



Public Service Company of Colorado

September 4, 1981
Fort St. Vrain
Unit No. 1
P-81220

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. 50-267/81-048, 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. 50-267/81-048.

Very truly yours,

Don Warembourg
Don Warembourg
Manager, Nuclear Production

DW/cl's

Enclosure

cc: Director, MIPC



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REPORT DATE: September 4, 1981

REPORTABLE OCCURRENCE 81-048
ISSUE 0

OCCURRENCE DATE: August 8, 1981

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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. 50-267/81-048/03-L-0

Final

IDENTIFICATION OF
OCCURRENCE:

On two occasions, Loop 1 prestressed concrete reactor vessel cooling water outlet temperature exceeded 120 degrees fahrenheit. This is a degraded mode of LCO 4.2.15 and is reportable per Fort St. Vrain Technical Specification AC 7.5.2(b)2.

EVENT
DESCRIPTION:

On August 8, 1981, and again on August 25, 1981, failure of a temperature controller resulted in Loop 1 prestressed concrete reactor vessel cooling water outlet temperature exceeding the LCO limit of 120 degrees fahrenheit.

The prestressed concrete reactor vessel cooling water circuit consists of two identical closed loops, each of which can supply 100% of the flow necessary to maintain prestressed concrete reactor vessel liner temperatures within design limits. Each loop consists of two 100% capacity pumps and two 50% capacity heat exchangers where the temperature of liner cooling water is controlled. The temperature control scheme for each loop is as follows: An averaging temperature device receives the inlet and outlet temperatures across the prestressed concrete reactor vessel and transmits a signal proportional to this average temperature to a temperature controller. This controller is then used to control the outlet water temperature of the cooling water heat exchangers by throttling service water out of the heat exchangers.

On August 8, 1981, with the plant operating at 69.7% power and 235 MWe, the Loop 1 liner cooling water temperature controller failed, resulting in Loop 1 temperature control valve closure and an increase in cooling water outlet temperature. Loop 1 liner cooling water temperature increased to a maximum of 137 degrees fahrenheit when the Reactor Operator observed the malfunction and switched to a bypass controller to regain temperature control. The outlet temperature was restored to acceptable levels within one hour. The faulty controller was repaired and returned to service.

On August 25, 1981, with the plant operating at 70% power and 240 MWe, the same temperature controller again failed. Loop 1 liner cooling water temperature increased to a maximum of 127 degrees fahrenheit before operator action was taken to bypass the controller. Loop 1 liner cooling water outlet temperature was restored below LCO limits within 15 minutes.

In both instances, Loop 2 prestressed concrete reactor vessel cooling circuit was fully operational and was, by itself, capable of removing the entire prestressed concrete reactor vessel heat load.

CAUSE
DESCRIPTION:

The cause for the first occurrence was found to be a cold solder joint in the temperature controller.

The cause for the second occurrence was due to a failed transistor in the controller output circuit.

CORRECTIVE
ACTION:

In the first event, the faulty controller was removed from service and inspected. The faulty solder joint in the controller was repaired and the controller was returned to service.

In the second , the faulty controller was removed from service and inspected. The failed transistor Q-7 in the controller output circuit was replaced and the controller was returned to service.

No further corrective action is anticipated or required.

Prepared By: *Paul Moore*
Paul Moore
Technical Services Technician

Reviewed By: *Milt McBride*
Milt McBride
Technical Services Manager

Reviewed By: *E. Hill*
Edwin D. Hill
Station Manager

Approved By: *Don Warembourg*
Don Warembourg
Manager, Nuclear Production