

LICENSEE EVENT REPORT

CONTROL BLOCK:

[PLEASE PRINT ALL REQUIRED INFORMATION]

LICENSEE NAME: 01 C O A S V 1
7 8 9 14

LICENSE NUMBER: 00-000000-00
15 25

LICENSE TYPE: 4 1 1 2 0
26 30

EVENT TYPE: 0 1
31 32

CATEGORY		REPORT TYPE	REPORT SOURCE	DOCKET NUMBER		EVENT DATE		REPORT DATE			
01	CONT	D I	P	L	050-0267	06	16	76	06	26	76
7	8	57	58	59	60	61	68	69	74	75	80

EVENT	DESCRIPTION
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02 During surveillance testing of the plant protective system the following
03 malfunctions were discovered. 1. Circulator Trip module C1BR2 Failed the
04 pulse test. 2. Circulator Trip module C21AR2 Failed the pulse test
05 3. Dew point Moisture Monitor MM-1114 did not respond correctly to water injection
06 4. Dew point Moisture Monitor MM-1116 Failed to trip from water injection. (F/O 50-20774)

SYSTEM CODE: 07 1A
 CAUSE CODE: E
 COMPONENT CODE: INSTRU
 PRIME COMPONENT SUPPLIER: N
 COMPONENT MANUFACTURER: G305
 VIOLATION: N

CAUSE DESCRIPTION

08 1. Two integrated circuit logic chips failed. 2. Four integrated circuit logic
09 chips failed. 3. Pre amplifier photodiode failed 4. One integrated circuit
10 logic chip failed.

FACILITY STATUS		% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11	G	000		b	NA

FORM OF ACTIVITY RELEASED: E CONTENT OF RELEASE: E AMOUNT OF ACTIVITY: NA LOCATION OF RELEASE: NA

PERSONNEL EXPOSURES

NUMBER				TYPE	DESCRIPTION
13	000	E	NA		

PERSONNEL INJURIES

NUMBER				DESCRIPTION
14	0	0	0	NA

OFFSITE CONSEQUENCES

15 NA

LOSS OR DAMAGE TO FACILITY

TYPE		DESCRIPTION
16	Σ	NA

PUBLICITY

17	NA
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ADDITIONAL FACTORS

18 NA S 05000267 PDR

19 | _____

NAME: H. W. Hellyard Jr by Roger Heller PHONE: A.C. 303 785-2253

Public Service Company of Colorado
P. O. Box 361, Platteville, Colorado 80651



June 26, 1976
Fort St. Vrain
Unit No. 1
P-76146

Mr. E. Morris Howard, Director
Nuclear Regulatory Commission
Region IV
Office of Inspection and Enforcement
Suite 1000
Arlington, Texas 76012

REF: Facility Operating License
No. DPR-34

Docket No. 50-267

Dear Mr. Howard:

Enclosed please find a copy of Abnormal Occurrence Report No. 50-267/76/15, Final, submitted per the requirements of the Technical Specifications.

Also, please find enclosed one copy of the Licensee Event Report for Abnormal Occurrence Report No. 50-267/76/15.

Very truly yours,

Frederic E. Swart
Superintendent, Nuclear Production
Fort St. Vrain Nuclear
Generating Station

FES/alk

cc: Mr. Roger S. Boyd

6595

COPY SENT REGION IV

REPORT DATE: June 26, 1976

ABNORMAL OCCURRENCE 76/15

Page 1 of 5

OCCURRENCE DATE: (Determined) June 16, 1976

FORT ST. VRAIN NUCLEAR GENERATING STATION
PUBLIC SERVICE COMPANY OF COLORADO
P. O. BOX 361
PLATTEVILLE, COLORADO 80651

REPORT NO. 50-267/76/15

Final

IDENTIFICATION OF
OCCURRENCE:

While surveillance testing the Plant Protective System, the following malfunctions were discovered:

1. Circulator trip logic module, CT-1BR2, failed the pulse test on June 11, 1976.
2. Circulator trip logic module, CT-1AR2, failed the pulse test on June 11, 1976.
3. Dew point moisture monitor, MM-1119, did not respond correctly to injection of moisture on June 12, 1976.
4. Dew point moisture monitor, MM-1116, failed to trip from injection of moisture on June 13, 1976.

These malfunctions have been identified as as abnormal occurrence per the Fort St. Vrain Technical Specifications, Section 2.1, paragraph f.

