



Public Service Company of Colorado

16805 ROAD 19½
PLATTEVILLE, COLORADO 80651

June 6, 1980
Fort St. Vrain
Unit No. 1
P-80144

Mr. Karl V. Seyfrit, Director
Nuclear Regulatory Commission
Region IV
Office of Inspection and Enforcement
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76012

Reference: Facility Operating License
No. DPR-34

Docket No. 50-267

Dear Mr. Seyfrit:

Enclosed please find a copy of Reportable Occurrence Report No. 50-267/
80-23, Final, submitted per the requirements of Technical Specification
AC 7.5.2(b)2.

Also, please find enclosed one copy of the Licensee Event Report for
Reportable Occurrence Report No. 50-267/80-23.

Very truly yours,

Don Warembourg
Don Warembourg
Manager, Nuclear Production

DW/cls

Enclosure

cc: Director, MIPC

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REPORT DATE: Jun 6, 1980

REPORTABLE OCCURRENCE 80-23

OCCURRENCE DATE: May 7, 1980

ISSUE 0

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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

REPORT NO. 50-267/80-23/03-L-0

Final

IDENTIFICATION OF
OCCURRENCE:

During the period from May 7, 1980, to May 17, 1980, the plant was operated with the emergency feedwater header supply to the helium circulator water turbine drives of one loop isolated on four separate occasions.

These occurrences constitute operation in a degraded mode of LCO 4.2.2(a) and are reportable per Fort St. Vrain Technical Specification AC 7.5.2(b)2.

EVENT
DESCRIPTION:

Fort St. Vrain Technical Specification LCO 4.2.2 specifies the conditions which must be met for circulator operability. Item (a) of LCO 4.2.2 requires that emergency feedwater be available to drive the circulator water turbines, but provides that this supply may be isolated for up to 24 hours without the helium circulators being considered inoperable.

A pressure control system is provided to control emergency feedwater flow in each loop under flow or no-flow conditions. Refer to Figure 1 for simplified diagram of this system. Emergency feedwater is supplied to Loop 1 and Loop 2 helium circulator water turbines via two separate flow paths (A) and (B). The main pressure control valves (1) and (2) are designed to control feedwater supply pressure under flow conditions. Additional pressure control valves (3) and (4) are provided to bleed off any leakage from the main valves to the turbine water drain tank under the no-flow conditions which normally exist.

During the period from May 7, 1980, to May 17, 1980, the emergency feedwater supply to either Loop 1 or Loop 2 water turbine drives was isolated via valves provided for this purpose (5) and (6) on four separate occasions, as described below.

EVENT
DESCRIPTION: (Cont'd)

Event #1

On May 7, 1980, a Plant Trouble Report was initiated, indicating that PV-21244-1 (4 of Figure 1) was leaking. At 1430 hours on May 7, with the plant operating at approximately 45% thermal power and 135 MWe, emergency feedwater header supply to Loop 2 helium circulators was isolated in order to determine the cause of leakage and repair the problem.

Following a weld repair to the line immediately downstream of this valve, the system was returned to service at 1945 hours.

Event #2

At 2100 hours on May 7, 1980, with plant conditions essentially unchanged, Loop 2 emergency feedwater supply was again isolated as the system was not providing proper pressure control. At this time, the line downstream of PV-21244-1 was replaced, and the system was returned to service at 2315 hours.

Event #3

On May 8, 1980, with the plant operating at approximately 46% thermal power and 135 MWe, lack of pressure control was still being observed on the emergency feedwater header supply to Loop 2 circulators. At that time, it was decided that valve leakage through PV-21244 (2 of Figure 1) was contributing to the pressure control problems. In order to rectify this situation, the system was isolated at 1030 hours on May 8 to replace the trim in PV-21244. This work was completed and the valve and system returned to service at 1300 hours.

Event #4

On May 16, 1980, a Plant Trouble Report was initiated to indicate that Loop 1 emergency feedwater pressure control valve PV-21243 was leaking (see 1 of Figure 1). At 0850 hours on May 16, with the plant operating at approximately 47% thermal power and 130 MWe, the Loop 1 emergency feedwater header supply was isolated in order to repair this valve. Repairs were completed and the valve and system returned to service at 0830 hours on May 17, 1980.

The problems with the valves themselves did not render the emergency feedwater header supply to circulator water turbines inoperable. However, valve and line repairs necessitated isolation of the system, resulting in operation in a degraded mode of LCO 4.2.2(a) for the periods noted above. In each instance, the affected system was returned to service within the 24 hours allowed by LCO 4.2.2(a); thus, all circulators were operable during this time period.

EVENT

DESCRIPTION: (Cont'd)

Had it been necessary during any of the instances of degraded mode operation, the circulators in the affected loop could have been operated on water turbine drive at reduced speed utilizing a water supply from the emergency condensate or firewater systems.

CAUSE

DESCRIPTION:

Events #1, #2, and #3

Isolation of the Loop 2 emergency feedwater header supply described in Events #1, #2, and #3 was a result of leakage in the line downstream of PV-21244-1, as well as valve leakage through PV-21244. This leakage contributed to the poor pressure control and system isolation to effect repairs resulted in operation under a degraded mode of LCO 4.2.2(a).

