



## Omaha Public Power District

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

March 17, 1980

Mr. K. V. Seyfrit, Director  
U. S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region IV  
611 Ryan Plaza Drive  
Suite 1000  
Arlington, Texas 76011

Reference: Docket No. 50-285

Dear Mr. Seyfrit:

The purpose of this letter is to advise the Commission of an error in our response, dated February 21, 1980, to IE Bulletin 79-27. Specifically, in paragraph five (5) of the introduction and paragraph three (3) of Response 3, the list of automatic transfers incorrectly listed the diesel generator DC power supply and did not include the AC power supply to the plant's fire protection system.

The DC transfer switches to the diesel generators are manual. There is an automatic transfer switch in the fire protection system. There have been no failures with the fire protection system's automatic transfer switch.

The revised pages to our February 21, 1980, letter are attached. Note that these changes do not affect the District's conclusions, since they do not involve the plant's instrument buses.

Sincerely,

W. C. Jones  
Division Manager  
Production Operations

WCJ/KJM/BJH/TLP:jmm

Attach.

cc: OIE, Washington  
LeBoeuf, Lamb, Leiby & MacRae

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OMAHA PUBLIC POWER DISTRICT  
FORT CALHOUN STATION UNIT NO. 1  
RESPONSE TO IE BULLETIN 79-27

Introduction

In accordance with the requirements of IE Bulletin 79-27, Loss of Non-Class IE Instrumentation and Control Power System Bus During Operation, the Omaha Public Power District has completed the required equipment review, emergency procedure preparation, and re-review of IE Circular 79-02.

The instrument bus system reviewed at the Fort Calhoun Station consists of two 130 VDC batteries, one associated with each train of the Engineered Safety Features System. These batteries supply power to the D.C. control power loads and the four instrument inverters (D.C. to A.C. 120V). Inverters A and C are supplied by battery #1 and inverters B and D are supplied by battery #2. The D.C. supply and A.C. supply are then distributed as shown in Figure 8.1.1 of the FSAR (attached).

During normal operation, the station instrument load is carried by the 480V three phase battery chargers (#1 charger on battery #1 and #2 charger on battery #2, charger #3 is an installed spare which can be connected to either battery). The batteries are on a float charge and will assume the load if the A.C. supply fails.

The distribution and supply system, as described in the preceding paragraphs, supplies both the safety and non-safety related loads. Isolation of the loads is accomplished by protective devices (fuse or circuit breaker) and/or isolation transformers.

As installed, automatic transfer switches exist only on the system level. These are installed on the A.C. supplies to the computer, the fire protection system, the feedwater regulation system, and the plant communications system. The remaining transfer switches or circuit breaker alignments are manual operation only.

The bus alignment, as shown in Figure 8.1.1, was used for the failure analysis performed in response to the bulletin. One exception was taken, that being each A.C. instrument bus distribution pair (A/A1, B/B1, C/C1, and D/D1) was treated as a single bus. This was because of their location in a single distribution panel.

The bulletin's requirements and the Omaha Public Power District's responses are discussed below.

Request 1

Review the class 1-E and non-class 1-E buses supplying power to safety and non-safety related instrumentation and control systems which could affect the ability to achieve a cold shutdown condition using existing procedures or procedures developed under item 2 below. For each bus:

Inverter voltage range - it has been determined that the tap settings on the house service transformers and battery chargers were optimum for the projected range of operating voltages. In addition, the station battery chargers are provided with surge arrestors on the secondary of the charger input transformer. This should provide adequate assurance of proper terminal voltage on the inverters.

Automatic bus transfer - the alternate sources for vital buses are manual only, no automatic transfers exist. Automatic transfers are installed only on the supply to the computer, the fire protection system, feedwater regulation system, and communications. The only failure was that of an output wave shaping transformer on inverter B.

The nature of the operation of the Fort Calhoun vital bus system is such that after maintenance or testing of the components, the only requirements are the verification that the component is loading and proper voltage is being maintained. The plant has reviewed the maintenance procedures for the inverters to insure verification of voltage and current.

The Fort Calhoun vital bus system will require no equipment change as a result of IE Circular 79-02.

#### Conclusion

In the interim, before the draft emergency procedure is implemented, two emergency procedures, EP-18 and EP-19, are presently in effect which provide direction for the plant operators in the event of an instrument bus failure. These emergency procedures, in conjunction with other operating documents, will provide adequate assurance that instrument bus failures will not jeopardize the safe operation of the Fort Calhoun Station during this interim period. The draft emergency procedure, when implemented, will serve to provide additional clarification and guidance in the event of a loss of an instrument bus. Based on the design of the Fort Calhoun Station, it is highly unlikely that failures such as those addressed in the bulletin would occur.