

LICENSEE EVENT REPORT

CONTROL BLOCK

(PLEASE PRINT ALL REQUIRED INFORMATION)

| | | | |
|--|--|--|---|
| LICENSEE NAME 01 L B R F 1 | LICENSE NUMBER 14 0 0 - 0 0 0 0 0 - 0 0 | LICENSE TYPE 25 4 1 1 1 1 | EVENT TYPE 30 0 1 |
| CATEGORY 7 0 1 | REPORT TYPE 14 * | REPORT SOURCE 15 T L | DOCKET NUMBER 16 0 5 0 - 0 2 5 9 |
| EVENT DATE 26 0 4 1 1 7 6 | REPORT DATE 31 | | |

EVENT DESCRIPTION

| | | |
|----|--|----|
| 02 | During the performance of the unit 1 RCIC system retest, the RCIC pump discharge | 80 |
| 03 | valve would not operate. (BFAO-50-259/764W) | 80 |
| 04 | | 80 |
| 05 | | 80 |
| 06 | | 80 |

| | | | | | |
|--|---|---|---|---|---|
| SYSTEM CODE | CAUSE CODE | COMPONENT CODE | PRIME COMPONENT SUPPLIER | COMPONENT MANUFACTURER | VIOLATION |
| 07 C E | E | C K T B R K | N | G O 8 0 | N |

CAUSE DESCRIPTION

| | | |
|----|---|----|
| 08 | The valve would not operate because of the failure of a GE type SBM model | 80 |
| 09 | 205A8774DD switch used for the normal-emergency controls transfer switch. | 80 |
| 10 | The switch was replaced. | 80 |

| | | | | |
|--|---|---|---|---|
| FACILITY STATUS | % POWER | OTHER STATUS | METHOD OF DISCOVERY | DISCOVERY DESCRIPTION |
| 11 I | 0 0 0 | S h t d n a f t e r | C | P r e o p e r a t i o n a l r e t e s t |

| | | | |
|--|---|--------------------|---------------------|
| FORM OF ACTIVITY RELEASED | CONTENT OF RELEASE | AMOUNT OF ACTIVITY | LOCATION OF RELEASE |
| 12 Z | Z | NA | NA |

PERSONNEL EXPOSURES

| | | |
|--|---|-------------|
| NUMBER | TYPE | DESCRIPTION |
| 13 0 0 0 | Z | NA |

PERSONNEL INJURIES

| | |
|--|-------------|
| NUMBER | DESCRIPTION |
| 14 0 0 0 | NA |

OFFSITE CONSEQUENCES

| | |
|--|-------------|
| TYPE | DESCRIPTION |
| 15 Z | NA |

LOSS OR DAMAGE TO FACILITY

| | |
|--|-------------|
| TYPE | DESCRIPTION |
| 16 Z | NA |

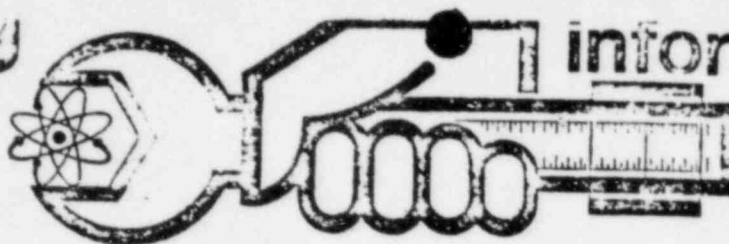
PUBLICITY

| | |
|--|-------------|
| NUMBER | DESCRIPTION |
| 17 0 0 0 | NA |

ADDITIONAL FACTORS

| | |
|--|----------------|
| NUMBER | DESCRIPTION |
| 18 0 0 0 | SEE ATTACHMENT |

This is an interim report. As part of the investigative action of this event, switches of this model were inspected throughout the plant. This inspection has revealed a large number of cam followers with a crazed appearance similar to the condition described in the attached vendor's service letter. We have found crazed conditions existing on switches which were manufactured outside the date of manufacture specified in the service letter. This condition has been found on switches installed in each of the 3 Browns Ferry units. The investigation continues, and interim plans include replacement of all switches installed in safeguards systems which demonstrate crazing as well as switches manufactured during the period described in the vendor's service letter.



RECEIVED

March 19, 1976
File Tab A

MAR 20 1976
STARTUP TEST DESIGN & ANALYSIS

SIL No. 155
Category 1

POSSIBLE FAILURES OF TYPE SBM CONTROL SWITCHES

Recent failures of General Electric Type SBM Control Switches have been reported by the original component manufacturer. The application of these switches is widespread throughout operating fossil and nuclear (both BWR and PWR) plants. The reported failures, however, have been limited to SBM switches installed at fossil plants. It should be noted that, to date, the reported number of failed SBM switches is extremely low, (i.e., approximately 0.03 percent for the quantity of switches manufactured and shipped during the period of concern) and that none of the switch failures have occurred in essential circuits. The purpose of this Service Information Letter (SIL) is to list the affected BWR operating plants, to define the conditions causing the problem and to present corrective action recommendations for nuclear application of SBM switches.

