

# LICENSEE EVENT REPORT LER 50-285/76-21 (Supplement)

CONTROL BLOCK: 1 2 3 4 5 6

(PLEASE PRINT ALL REQUIRED INFORMATION)

LICENSEE  
NAME

LICENSE NUMBER

LICENSE  
TYPE

EVENT  
TYPE

01 N E F C S 1 0 0 - 0 0 0 0 0 - 0 0 4 1 1 1 1 0 3  
7 8 9 14 15 25 26 30 31 32

01 CONT 57 58 59 60 61 68 69 74 75 80  
CATEGORY REPORT TYPE REPORT SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

## EVENT DESCRIPTION

02 During the twice weekly testing of Sequencer timer relays, the monthly Sequencer Sur-  
03 veillance Test ST-ESF-5 was performed. Timer relays for SI-3A, AC-3B and SI-3B failed  
04 to time out at their set times. (LER 50-285/76-21 Supplement No. 1)  
05  
06

07 8 9 10 11 12 17 43 44 47 48  
SYSTEM CODE CAUSE CODE COMPONENT CODE PRIME COMPONENT SUPPLIER COMPONENT MANUFACTURER VIOLATION

## CAUSE DESCRIPTION

08 The Bliss Eagle timer relays had binding operating mechanisms which retarded the  
09 timer relays after they had received their initiating signal. The timers are being  
10 tested on a twice weekly basis to verify their operability.

11 8 9 10 11 12 13 44 45 46 80  
FACILITY STATUS % POWER OTHER STATUS METHOD OF DISCOVERY DISCOVERY DESCRIPTION  
12 8 9 10 11 44 45 80  
FORM OF ACTIVITY RELEASED CONTENT OF RELEASE AMOUNT OF ACTIVITY LOCATION OF RELEASE

## PERSONNEL EXPOSURES

13 8 9 11 12 13 80  
NUMBER TYPE DESCRIPTION

## PERSONNEL INJURIES

14 8 9 11 12 80  
NUMBER DESCRIPTION

## OFFSITE CONSEQUENCES

15 8 9 80  
NA

## LOSS OR DAMAGE TO FACILITY

16 8 9 10 80  
TYPE DESCRIPTION

## PUBLICITY

17 8 9 80  
NA

## ADDITIONAL FACTORS

18 8 9 80  
See Attachments No. 1, 2 and 3.

19 8 9 80

8403230221 760809  
PDR ADOCK 05000285  
S PDR

NAME: J. M. Nagl/J. L. Connolley

PHONE: 402-426-4011

ATTACHMENT NO. 1

Safety Analysis

The plant electrical system is so designed that no single failure can jeopardize enough engineered safeguard equipment to prevent the safe shut-down of the plant. The failure of timer relays for CH-1A, SI-3A, AC-3B and SI-3B would not have prevented the complete and proper sequential loading of the above equipment had it been required.

Prior to starting ST-ESF-5, prime signal sequencers S1-1 and S2-1 were operable and in auto standby. The derived signal sequencers S1-2 and S2-2 were then separately bypassed as per ST-ESF-5 to test their "Bliss Eagle" timing relays. In the event the derived signal sequencers (S1-2 and S2-2) had been called upon to load the above equipment during the performance of ST-ESF-5, the respective prime signal sequencers (S1-1 and S2-1) would have loaded CH-1A, SI-3A, AC-3B and SI-3B at their prescribed times.

ATTACHMENT NO. 2

Corrective Action

The timer relays for the derived signal sequencers S1-2 and S2-2 are being tested twice weekly since the initial timer failures of June 29, 1976. During this twice weekly testing it has frequently been necessary to perform the timer test twice to verify the operability of the timers. (See Attachment No. 3 for Failure Data during twice weekly testing.) One additional timer failure has been noted during this testing; Sequencer S1-2 timer relay for SI-1A has failed to time out at its set time of 4.0 seconds.

These failed relays will continue to be tested on a twice weekly basis until the replacement timers are received from the Bliss Eagle Signal Company at which time they will be installed and tested.

ATTACHMENT NO. 3

Failure Data

This is the fourth event involving the failure of Bliss Eagle Signal timing relays. See Abnormal Occurrence Reports 50-285/75-1, 75-13 and 75-16. See the attached failure data from twice weekly testing July 12 - August 6, 1976.