Event #4

Leakage between the seat ring and valve body of PV-21243 was a result of wear on the gasket. System isolation to repair the valve resulted in LCO 4.2.2(a) degraded mode operation.

CORRECTIVE

ACTION:

Events #1 and #2

Leakage in the line downstream of PV-21244-1 was eliminated by weld repair and eventual replacement of the line.

Event #3

Valve leakage through PV-21244 was rectified by replacing the 2" trim with 1 3/8" trim. The valve and system were returned to service.

Event #4

Leakage through PV-21243 was eliminated by applying devcon compound to the valve gasket surface. The valve was re-assembled and the system returned to service.

No further corrective action is anticipated or required.

Emergency Feedwater Header

To Backup Bearing Water

(B)

(A)

(5) V-211615

(1) PV-21243

To Loop 1 Helium Circulator Water Turbine Drives

(3) PV-21243-1

To Turbine Water Drain Tank

(6) V-211616

(2) PV-21244

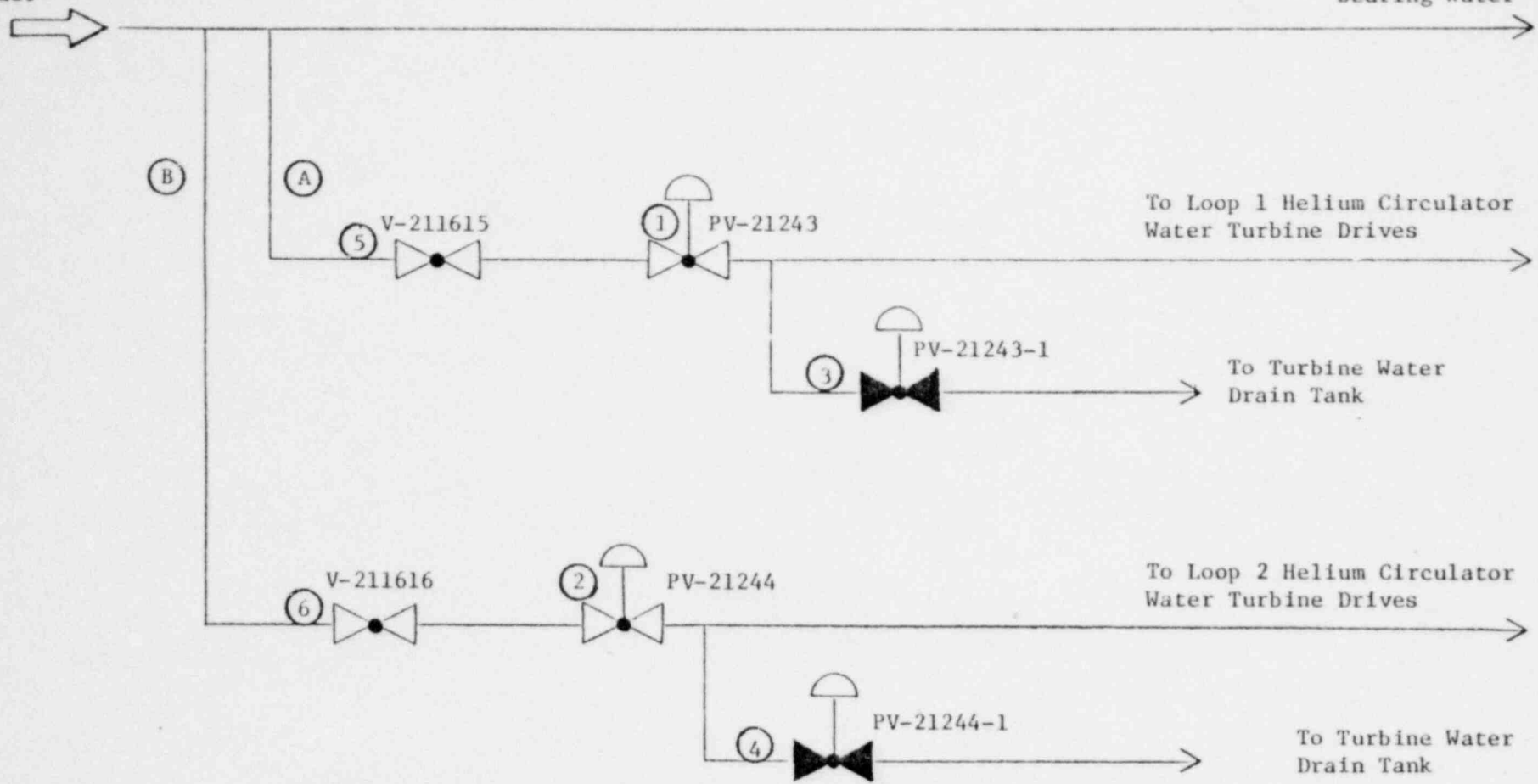
To Loop 2 Helium Circulator Water Turbine Drives

(4) PV-21244-1

To Turbine Water Drain Tank

Emergency Feedwater Pressure Control

FIGURE 1



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