARD	Grade
7.4.1.c	Check Diesel Driver K-10 lube oil crankcase level using dipstick.	K-10 lube oil crankcase level verified checked.	S U
Comment: **CUE: K-10 crankcase level is normal with no significant fuel oil odor.**			

Step #	TASK ELEMENT 5	STANDARD	Grade
7.4.1.e	If Diesel Driver K-10 crankcase check is satisfactory, then press START pushbutton.	START pushed for K-10.	**S U**
Comment: **CUE: K-10 has started and the engine is running.** **CRITICAL STEP**			

Step #	TASK ELEMENT 6	STANDARD	Grade
7.4.1.f	If Jockey Pump P-13 is operating, then place control switch to OFF.	Locates P-13 switch and selects to OFF.	**S U**
Comment: **CUE: P-13 switch is in OFF, pump is NOT running, GREEN indicating light is OFF.**			

Step #	TASK ELEMENT 7	STANDARD	Grade
7.4.1.g	If Attachment 2 is in effect, stop selected Service Water Booster Pump.	N / A	**S U**
Comment: *NOTE: This info previously provided in Initial Conditions.*			

Step #	TASK ELEMENT 8	STANDARD	Grade
7.4.1.h	Observe K-10 for proper operation.	Parameters verified as follows:	**S U**
	1. No unusual vibration.	___ No unusual vibration **CUE: There is no unusual vibration.**	
	2. No oil or water leaks.	___ No oil or water leaks. **CUE: There are no oil or water leaks.**	
	3. Adequate lube oil pressure.	___ Adequate lube oil pressure. **CUE: Lube oil pressure is adequate. (~120 psi)**	
Comment: **Note: Candidate may check pump discharge pressure.** **CUE: If asked, discharge pressure is approximately 155 psig.**			

Step #	TASK ELEMENT 9	STANDARD	Grade
----	Makes proper notifications that P-41 is operating.	SS or CRS notified that P-41 is operating.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE CUE SHEET

Special Note: Assume that all Plant Requirements and Precautions and Limitations have been reviewed and complied with. You are NOT expected, nor are you required to consult the Plant Requirements and Precautions and Limitations section of any procedure for this JPM.

INITIAL CONDITIONS:

The plant is shutdown for a refueling outage. A fire at the Cooling Towers requires the use of Diesel Fire Pump P-41, which has NOT automatically started. Jockey Pump P-13 is operating and there are NO Service Water Booster Pumps (P-25A/B/C) in service. Annunciator EK-3533, "Fire Pump Day Tank T-40 Level Hi-Lo" is NOT alarming.

INITIATING CUES:

The Shift Supervisor has directed you to manually start Diesel Fire Pump P-41 per SOP-21, Section 7.4.1.