

NRC REGION III
INITIAL LICENSE EXAM
JOB PERFORMANCE MEASURE

JPM: RO/SRO-I/SRO-U SYS I

TITLE: OPERATE P-55C FROM BUS 13

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Operate P-55C from Bus 13

Alternate Path: NO

Facility JPM #: TBAM.03

K/A: 022AA1.01 Importance: RO: 3.4 SRO: 3.3

K/A Statement: Ability to operate and / or monitor the following as they apply to the
Loss of Reactor Coolant Pump Makeup: CVCS letdown and charging

Task Standard: Charging Pump P-55C power supply is aligned to LCC-13.

Preferred Evaluation Location: Simulator ___ In Plant __X__

Preferred Evaluation Method: Perform ___ Simulate __X__

References: SOP-2A, "Chemical and Volume Control System"
SOP-30, "Station Power"
EN-IS-123, "Electrical Safety"

Validation Time: _25_ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT _____ UNSAT _____

Comments:

Examiner: _____
Signature

Date: _____

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

SOP-2A, section 7.1.3

SOP-30, section 8.5.1

EN-IS-123

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

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 Control Room is NOT habitable.
- Load Center 11 is NOT available.
- P-55A and P-55B are NOT available.
- P-55C was powered from LCC-11 and is NOT operating.

INITIATING CUES:

During the performance of ONP-25.2, "Alternate Safe Shutdown Procedure", the Shift Supervisor directs you to operate P-55C from Bus 13, referring to SOP-2A, "Chemical and Volume Control System," Section 7.1.3.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
SOP-2A	Obtains current procedure	Obtains copy of SOP-2A, Section 7.1.3	S U
<p>Comment:</p> <p>Evaluator: Provide candidate with a working copy of SOP-2A, section 7.1.3.</p>			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
7.1.3.c.1	Ensure P-55C not operating	Determines P-55C not operating by observing OPEN flag is showing on breaker 52-1105.	S U
<p>Comment:</p> <p>Evaluator: Cue that the OPEN flag is showing. This was also provided in INITIAL CONDITIONS, so candidate may not check this.</p>			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
7.1.3.c.2	Rack out breaker 52-1105 to disconnect position	Operator refers to SOP-30, step 8.5.1, for racking out 480V ITE Breakers.	S U
<p>Comment:</p> <p>Evaluator: Provide candidate with a working copy of SOP-30, section 8.5.1.</p> <p>NOTE: It is not the intent of this JPM to have the candidate dress in the appropriate Electrical Safety Arc Flash Gear, however, the candidate should be able to explain the clothing that is required to rack out this breaker. (per EN-IS-123, a flash hood, coveralls, and leather gloves are required)</p>			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
8.5.1.a	ENSURE breaker OPEN.	Determines 52-1105 open by observing OPEN flag is showing on breaker.	S U
<p>Comment:</p> <p>Evaluator: Cue that open flag is showing</p>			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
8.5.1.c.1	IF desired to place breaker in the DISCONNECT position, THEN PERFORM the following: OPEN the shutter to racking mechanism AND INSERT racking crank.	Candidate obtains racking crank, points to shutter and simulates pulling shutter up and inserting crank.	S U
<p>Comment:</p> <p>Evaluator: Cue that the shutter is open and the crank is inserted</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
8.5.1.c.2	TURN racking crank COUNTERCLOCKWISE until breaker is in the DISCONNECT position.	Candidate simulates rotating the crank in the COUNTERCLOCKWISE direction until breaker indicates in DISCONNECT.	S U
<p>Comment:</p> <p>Evaluator: Cue that the breaker indicates disconnect</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
8.5.1.c.3	REMOVE racking crank.	Crank is removed.	S U
<p>Comment:</p> <p>Evaluator: Cue that the crank is removed</p>			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
8.5.1.c.4	ENSURE racking mechanism shutter is down.	Candidate points to racking shutter and verifies that it is in the DOWN position	S U
<p>Comment:</p> <p>Evaluator: Cue that the shutter is down</p>			

