

LICENSEE EVENT REPORT

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

01 | V | A | S | P | S | 1 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | _____ | 5
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT 56

CON'T
01 | REPORT SOURCE | X | 0 | 5 | 0 | 0 | 0 | 2 | 8 | 0 | 7 | 0 | 3 | 2 | 3 | 7 | 9 | 8 | 0 | 4 | 0 | 5 | 7 | 9 | 9
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)
02 | During a load study of the Unit 1 480 VAC Emergency Bus, the Architect Engineer dis-
03 | covered that an under power condition could exist for a postulated loss of coolant
04 | accident with or without the loss of off-site power. This under power condition could
05 | prevent the proper functioning of engineered safeguards equipment. This condition
06 | would exist until loads on the emergency bus were manually shed to a point where the
07 | bus could be re-energized. This is an event contrary to the intent of Technical Speci-
08 | fication 3.16 and is reportable as per Technical Specification 6.6.2.A.9.
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

09 | SYSTEM CODE | S | H | 11 | CAUSE CODE | B | 12 | CAUSE SUBCODE | A | 13 | COMPONENT CODE | T | R | A | N | S | F | 14 | COMP. SUBCODE | Z | 15 | VALVE SUBCODE | Z | 16
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
LER/RO REPORT NUMBER EVENT YEAR SEQUENTIAL REPORT NO. OCCURRENCE CODE REPORT TYPE REVISION NO.
17 | 7 | 9 | 0 | 5 | 8 | 0 | 1 | T | 0
21 22 23 24 25 26 27 28 29 30 31 32
ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NPRD-4 FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER
Z | 18 | F | 19 | C | 20 | Z | 21 | 0 | 0 | 0 | 0 | Y | 23 | N | 24 | A | 25 | 1 | 0 | 0 | 5 | 25
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)
10 | The under power condition developed as a result of design deficiencies during construc-
11 | tion. The proposed corrective action is to install an additional Category I, Class 1E
12 | 480 V load center on each emergency bus. Alternative solutions are being investigated
13 | for Unit #2 switchgear. The health and safety of the general public were not affected.
14 | _____
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

15 | FACILITY STATUS | G | 28 | % POWER | 0 | 0 | 0 | 29 | OTHER STATUS | NA | 30 | METHOD OF DISCOVERY | D | 31 | DISCOVERY DESCRIPTION | Architect Engineer | 32
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

16 | ACTIVITY CONTENT RELEASED OF RELEASE | Z | 33 | Z | 34 | AMOUNT OF ACTIVITY | NA | 35 | LOCATION OF RELEASE | NA | 36
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

PERSONNEL EXPOSURES
17 | NUMBER | 0 | 0 | 0 | 37 | TYPE | Z | 38 | DESCRIPTION | NA | 39
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

PERSONNEL INJURIES
18 | NUMBER | 0 | 0 | 0 | 40 | DESCRIPTION | NA | 41
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

LOSS OF OR DAMAGE TO FACILITY
19 | TYPE | Z | 42 | DESCRIPTION | NA | 43
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

PUBLICITY ISSUED
20 | DESCRIPTION | N | 44 | NA | 45
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

7904100 282

NRC USE ONLY

NAME OF PREPARER: W. L. Stewart

PHONE: 804-357-3184

Surry Power Station, Units 1 & 2
Docket Nos: 50-280/281
Report No: 79-008/01T-0
Event Date: 3/23/79

Under Power of 480 V Emergency Bus

1. Description of Event:

During a load study of the Unit 1 480 VAC emergency bus, the Architect Engineer discovered that an under power condition could exist for a postulated loss of coolant accident (LOCA) with or without loss of off-site power. The projected maximum load following a LOCA for Emergency Bus 1H1 was 1661 KVA, or 125% of rated capacity of the 4160 to 480 VAC transformer and output line circuit breaker 14H1. The projected maximum load for bus 1J1 and output line circuit breaker is 1737 KVA, or 130% of rated capacity.

A load study of Unit #2 480 VAC emergency bus has not been completed, but it appears a similar under power condition exists.

This event is contrary to Technical Specification 3.16 and is reportable as per Technical Specification 6.6.2.A.9.

2. Probable Consequences and Status of Redundant Systems:

The probable consequences of an under power condition would be the loss of vital engineered safeguards due to the tripping of the output breaker of the 4160 to 480 VAC transformer. This condition would exist until loads on the emergency bus were manually shed to a point where the bus could be re-energized.

An under power condition was projected to exist on the redundant emergency bus.

The health and safety of the public were not affected.

3. Cause:

The LOCA under power condition developed as a result of design deficiencies during construction.

4. Immediate Corrective Action:

Unit #1 and Unit #2 were in the cold shutdown mode, and will remain in this mode until this deficiency is corrected.

5. Subsequent Corrective Action:

An additional Class 1E 480 V load center will be established for each of the emergency buses (1H, 1J). This will allow the redistribution of sufficient load to eliminate the under power condition on each bus, and provide the capability for future expansion.

(Attachment, page 2 of 2)

Surry Power Station, Units 1 & 2

Docket Nos: 50-280/281

Report No: 79-008/01T-0

Event Date: 3/23/79

Under Power on 480 V Emergency Bus (Continued)

5. Subsequent Corrective Actions: (Cont'd.)

Alternate solutions are being investigated for Unit #2 under power conditions on 480 V emergency load center, due to room restraints and a long lead time for new equipment.

This modification will be accomplished prior to departing cold shutdown.

6. Actions Taken to Prevent Recurrence:

Existing administrative and procedural controls to review any proposed change to the loading scheme of the emergency load centers will be followed. In addition, a load study will be conducted as a part of the Emergency Bus modification to verify adequate load capability.

7. Generic Implications:

A load study is being conducted on Surry Unit #2 to determine load and possible corrective actions.