

LICENSEE EVENT REPORT

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

01 N E F C S 1 2 0 0 0 0 0 0 0 0 0 0 0 0 3 4 1 1 1 1 4 5
LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58

01 REPORT SOURCE L 6 0 5 0 0 0 2 8 5 7 0 4 2 3 8 1 8 0 5 0 6 8 1 9
DOCKET NUMBER 65 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 While operating at approximately 45% power and performing surveillance test ST-ESF-2,
03 Section F.1 (the monthly DC sequencer timer test), timers AC-3A (Component Cooling Water
04 Pump) and AC-10A (Raw Water Pump) failed to time out within their prescribed limit.
05 During the time of the failure, the AC sequencer timers which activate AC-3A and AC-10A
06 were operable and available if needed. In addition, all sequencer timers, both AC and
07 DC (from both "A" and "B" safeguards trains) feeding redundant Component Cooling Water
08 Pumps and Raw Water Pumps were available and operable if needed.

09 SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE
S H 11 E 12 B 13 R E L A Y X 14 M 15 Z 16
17 LER-RO REPORT NUMBER EVENT YEAR 8 1 0 0 5 0 3 L 0
ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS 22 ATTACHMENT SUBMITTED NPPD-4 FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER
Z 18 Z 19 Z 20 Z 21 0 0 0 0 Y 23 N 24 A 25 A 1 0 9 26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The causes of failure of the relays to time out within their prescribed limits was not
11 discovered. While reinitiating the test in an effort to duplicate the problem, the
12 timers timed out within proper limits and as designed. The timers were then operated
13 or tested one additional time and performed satisfactorily. The timer mechanisms were
14 inspected for cleanliness and any abnormalities. However, the results of the inspection
15 proved negative.

16 FACILITY STATUS % POWER OTHER STATUS 30 METHOD OF DISCOVERY DISCOVERY DESCRIPTION 32
E 28 0 4 5 29 NA B 31 Surveillance Test

17 ACTIVITY CONTENT RELEASED OF RELEASE AMOUNT OF ACTIVITY 35 LOCATION OF RELEASE 36
Z 33 Z 34 NA NA

18 PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION 39
0 0 0 37 Z 38 NA

19 PERSONNEL INJURIES NUMBER DESCRIPTION 41
0 0 0 40 NA

20 LOSS OF OR DAMAGE TO FACILITY TYPE DESCRIPTION 43
Z 42 NA

21 PUBLICITY ISSUED DESCRIPTION 45
N 44 NA

NRC USE ONLY

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LER No. 81-005
Omaha Public Power District
Fort Calhoun Station Unit No. 1
Docket No. 05000285

ATTACHMENT NO. 1

Safety Analysis

The Fort Calhoun Station Unit No. 1 is designed such that no single failure can prevent the safe shutdown of the plant. The failure of DC sequencer, S1-1, would not have prevented the complete and proper loading of essential safeguards equipment should the need have arisen.

It is the intention of surveillance test ST-ESF-2 (F.1) to test the operation of "A" safeguards channel sequencer circuitry associated with sequencer S1-1. Sequencer S1-1 and S2-1 are "prime signal" DC powered sequencers fed from the "A" and "B" safeguards logic channels, respectively. (Each of the safeguards channels also has an AC sequencer, Sequencer S2-1 being the channel "B1" sequencer electrically powered from the Channel "A" safeguards panel, and Sequencer S2-2 being the channel "A1" sequencer electrically powered from the "B" safeguards channel.) As part of the ST-ESF-2 (F.1) surveillance test, the derived signal cutoffs switch for the "A1" channel is turned to the "off" position, thereby eliminating the secondary sequencer S2-2 from operating. The primary sequencer associated with the "A" channel circuitry (sequencer S1-1) is being tested and therefore all isolation switches for S1-1 circuitry are in the "off" position. (This "off" position allows for the S1-1 sequencer timers to be operated without any actual breakers/equipment being loaded or sequenced onto the bus.)

During the time when the S1-1 and S2-2 sequencers were inoperable, due to testing via ST-ESF-2 (F.1), the redundant "B" channel primary signal DC sequencer, S2-1, as well as the "B1" secondary AC sequencer, S1-2, were operable and fully capable of sequencing the appropriate safeguards loads to either "A" or "B" trains - the "A" train equipment being loaded by sequencer S1-2 and the "B" train equipment being loaded by the sequencer S2-1 - should the need have arisen.

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ATTACHMENT NO. 2

Corrective Action

Two sequencer timers associated with Sequencer S1-1, AC-3A and AC-10A did not time out within their prescribed time limits during the initial run of surveillance test ST-ESF-2 (F.1). The timers were subsequently retested in an effort to duplicate the problem identified above. However, upon retest, the timers timed out within their prescribed/designed limits. The timers were retested a second time and again they timed out properly and within prescribed limits. The DC sequencer timer mechanisms were inspected to ensure cleanliness and to ensure that no abnormalities existed which could have detracted from satisfactory operation of the timers. No abnormalities or cleanliness related problems were observed. Since the computer printout is the only means used, per the surveillance test section, of timing the timers/simulated breaker closures, the appropriate personnel were questioned as to the validity of specific computer points during the time the test was run. The results of this investigation again proved no apparent computer problem or abnormalities relating to the surveillance test.

It is therefore concluded that timers AC-3A and AC-10A of sequencer S1-1 initially failed to time out within prescribed limits due to unknown causes.

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ATTACHMENT NO. 3

Failure Data

Although there have been numerous instances of AC sequencer timers failing to "time out" within prescribed limits, this is the first failure involving a DC sequencer timer.