NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION) CONTROL BLOCK: 10 341120 - 0 0 0 0 0 -CIOIFISIVI1 0 0 (2) 0 10 1 0 LICENSE NUMBER LICENSEE CODE CON'T REPORT 0 1 SOURCE EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10) During July testing, one of the twelve helium circulator seal malfunction pressure 0 2 differential switch units was discovered to have a trip point outside the limits of 03 LCO 4.4.1, Table 4.4-3. During August's testing, four of the twelve switch units 0 4 These are reportable per Fort St. Vrain were found to trip outside these limits. 0 5 Technical Specifications AC 7.5.2(b)1 and AC 7.5.2(b)2. No affect on public health or 0 6 Redundant system available and operable. Similar reports are RO's 77-47. safety. 0 7 78-27, 79-32, 79-56, 80-07, 80-16, 80-20, 80-26, and 80-34. 0 8 COMP SYSTEM CAUSE CAUSE VALVE COMPONENT CODE SUBCODE SUBCODE CODE CODE E 13 NISITIR UI(14 S 1 (15 CIBI E 1(12) Z (16) (11 0 9 18 REVISION OCCURRENCE SEQUENTIAL REPORT LER/RO EVENT YEAR CODE NO. TYPE REPORT NO. 1 013 18 X 0 | 4 | 1 REPORT 10 NUMBER 22 COMPONENT NPRD-4 PRIME COMP. SUBMITTED METHOD ACTION ACTION HOURS (22) FORM SUB Y 23 Y 24 N 25 B 0 8 0 26 Z (21) 0 0 0 0 0 X (19) (20) (18) CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27) ITT Barton Model 289 pressure differential switches failed to actuate at trip point 10 due to dirt accumulation in electrical switches. The ITT Barton pressure differential 1 1 indicating switches were replaced with ITT Barton Model 752 pressure transmitters and 1 2 bistable trip modules (Model PT-3D, manufactured by General Atomic Company) via Change 1 3 No further corrective action is anticipated or required. Notice 1110. 1 4 80 METHOD OF OTHER STATUS (30) ACILIT DISCOVERY DESCRIPTION (32) % POWER 0 4 0 29 Operability Test C (31) N/A 1 5 90 ACTIVITY CONTENT LOCATION OF RELEASE (36) AMOUNT OF ACTIVITY (35 OF RELEASE RELEASED N/A Z 33 Z 34 N/A 6 80 PERSONNEL EXPOSURES DESCRIPTION (39) 0 0 0 37 Z 38 N/A 80 PERSONNEL INJURIES DESCRIPTION (41) 8306280283 830606 PDR ADOCK 0500026 NUMBER N/A 0 0 0 40 18 PDF 80 LOSS OF OR DAMAGE TO FACILITY (43) DESCRIPTION N/A Z (42) 19 NRC USE ONLY PUBLICITY DESCRIPTION (45) SUED 11111 N (44) N/A -68 69 785-2224 (303)PHONE:. NAME OF PREPARER .

REPORT DATE:	June 6, 1983
OCCURRENCE DATE:	July 24, 1980

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FORT ST. VRAIN NUCLEAR GENERATING STATION PUBLIC SERVICE COMPANY OF COLORADO 16805 WELD COUNTY ROAD 19 1/2 PLATTEVILLE, COLORADO 80651-9298

REPORT NO. 50-267/80-41/03-X-1

Final

IDENTIFICATION OF OCCURRENCE:

During the July performance of the monthly check of the helium circulator seal malfunction pressure differential switches, it was discovered that one of twelve switch units tripped outside the limits specified in LCO 4.4.1, Table 4.4-3.

During the August performance of the monthly check of the helium circulator seal malfunction pressure differential switches, it was discovered that four of the twelve switch units tripped outside the limits specified in LCO 4.4.1, Table 4.4-3.

This is reportable per Fort St. Vrain Technical Specifications AC 7.5.2(b)1 and AC 7.5.2(b)2.

EVENT DESCRIPTION:

During normal plant operation, instrument personnel performed the circulator seal malfunction (buffer-mid-buffer) switch operability check. The switches are normally calibrated on an annual basis; however, due to the problems cited in the previous reports as listed on the LER, a check of buffer-mid-buffer trip settings on a monthly basis was undertaken as an interim measure to test operability.

There are twelve buffer-mid-buffer switch units, three per circulator. Each switch unit contains two electrical switches. The range of the sensing element is from (-) 100 inches of water to zero to (+) 100 inches of water. One of the electrical switches in each unit must operate at greater than or equal to (-) 10 inches water (negative buffer-mid-buffer), and the other electrical switch must operate at less than or equal to (+) 80 inches water (positive buffer-mid-buffer) per Table 4.4-3.

The trip settings for the twelve switch units are listed in Table 1 for July and in Table 2 for August.

The switch settings which were found to be less conservative than those established by the Technical Specification did not prevent the fulfillment of the functional requirements of the system.

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CAUSE DESCRIPTION:

Dirt buildup and accumulation in the electrical switches prevented them from making proper contact.

CORRECTIVE ACTION:

The trip settings of the electrical switches were re-adjusted to the proper trip points.

Due to the continuing problems being experienced with the electrical switches, the interim check of the trip settings was conducted on a monthly basis.

The problem was investigated, and the process activated pressure differential switches were replaced with pressure differential transmitters and solid state dual bistable trip modules. The new units eliminate the use of electrical contacts and, therefore, reduce the probability of fouling by dirt and/or corrosion from the working environment. This modification was performed via Public Service Company Change Notice 1110.

No further corrective actions are anticipated or required.

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TABLE 1

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		As Found	Inches H ₂ O	As Left Inches H ₂ O	
	1 in 1		Decreasing		
1A Circulator	PDIS-21149	+76	- 8	+76	-8
	PDIS-21151	+78	- 8	+78	-8
	PDIS-21153	+75	- 5	+75	-5
1B Circulator	PDIS-21155	+77	- 6	+73	-6
	PDIS-21157	+73	-30 ①	+72	-5
	PDIS-21159	+72	- 8	+77	-8
1C Circulator	PDIS-21150	+75	- 5	+75	-5
	PDIS-21152	+75	- 7	+75	-7
	PDIS-21154	+75	- 3	+75	-3
1D Circulator	PDIS-21156	+73	- 7	+73	-7
	PDIS-21158	+74	- 6	+74	-6
	PDIS-21160	+75	- 8	+75	-8

① Denotes switch which was out of tolerance.

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		As Found	Inches H ₂ 0	As Left Inches H ₂ O	
			Decreasing Trip Point		
1A Circulator	PDIS-21149	+75	- 5	+75	-5
	PDIS-21151	+77	- 8	+77	-8
	PDIS-21153	+73	-17 ①	+73	-6
1B Circulator	PDIS-21155	+82 ①	- 6	+78	-6
	PDIS-21157	+77	- 7	+77	-7
	PDIS-21159	+77	- 9	+77	-9
1C Circulator	PDIS-21150	+78	- 4	+78	-4
	PDIS-21152	+77	- 9	+77	-9
	PDIS-21154	+77	- 8	+77	-8
1D Circulator	PDIS-21156	+73	-50 ①	+73	-5
	PDIS-21158	+75	- 7	+75	-7
	PDIS-21160	+75	-47 ①	+75	-9

Denotes switches which were out of tolerance.

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