Proc. Step	TASK ELEMENT 9	STANDARD	Grade
8.5.1.c.5	ENSURE the position indicator on the left side upper cradle arm, inside the breaker cubicle, is at the DISCONNECT position.	Candidate describes that the upper cradle arm points to DISCONNECT on the placard inside the left side of the cubicle.	S U
<p>Comment:</p> <p>NOTE: This step is difficult to evaluate because the placard showing the position of the cradle arm is inside the breaker cubicle. Use discretion when evaluating this step. See picture of a cradle arm and breaker position at the end of this JPM.</p> <p>Evaluator: Cue that the breaker is in DISCONNECT</p>			

Proc. Step	TASK ELEMENT 10	STANDARD	Grade
8.5.1.c.6	ENSURE racking cams are engaged in cradle slots to prevent breaker movement during a seismic event.	Candidate explains where racking cams are and how this would be verified.	S U
<p>Comment:</p> <p>NOTE: This step is difficult to evaluate because the racking cams and cradle slot are not visible until the breaker is actually racked out. Use discretion when evaluating this step. See picture of a racking cam shown engaged in a cradle slot at the end of this JPM.</p> <p>Evaluator: Cue that the racking cams are engaged in the cradle slots.</p>			

Proc. Step	TASK ELEMENT 11	STANDARD	Grade
8.5.1.c.7	IF breaker is on Bus 19 or Bus 20, THEN CHECK closing springs automatically discharged.	Candidate determines this step is N/A	S U
<p>Comment:</p>			

Proc. Step	TASK ELEMENT 12	STANDARD	Grade
8.5.1.c.8.a	IF breaker is NOT on Bus 19 or Bus 20, THEN PERFORM the following to discharge the closing springs: LIFT Manual Close Lever to manually release latch to close breaker.	Candidate points to manual close lever and simulates lifting.	S U
Comment: Evaluator: Cue that the manual close lever is lifted			

Proc. Step	TASK ELEMENT 13	STANDARD	Grade
8.5.1.c.8.b	DEPRESS the manual TRIP button to open the circuit breaker. Closing springs are now discharged.	Operator points to TRIP button and simulates depressing.	S U
Comment: Evaluator: Cue that the closing springs indicate discharged.			

Note: The candidate will now return to SOP-2A

Proc. Step	TASK ELEMENT 14	STANDARD	Grade
7.1.3.c.3	ENSURE OPEN AND RACK into CONNECT position breaker 52-1308 AND LEAVE OPEN.	Operator refers to SOP-30, step 8.5.2, for racking in 480V ITE Breakers and proceeds to LCC-13.	S U
Comment:			

Note: The candidate will now return to SOP-30

Proc. Step	TASK ELEMENT 15	STANDARD	Grade
8.5.2.a	CHECK breaker open.	Determines 52-1308 open by observing OPEN flag is showing on breaker.	S U
Comment: Evaluator: Cue that OPEN flag is showing			

Proc. Step	TASK ELEMENT 16	STANDARD	Grade
8.5.2.b,c	IF breaker is not in the cubicle, THEN PERFORM the following: IF desired to place breaker in the TEST position, THEN PERFORM the following:	Candidate determines that these steps are N/A	S U
Comment:			

Proc. Step	TASK ELEMENT 17	STANDARD	Grade
8.5.2.d.1	IF desired to place breaker in the CONNECT position, THEN PERFORM the following: OPEN the shutter to racking mechanism AND INSERT racking crank.	Candidate obtains racking crank, points to shutter and simulates pulling shutter up and inserting crank.	S U
Comment: Evaluator: Cue that the shutter is open and the crank is inserted CRITICAL STEP			

Proc. Step	TASK ELEMENT 18	STANDARD	Grade
8.5.2.d.2	TURN racking crank CLOCKWISE until breaker is in CONNECT position.	Candidate simulates rotating the crank in the CLOCKWISE direction until breaker indicates in CONNECT.	S U
Comment: Evaluator: Cue that the breaker is in CONNECT CRITICAL STEP			

Proc. Step	TASK ELEMENT 19	STANDARD	Grade
8.5.2.d.3	PERFORM the following: <ul style="list-style-type: none"> REMOVE the racking tool. VERIFY the trip pushbutton released. ENSURE locking hasp inserted. ENSURE racking shutter is down. 	Candidate simulates removing racking tool Candidates points to trip pushbutton and verifies that it is flush with breaker cover. Candidate points to locking hasp and ensures that it is inserted. Candidate points to racking shutter and verifies that it is down.	S U

Comment:

Evaluator: Cue that the trip pushbutton is released, locking hasp is inserted, racking shutter is down.

