

## (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

NRC USE ONLY

Additional Cause Description and Corrective Action:

The cause of the reactor trip was a failure (spike) of power range channel N-42 while Channel N-41 was tripped for quarterly calibration (2/4 logic trip).

A thorough investigation in order to find the cause of the failure to transfer between the auxiliary and startup transformers revealed the following:

1. All electrical circuits to the closing coil of the start-up ACB (4AA05) were checked for continuity and electrical capability with a thorough check of the remote circuits to the 3C11G and 3C11T panels including the lockout relay and its contacts. No trouble was found.
2. Transfer inhibit relay 162/4A2 was checked both physically and electrically, no trouble was found. Relay pick-up was found normal and the drop-out was timed at 15 cy.
3. Due to the availability of two (2) ACBs from Unit No. 3, it was decided to replace both ACBs (4AA02 and 4AA05) with the corresponding ACBs from Unit 3.
4. On July 29, 1981, at 5:12 pm, Unit No. 4 tripped from ~55% power after a runback from 100% power with successful transfer of both 4160V buses. (The transfer was initiated by a safety injection (S.I.) signal).
5. Due to the availability of the auxiliary breakers, a thorough inspection of the 162/4A2 and 162/4B2 (transfer inhibit relays) was made with the following results:
  - a. Relay 162/4A2 coil wire to stud 5 (G.E. relay type 12HGA17C) was found to have a loose crimp on the lug (terminal solderless connector) with the wire pulling out of the lug when the coil was being inspected for possible cracks in the black Lexan spool.
  - b. No visual cracks of the spool were observed, but, visual evidence of heating was found in the outer plastic wrapping and the small "coil-No." label around the copper wire loops.

REPORTABLE OCCURRENCE 251-81-009  
LICENSEE EVENT REPORT  
PAGE THREE

---

6. Disposition: Both relays, 162/4A2 and 162/4B2 were replaced, with available replacement relays from G. E. (Model No. 178A7409 91) with a time delay setting of ~10 cy, using implementation procedure from PCM-78-14.
7. Conclusion: Although no trouble was found after the trip on July 28, 1981, a proper transfer occurred on July 29, 1981 (after exercising the relay circuits by test and swapping the ACBs). This demonstrated a return to normal operating characteristics due to unknown causes.

The fact that relay 162/4A2 was found with a loose crimp on the coil wire allows us to increase our suspicion that this relay was intermittent in its performance with a very high probability of being the cause of the failure to transfer.

Since relays 162/4A2 and 162/4B2 were both replaced, our logical estimate is that the possibility of a failure to transfer due to a misoperation of these relays has been greatly reduced if not completely removed.