

Weekly
FrequencyN/A
MonthN/A
WeekSaturday
Day7-3
ShiftTITLE: Feedwater Pump TurbinesSURVEILLANCE

(Acceptance)

1. CRO punch out following computer points and attach printout to this data sheet and return to Ops. Engineer:

	"A" F.W.P.T. Printout this column first Comp. PT.#	"B" F.W.P.T. Printout this column 2nd Comp. PT.#	Parameter Ranges		
			Expected Value	Max.	Min.
Main Turb. Gen. Load	98			880MW	50M
Feed Pmp Turb. Speed	320	321		5800	0
Feed Pmp Turb. Exhaust Pressure	28	29	28"	30"	25"
Feed Pmp Disch. Pressure	30	31			
Pmp Feed Water Flow	21	22			
H.P. Steam Inlet Temp.	41	43	535	570	530
L.P. Steam Inlet Temp.	42	44	370	390	360
H.P. Steam Vlv. Temp.	93	94	480	560	450
F.P. Inboard Bearing Metal Temp.	244	247	165	170	130
F.P. Outboard Bearing Metal Temp.	245	248	145	170	130
F.P. Thrust Bearing Metal Temp.	246	249	130	160	125
Turb. Active Thrust Brg. Metal Temp.	292	298	135	145	125
Turb. Inactive Thrust Brg. Metal Temp.	293	299	125	135	120
Turb. Outboard Brg. Metal Temp.	294	300	170	180	160
Turb. Inboard Brg. Metal Temp.	295	301	170	180	160
Turb. Outboard Oil Drain Temp.	296	302	130	140	120
Oil Temp. Out of the Cooler	297	303	120	130	120
Turb. H.P. Brg. Vibration	306	308	.4	5	0
Turb. L.P. Brg. Vibration	307	309	.4	5	0
Pmp Inboard Brg. Vibration	310	312	<1	5	0
Pmp Outboard Brg. Vibration	311	313	<1	5	0
Indicate Turb. Vlv. Position	A	B	(from PLF)		

2. Perform AUTO START of Aux. Oil Pump per attached procedure.

A Pump (✓ OK) _____
B Pump (✓ OK) _____

3. Perform AUTO START of D. C. Emergency Oil Pump per attached procedure.

A Pump (✓ OK) _____
B Pump (✓ OK) _____

4. Perform Thrust Bearing Wear Test per attached procedure.

A Turbine (✓ OK) _____
B Turbine (✓ OK) _____

5. Perform the Oil Reservoir Hi/Lo level : arm test per attached procedure.

A Reservoir (✓ OK) _____
B Reservoir (✓ OK) _____

Forward to Ops. Engineer/Supervisor of Ops. after approval signature.

Supervisor of Operations:

Approval: _____

Date: _____

Performed By: _____

Approved By: _____

1135 219

79101 00 301

P

AUTOMATIC START TEST OF AUXILIARY OIL PUMP

CAUTION: The Feed Pump Turbine must be operating above 3000 RPM and both the auxiliary oil pump and the D. C. emergency bearing oil pump control switches should be in "normal after stop" position before performing this test.

- | | (INITIAL) | |
|--|-----------|-------|
| | A | B |
| 1. Stimulate low pressure at the auxiliary oil pump automatic start pressure switch by pressing the <u>auxiliary oil pump test</u> <u>pushbutton</u> located to the left of the electrical console on the left side of the turbine oil tank. | _____ | _____ |
| 2. The auxiliary oil pump should start and come to full speed. Let pump run for one-half hour. | _____ | _____ |
| 3. After completing step 2, have Control Room Operator stop pump and leave control switch in "normal after stop" position. | _____ | _____ |
| 4. Record any comments. | | |

Performed by: _____ Date _____

1135 220

AUTOMATIC START OF D.C. EMERGENCY BEARING OIL PUMP

CAUTION: (A) The Feed Pump Turbine must be operating above 3000 RPM and both the auxiliary oil pump and the D.C. emergency bearing oil pump control switches should be in "normal after stop" position.

OR

(B) If turbine is operating below 3000 RPM, the auxiliary oil pump must be running and the control switch for the D.C. emergency oil pump should be in "normal after stop" position before performing this test.

