TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.

2. Both Units are at 100% power.

3. Unit 2 has placed the 2A SX pump in service and requests that Unit 1 swap operating SX trains. 1B SX pump has been shutdown for 2 weeks.

4. An EO has been briefed and is standing by to assist in the field.

INITIATING CUES:

1. The Unit 1 Unit Supervisor has directed you to start the 1B SX pump and shutdown the 1A SX pump per BwOP SX-7.
2. Another NSO will monitor the remainder of the Main Control Board panels and address alarms as necessary.

3. Inform the Unit 1 Unit Supervisor when you have completed the pump swap.

TASK TITLE: **Swap Essential Service Water Pumps**

JPM No.: **N-072a**
TPO No.: 4C.SX-03
TASK No.: R-SX-002/003, Startup/shutdown an Essential Service Water pump

REV: **NRC 09-1**
K&A No.: 076000A4.01
K&A IMP: 2.9/2.9

TRAINEE: _____ RO SRO (Circle One)

EVALUATOR: _____ DATE:_____

The Trainee: PASSED _____ this JPM.

FAILED _____

TIME STARTED: _____

TIME FINISHED:_____

JPM TIME:_____ MINUTES

CRITICAL ELEMENTS: **(*)5, 7, 8**

COMPLETION TIME: **22 MINUTES**

CRITICAL TIME: **N/A**

ALTERNATE PATH: YES @

EVALUATION METHOD:
_X_ PERFORM
___ SIMULATE

LOCATION:
___ IN PLANT
_X_ SIMULATOR
___ CONTROL ROOM

GENERAL REFERENCES:

1. BwOP SX-7, Rev. 18, Swapping Essential Service Water Pumps

MATERIALS:

1. BwOP SX-7, Rev. 18, Swapping Essential Service Water Pumps

TASK STANDARDS:

1. 1A SX pump is restarted with high vibration indicated in the piping

TASK CONDITIONS:

1. You are the Assist NSO.
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3. Unit 2 has placed the 2A SX pump in service and requests that Unit 1 swap operating SX trains. 1B SX pump has been shutdown for 2 weeks.
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INITIATING CUES:

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3. Inform the Unit 1 Unit Supervisor when you have completed the pump swap.

RECORD START TIME _____

	PERFORMANCE STEP	STANDARD	Circle applicable
1.	Refer to BwOP SX-7, SWAPPING ESSENTIAL SERVICE WATER PUMPS. **CUE: Provide copy of BwOP SX-7.** **CUE: All Prerequisites, Precautions, Limitations and Actions have been met.**	Refer to BwOP SX-7, SWAPPING ESSENTIAL SERVICE WATER PUMPS. • VERIFY all applicable Prerequisites, Precautions, and Limitations and Actions are satisfactorily addressed.	SAT UNSAT N/A **Comments:**
2.	Verify 1B SX pump suction valve open. **CUE: If requested, EO reports that 1SX001B is open.**	Perform the following at 1PM06J: • Determine 1SX001B, SX pump 1B suction valve, is open.	SAT UNSAT N/A **Comments:**

EVALUATOR NOTE: The examinee may verify 1PR02J/3J are in operation prior to placing the 1B and 1D RCFCs coils in service.

3.	Verify RCFC 1B and 1D inlet and outlet valves open. **CUE If asked, US does not desire to use a jumper.**	Perform the following: • Verify/Open 1SX016B/1SX027B. Or o Place Jumper to simulate valve position per Attachment A	SAT UNSAT N/A **Comments:**
4.	Start 1A and 1B SX pump Aux. Oil pumps. **CUE: As EO, acknowledge request to start the aux. oil pump .** **Note: Simulator operator to start both aux. oil pumps when called.**	Direct EO to locally start 1A and 1B SX pump Aux. Oil pumps. (1SX01PA/B-C) • At 1PM06J verify 1A and 1B SX pump Aux. Oil pump run lights lit.	SAT UNSAT N/A **Comments:**

***5.**	**Start 1B SX pump.** **CUE: If contacted as Unit 2 operator, acknowledge upcoming SX pump swap.** **CUE: If dispatched as EO to monitor 1B SX pump start locally, report satisfactory start of 1B SX pump shortly after pump started.** **CUE: As Unit Supervisor, acknowledge reports of annunciators due to SX pump start/stop as they occur.**	Perform the following at 1PM06J: o Announce pump swap over plant page • Start 1B SX pump by taking the control switch to close until pump starts.	SAT UNSAT N/A **Comments:**
6.	Check running amps on both SX pumps approximately equal. Check running SX pump discharge pressure < 112#.	Perform the following at 1PM06J: • Monitor ammeters for 1A and 1B SX pumps. • Determine 1A and 1B SX pumps ammeters approximately equal. • Monitor 1PI-SX007 and 1PI-SX008 Determines 1A and 1B SX pumps discharge pressures both < 112 psig	SAT UNSAT N/A **Comments:**
***7.**	**Stops 1A SX pump.** **CUE: As Unit Supervisor, acknowledge reports of annunciators due to SX pump start/stop as they occur.**	Stops 1A SX pump by placing the control switch to TRIP.	SAT UNSAT N/A **Comments:**
****ALTERNATE PATH START****			
***8.**	**Immediately after 1A SX pump is stopped give the following cue:** **CUE: U-2 reports that the 2A SX pump has tripped and U-2 has re-started the 2B SX pump.** ***AND consecutively*** **EO reports high vibration in the 1A train suction header of SX.** **Another NSO will complete this procedure.**	• Re-Starts the 1A SX pump	SAT UNSAT N/A **Comments:**

CUE: THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

JPM NO: SIM-407S

REQUIRED SIMULATOR MODE (S): At power

MALFUNCTION #'S: N/A

COMMENTS:

1. Remote functions for SX pumps aux. oil pumps:
   - 1A SX pump aux. oil pump: **RF SW03 ON / OFF**
   - 1B SX pump aux. oil pump: **RF SW04 ON / OFF**
2. Remove SX Pump Trends from the HMI.