REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: SYS H

TITLE: SUPPLY ALTERNATE SUCTION SOURCE TO AFW PUMP P-8C

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Supply AFW Pumps From Alternate Source IAW EOP Supplement 31

Alternate Path: NO

Facility JPM #: PL-OPS-EOP-011J

K/A: 054AA1.01 Importance: RO: 4.5 SRO: 4.4

K/A Statement: Ability to operate and/or monitor the following as they apply to loss of Main Feedwater (MFW): AFW controls, including the use of alternate AFW sources

Task Standard: AFW pump, P-8C has suction from the Service Water system and its low suction pressure trip reset.

Preferred Evaluation Location: Simulator ____ In Plant _X__

Preferred Evaluation Method: Perform ____ Simulate _X__

References:EOP Supplement 31, revision 7

Validation Time:_20__ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

- EOP Supplement 31, revision 7

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:

- Reactor trip occurred.
- Loss of all Feedwater has occurred and Auxiliary Feedwater Pumps, P-8A and P-8B, are not available.
- Condensate Storage Tank, T-2, has a very large hole at the bottom of the tank and is empty.
- AFW Pump, P-8C, has tripped on low suction pressure.
- P-8C Start Select Switch HS-P8C is in the MANUAL position.
- Chemistry has been notified that Service Water will be supplied to the Steam Generators.

INITIATING CUES:

- The CRS gives you a locked valve key and directs you to complete section 1.0, steps 1 through 7, of EOP Supplement 31, "Supply AFW Pumps from Alternate Sources." to supply Service Water to P-8C.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Locate copy of EOP Supplement 31 and obtains a locked valve key from control room.	EOP Supplement 31 is located	**S U**
Comment:			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
1.0.1	PLACE P-8C Start Select Switch HS-P-8C to MANUAL.	Operator determines this step has been completed per initial conditions.	**S U**
Comment: **Evaluator Cue: P-8C Start Select Switch is in manual.**			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
1.0.2	UNLOCK MV-FW750, AFW Pump P-8C Supply from SWS.	Operator simulates unlocking MV-FW750	**S U**
Comment: **Evaluator Cue: MV-FW750 is unlocked.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
1.0.3	THROTTLE OPEN MV-FW750, AFW Pump P-8C Supply from SWS until water issues from Leak-off valve P-8C Supply from SWS Leak Test, MV-FW759.	Operator simulates throttling open MV-FW750 and looks for leakage from leak-off valve MV-FW759.	**S U**
Comment: **Evaluator Cue: MV-FW750 is throttled open and water is issuing from MV-FW759.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
1.0.4	WHEN water issues from P-8C Supply from SWS Leak Test, MV-FW759, THEN CLOSE MV-FW759.	Operator simulates closing MV-FW759.	**S U**
Comment: **Evaluator Cue: When candidate simulates closing MV-FW759, cue that valve is closed and water is not issuing from MV-FW759.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
1.0.5	OPEN MV-FW750, AFW Pump P-8C Supply from SWS.	Operator simulates fully opening MV-FW750.	**S U**
Comment: **Evaluator Cue: MV-FW750 is fully open.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
1.0.6	UNLOCK AND OPEN AFW Pump P-8C Supply from SWS MV-FW750A.	___ Simulates unlocking MV-FW750A ___ Simulates opening MV-FW-750A	**S U**
Comment: **Evaluator Cue: MV-FW-750A is unlocked. MV-FW750A is fully open.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
1.0.7	NOTIFY Control Room Supervisor or Nuclear Control Operator P-8C AFW pump service water supply is aligned.	Operator simulates notifying the Control Room Supervisor or Nuclear Control Operator that P-8C, AFW pump, is aligned to service water.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

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

INITIAL CONDITIONS:

- Reactor trip occurred.
- Loss of all Feedwater has occurred and Auxiliary Feedwater Pumps, P-8A and P-8B, are not available.
- Condensate Storage Tank, T-2, has a very large hole at the bottom of the tank and is empty.
- AFW Pump, P-8C, has tripped on low suction pressure.
- P-8C Start Select Switch HS-P8C is in the MANUAL position.
- Chemistry has been notified that Service Water will be supplied to the Steam Generators.

INITIATING CUES:

- The CRS gives you a locked valve key and directs you to complete section 1.0, steps 1 through 7, of EOP Supplement 31, "Supply AFW Pumps from Alternate Sources." to supply Service Water to P-8C.

