

CONTROL BLOCK:

1	0	H	D	B	S	1	2	0	0	-	0	0	N	P	F	-	0	3	3	4	1	1	1	1	4			5
8	9					14	15											25	26							57	CAT	58
LICENSEE CODE						LICENSE NUMBER														LICENSE TYPE								

REPORT SOURCE: 01 L 6 0 5 3 - 0 3 4 6 7 0 7 0 7 7 9 8 0 8 0 2 7 9 9

60 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

On July 7, 1979 at 1130 hours, during the collection of drift rate data, it was discovered that PSL-4929B, Auxiliary Feedwater (AFW) Pump 1-2 Suction Before Strainer Pressure Switch, actuated at a pressure input outside of its allowable tolerance. This made AFW Train 1-2 inoperable, and placed the unit in the Action Statement of Technical Specification 3.7.1.2. There was no danger to the health and safety of the public or to station personnel. The unit was subcritical and AFW Train 1-1 was operable throughout this occurrence. (NP-33-79-82)

Diagram illustrating the structure of the 18-bit data word (bits 7 through 20) used for the 74181 ALU. The word is divided into several fields:

- SYSTEM CODE** (bits 7-8): 0 9
- CAUSE CODE** (bit 9): C
- CAUSE SURCODE** (bit 10): H
- COMPONENT CODE** (bits 11-18): I N S T R U
- COMP. SUBCODE** (bit 13): S
- VALVE SUBCODE** (bit 20): Z

(17)	LER/RO REPORT NUMBER	EVENT YEAR			SEQUENTIAL REPORT NO.			OCCURRENCE CODE		REPORT TYPE			REVISION NO.		
		7	9	—	0	7	4	/	0	3	L	—	0		
		21	22	23	24	25	26	27	28	29	30	31	32		
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN REASON		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER	
C		G		Z		Z		0	0	0	0	Y	N	A	S
(18)	(19)	(20)	(21)					(22)	(23)	(24)	(25)				(26)
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	

1 0 | The probable cause was component failure of the pressure switch due to component mis-

1 1 | application (wrong diaphragm material) and a shift in microswitch overtravel. A re-

1 2 | placement was installed and satisfactorily tested on 7/7/79, removing the unit from

1 3 | the Action Statement. The eight AFW pump pressure switches will be replaced with

1 4 | switches having stainless steel diaphragms.

7	8	9											10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
FACILITY STATUS			% POWER			OTHER STATUS										METHOD OF DISCOVERY			DISCOVERY DESCRIPTION																																		
1	5	C	28	0	0	0	29	NA										A	31	Observed while collecting data on PSLs																																	

ACTIVITY CONTENT
RELEASED OF RELEASE

1 6 7 8 9 10 11 44

Z 33 Z 34 NA

AMOUNT OF ACTIVITY (35)

LOCATION OF RELEASE (36)

45 80

PERSONNEL EXPOSURES									
NUMBER			TYPE	DESCRIPTION					
1	7	0	0	0	37	Z	38	NA	39

PERSONNEL INJURIES		NUMBER		DESCRIPTION	
1	8	0	0	0	40 NA

LOSS OF OR DAMAGE TO FACILITY					
TYPE		DESCRIPTION			
1	9	Z	(42)	NA	
7	8	9	10		

7908100501

		PUBLCITY									NRC USE ONLY											
ISSUED		DESCRIPTION								(45)												
2	0	N	(44)	NA							582	170										
7	8	9	10								68	69	80									

DVR 79-100 NAME OF PREPARER Dean C. Hitchens

PHONE: 419-259-5000, Ext. 231

0.76-1.16 0.45

TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER STATION UNIT ONE
SUPPLEMENTAL INFORMATION FOR LER NP-33-79-82

DATE OF EVENT: July 7, 1979

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: Auxiliary Feedwater (AFW) Suction Pressure Switch
PSL-4929B out of calibration

Conditions Prior to Occurrence: The unit was in Mode 3, with Power (MWT) = 0, and
Load (Gross MWE) = 0.

Description of Occurrence: On July 7, 1979, at 1130 hours during surveillance testing under Maintenance Work Order (MWO) IC-334-79, Instrument and Control personnel discovered that PSL-4929B, Auxiliary Feedwater Pump 1-2 Suction Before Strainer Pressure Switch, actuated at a pressure input outside of its desired tolerance. The desired setpoint is 3.3 psig \pm 0.5 psig decreasing. The switch actuated at 2.25 psig decreasing. This made AFW Train 1-2 incapable of shifting suction to service water if the condensate storage tanks were unavailable and placed the unit in the Action Statement of Technical Specification 3.7.1.2, which requires two independent steam generator auxiliary feed-water pumps and associated flowpaths to be operable in Modes 1, 2, and 3.

Designation of Apparent Cause of Occurrence: On May 21, 1979, a similar event had occurred (reported in Licensee Event Report NP-33-79-64). After that occurrence, two pressure switches were returned to the manufacturer, Static-O-Ring Pressure Switch Company for analysis of the failure. PSL 4929B was taken to the factory for testing with the previous two switches. The failure of all three switches was determined to be the permeating of the fluid (demineralized water with ammonia added for pH control) through the thin Buna N diaphragm onto the aluminum piston, causing the piston to corrode severely. A second contributing factor was a shift in the overtravel of the piston, which causes non-repeatability. The cause of this shift was not determined. The instrument could have been dropped, or hit, etc.

Analysis of Occurrence: There was no danger to the health and safety of the public or to station personnel. The unit had been shutdown since March 31, 1979, and was shutdown at the time of this occurrence. AFW Train 1-1 was operable throughout the occurrence.

Corrective Action: MWO IC-335-79 was initiated to calibrate and install a replacement switch for PSL-4929B. This replacement switch was satisfactorily tested at 2300 hours on July 7, 1979 under ST 5071.04, the Auxiliary Feedwater System Channel Functional Test. This removed the station from the action statement of Technical Specification 3.7.1.2.

The root causes of this occurrence (and the May 21, 1979 occurrence) will be corrected

as follows. Facility Change Request 79-293 has been initiated and a purchase order written to replace the eight Auxiliary Feedwater Pump suction pressure switches with switches which have stainless steel diaphragms and pressure ports. This will preclude the permeation of the pressure sensing diaphragm and subsequent corrosion/oxidation of the pistons. In addition, a Maintenance Instruction is being written for calibration of Static-O-Ring pressure switches. This Maintenance Instruction will delineate the method to be used to ensure that the microswitch overtravel has not shifted both on new switches (bench calibration) and installed switches.

Failure Data: Previous inoperabilities of Auxiliary Feedwater Pump suction switches were reported in Licensee Event Report NP-33-79-64.

LER #79-074

582 172