TASK CONDITIONS:

1. You are an extra NSO.
2. Unit 1/2 has just tripped in conjunction with an electrical fire in Unit 1/2 Electrical Equipment Room.
3. 1/2A AF pump is unavailable for operation due to maintenance.
4. 1/2B AF pump did not auto start, nor will it manually start with the MCR switch or the RSP switch.
5. 1/2B AF pump MCR indications are considered unreliable due to the fire.
6. Another EO is positioned to monitor the 1/2B AF pump governor linkage and other indications on the back side of the AF pump during the startup.

INITIATING CUES:

1. The US has directed you to perform a local emergency start of the 1/2B AF pump at 1/2AF01J per BwOP AF-7. All Prerequisites, Precautions, and Limitations and Actions have been met, and steps 1-8 are complete.
2. Report status of 1/2B AF pump to US after local start.

TASK TITLE: **Local Start of 1/2B AF Pump**

JPM No.: **IP-410S**
TPO No.: 4.C.AF-02
TASK No.: R-AF-012, Operate the diesel driven Auxiliary Feedwater Pumps

REV:
K&A No.: 061000A2.04
K&A IMP: 3.4/3.8

EXAMINEE: _____ RO SRO (Circle One)

EVALUATOR: _____ DATE:_____

The Examinee: PASSED _____ this JPM.

FAILED _____

TIME STARTED: _____

TIME FINISHED:_____

JPM TIME:_____ MINUTES

CRITICAL ELEMENTS: **(*) 4, 9**

APPROX COMPLETION TIME: **28 MINUTES**

CRITICAL TIME: **NA**

EVALUATION METHOD:
__ PERFORM
_X_ SIMULATE

LOCATION:
_X_ IN PLANT
__ SIMULATOR

GENERAL REFERENCES:

1. BwOP AF-7, Rev. 32, Auxiliary Feedwater Pump B (Diesel) Startup on Recirc
2. BwOP AF-7T1, Rev. 5, Diesel Driven Auxiliary Feedwater Pump Operating Log

MATERIALS:

1. BwOP AF-7
2. BwOP AF-7T1

TASK STANDARDS:

1. Perform a local emergency start of 1/2B AF pump.

TASK CONDITIONS:

1. You are an extra NSO.
2. Unit 1/2 has just tripped in conjunction with an electrical fire in Unit 1/2 Aux Electrical Equipment Room.
3. 1/2A AF pump is unavailable for operation due to maintenance.
4. 1/2B AF pump did not auto start, nor will it manually start with the MCR switch or the RSP switch.
5. 1/2B AF pump MCR indications are considered unreliable due to the fire.
6. Another EO is positioned to monitor the 1/2B AF pump governor linkage and other indications on the back side of the AF pump during the startup.

INITIATING CUES:

1. The US has directed you to perform a local emergency start of the 1/2B AF pump at 1/2AF01J per BwOP AF-7. All Prerequisites, Precautions, and Limitations and Actions have been met, and steps 1-8 are complete.
2. Report status of 1/2B AF pump to US after local start.

RECORD START TIME _____

	PERFORMANCE STEP	STANDARD	Circle applicable
1.	Refer to BwOP AF-7. **CUE: Give a marked up copy of BwOP AF-7 and BwOP AF-7T1 to the student.**	Review BwOP AF-7.	SAT UNSAT N/A **Comments:**
2.	Perform actions at 1/2AF01J. **CUE: Reset pushbutton has been depressed.** **Select Switch is in Auto.** **Engine Ready light is lit. Governor switch is off.**	Perform the following at 1/2AF01J: • PUSH the Reset Pushbutton to clear circuit. • VERIFY the Select Switch is in AUTO position. • VERIFY "Engine Ready" light is LIT. • VERIFY Diesel Governor Switch is in OFF position.	SAT UNSAT N/A **Comments:**
3.	Verify the Air Box Trip is reset. **CUE: Air Box Trip annunciator is not lit.** **Other EO reports Air Box Trip lever is in normal position, limit switch is made up.**	VERIFY the Air Box Trip is Reset as follows: o CHECK "AIR BOX TRIP" annunciator NOT LIT. - OR - o Air Box Trip Lever (on back side of engine) in Normal position.	SAT UNSAT N/A **Comments:**
***4.**	**Start Lube Oil systems.** **CUE: Gear box lube oil pump control switch is in start.** **Aux lube oil pump control switch is in start. Lube Oil within sightglass.** **After the student locates inlet and outlet pressure gages, indicate that the inlet is 28 psig, and the outlet is 28 psig.**	START Lube Oil Auxiliary Systems as follows at the local control panel: • Aux FW Pp 1/2B Gear Box Lube Oil Pp, 1/2AF01PB-C. • Aux FW Pp 1/2B Lube Oil Pp, 1/2AF01PB-A o VERIFY Lube Oil inventory in pump sump is within sightglass. o VERIFY Lube Oil Filter Differential Pressure is < 4 psid.	SAT UNSAT N/A **Comments:**