Proc. Step	TASK ELEMENT 20	STANDARD	Grade
8.5.2.d.4	ENSURE the position indicator on the left side upper cradle arm inside the breaker cubicle is at the CONNECT position.	Candidate describes that the upper cradle arm points to CONNECT on the placard inside the left side of the cubicle.	S U

Comment:

NOTE: This step is difficult to evaluate because the placard showing the position of the cradle arm is inside the breaker cubicle. Use discretion when evaluating this step. See picture of a cradle arm and breaker position at the end of this JPM.

Evaluator: Cue that the breaker is in CONNECT.

Proc. Step	TASK ELEMENT 21	STANDARD	Grade
8.5.2.d.5	ENSURE the charging motor disconnect toggle switch in the ON position.	Candidate verifies that the charging motor switch is in the UP position.	S U

Comment:

Evaluator: Cue that the charging motor switch is in the UP position.

Proc. Step	TASK ELEMENT 22	STANDARD	Grade
8.5.2.d.6	VERIFY the charging springs are charged.	Candidate points to charged spring indicator and verifies that springs are charged.	S U
<p>Comment:</p> <p><i>Evaluator: Cue that the Springs indicator indicates charged.</i></p>			

Note: Candidate will now return to SOP-2A

Proc. Step	TASK ELEMENT 23	STANDARD	Grade
7.1.3.c.4	Ensure OFF breaker 52-1308B *PLACE to ON breaker 52-1308A.	Candidate proceeds to JL-255 in charging pump rooms, points to 52-1308B and verifies in OFF, points to 52-1308A and places switch to ON	S U
<p>Comment:</p> <p><i>Evaluator: Cue that 52-1308B is OFF, 52-1308A is ON</i></p> <p><i>*Only part of task element that is critical</i></p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 24	STANDARD	Grade
7.1.3.c.5	PLACE to OFF breaker 52-1105A. PLACE to ON breaker 52-1105B.	Candidate proceeds to JL-257 in charging pump rooms, points to 52-1105B and places to OFF, points to 52-1105A and places switch to ON	S U
<p>Comment:</p> <p><i>Evaluator: Cue that 52-1105B is OFF, 52-1105A is ON.</i></p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 25	STANDARD	Grade
7.1.3.c.6	Place Seal Coolant Pump Control Switch for P-55C in HAND	Places switch in HAND position	S U
<p>Comment:</p> <p><i>Evaluator: Cue that the seal coolant pump is running. If discharge pressure is checked, cue that it is approximately 20 psig.</i></p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 26	STANDARD	Grade
7.1.3.c.7	Test operate breaker 52-1308 to start and stop P-55C to ensure proper breaker operation	Closes breaker 52-1308, verifying CLOSED flag showing, then opens breaker 52-1308, verifying OPEN flag showing	S U
<p>Comment:</p> <p><i>Evaluator: Cue that when 52-1308 is closed, the CLOSED flag is showing. When 52-1308 is open, the OPEN flag is showing.</i></p>			

Proc. Step	TASK ELEMENT 27	STANDARD	Grade
---	Notify Shift Manager that P-55C is aligned to LCC-13	Notifies Shift Manager	S U
<p>Comment:</p> <p><i>Evaluator: If asked, tell candidate to leave P-55C OFF.</i></p>			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- N/A



Upper cradle arm

Position indication



**Racking cam
shown engaged
in cradle slot**

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

- The Control Room is NOT habitable.
- Load Center 11 is NOT available.
- P-55A and P-55B are NOT available.
- P-55C was powered from LCC-11 and is NOT operating.

INITIATING CUES:

During the performance of ONP 25.2, "Alternate Safe Shutdown Procedure", the Shift Supervisor directs you to operate P-55C from Bus 13, referring to SOP-2A, "Chemical and Volume Control System," Section 7.1.3.