DISCUSSION

The reported failures of GE Type SBM Control Switches have been diagnosed as fracture of the Lexan cam followers (an integral part of the switch). The failures have been attributed to exposure of some Lexan cam followers to hydrocarbons. Contamination by hydrocarbons contributes to degradation of the Lexan material. This degradation could eventually progress to a fracture of the cam follower resulting in failure of the switch assembly in any of the following three modes:

1. Failure of the switch to open.
2. Failure of the switch to close.
3. Jamming of the switch mechanism which would prevent any further action.

Cam followers in question which have been exposed to the hydrocarbon are a part of SBM switches manufactured during the period from July 1972 through May 1975. SBM switches manufactured during this time period may be

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GENERAL ELECTRIC

March 19, 1976

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SIL No. 155

identified by a small sticker label affixed to the back end or side of each switch having a number less than 50 and two letters in the following series:

| | | | |
|----|----|----|----|
| AJ | DJ | GJ | KJ |
| AK | DK | GK | KK |
| AL | DL | HH | LH |
| BJ | EJ | HJ | LJ |
| BK | EK | HK | LK |
| BL | EL | JH | MH |
| CJ | FJ | JJ | MJ |
| CK | FK | JK | MK |
| CL | GH | KH | |

Examples would be: "14GH" and "16HJ"

Appendix A lists the results of a records search conducted by General Electric-Nuclear Energy Division of the known application of Class 1E SBM switches in operating BWRs, including the specific location of the SBM switches that are identifiable to the A through M series discussed above. The records review was limited to operating BWRs original equipment hardware as well as hardware in support of Field Disposition Instructions (FDIs) shipped to BWR operating plants after June 30, 1972.

RECOMMENDED ACTION

General Electric recommends the following action:

1. Replace any SBM Control Switch currently installed in a BWR plant which is identified in the A through M series listed above and used in Class 1E application as indicated in Appendix A.
2. Order SBM switch replacements by the Panel Parts List General Electric Part Number to assure that such replacements will be to their original configuration requirements.
3. For switches identifiable in the A through M series and having a number less than 50 as described above, and with applications other than Class 1E, the cam followers can be inspected for cracks with an auxiliary light source of adequate intensity through the opening near the terminals of each switch deck. It is advisable to refrain from switch disassembly for purposes of this inspection.
4. The switch application and its frequency of use as well as the results of the visual inspection should determine if immediate replacement would be in the best interest.

March 19, 1976

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Contact your local GE service representative for additional information and for assistance in ordering replacement parts.

Prepared by: M.J. Sierra/L.A. Gonzalez

Approved by: D.L. Layton
D.L. Layton, Manager
Product Service

Issued by: D.L. Layton
D.L. Layton, Acting Manager
Performance Analysis and
Service Communications

Product Reference:
A71 - Plant Recommendations

APPENDIX A

LOCATION AND DATE CODES OF GE TYPE SBM CONTROL SWITCHES IN ESSENTIAL (CLASS IE) APPLICATIONS

| BWR PLANT | PANEL | QTY | DEVICE LOCATION | DRAWING # | DATE CODE |
|------------------------------|-------------|-----|--------------------------|--------------|---|
| Fitzpatrick | 9-3 | 1 | 23A-S20 | 234A9327P002 | 14AJ |
| | 9-8 | 3 | 32B, 32E, 32F | 248A9615P001 | Please check No cert. avail- able |
| | 9-21 9-3 | 2 | 32, 33, 41, 42 | 234A9327P002 | 14AJ |
| | 9-75 | 1 | 9-G75-000 | 235A1127P002 | 14MH |
| | 9-75 | 2 | 15-MOV-102 15-MOV-103 | 248A9117P001 | 14JH |
| | | | | | |
| Peach Bottom II | 9-4 9-41 | 2 | 16A-18B 16A-19B | 234A9329P003 | 14MH 14LH |
| | 9-4A | 1 | 32, 39 | 234A9327P002 | Cert. dated 10/13/75. No Date Code Could be KL |
| | | | | | |
| Peach Bottom III | 9-4B | 1 | 32, 39 | 234A9327P002 | Cert. dated 10/13/75. No Date Code Could be KL |
| | 9-4 9-41 | 2 | 16A-18B 16A-19B | 234A9329P003 | 14MH, 14LH |
| Brunswick II (Carolina I) | H12-P601 | 1 | E51AS15 | 234A9330P002 | 14MH |

259/76-4

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

April 26, 1976

Mr. Norman C. Moseley, Director
U.S. Nuclear Regulatory Commission
Region II
230 Peachtree Street, NW., 8th Floor
Atlanta, Georgia 30303

Dear Mr. Moseley:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 -
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - ABNORMAL
OCCURRENCE REPORT BFAO-50-259/764W

The enclosed report is to provide details concerning an RCIC pump discharge valve which would not operate during the performance of the unit 1 RCIC system retest and is submitted in accordance with Appendix E to Regulatory Guide 1.16, Revision 4, August 1975. This event occurred on Browns Ferry Nuclear Plant unit 1.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

H. S. Fox

H. S. Fox
Acting Director of Power Production



Enclosure (3)

CC (Enclosure):

Director (3)
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