SIMULATOR OPERATOR INSTRUCTIONS

- N/A

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: SYS I

TITLE: REDUCE STATION BATTERY #1 LOADING

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: 000 485 05 04, Reduce Station Battery Loading

Alternate Path: NO

Facility JPM #: PL-OPS-EOP-021J

K/A: 063A1.01 Importance: RO: 2.5 SRO: 3.3

K/A Statement: Ability to predict and/or monitor changes in parameters associated with operating the DC electrical system controls including: Battery capacity as it is affected by discharge rate.

Task Standard: Station Battery #1 loading reduced to <157 amps.

Preferred Evaluation Location: Simulator ____ In Plant _X__

Preferred Evaluation Method: Perform ____ Simulate _X__

References:EOP-3.0, revision 14
EOP Supplement 7, revision 5

Validation Time:_10_ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

- EOP Supplement 7, revision 5

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:

- All AC power is lost.
- It is approximately 35 minutes after the loss of all AC power.
- 1-1 and 1-2 Diesel Generators will not start.

INITIATING CUES:

- During performance of EOP-3.0, “Station Blackout Recovery,” step 19, the CRS directs you to ensure Station Battery #1 discharge is within limits, per EOP Supplement 7.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Locate correct procedure	EOP Supplement 7 is located	**S U**
Comment:			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
1.0.1	MONITOR Station Battery No 1 loading using the dual range ammeter EAI-45 located at Panel D-13: a. For values greater than 200 amps, use the outer scale on EAI-45 b. For values less than 200 amps, use the Lower Scale Reading push button and the inner scale on EAI-45	Operator reviews instructions for reading Station Battery No. 1 Ammeter.	**S U**
Comment:			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
1.0.2	RECORD the following: a. Time of event initiation: _____ b. Present Time: _____ c. Station Battery No 1 discharge current: EAI-45: _____Amps	Operator records the following: ___ 35 minutes ago from present time ___ Present time Operator determines bus loading for Station Battery No. 1 by: ___ depressing Lower Scale Reading push button ___ reading inner scale of ammeter. ___ Records 190 amps	**S U**
Comment: **Evaluator Cue: Use pointer and place on Station Battery No. 1 ammeter, EAI-45, to indicate 190 AMPS out.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
1.0.3	DETERMINE the maximum acceptable Station Battery No 1 discharge current for time since event initiation: **Time Since Event** / **Acceptable Current** 0 to 1 min. ≤ 832 amps 1 to 11 min. ≤ 401 amps 11 to 30 min. ≤ 222 amps > 30 min. ≤ 157 amps	Operator determines the following maximum acceptable Station Battery No. 1 discharge current is ≤157 amps	**S U**
Comment:			

Evaluator Cue: If candidates attempts to refer to drawing E-35 for valve failure modes, inform candidate that the Control Room has completed this.

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
1.0.4.a	IF Station Battery No 1 discharge current is greater than, or will be greater than, the limits of Step 1.3, THEN PERFORM the following steps, as necessary, to maintain discharge current within acceptable limits: OPEN the following breakers in the Cable Spreading Room: Panel D11-1 • 72-107 • 72-113 • 72-114 • 72-116 Panel D11-2 • 72-122 • 72-126 • 72-128 • 72-130 • 72-133 • 72-134	Operator performs the following: ___ Determines that discharge current of 190 amps is <u>not</u> acceptable ___ Simulates opening breakers on panels D11-1 and D11-2.	**S U**
Comment: **Evaluator Cue: As each breaker is opened, cue operator that breaker indicates OFF. Battery discharge current will lower by only 2 or 3 amps for each breaker.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
1.0.4.b	WHEN the above breakers are open, THEN RECORD the following: 1) Time: _____ 2) Station Battery No 1 discharge current: EAI-45: _____ amps	Operator performs the following: ___ Records present time ___ Depresses Lower Scale Reading push button ___ Reads inner scale of ammeter ___ Records Battery No. 1 discharge current	**S U**
Comment: **Evaluator Cue: Use pointer and place on Station Battery No. 1 inner scale ammeter, EAI-45, to indicate 175 AMPS out.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
1.0.4.c	IF Station Battery No 1 discharge current continues to be greater than the acceptable limits of Step 1.3, THEN OPEN the following breaker in Cable Spreading Room • 72-17 (D-10)	Operator performs the following: ___ Determines that discharge current is still not acceptable ___ Simulates opening breaker 72-17 on D-10	**S U**
Comment: **Evaluator Cue: Provide cue that breaker indicates OFF. Battery discharge current should lower by approximately 40 amps.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
1.0.4.d	WHEN the above breaker is open, THEN RECORD the following: 1) Time: _____ 2) Station Battery No 1 discharge current: EAI-45: _____ amps	Operator performs the following: ___ Records present time ___ Depresses Lower Scale Reading push button ___ Reads inner scale of ammeter ___ Records Battery No. 1 discharge current	**S U**
Comment: **Use pointer and place on Station Battery No. 1 ammeter, EAI-45, to indicate 135 AMPS out.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 9	STANDARD	Grade
1.0.4.e	IF Station Battery No 1 discharge current continues to be greater than the acceptable limits of Step 1.3, THEN PERFORM the following…	Operator determines that this step is N/A because Battery No. 1 discharge current is <157 amps	**S U**
Comment:			

