



Public Service Company of Colorado

16805 ROAD 19½
PLATTEVILLE, COLORADO 80651

February 26, 1981
Fort St. Vrain
Unit No. 1
P-81067

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. 50-267/81-012, 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. 50-267/81-012.

Very truly yours,

Don Warembourg
Don Warembourg
Manager, Nuclear Production

DW/clis

Enclosure

cc: Director, MIPC

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REPORT DATE: February 26, 1981
Determined
OCCURRENCE DATE: January 27, 1981

REPORTABLE OCCURRENCE 81-012
ISSUE 0
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FORT ST. VRAIN NUCLEAR GENERATION STATION
PUBLIC SERVICE COMPANY OF COLORADO
16805 WELD COUNTY ROAD 19 1/2
PLATTEVILLE, COLORADO 80651

REPORT NO. 50-267/81-012/03-L-0

Final

IDENTIFICATION OF
OCCURRENCE:

During performance of a scheduled Surveillance Test, six of twelve individual steam pipe rupture pipe cavity ultrasonic detector channels were found inoperable. Since the reactor had been operated during the surveillance interval, the channels must be considered to have been inoperable when the reactor was at power.

This is interpreted as a degraded mode of LCO 4.4.1, Table 4.4-2, and is reportable per Fort St. Vrain Technical Specification AC 7.5.2(b)2.

EVENT
DESCRIPTION:

On January 3, 1981, while the reactor was in a shutdown condition, Surveillance Test SR 5.4.1.2.1j-R, Steam Pipe Rupture (Pipe Cavity) Calibration, was performed. The test requires that a calibrated ultrasonic noise source be fed to the microphone to be tested, and that the response of the channel fall between 20% and 80% of full scale meter readings at the channel's trip module.

Data taken during the performance of the Surveillance Test are given in Table 1.

TABLE 1

Location	Microphone	As Found Reading	As Left Reading
Loop 1, South	XE-93457A	5%	35%
	XE-93457B	30%	30%
	XE-93457C	5%	28%
Loop 1, North	XE-93455A	22%	22%
	XE-93455B	15%	22%
	XE-93455C	30%	30%
Loop 2, South	XE-93456A	12%	25%
	XE-93456B	35%	35%
	XE-93456C	15%	25%
Loop 2, North	XE-93454A	30%	30%
	XE-93454B	5%	25%
	XE-93454C	26%	26%

EVENT

DESCRIPTION: (Cont'd)

Since each major channel (location) is composed of three microphones connected in a 2/3 trip circuit, it can be seen that all four major channels were degraded and that the case of the Loop 1 south and Loop 2 south channels, two of the three individual microphone channels were degraded.

However, it must be noted that Surveillance Test SR 5.4.1.2.1f-m/5.4.1.2.1g-m, performed monthly, verifies that each channel will trip on a signal from an uncalibrated noise source. This test was performed successfully just prior to performance of SR 5.4.1.2.1j-R and indicated that a microphone showing low response to the calibrated noise source is still responsive to a louder source and may be operable.

CAUSE

DESCRIPTION:

During the surveillance interval, numerous spurious "Steam Pipe Rupture (Pipe Cavity)" ultrasonic noise trips were received. In order to reduce the occurrence of false trips, the gain of the microphones or transmitters causing the trip was reduced. The monthly performance of the functional test was believed to be sufficient indication of an operable channel.

A similar report, RO 80-48, was submitted concerning the "Steam Pipe Rupture under PCRV" ultrasonic system which detailed the same cause as this report. This is the first performance of SR 5.4.1.2.1j-R since that report, and since the two ultrasonic systems have experienced the same problems, it is not unreasonable that the same reportable conditions would be found in both systems.

CORRECTIVE

ACTION:

The individual microphone and/or transmitter gain was adjusted to bring the trip module meter reading to an acceptable value for all microphones and the Surveillance Test successfully completed.

The microphone or transmitter gain will be not reduced to prevent spurious trips.

A calibration check will be performed twice a year for two years to determine if there is any unanticipated system drift.

The Public Service Company Nuclear Project Department has been requested to evaluate the ultrasonic steam pipe rupture detection system.

No further corrective action is anticipated or required.

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