CONDITIONS PRIOR
TO OCCURRENCE:

<u> </u>	Steady State Power	<u> </u>	Routine Shutdown
<u> </u>	Hot Shutdown	<u> </u>	Routine Load Change
<u> X </u>	Cold Shutdown	<u> </u>	Other (specify)
<u> </u>	Refueling Shutdown	<u> </u>	
<u> </u>	Routine Startup	<u> </u>	

CONDITIONS PRIOR
TO OCCURRENCE (continued):

The major plant parameters at the time of the event were as follows:

ITEM NO.	POWER		SECONDARY COOLANT			PRIMARY COOLANT			
	RTR	ELECT	PRESSURE (psia)	TEMP. (°F)	FLOW (#/hr)	PRESSURE (psia)	TEMP. IN. (°F)	TEMP. OUT. (°F)	FLOW (K#/hr)
1	0	0	1,100	175	330	300	195	195	1,030
2	0	0	1,100	175	330	300	195	195	1,030
3	0	0	1,100	178	400	250	194	194	880
4	0	0	1,000	168	280	250	197	197	1,200

ITEM NO.	CIRCULATOR SPEED (RPM)			
	A	B	C	D
1	1,050	1,100	1,050	1,000
2	1,050	1,100	1,050	1,000
3	1,050	1,100	1,050	1,000
4	500	2,500	2,500	500

DESCRIPTION OF
OCCURRENCE:

1. During performance of surveillance test SR 5.4.1.3.2c-M, Feedwater Flow Test, a pulse test signal is applied to one of three channels with another channel in a tripped condition. The pulse duration is not long enough to fully trip the channel under test but will provide indications that the channel would trip if a true high level input signal was applied. Circulator trip logic module CT-1BR2 failed this test in that no trip indications resulted from application of the test signal.
2. During performance of surveillance test SR 5.4.1.3.2c-M, Feedwater Flow Test, a pulse test signal is applied to one of three channels with another channel in a tripped condition. The pulse duration is not long enough to fully trip the channel under test but will provide indications that the channel would trip if a true high level input signal was applied. Circulator trip logic module CT-1AR2 failed this test in that no test indications resulted from application of the test signal.

DESCRIPTION OF
OCCURRENCE (continued):

3. During performance of surveillance test SR 5.4.1.1.6.c-R, Primary Coolant Moisture Scram Calibration, a moist helium test gas is applied to each dew point moisture monitor and trip of the module is verified. Moisture monitor MM-1119 failed this test in that the indicated reflected light level increased as the moisture level increased. This would have prevented a trip at the setpoint.
4. During performance of surveillance test SR 5.4.1.1.6.c-R, Primary Coolant Moisture Scram Calibration, a moist helium test gas is applied to each dew point moisture monitor and trip of the module is verified. Moisture monitor MM-1116 failed this test in that the monitor did not trip when the test gas was applied.

APPARENT CAUSE
OF OCCURRENCE:

_____ Design	_____ Unusual Service Cond. Including Environment
_____ Manufacture	_____ X* Component Failure
_____ Installation/Const.	_____ Other (specify)
_____ Operator	_____
_____ Procedure	_____

*All malfunctions contained in this report have been traced to component failures in the affected devices.

ANALYSIS OF
OCCURRENCE:

1. The malfunctioning circulator trip module, CT-1BR2, was replaced with an identical spare module and the pulse test repeated. The newly installed module passed the pulse test. Investigation of the malfunctioning module revealed that the problem was failure of two integrated circuit logic chips.
2. The malfunctioning circulator trip module, CT-1AR2, was replaced with an identical spare module and the pulse test repeated. The newly installed module passed the pulse test. Investigation of the malfunctioning module revealed that the problem was failure of four integrated circuit logic chips.

ANALYSIS OF
OCCURRENCE (continued):

3. The malfunctioning component of MM-1119 was identified as the reflected light preamplifier which was replaced with an identical spare and the moisture injection test repeated. The moisture monitor passed the test. Investigation of the malfunctioning preamplifier has identified the failed component within the preamplifier as a photodiode.
4. The malfunctioning moisture indicating switch, MIS-1116 was replaced with an identical spare and the moisture injection test repeated. The moisture monitor passed the test. Investigation of the malfunctioning module revealed that the problem was failure of an integrated circuit logic chip.

CORRECTIVE
ACTION:

1. The failed integrated circuit chips in the CT-1BR2 module were replaced and the unit tested with an approved procedure. These failures are of a random nature and no further corrective action is planned or required.
2. The failed integrated circuit chips in the CT-1AR2 module were replaced and the unit tested with an approved procedure. These failures are of a random nature and no further corrective action is planned or required.
3. The failed photodiode in the preamplifier has been replaced and the unit tested with an approved procedure. This failure is of a random nature and no further corrective action is planned or required.
4. The failed integrated circuit chip in the MIS-1116 module was replaced, and the unit tested with an approved procedure. This failure is of a random nature and no further corrective action is planned or required.

FAILURE DATA/SIMILAR REPORTED OCCURRENCES:

None

PROGRAMMATIC IMPACT:

None

CODE IMPACT:

None

Submitted by: Roger Heller for
H. W. Hillyard, Jr.
Technical Services Supervisor

Reviewed by: Larry Brey
H. Larry Brey
Superintendent, Operations

Approved by: Frederic E. Swart
Frederic E. Swart
Superintendent, Nuclear Production