

INCIDENT EVENT REPORT (IER)

FACILITY NAME (1) Fort St. Vrain, Unit No. 1 DOCKET NUMBER (2) 0500021671 OF 04 PAGE (3)

TITLE (4) Loop II Shutdown During Performance Of SR 5.4.1.2.8b-M

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
02	01	86	86	011	000	03	03	86	N/A		050000
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OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)									
	20.402(b)		20.405(c)	XX	50.73(a)(2)(iv)	73.71(b)				
	20.405(a)(1)(i)		50.38(a)(1)		50.73(a)(2)(v)	73.71(c)				
	20.405(a)(1)(ii)		50.38(a)(2)		50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)				
	20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)					
	20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)					
POWER LEVEL (10) 0100		20.405(a)(1)(v)		50.73(a)(2)(iii)	50.73(a)(2)(ix)					

LICENSEE CONTACT FOR THIS IER (12) NAME Jim Eggebrotten, Superintendent, Technical Services Eng. TELEPHONE NUMBER 3103 718151-121213 AREA CODE

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)														
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

SUPPLEMENTAL REPORT EXPECTED (14) YES (If yes, complete EXPECTED SUBMISSION DATE) NO XX NO EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On February 1, 1986, at approximately 1457 hours, an automatic Loop 2 shutdown was initiated on high reheat header activity. This event occurred during performance of the "Primary Coolant Moisture (Low Level Channel) Test" (SR 5.4.1.2.8 b-M). At the time of this automatic loop shutdown, the reactor was shutdown, with "A" and "D" circulators operating on steam from the auxiliary boiler. There was no flow through the Economizer-Evaporator-Superheater (EES) section of either steam generator loop.

A voltage spike was induced when RIS-93252-11 was manually tripped, per procedure, by moving the rotary switch to the "Trip Adjust" position. This voltage spike caused RIS-93251-11 to trip simultaneously with RIS-93252-11, thereby completing the two out of three logic and initiating an automatic loop shutdown. Loop 2 was recovered approximately five minutes later.

SR 5.4.1.2.8 b-M was successfully completed following this event. A Station Service Request (SSR) was initiated to investigate and test RIS-93251-11, to ensure that the switch is fully operable. Operability of the reheat header activity channels will be verified through performance of the "Reheat Header Activity Test" (SR 5.4.1.2.6 b-M).

This event is being reported pursuant to the requirements of 10CFR50.73(a)(2)(iv).

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
					0   2	OF 0   4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

EVENT DESCRIPTION:

Prior to this event, the reactor was in a shutdown condition. "A" and "D" circulators were operating on steam turbine drive, with steam being supplied by the auxiliary boiler. "B" and "C" circulators were shutdown, as were the Economizer-Evaporator-Superheater (EES) sections of both steam generator loops.

On February 1, 1986, at approximately 1457 hours, an automatic Loop 2 shutdown was initiated during performance of the "Primary Coolant Moisture (Low Level Channel) Test" (SR 5.4.1.2.8 b-M). The initiating signal was high reheat header activity. Since there was no flow through the EES section of either loop, the loop shutdown only affected the reheater section of the Loop 2 steam generator.

When the Interlock Sequence Switch (ISS) is in the "Power" position, a loop shutdown trips the steam turbines of both circulators in the loop. In this particular instance, the Interlock Sequence Switch (ISS) was in the "Startup" position, thereby inhibiting a "D" circulator trip. The circulator speed did, however, decrease from approximately 3000 RPM to approximately 600 RPM due to the loss of flow through the reheater section of the Loop 2 steam generator and, consequently, through the circulator steam turbine.

Flow was restored to the reheater section of Loop 2, and "D" circulator speed was increased to approximately 3000 RPM at 1502 hours on February 1, 1986.

CAUSE DESCRIPTION:

While performing SR 5.4.1.2.8 b-M, an Instrument Technician manually tripped one of three Loop 2 reheat header activity switches (RIS-93252-11), per procedure, by moving the rotary switch to the "Trip Adjust" position. A second reheat header activity switch in Loop 2 (RIS-93251-11) had just been reset in the previous step of the surveillance. When RIS-93252-11 was manually tripped, a voltage spike was induced which caused RIS-93251-11 to trip simultaneously, thus completing the two out of three logic circuit. This resulted in an automatic Loop 2 shutdown on high reheat header activity.

ANALYSIS:

The unexpected voltage spike resulted in an automatic loop shutdown, which was a conservative condition. Although not indicative of an actual high reheat header activity condition, the loop shutdown portion of the Plant Protective System (PPS) did operate as designed. There were no safety implications to the plant or public as a result of this event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		8   6	-   0   1   1	-   0   0	0   3	OF	0   4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

CORRECTIVE ACTION:

Flow was restored to the reheater section of Loop 2, and "D" circulator speed was increased to approximately 3000 RPM.

A Station Service Request (SSR) was initiated to investigate and test RIS-93251-11. Any deficiencies identified will be repaired and tested to ensure that the switch is fully operable.

The trip of RIS-93251-11 was cleared, and SR 5.4.1.2.8 b-M was successfully completed following this event. This surveillance, however, does not specifically test the reheat header activity channels, but only verifies that high reheat header activity will inhibit a trip on high moisture. Therefore, the monthly "Reheat Header Activity Test" (SR 5.4.1.2.6 b-M) will be performed to specifically verify operability of the reheat header activity channels of the loop shutdown system.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

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**Public Service  
Company of Colorado**

March 3, 1986  
Fort St. Vrain  
Unit No. 1  
P-86158

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Docket No. 50-267

SUBJECT: Licensee Event Report  
86-011, Final Report

REFERENCE: Facility Operating  
License No. DPR-34

Gentlemen:

Enclosed please find a copy of Licensee Event Report  
No. 50-267/86-011, Final, submitted per the requirements of  
10 CFR 50.73(a)(2)(iv).

Sincerely,

J. W. Gahm  
Manager, Nuclear Production

Enclosure

cc: Regional Administrator, Region IV  
Attn.: Mr. J. E. Gagliardo, Chief  
Reactor Projects Branch

cc: Director of Nuclear Reactor Regulation  
Attn.: Mr. H. N. Berkow, Project Director  
Standardization and Special  
Projects Directorate

cc: Director, MIPC

JWG/djm

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