NRC REGION III
INITIAL LICENSE EXAM
JOB PERFORMANCE MEASURE

JPM: RO/SRO-I SYS J

**TITLE: START AFW PUMP P-8B LOCALLY USING
CV-0522B**

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Establish/control alternate Auxiliary Feedwater methods IAW EOP
Supplement 19

Alternate Path: YES

Facility JPM #: PL-OPS-ONP-010J

K/A: 061A2.04 Importance: RO: 3.4 SRO: 3.8

K/A Statement: Ability to (a) predict the impacts of the following malfunctions or operations on the AFW; and (b) based on those predictions, use procedures to correct; control; or mitigate the consequences of those malfunctions or operations: pump failure or improper operation

Task Standard: AFW Pump P-8B is operating with steam supplied via CV-0522B, K-8 Steam Supply from E-50A, in local control

Preferred Evaluation Location: Simulator In Plant

Preferred Evaluation Method: Perform Simulate

References: ONP-25.2, "Alternate Safe Shutdown Procedure"
EOP Supplement 19, "Alternate Auxiliary Feedwater Methods"

Validation Time: 15 minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT _____ UNSAT _____

Comments:

Examiner: _____
Signature

Date: _____

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

EOP Supplement 19, Section 4, P-8B Normal Steam Supply From 'A' S/G including page 21 of supplement 19

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:

- AFW flow control valves for P-8B have been verified closed.
- Buses 1C and 1D are NOT energized.
- "A" Steam Generator steam and feed paths to both Steam Generators are available.
- CV-0522B, K-8 Normal Steam Supply, is closed and cannot be operated from either the Control Room or C-150 Panel.

INITIATING CUES:

During performance of ONP-25.2, "Alternate Safe Shutdown Procedure," the CRS directs you to start AFW Pump P-8B locally using the Preferred Method of EOP Supplement 19 Section 4.0.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Locate EOP Supplement 19, Section 4.0	EOP Supplement 19, Section 4.0 located	S U
<p>Comment:</p> <p>Evaluator: Provide Operator with a Working Copy of EOP Supplement 19</p>			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
4.0.1	OPEN HS-0522B, K-8 Normal Steam Supply, from one of the following prioritized locations...	Determines that this step is not applicable	S U
<p>Comment:</p> <p>Evaluator: If asked if CV-0522B can be operated from either the Control Room or C-150 Panel, report that CV-0522B <u>cannot</u> be remotely operated</p>			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
4.0.2.a	CLOSE the following valves: <ul style="list-style-type: none"> ▪ MV-CA377, air supply to CV-0522B ▪ MV-N2/268, nitrogen supply to CV-0522B 	Simulates or describes CLOSING by turning the handwheel clockwise: <ul style="list-style-type: none"> ▪MV-CA377, air supply to CV-0522B ▪MV-N2/268, nitrogen supply to CV-0522B 	S U
<p>Comment:</p> <p>Evaluator: The valves are closed</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
4.0.2.b.1	MANUALLY CLOSE CV-0522B, K-8 Steam Supply From E-50A, as follows: <ul style="list-style-type: none"> ▪ UNSCREW the coupling from the manual override shaft 	Simulates or describes UNSCREWING coupling from shaft by turning coupling counter clockwise	S U
<p>Comment:</p> <p>Evaluator: Provide page 21 of EOP Supplement 4</p> <p>Evaluator: Cue that the coupling is unscrewed from the shaft</p> <p>NOTE: A ladder may be used to access the coupling</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
4.0.2.b.2	MANUALLY CLOSE CV-0522B, K-8 Normal Steam Supply, as follows: <ul style="list-style-type: none"> ▪ TURN handwheel clockwise until the top of the actuator shaft is exposed sufficiently to engage the coupling 	Simulates or describes TURNING handwheel clockwise until manual override shaft is exposed	S U
<p>Comment:</p> <p>Evaluator: Cue that the manual shaft is exposed</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
4.0.2.b.3	INSERT the fork of the coupling all the way onto actuator shaft	Simulates or describes INSERTING coupling all the way onto shaft	S U
<p>Comment:</p> <p>NOTE: EOP Supplement 19, page 21 has a labeled diagram of CV-0522B</p> <p>Evaluator: Cue that the coupling is all the way onto the shaft</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
4.0.2.b.4	REMOVE lockwire from MV-FW356, CV-0522B Bonnet Isolation	Simulates or describes REMOVING the lockwire	S U
<p>Comment:</p> <p>Evaluator: Cue that the lockwire is removed from MV-FW356, CV-0522B Bonnet Isolation</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
4.0.2.b.5	OPEN MV-FW356, CV-0522B Bonnet Isolation	Simulates or describes OPENING MV-FW356 by TURNING handle 90 degrees (places it "in-line" with the turbine/piping).	S U
<p>Comment:</p> <p>Evaluator: Cue that MV-FW356, CV-0522B Bonnet Isolation handle is in line with the tubing</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 9	STANDARD	Grade
4.0.2.b.6	CLOSE CV-0522B, K-8 Normal Steam Supply, using the handwheel	Simulates or describes checking valve closed by turning handwheel in the clockwise direction (given in the initial conditions)	S U
<p>Comment:</p> <p>Evaluator: If asked about the position of CV-0522B, report that it is closed</p>			

