

TIME LINE SEQUENCE OF EVENTS
DOCKETED
USNRC

TIME EVENT

12-16 hours before installation I&C used new calibration procedure to calibrate temperature switches for the cooling water jacket high temp alarm. This was the first engine tested under this cal procedure.

5-23-90 1202 CDT I&C installed the 3 switches, the little air switch was cleaned and the engine was put in "remote".

1226 First start, normal start

1228 Engine tripped after 60-90 seconds run.
Alarms: 1) Lo Turbo Oil Pressure
2) Hi Jacket Water Temp
3) Lo Jacket Water pressure

NOTE: First alarm not clear due to error by operator. Reset "Test button" accidentally instead of "Silence Alarm button"

Engine declared INOP action statements & LOG's initiated

1310 All parameters reset for second restart (Normal restart) Engine Restarted

1312 Engine tripped after 60-90 seconds run.
Alarms a) Lo pressure turbo lube oil
b) Lo jacket water pressure

NOTE: I&C Personnel at each switch with leak detection (snoop) soap to check for venting - No switches venting.

1412 All parameters reset for third restart (Emergency Start) engine restarted

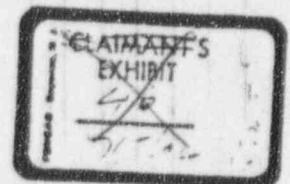
NOTE: No trips or malfunction annunciators lit

1425 Engine stopped after 13 minute run.

1445 All parameters reset for Fourth restart (Normal Start) Engine restarted
(NOTE: No abnormal indicators)

1449 Engine stopped after 4 minute run.

INT II-37



NUCLEAR REGULATORY COMMISSION

50-424-01A-3
 Docket No. 425-01A-3 Official Exh. No. II-37

In the Matter of Dr. Fawcett

Staff	IDENTIFIED	<input checked="" type="checkbox"/>
Applicant	RECEIVED	<input checked="" type="checkbox"/>
Intervenor	REJECTED	<input type="checkbox"/>
Config Offr	DATE	<u>6-5-95</u>
Contractor	Witness	<u>K. Stokes</u>
Other		
Reporter		<u>BW</u>

RECEIVED
 JUN 14 1995
 OFFICE OF THE
 GENERAL COUNSEL

Pre fabricated pressure gauges and fittings in I&C shop. Also blew lines to try to assure no moisture or trash gets into lines when these 4 gauges are installed. 2-60 pound & 2 100 pound gauges - all M&TE calibrated VP numbers are on MWO.
I&C - Bob Neal, Wayne Helwig, Bill Whaley, Mark Briney

2035 I&C began running tubing and hooking up all 4
gauges.

2119 3 alarms - 1. Turbo Lube Oil Lo Pressure
 2. Hi Temp Jacket Water
 3. Low Pressure Jacket Water

117	A switch read	1.5	2.0	3.5
119	B switch read	2.4	2.5	3.
118	C switch read	2.4	3.8	6.4

2134 Preparation for second test began. Marc Jackson opens TLOBV.

2135 D/G 1B starting announcement from Control Room

2136 D/G 1B started. Marc Jackson closed TLOBV.

2137 D/G 1B tripped after 60 second run. Same three alarms.

A	B	C
117	119	118
1.5	2	3.5
2	2.5	5.5

P3 read 41.5 psi
3 temp switch gauges maximum reading at approx. 5.5 psi

2140 Snooped tygon connections. No leaks detected.

2148 In preparation for third test. Three temp switches connected to air supply with pressure gauges and tygon tubing were removed.

2153 Control Room announced, "Ready to Start D/G"

2154 Operational button pushed. TLOBV opened by Jackson.

2156 D/G started. (Third test) TLOBV closed.

P3 gauge read - 47 psi
A & C temp switches observed venting at a noticeable rate. B venting also but not nearly as much.

2157 DG tripped after 60 second run. Alarms Lo pressure turbo oil and Lo pressure jacket water.

2205 D/G restarted (fourth test)
P3 gauge read - 61.5 psi - running good.

2210 DG manually stopped.

2239 Preparation for fifth test (Emergency start) bled air off all 3 temp switches. All 3 switches had puff of air released when air line was disconnected. Reconnected air lines.

2240 "Ready for Emergency Start" control room announcement. TLOBV opened.

2254 Emergency start TLOBV closed. P3 gauge went up to 60.5 then dipped to 55 at trip then backup to 61.5.

2256 Tripped Hi temp jacket water alarm
NOTE: Actual temp of jacket water = 155 F
but trip setpoint = 200 F

2310 Cracked the 3 temp switches to bleed off air A had puff of air B had no air C had no air

2336 Sixth Test. Emergency D/G start - 1 minute 10 seconds then tripped. Snoop testing all 3 temp switches to see if venting during run A partial venting, B venting, C venting

2337 Tripped after 1 minute 10 seconds run. Same alarms as fifth trip.

5/24/90
0100 CST Replacing all three (3) jacket water switches with original switches removed earlier with testing to resume on day shift.

A had puff of air when line was removed.
B did not have air pressure when line was removed.
C did not have air pressure when line was removed.

QC inspector J. C. Harvey witnessed the removal and reinstalled of switches.

0200 Switches have been replaced and those removed have been bagged and tagged and placed in cabinet C-8 in I&C Shop Class "B" storage.