

LICENSEE EVENT REPORT

CONTROL BLOCK: _____ (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---------------|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|--------------|----|----|----|--------|----|----|----|----|----|----|----|
| 01 | C | 0 | F | S | V | 1 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 1 | 1 | 2 | 0 | 4 | 5 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| 01 | | LICENSEE CODE | | | | | LICENSE NUMBER | | | | | | | | | | LICENSE TYPE | | | | CAT 58 | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---------------|----|---------------|----|----|----|----|----|----|----|----|----|------------|----|----|----|-------------|----|----|----|----|----|----|----|----|
| 01 | L | 6 | 0 | 5 | 0 | 0 | 0 | 2 | 6 | 7 | 7 | 0 | 7 | 0 | 6 | 7 | 8 | 8 | 0 | 6 | 0 | 6 | 8 | 3 | 9 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| 01 | | REPORT SOURCE | | DOCKET NUMBER | | | | | | | | | | EVENT DATE | | | | REPORT DATE | | | | | | | | |

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 Between July 6, 1978, and July 18, 1979, numerous events concerning the helium circulator seal malfunction pressure differential switches were reported per Fort St. Vrain Technical Specification AC 7.5.2(b)1 and AC 7.5.2(b)2, as degraded modes of LCO 4.4.1. This report does not identify a new event occurrence, but rather a final corrective action. No affect on public health or safety. Similar report is Reportable Occurrence 77-47.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|-------------|----|------------|----|---------------|----|----------------|----|----|----|---------------|----|---------------|----|----------------------|----|------------|----|-----------------------|----|-----------------|----|-------------|----|--------------|----|--------------|----|---------------|----|-----------------|----|-----------------|----|-------|----|----------------------|----|------------------|--|----------------------|--|------------------------|--|
| 09 | C | B | E | E | I | N | S | T | R | U | S | Z | 17 | 7 | 8 | 0 | 2 | 7 | 0 | 3 | X | 6 | X | X | Z | Z | 0 | 0 | 0 | 0 | Y | N | N | B | 0 | 8 | 0 | | | | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | | | | | |
| 09 | | SYSTEM CODE | | CAUSE CODE | | CAUSE SUBCODE | | COMPONENT CODE | | | | COMP. SUBCODE | | VALVE SUBCODE | | LER/RO REPORT NUMBER | | EVENT YEAR | | SEQUENTIAL REPORT NO. | | OCCURRENCE CODE | | REPORT TYPE | | REVISION NO. | | ACTION TAKEN | | FUTURE ACTION | | EFFECT ON PLANT | | SHUTDOWN METHOD | | HOURS | | ATTACHMENT SUBMITTED | | NPRD-4 FORM SUB. | | PRIME COMP. SUPPLIER | | COMPONENT MANUFACTURER | |

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 Numerous failures of IIT Barton Model 289 pressure differential switches resulted from dirt accumulation and oxidation on the contact surfaces caused by the working environment. The differential pressure switches were replaced with IIT Barton Model 752 pressure transmitters and bistable trip modules (Model PT-3D, manufactured by General Atomic Company) via Change Notice 1110. No further corrective action is anticipated or required.

| | | | | | | | | | | | | | |
|----|---|--------------------------------------|-----|-------------------------|-----|--|---------------------------|---------------------|--|----------------------------|--|--|--|
| 15 | E | 0 | 0 | 9 | N/A | C | Routine Surveillance Test | | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | | | | | |
| 15 | | FACILITY STATUS | | | | OTHER STATUS (30) | | METHOD OF DISCOVERY | | DISCOVERY DESCRIPTION (32) | | | |
| 16 | Z | Z | N/A | N/A | | | | | | | | | |
| 7 | 8 | 9 | 10 | 11 | | | | | | | | | |
| 16 | | ACTIVITY CONTENT RELEASED OF RELEASE | | AMOUNT OF ACTIVITY (35) | | LOCATION OF RELEASE (36) | | | | | | | |
| 17 | 0 | 0 | 0 | Z | N/A | | | | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | |
| 17 | | PERSONNEL EXPOSURES NUMBER | | TYPE | | DESCRIPTION (39) | | | | | | | |
| 18 | 0 | 0 | 0 | N/A | | | | | | | | | |
| 7 | 8 | 9 | 10 | 11 | | | | | | | | | |
| 18 | | PERSONNEL INJURIES NUMBER | | DESCRIPTION (41) | | 8306280228 830606 PDR ADOCK 05000267 S PDR | | | | | | | |
| 19 | Z | N/A | | | | | | | | | | | |
| 7 | 8 | 9 | | | | | | | | | | | |
| 19 | | LOSS OF OR DAMAGE TO FACILITY TYPE | | DESCRIPTION (43) | | NRC USE ONLY | | | | | | | |
| 20 | N | N/A | | | | | | | | | | | |
| 7 | 8 | 9 | | | | | | | | | | | |
| 20 | | PUBLICITY ISSUED | | DESCRIPTION (45) | | ISSUED DESCRIPTION (45) | | | | | | | |

NAME OF PREPARER: [Signature] PHONE: (303) 785-2224

REPORT DATE: June 6, 1983

REPORTABLE OCCURRENCE 78-27
ISSUE 6

OCCURRENCE DATE: July 6, 1978

Page 1 of 4

FORT ST. VRAIN NUCLEAR GENERATING STATION
PUBLIC SERVICE COMPANY OF COLORADO
16805 WELD COUNTY ROAD 19 1/2
PLATTEVILLE, COLORADO 80651-9298

REPORT NO. 50-267/78-27/03-X-6

Final

IDENTIFICATION OF
OCCURRENCE:

The following is a summary identifying each occurrence referred to in this final report.