Proc. Step	TASK ELEMENT 10	STANDARD	Grade
4.0.2.c.1	CHECK Turbine Driver K-8 is latched as follows: <ul style="list-style-type: none"> ▪ ENSURE the end of resetting level (knife edge) is in contact with the trip level (can NOT slip a sheet of paper between),. Refer to Figure 1 (Page 20) 	Determines that Turbine Driver is NOT RESET	S U

Comment:

NOTE: EOP Supplement 19, page 20 has a labeled diagram of CV-0522B trip linkage

Evaluator: Cue that the Knife edge of resetting lever is hanging down and not in contact with the hand trip lever

CRITICAL STEP

-----NOTE: Alternate Path begins here and is covered in task elements 11 and 12-----

Proc. Step	TASK ELEMENT 11	STANDARD	Grade
4.0.2.c.2.a	CHECK Turbine Driver K-8 is NOT latched, <u>THEN</u> RELATCH as follows: <ul style="list-style-type: none"> ▪ ENSURE CLOSED CV-0522B, K-8 Normal Steam Supply 	Simulates or describes verifying that CV-0522B is CLOSED	S U

Comment:

Evaluator: If asked about the position of CV-0522B, report that it is closed

Proc. Step	TASK ELEMENT 12	STANDARD	Grade
4.0.2.c.2.b	CHECK Turbine Driver K-8 is NOT latched, <u>THEN</u> RELATCH as follows: <ul style="list-style-type: none"> ▪ RESET the overspeed trip lever on Turbine Driver K-8 using the Auxiliary Reset lever 	Simulates or describes PULLING UP on the Auxiliary Reset lever until the lever is in contact with the knife edge	S U

Comment:

Evaluator: Cue that the knife edge of resetting lever is in contact with the hand trip lever

CRITICAL STEP

Proc. Step	TASK ELEMENT 13	STANDARD	Grade
n/a	CLEAR personnel from the Auxiliary Feedwater Pump room	CHECKS room for personnel	S U
<p>Comment:</p> <p>Evaluator: Cue that there are no other personnel in the Auxiliary Feedwater Pump room</p>			

Proc. Step	TASK ELEMENT 14	STANDARD	Grade
4.0.2.d	OPEN MV-FW688, PI-0590 root valve	Simulates or describes OPENING MV-FW688, PI-0590 root valve by TURNING the handwheel counter clockwise	S U
<p>Comment:</p> <p>Evaluator: Cue that valve is open</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 15	STANDARD	Grade
4.0.2.e	<p>SLOWLY THROTTLE OPEN CV-0522B to maintain between 200 and 250 psig steam pressure on any of the following:</p> <ul style="list-style-type: none"> ▪ PI-0590 ▪ PI-0521A ▪ PI-0521B 	Simulates or describes OPENING CV-0522B with the hand operator by TURNING handwheel counter clockwise	S U
<p>Comment:</p> <p>Evaluator: Cue that steam flow noise can be heard, CV-0522B, K-8 Normal Steam Supply indicates off its full closed position, and pressure on gauge is rising.</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 16	STANDARD	Grade
4.0.2.e	CHECK PI-0590 OR PI-0521B reading between 200 and 250 psig	VERIFIES PI-0590 OR PI-0521B reading between 200 to 250 psig	S U
<p>Comment:</p> <p><i>Evaluator: Cue that PI-0590 OR PI-0521B indicates 235 psig and stable</i></p>			

Proc. Step	TASK ELEMENT 17	STANDARD	Grade
n/a	Notify CRS that AFW Pump, P-8B is operating	CRS NOTIFIED that AFW Pump, P-8B is operating with CV-0522B opened manually	S U
<p>Comment:</p>			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- N/A

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

- AFW flow control valves for P-8B have been verified closed.
- Buses 1C and 1D are NOT energized.
- “A” Steam Generator steam and feed paths to both Steam Generators are available.
- CV-0522B, K-8 Normal Steam Supply, is closed and cannot be operated from either the Control Room or C-150 Panel.