| SEQUENCER S1-2 (TIME IN SECONDS) |       |        |        |       |         |       |       |       |       |       |       |         |       | SEQUENCER S2-2 (TIME IN SECONDS) |       |        |        |       |       |       |       |       |       |       |       |       |       |       |
|----------------------------------|-------|--------|--------|-------|---------|-------|-------|-------|-------|-------|-------|---------|-------|----------------------------------|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Date                             | SI-1A | AC-10A | AC-10C | SI-2A | CH-1A   | VA-3A | SI-2C | AC-3A | SI-3C | CH-1C | VA-7D | SI-3A   | AC-3C | VA-7C                            | SI-1B | AC-10B | AC-10D | SI-2B | CH-1B | VA-3B | SI-2C | AC-3B | SI-3C | CH-1C | VA-7D | SI-3B | AC-3C | VA-7C |
| 6-29                             | 40    | 38     | 21.2   | 4.2   | 11.4    | 21.2  | 9.4   | 4.0   | -     | -     | -     | NO TIME | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 36.6  | 9.2   | 21.2  | 9.2   | 58    | -     | -     |
| Retest 6-29                      | 40    | 38     | 21.2   | 4.2   | 9.4     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 4.2     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 4.0   | 9.4   | 21.2  | 9.2   | 4.0   | -     | -     |
| 7-12                             | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 4.2     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.0   | 4.0   | 9.2   | 21.2  | -     | 4.0   | 9.2   | 21.2  | 9.0   | 4.0   | -     | -     |
| 7-16                             | 4.4   | 3.6    | 21.0   | 4.0   | 9.2     | 21.0  | 9.0   | 3.8   | -     | -     | -     | 4.0     | 9.2   | 9.0                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 4.2   | 9.4   | 21.2  | 9.2   | 4.0   | -     | -     |
| 7-16                             | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.0  | 9.2   | 4.0   | -     | -     | -     | 4.0     | 9.2   | 9.2                              | -     | -      | -      | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |       |
| 7-21                             | 4.8   | 38     | 21.1   | 4.2   | 25.9    | 21.1  | 9.2   | 4.0   | -     | -     | -     | 4.0     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 8.2   | 9.2   | 21.2  | 9.2   | 5.4   | -     | -     |
| 7-21                             | 4.0   | 38     | 21.1   | 4.2   | 9.3     | 21.1  | 9.1   | 4.0   | -     | -     | -     | 4.0     | 9.1   | 9.1                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 4.0   | 9.2   | 21.2  | 9.2   | 4.0   | -     | -     |
| 7-23                             | 6.4   | 38     | 21.4   | 4.2   | 9.2     | 21.2  | 10.0  | 4.0   | -     | -     | -     | 60.8    | 9.4   | 9.4                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.4  | -     | 4.8   | 9.4   | 21.2  | 9.2   | 4.0   | -     | -     |
| 7-23                             | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.2  | 9.4   | 4.0   | -     | -     | -     | 4.0     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 4.0   | 9.2   | 21.2  | 9.2   | 4.0   | -     | -     |
| 7-26                             | 4.0   | 3.8    | 21.2   | 4.2   | NO TIME | 21.2  | 9.2   | 4.0   | -     | -     | -     | 14.4    | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 50    | 9.2   | 21.2  | 9.2   | 9.2   | -     | -     |
| 7-26                             | 4.0   | 3.8    | 21.2   | 4.2   | 9.2     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 4.2     | 9.4   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.4  | -     | 4.0   | 9.2   | 21.2  | 9.2   | 4.0   | -     | -     |
| 7-30                             | 7.2   | 3.6    | 21.2   | 4.2   | 9.0     | 21.0  | 9.2   | 4.0   | -     | -     | -     | 12.6    | 9.2   | 9.2                              | 4.4   | 4.2    | 21.4   | 4.2   | 9.4   | 21.4  | -     | 4.4   | 9.4   | 21.2  | 9.2   | 4.8   | -     | -     |
| 7-30                             | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 4.0     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.0  | -     | 38    | 9.2   | 21.0  | 9.2   | 4.0   | -     | -     |
| 8-3                              | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 4.8     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.4   | 21.4  | -     | 4.8   | 9.4   | 21.2  | 9.2   | 8.0   | -     | -     |
| Retest 8-3                       | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 4.0     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 38    | 9.2   | 21.0  | 9.0   | 4.0   | -     | -     |
| 8-6                              | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 21.6    | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 16.0  | 9.2   | 21.2  | 9.2   | 5.4   | -     | -     |
| 8-6                              | 4.0   | 38     | 21.2   | 4.2   | 9.2     | 21.2  | 9.2   | 4.0   | -     | -     | -     | 4.0     | 9.2   | 9.2                              | 4.2   | 4.2    | 21.2   | 4.2   | 9.2   | 21.2  | -     | 4.0   | 9.4   | 21.2  | 9.2   | 4.0   | -     | -     |

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## Omaha Public Power District

1623 HARNEY ■ OMAHA, NEBRASKA 68102 ■ TELEPHONE 536-4000 AREA CODE 402

August 10, 1976

FC-242-76

Mr. E. Morris Howard  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive  
Suite 1000  
Arlington, TX 76012

Dear Mr. Howard:

Reference: Fort Calhoun Station Unit No. 1  
Docket No. 50-285

In accordance with the Fort Calhoun Station's Technical Specifications, the Omaha Public Power District, as holder of facility operating license DPR-40, submits three copies of the following supplement to licensee event report 50-285/76-21 to satisfy the requirements of Regulatory Guide 1.16.

Sincerely,

W. C. Jones  
Section Manager  
Operations

WCJ/WDD:rge

Enclosure

cc: Director, Office of Management  
Information and Program Control  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555 (3)

Director, Office of Inspection and  
Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555 (30)

Mr. L. C. Shalla  
SARC Chairman  
PRC Chairman  
Fort Calhoun File (2)

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