Proc. Step	TASK ELEMENT 10	STANDARD	Grade
n/a	Operator informs Control Room that task is complete	Control Room informed	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

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

INITIAL CONDITIONS:

- All AC power is lost.
- It is approximately 35 minutes after the loss of all AC power.
- 1-1 and 1-2 Diesel Generators will not start.

INITIATING CUES:

- During performance of EOP-3.0, “Electrical Emergency Recovery,” step 19, the CRS directs you to ensure Station Battery #1 discharge is within limits, per EOP Supplement 7.

SIMULATOR OPERATOR INSTRUCTIONS

- N/A

REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: SYS J

TITLE: MANUALLY START FIRE PUMP P-9A

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Manually start P-9A Fire Pump

Alternate Path: P-9A, Fire Water Pump, will not start electrically when the start push button is pressed requiring the operator to use the manual T-handle.

Facility JPM #: ISDB-JPM-01

K/A: 086A3.01 Importance: RO: 2.9 SRO: 3.3

K/A Statement: Ability to monitor automatic operation of the Fire Protection System including starting mechanisms of fire water pumps.

Task Standard: P-9A is in service

Preferred Evaluation Location: Simulator _____ In Plant __X___

Preferred Evaluation Method: Perform _____ Simulate __X___

References:SOP-21, revision 20

Validation Time:__10___ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT _____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

- SOP-21, revision 20

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 P-9A, Fire Water Pump, 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.

INITIATING CUES:

- The Shift Manager has directed you to manually start Fire Water Pump P-9A per SOP-21, Section 7.2.1.
- All Precautions, Limitations, and Requirements are satisfied.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Locate procedure book containing SOP-21, section 7.2.1	SOP-21, section 7.2.1 is located	**S U**
Comment:			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
7.2.1.a	Press START pushbutton on Local Control Panel	Operator simulates pressing START push button on local control panel.	**S U**
Comment: **Evaluator Cue: P-9A is not running or discharge pressure is zero.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
7.2.1.b.1	Pull the Manual Operator “T” handle all the way out to start mechanically	Operator simulates pulling the manual operator “T” handle all the way out and holding in this position.	**S U**
Comment: **Evaluator Cue: P-9A is running and discharge pressure is 153 psig.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
7.2.1.b.2	ROTATE the MANUAL LATCH handle counter-clockwise in order to latch the MANUAL OPERATOR T HANDLE.	Operator simulates rotating the manual latch handle counter-clockwise and releases the manual operator "T" handle.	**S U**
Comment: **Evaluator Cue: Manual Latch handle is rotated counter-clockwise.**			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
7.2.1.c	IF Attachment 2 is in effect, THEN STOP selected Service Water Booster Pump	Operator determines that this step is N/A because Fire Jockey Pump, P-13, was in service.	**S U**
Comment:			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
n/a	Operator notifies the Control Room that P-9A has been manually started.	Control Room notified.	**S U**
Comment:			

END OF TASK

CANDIDATE CUE SHEET

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

INITIAL CONDITIONS:

- The plant is shutdown for a refueling outage.
- A fire at the Cooling Towers requires the use of P-9A, Fire Water Pump, 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.

INITIATING CUES:

- The Shift Manager has directed you to manually start Fire Water Pump P-9A per SOP-21, Section 7.2.1.
- All Precautions, Limitations, and Requirements are satisfied.

SIMULATOR OPERATOR INSTRUCTIONS

- N/A