

ATTACHED IS A PART 21 REPORT FROM IE MAIL UNIT - ROOM 359E/W

PART 21 IDENTIFICATION NO. 80-227-000 COMPANY NAME Should-Brow Boveri

DATE OF LETTER 5/19/80 DOCKET NO. 50-358

DATE DISTRIBUTED 5/29/80 ORIGINAL REPORT SUPPLEMENTARY

DISTRIBUTION:

REACTOR(R)

FUEL CYCLE &

SAFEGUARDS(S)

MATERIALS(M)

- | | | |
|-------------------------|----------------------|------------------------|
| NRR/DOR, DIRECTOR (2) | AD/FFMSI | AD/SG-IE |
| NRR/DPM DIRECTOR (2) | NMSS/FCMS | AD/ROI |
| AD/ROI (2) | REGIONS | REGIONS |
| AD/RCI | IE FILES | NRR/DOR, DIRECTOR |
| REGIONS | PDR | NMSS/SG SS-881 |
| IE FILES | LPDR | PDR |
| • CENTRAL FILES | CENTRAL FILES-SS-396 | LPDR |
| • CENTRAL FILES (CHRON) | CENTRAL FILES(CHRON) | TERA |
| • PDR | (016) | IE FILES (2) |
| • LPDR | TERA | CENTRAL FILES 016 |
| • TERA | LOEB/MPA MNB 5715 | CENTRAL FILES (CHRON) |
| LOEB/MPA MNB 5715 | AEOD - MNB-7602 | CENTRAL FILES - SS-396 |
| AEOD MNB-7602 | | LOEB/MPA MNB 5715 |
| | | AEOD MNB-7602 |

ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOW-UP AS SHOWN BELOW:

IE NRR NMSS OTHER

- RCI
- ROI
- SG
- FFMSI

8006090 478

THIS DOCUMENT CONTAINS POOR QUALITY PAGES

REV.

May 19, 1980

(Part 2 Report)

sent to X005
5/22/80

80-227-000

U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attention: Mr. G. Fiorelli, Chief
Reactor Construction and Engineering
Support Branch

RE: Wm. H. Zimmer Nuclear Power Station - Unit 1
Docket No. 50-538, Construction Permit CPPR-88,
Report of 10CFR50.55(e) - Gould-Brown Boveri
Type K-600S, 480 Volt Electrically Operated
Cincinnati Gas & Electric Letters to NRC
of March 28, 1979 & April 19, 1979

Dear Mr. Fiorelli:

In the referenced letters, Cincinnati Gas & Electric reported the misoperation of a Gould-Brown Boveri K-600S circuit breaker at their Zimmer Nuclear Power Station. It was reported that the circuit breaker secondary latch was hanging up on the shunt trip, causing an inadvertent circuit breaker closure when the spring charging motor was energized.

Corrective action, at this time, was to replace the five (5) secondary latches that had undersized bushings. At the same time, a shim spacer was added behind the magnetic latch to provide additional clearance to the secondary latch.

A total of five (5) circuit breakers were reported to have this condition out of a total of 135. No other reports of a similar condition have been reported either prior to this time or subsequent to it.

As a follow up to this incident, Gould-Brown Boveri has determined that there is a possibility that a small number of K-600S and K-DON600S circuit breakers were assembled with an undersized secondary latch bushing during the period between 1969 and 1977. This condition has a further limitation such that the circuit breaker must be electrically operated, it must be drawout and it must have a static trip device.

The undersized secondary latch bushing would not cause a problem nor would it result in a misoperation of the circuit breaker during normal operations with the circuit breaker in the connected position. Also, the condition would not manifest itself unless the circuit breaker is operated in a sequence that is not considered to be normal.

MAY 22 1980

May 19, 1980

→ GOULD BROWN BOVERI

Mr. C. Fiorelli, Chief
Reactor Construction and Engineering
Support Branch
U. S. Nuclear Regulatory Commission
Region III

Tests were conducted on a circuit breaker with a undersized secondary latch to demonstrate that if a mechanical trip free operation is performed with the spring charging motor in the off position and subsequently the charging motor is energized that it would cause the circuit breaker to close inadvertently. This is caused by the secondary latch hanging up on the magnetic latch housing.