INITIATING CUES:

During performance of ONP-25.2, “Alternate Safe Shutdown Procedure,” the CRS directs you to start AFW Pump P-8B locally using the Preferred Method of EOP Supplement 19 Section 4.0.

NRC REGION III
INITIAL LICENSE EXAM
JOB PERFORMANCE MEASURE

JPM: RO/SRO-I/SRO-U SYS K

**TITLE: MANUALLY START P-41 DIESEL FIRE
PUMP**

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Operate Fire Protection Equipment

Alternate Path: NO

Facility JPM #: PL-OPS-FPS-001J

K/A: 086A4.01 Importance: RO: 3.3 SRO: 3.3

K/A Statement: Ability to manually operate Fire Water Pumps

Task Standard: Diesel Fire Pump, P-41, manually started per SOP-21, section 7.4.1

Preferred Evaluation Location: Simulator In Plant

Preferred Evaluation Method: Perform Simulate

References: SOP-21, "Fire Protection System"

Validation Time: 12 minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT _____ UNSAT _____

Comments:

Examiner: _____
Signature

Date: _____

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

SOP-21, section 7.4.1

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

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.
- P-9A, Motor Driven Fire Pump is tagged out for maintenance.
- P-9B, Diesel Fire Pump has started.
- P-41, Diesel Fire Pump has not started automatically.
- Fire system header pressure is 60 psig.
- Jockey Pump, P-13, is operating.
- There are no Service Water Booster Pumps (P-25A, P-25B or P-25C) in service (Attachment 2 of SOP-21 'Supply Fire Header Pressure with Service Water Booster Pump').
- Annunciator EK-3533, 'Fire Pump Day Tank T-40 Level Hi-Lo' is not alarming.

INITIATING CUES:

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

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Operator obtains a copy of SOP-21, Section 7.4.1, To Manually Start P-41	SOP-21, Section 7.4.1 obtained	S U
<p>Comment:</p> <p>Evaluator: Provide a working copy of SOP-21, Section 7.4.1.</p>			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
7.4.1a	<p>Verify Diesel Engine Day Tank T-40 level normal by any of the following methods:</p> <ul style="list-style-type: none"> ▪ OBSERVE EK-3533, 'Fire Pump Day Tank T-40 Level Hi-Lo', on C-126 Panel not alarming. ▪ READ level gauge LG-3553 (key: 237). 	Operator verifies T-40 level normal (given in initial conditions)	S U
<p>Comment:</p> <p>Evaluator: If Operator begins to use LG-3553 to determine T-40 level, cue that T-40 level is normal.</p>			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
7.4.1b	PLACE CS-EC137, Diesel Fire Pump P-41 Control Switch, to Manual A or Manual B.	Operator places CS-EC137, Diesel Fire Pump P-41 Control Switch, to Manual A or Manual B.	S U
<p>Comment:</p> <p>NOTE: Operator is not to place the Control Switch to Manual A or B, simulate only.</p> <p>NOTE: Either position (Manual A or Manual B) is acceptable; provide cue based on which position is selected by Operator.</p> <p>EVALUATOR: Cue that CS-EC137, Diesel Fire Pump P-41 Control Switch, is in Manual A or Manual B, as appropriate. Also cue (if asked) that green READY light is not lit: detecting green light being off is NOT critical to task element performance)</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
7.4.1c	CHECK K-10, Diesel Fire Pump P-41 Diesel Driver, lube oil crankcase level using dipstick.	Operator verifies K-10, Diesel Fire Pump P-41 Diesel Driver, lube oil crankcase level using dipstick.	S U
<p>Comment:</p> <p>NOTE: Operator is not to remove the dipstick, simulate only.</p> <p>EVALUATOR: Cue that crankcase oil level is normal.</p>			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
7.4.1d	If K-10, Diesel Fire Pump P-41 Diesel Driver, crankcase oil level is abnormally high with a strong fuel oil odor, <u>THEN</u> PERFORM	Operator determines that this step is not applicable	S U
<p>Comment:</p> <p>EVALUATOR: Cue that no odor of fuel oil in crankcase oil</p>			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
7.4.1e	CHECK K-10, Diesel Fire Pump P-41 Diesel Driver, coolant level is in the normal band of between the top of the tank (bottom of the fill neck) and one inch down from the top of the tank. 1. If coolant level is <u>NOT</u> within the normal band, <u>THEN</u> CONTACT	Operator determines that the Diesel Fire Pump P-41 Diesel Driver, coolant level is in the normal band of between the top of the tank (bottom of the fill neck) and one inch down from the top of the tank and the actions of this step are not applicable.	S U
<p>Comment:</p> <p>NOTE: Operator is not to remove the coolant cap, simulate only.</p> <p>EVALUATOR: Cue that coolant level is in the normal band.</p>			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
7.4.1f	If K-10, Diesel Fire Pump P-41 Diesel Driver, crankcase and coolant check is satisfactory, THEN PRESS START pushbutton.	Operator pushes K-10, Diesel Fire Pump, start pushbutton.	S U
<p>Comment:</p> <p>NOTE: Operator is not to push the start pushbutton, simulate only.</p> <p>EVALUATOR: Cue that K-10 engine is running.</p> <p>EVALUATOR: If fire header pressure is checked, provide cue that pressure is 100 psig.</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
7.4.1g	<u>IF</u> P-13, Jockey Fire Pump, is operating, <u>THEN PLACE</u> 52-559CS, Jockey Fire Pump P-13 Control Switch, to off.	Operator places 52-559CS, Jockey Fire Pump P-13 Control Switch, to off.	S U
<p>Comment:</p> <p>EVALUATOR: Cue that red light for P-13, Jockey Pump, is ON</p> <p>NOTE: Operator is not to place 52-559CS to off, simulate only.</p> <p>EVALUATOR: Cue that 52-559CS, Jockey Fire Pump P-13 Control Switch is off, Jockey Fire Pump P-13 is not running.</p> <p>CRITICAL STEP</p>			

Proc. Step	TASK ELEMENT 9	STANDARD	Grade
7.4.1h	<u>IF</u> Attachment 2 is in affect, <u>THEN STOP</u> ...	Operator determines that this step is not applicable (given in initial conditions)	S U
<p>Comment:</p> <p>EVALUATOR: If asked, provide cue that Attachment 2 (Supply Fire Header Pressure with Service Water Booster Pump) is not in effect.</p>			

Proc. Step	TASK ELEMENT 10	STANDARD	Grade
7.4.1i	OBSERVE K-10, Diesel Fire Pump P-41, for proper operation: <ul style="list-style-type: none"> • No unusual vibration. • No oil or water leaks. • Adequate lube oil pressure 	Operator checks P-41 for: <ul style="list-style-type: none"> • No unusual vibration. • No oil or water leaks. • Adequate lube oil pressure. 	S U
<p>Comment:</p> <p><i>EVALUATOR: Cue that there is NO UNUSUAL VIBRATION, NO OIL OR WATER LEAKS, and ADEQUATE LUBE OIL PRESSURE</i></p>			

Proc. Step	TASK ELEMENT 11	STANDARD	Grade
n/a	Notify CRS that Diesel Fire Pump has been manually started per SOP-21, section 7.4.1.	Operator notifies CRS that Diesel Fire Pump has been manually started per SOP-21, section 7.4.1.	S U
<p>Comment:</p>			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- N/A

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

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.
- P-9A, Motor Driven Fire Pump is tagged out for maintenance.
- P-9B, Diesel Fire Pump has started.
- P-41, Diesel Fire Pump has not started automatically.
- Fire system header pressure is 60 psig.
- Jockey Pump, P-13, is operating.
- There are no Service Water Booster Pumps (P-25A, P-25B or P-25C) in service (Attachment 2 of SOP-21 'Supply Fire Header Pressure with Service Water Booster Pump).
- Annunciator EK-3533, 'Fire Pump Day Tank T-40 Level Hi-Lo' is not alarming.

INITIATING CUES:

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