On July 6, 1978, during troubleshooting related to the helium circulator seal malfunction trip inhibit reported in Reportable Occurrence Report No. 50-267/78-25, it was discovered that nine of twelve helium circulator seal malfunction pressure differential indicating switches either would not trip or tripped outside the limits specified in LCO 4.4.1, Table 4.4-3. This event was reported per Fort St. Vrain Technical Specification AC 7.5.2(b)1 and AC 7.5.2(b)2 in Report No. 50-267/78-27/03-L-0.

On December 4, 1978, during performance of a check of the helium circulator seal malfunction pressure differential switches, it was discovered that the switches either would not trip or tripped outside the limits specified in LCO 4.4.1, Table 4.4-3. This event was reported per Fort St. Vrain Technical Specification AC 7.5.2(b)1 and AC 7.5.2(b)2 in Report No. 50-267/78-27/03-X-1.

On January 12, 1979, during performance of a monthly check of the helium circulator seal malfunction pressure differential switches, it was discovered that three of twelve switches tripped outside the limits specified in LCO 4.4.1, Table 4.4-3. This event was reported per Fort St. Vrain Technical Specifications AC 7.5.2(b)1 and AC 7.5.2(b)2 in Report No. 50-267/78-27/03-X-2.

On February 14, 1979, during performance of a monthly check of the helium circulator seal malfunction pressure differential switches, it was discovered that four of twelve switches either would not trip or tripped outside the limits specified in LCO 4.4.1, Table 4.4-3. This event was reported per Fort St. Vrain Technical Specification AC 7.5.2(b)1 and AC 7.5.2(b)2 in Report No. 50-267/78-27/03-X-3.

On March 19, 1979, and April 17, 1979, during performance of monthly checks of the helium circulator seal malfunction pressure differential switches, it was discovered that five of nine and two of nine switches, respectively, tripped outside the limits specified in LCO 4.4.1, Table 4.4-3. These events were reported per Fort St. Vrain Technical Specification AC 7.5.2(b)1 and AC 7.5.2(b)2 in Report No. 50-267/78-27/03-X-4.

On May 8, 1979, during performance of a monthly check of the helium circulator seal malfunction pressure differential switches, it was discovered that three of nine switches tripped outside the limits specified in LCO 4.4.1, Table 4.4-3.

On June 15, 1979, during performance of a monthly check of the helium circulator seal malfunction pressure differential switches, it was discovered that three of twelve switches tripped outside the limits specified in LCO 4.4.1, Table 4.4-3.

On July 18, 1979, during performance of a monthly check of the helium circulator seal malfunction pressure differential switches, it was discovered that five of twelve switches either would not trip or tripped outside the limits specified in LCO 4.4.1, Table 4.4-3.

The last three events were reported per Fort St. Vrain Technical Specification AC 7.5.2(b)1 and AC 7.5.2(b)2 in Report No. 50-267/78-27/03-X-5.

During the numerous events reported, the reactor plant was being maintained in various conditions from refueling shutdown to power operation.

EVENT
DESCRIPTION:

In each event, during performance of a routine or special check of the helium circulator seal malfunction pressure differential switches, it was discovered that one or more switches tripped outside the limits specified in LCO 4.4.1, Table 4.4-3.

As this supplemental report does not identify a new event occurrence, but rather identifies a final corrective action to all the events previously reported, the reader is referred to the previous report issues for specific event descriptions.

Events are described in Report Nos. 50-267/78-27/03-L-0 through 50-267/78-27/03-X-5 as identified in the Identification of Occurrence Section.

CAUSE
DESCRIPTION:

In all the events reported, dirt accumulation and/or contact oxidation in the electrical switches due to the working environment prevented them from operating properly.

CORRECTIVE
ACTION:

All switches which were out of tolerance or did not trip were cleaned and recalibrated.

Due to the continuing problems being experienced with the electrical switches, the interim check of the trip settings was conducted on a monthly basis.

The problem was investigated, and the process activated pressure differential switches were replaced with pressure differential transmitters and solid state dual bistable trip modules. The new units eliminate the use of electrical contacts and, therefore, reduce the probability of fouling by dirt and/or corrosion from the working environment. This modification was performed via Public Service Company Change Notice 1110.

No further corrective actions are anticipated or required.

Prepared By: Owen J. Clayton
Owen J. Clayton
Senior Technical Services Technician

Reviewed By: Frank J. Novachek
Frank J. Novachek
Technical Services Engineering Supervisor

Reviewed By: L. Milton McBride
L. M. McBride
Station Manager

Approved By: Don Warembourg
Don Warembourg
Manager, Nuclear Production