

NRC REGION III
INITIAL LICENSE EXAM
JOB PERFORMANCE MEASURE

JPM: RO SYSTEM 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: 086A2.02 Importance: RO: 3.0 SRO: 3.3

K/A Statement: Low FPS header pressure

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, Fire Protection System, Rev. 20

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 at 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-41, Section 7.4.1 obtained	S U
<p>Comment: NOTE: <i>Evaluator provides the operator a working copy SOP-21, Section 7.4.1.</i></p>			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
7.4.1a	Verify Diesel Engine Day Tank T-40 level normal by any of the following methods: <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: NOTE: <i>Evaluator: If Operator begins to use LG-3553 to determine T-40 level, <u>CUE</u> that T-40 level is normal.</i></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: NOTE: Operator is not to place the Control Switch to Manual A or B, simulate only. NOTE: Either position (Manual A or Manual B) is acceptable; provide cue based on which position is selected by Operator. NOTE: EVALUATOR CUE: CS-EC137, Diesel Fire Pump P-41 Control Switch, is in Manual A or Manual B.</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
Comment: NOTE: Operator is not to remove the dipstick, simulate only. NOTE: EVALUATOR CUE: Crankcase oil level is normal.			

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
Comment: NOTE: EVALUATOR CUE: No odor of fuel oil in crankcase oil			

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
Comment: NOTE: Operator is not to remove the coolant cap, simulate only. NOTE: EVALUATOR CUE: 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.			

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: Location: Panel C-137, K-10/P-41 Control Panel.</p> <p>NOTE: Operator is not to push the start pushbutton, simulate only.</p> <p>NOTE: EVALUATOR CUE: K-10 has started and the engine is running.</p> <p>NOTE: EVALUATOR CUE If Fire header pressure is checked, provide cue that pressure is at 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>NOTE: Operator is not to place 52-559CS to off, simulate only.</p> <p>NOTE: EVALUATOR CUE: 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>NOTE: EVALUATOR CUE: 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
Comment: NOTE: EVALUATOR CUE: 1. NO UNUSUAL VIBRATION, 2. NO OIL OR WATER LEAKS, 3. ADEQUATE LUBE OIL PRESSURE			

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
Comment:			

END OF TASK

CANDIDATE CUE SHEET

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

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- 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.

SIMULATOR OPERATOR INSTRUCTIONS

- N/A, IN PLANT JPM