- | | (INITIAL) | |
|--|-----------|----------|
| | <u>A</u> | <u>B</u> |
| 1. Simulate low pressure at the emergency oil pump automatic start pressure switch by pressing the turning gear oil pump test pushbutton located to the left of the electrical console on the left side of the turbine oil tank. | — | — |
| 2. The pump should start and come to full speed. Let pump run for one-half hour. | — | — |
| 3. After completing step 2, have Control Room Operator stop pump and leave control switch in "normal after stop" position. | — | — |
| 4. Record any comments: | | |

Performed By: _____

Date: _____

THRUST BEARING WEAR TRIP TEST

CAUTION: The turbine is not protected against thrust bearing failure during this test. Notify Control Room Operator before starting test and when test is completed.

(Initial)
A B

1. The key switches for performing this test are located at the feed pump turbine front standard control panel. _____
2. Turn the key in the thrust bearing wear test keyswitch to the pretest position and remove. This action disables the trip function by removing the trip contacts on pressure switches PS2 and PS12 from the trip circuits and activates the test light circuits. Verify that the active and inactive thrust wear test complete lights come on and that the control room receives the "FPT Thrust Bearing Wear Trip Locked Out" alarm. _____
3. Insert key in active thrust wear test switch and turn to test position. The active thrust wear test complete light will go out. Return switch to normal position. The test complete light will come on again, and must remain on steady. Any light indications different from those specified indicate a malfunction in the test circuits or an actual thrust wear problem and must be reported. Remove key. _____
4. Repeat step 3 for the inactive thrust wear test switch. _____

CAUTION: Proceed with step 5 only if both inactive and active test complete lights are on steady. The turbine will trip if the thrust bearing wear test key switch is rotated to the normal position when one of the lights is off or blinking.

AB

5. Insert key back into thrust bearing wear test keyswitch and rotate to normal position. This action enables the trip function by putting the trip contacts of pressure switches PS2 and PS12 back in the trip circuits and deactivates the test circuit. The two test complete lights will go out and the control room alarm will clear.
6. Record any comments:

Performed By: _____

Date: _____

1135 223

TEST OF OIL RESERVOIR HI/LO LEVEL ALARM

(INITIAL)

A B

1. The handle for the oil reservoir Hi/Lo level alarm test is located on the right side of the electrical junction box mounted on the left side of the turbine oil tank. — —
2. Push test handle to High level position. Control room should receive "FP/TURB A/B oil level Hi-Lo" alarm. — —
3. Release test handle. The control room alarm will clear. — —
4. Push the test handle to the low level position. The control room should again receive the alarm. — —
5. Release the test handle. The control room alarm should clear. — —
6. Record any comments:

Performed by: _____

Date _____

1135 224

OPERATIONS SURVEILLANCE

Monthly
FrequencyN/A
Month2nd
WeekSat.
Day7-3
ShiftTITLE: EXERCISE THE FEEDPUMP TURBINE EMERGENCY GOVERNOR

(OIL TRIP TEST)

SURVEILLANCE

(Acceptance)

CAUTION: Make sure green normal and reset lights are on before starting test.
Notify Control Room Operator before starting test.

Should require two operators in case the reset light will not stay
on for communications.

1. This test is performed at the turbine front standard control panel.
2. Turn lockout control switch to lockout position. The green normal light will go out and the red lockout light comes on.
(Initial)

CAUTION: Do not release lockout control handle until completion of testing. Do not continue testing if lockout light does not come on.

3. While holding lockout control in lockout position, push the overspeed trip test pushbutton. The red trip exercised light will come on and the green reset light will go off.
(Initial)
4. Push the reset pushbutton. The reset light will again come on and the trip exercised light will go off.
(Initial)

CAUTION: The reset light must be on steady before releasing the lockout switch. The turbine may trip if the lockout switch is returned to normal and the reset light is not on steady.

5. When the reset light stays on, release the lockout control switch. The lockout light will go out and green normal light will come on.
(Initial)
6. Record any comments:

A FPT	B FPT

Forward to Ops. Engineer/Supervisor of Ops. after approval signature.

Supervisor of Operations:

1135 225

Approval: M J Ross

Performed By: _____

Date: 6/8/79

Approved By: _____