A simple sequence has been devised to be used during normal maintenance procedure: specifically check if this condition exists. It is as follows:

1. Rack the circuit breaker to the test position.
2. Charge the closing springs, if uncharged.
3. Turn off the charging motor switch.
4. Push in mechanical trip button and hold.
5. Push mechanical close lever upward.
6. Release trip and close devices.
7. Turn on the charging motor switch.
8. Inadvertent closing will result if the condition exists.

The enclosed Addendum (T.B.-9.1.7-6 Issue F, Pages 1 & 2) dated March 4, 1980 provides more details on this test sequence and instructions for correction, if required.

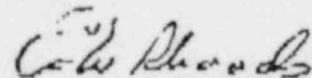
On March 26, 1980, Gould-Brown Boveri visited the Enrico Fermi Power Plant No. 2, to verify that the test sequence procedure and procedure for correction, if required could be readily understood by jobsite personnel. This was verified by permitting the jobsite personnel to read and demonstrate the instructions provided.

If a shim is required, contact the nearest Gould-Brown Boveri Sales Office.

If you have any additional questions, please call me at 215-628-7660.

Very truly yours,

GOULD-BROWN BOVERI
Switchgear Systems Division



E. W. RHOADS, Manager
Quality Assurance

Copy to: R. P. Ehas
Cincinnati Gas & Electric Co.

EWR/rm

I.B.-9.1.7-6 ISSUE F
ADDENDUM 2, PAGE 1
MARCH 4, 1980

K-600S, K-DON600S FIELD TEST PROCEDURE

CAUTION: REFER TO I.B.-9.1.7-6 FOR CIRCUIT BREAKER INSTRUCTIONS AND SAFETY PROCEDURES

- A. This procedure is to be performed to determine if the secondary close latch hangs up on the shunt trip device causing inadvertent closing of the circuit breaker at the completion of the closing springs charging.
1. Rack out the circuit breaker to the test position.
 2. Move the toggle switch to the "on" position to charge the closing springs.
 3. Move the toggle switch to the "off" position.
 4. Perform a trip free operation by holding the manual red trip button in and lifting the manual close lever to discharge the closing springs. (The breaker should not close)
 5. Move the toggle switch to the "on" position to charge the closing springs. Note at the end of the charging if the breaker inadvertently closed.
 6. If the breaker closed during Step 5, then it has failed and a .050 shim must be added per page 2 of this procedure.
 7. If the breaker did not inadvertently close during Step 5, then Steps 3 thru 5 should be repeated twelve times without failure. A .050 shim must be added if any failures occur.
- B. If it was necessary to install a .050 shim, then repeat Steps 3 thru 5 twelve times to check that the breaker does not inadvertently close.

PROCEDURE FOR ASSEMBLING SHIM IN K-600S, K-DON600S
BREAKER WITHOUT REMOVING THE OPERATING MECHANISM

CAUTION: REFER TO IB-9.1.7-6 PAGE 10 FOR CIRCUIT BREAKER REMOVAL
(DRAWOUT TYPE) BEFORE PROCEEDING.

DISASSEMBLY:

1. Tilt breaker back, loosen wires by removing cleat 650441-D, from left side of breaker frame.
2. Remove relay, from bottom of breaker, by removing screws that hold relay. Do not disconnect wires.
3. Block jack bar open to move arm away from mag-latch.
4. Enter through left side of breaker and remove three screws, 54341-E2, that hold the mag-latch to the mechanism side plate. Slide mag-latch and shunt trip away from mechanism frame. Use care not to disconnect spring, 650216-All, between primary latch and mag-latch.

ASSEMBLY:

1. Slide shim, 711917-B, in between mechanism side plate and mag-latch, and reattach mag-latch with longer screws, 54341-E3.
2. Tighten screws, making sure spring, 650216-All, is connected.
3. Replace parts in reverse order.