5.	Record oil pressures. **CUE: 1/2PI-AF106 indicates 28 psig. (previously given cue)** **Note: 1/2PI-AF124 is on the back side on AF pump. Examinee should ask other EO to obtain the reading.** **CUE: 1/2PI-AF124 indicates 20 psig.**	Record oil pressures. • Record 1/2PI-AF106 pressure • Record 1/2PI-AF124 pressure	SAT UNSAT N/A **Comments:**
6.	Verify/place VC in M/U mode per BwOP VC-5, at SM discretion. **CUE: Another operator has performed BwOP VC-5.**	Verify/place VC in M/U mode per BwOP VC-5, at SM discretion.	SAT UNSAT N/A **Comments:**
7.	Align AF system discharge flowpath. **CUE: As US, if asked, direct that step 17 not be performed.**	ALIGN 1/2B AF pump discharge flowpath in accordance with US direction: • Contact US to determine if CLOSURE of B Train 1/2AF013s or 1/2AF004B will be necessary.	SAT UNSAT N/A **Comments:**

8.	**Start 1/2B AF pump locally.** **CUE: Per task conditions, an EO is standing by.** **CUE: Engine start switch is in Manual and the 'Ready to Start light' is not lit. Start pushbutton is being depressed and held.** **<u>THE ENGINE DOES NOT CRANK</u>** **Engine starting light is <u>NOT</u> lit.** **Engine running light is <u>NOT</u> lit.** **Start pushbutton is released.** **Alternate Battery Bank is Selected** **Reset Pushbutton is Depressed.** **Start pushbutton is being depressed and held.** **THE ENGINE STILL DOES NOT CRANK** **Engine starting light is <u>NOT</u> lit.** **Engine running light is <u>NOT</u> lit.**	START 1/2B AF Pump locally at 1/2AF01J as follows: o Verify personnel in position at front of diesel to monitor governor linkage during start. • PLACE the Engine Start Control Switch to MANUAL. • DEPRESS and HOLD the START pushbutton. o VERIFY Engine Starting Light indicates starting sequence is in process. o VERIFY Engine Running Light is ILLUMINATED when speed indicates 350 RPM. o RELEASE the START pushbutton. • Select the Alternate battery bank • Push Reset Pushbutton • DEPRESS and HOLD the START pushbutton. • Report to US failure of 1/2B AF Pump to start locally	SAT UNSAT N/A **<u>Comments:</u>**

***9.**	**Start 1/2B AF pump from 1/2AF03J.** **CUE: US instructs you to start the 1/2B AF pump from 1/2AF03J using the START WITH BYPASS hand switch position Position.** **Engine Selector Switch is in AUTO** **Additional EO reports 1/2B AF pump has started** **RUNNING light is LIT**	Perform the following: o Contacts additional EO to inspect 1/2B AF pump during start. • At 1/2AF01J, ensures Engine Selector Switch is in AUTO by observation or by radio communication with other EO. . • At 1/2AF03J, places 1/2HS-AF157 in START WITH BYPASS position. • At 1/2AF01J, verifies RUNNING light is LIT at 1/2HS-AF157	SAT UNSAT N/A **Comments:**
10.	CUE: **Another EO will complete BwOP AF-7 and take over monitoring the 1/2B AF pump.**	• Reports to US successful start of 1/2B AF pump.	SAT UNSAT N/A **Comments:**

CUE: THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR/ SETUP INSTRUCTIONS

JPM NO: IP-410S

MARK UP PROCEDURE BwOP AF-7 WITH APPROPRIATE UNIT DESIGNATORS

REQUIRED SIMULATOR MODE (S): N/A, IN PLANT

MALFUNCTION #'S: N/A

COMMENTS: