

DCS MS-016

MAR 7 1983

DISTRIBUTION
 RDudley, ORB5 ✓ Docket File
 Local PDR
 ORB Rdg
 D.Eisenhut
 OELD
 OI&E (1)
 RAClark
 PKreutzer
 Tech Branch
 RFerguson
 NSIC
 ACRS (10)
 Gray File
 ETourigny
 PGill, PSB
 JEmami, PSB

Docket No. 50-285

Mr. W. C. Jones
 Division Manager, Production
 Operations
 Omaha Public Power District
 1623 Harney Street
 Omaha, Nebraska 68102

Dear Mr. Jones:

In conducting our review of your submittals relating to Adequacy of Station Electric Distribution System Voltages at the Fort Calhoun Station, Unit No. 1 we have determined that we will need the additional information identified in the enclosure to continue our review.

In order for us to maintain our review schedule, your response is requested within 45 days of your receipt of this letter.

The information requested in this letter affects fewer than 10 respondents; therefore OMB clearance is not required under P. L. 96-511.

Please contact us if you have any questions concerning this request.

Sincerely,

Original signed by:

Robert A. Clark, Chief
 Operating Reactors Branch #3
 Division of Licensing

Enclosure:
 Request for Additional
 Information

cc w/enclosure:
 See next page

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 PDR ADOCK 05000285
 P PDR

OFFICE	DL:ORB#3	DL:ORB#3	DL:ORB#3			
SURNAME	PKreutzer	ETourigny:dd	RAClark			
DATE	3/1/83	3/6/83	3/7/83			

Omaha Public Power District

cc:

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Washington, D. C. 20036

Mr. Jack Jensen
Chairman, Washington County
Board of Supervisors
Blair, Nebraska 68023

U.S. Environmental Protection Agency
Region VII
ATTN: Regional Radiation
Representative
324 East 11th Street
Kansas City, Missouri 64106

Metropolitan Planning Agency
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Mr. Larry Yandell
U.S.N.R.C. Resident Inspector
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Fort Calhoun, Nebraska 68023

Mr. Charles B. Brinkman
Manager - Washington Nuclear
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Regional Administrator
Nuclear Regulatory Commission, Region IV
Office of Executive Director for Operations
611 Ryan Plaza Drive Suite 1000
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3. Your voltage analysis^d shows that the degraded voltage relays (set-point 90% + 2, -0) can be exposed to voltages that can cause the Class 1E distribution system to separate from offsite power under an accident condition concurrent with a degraded grid and the accident induced loading of the Class 1E buses.

Your analysis^d was prepared prior to the issuance of the requirements of reference a, and shows the worst possible voltages with a degraded offsite source and worst case unit and accident loads. The assumptions made in your analysis^d, particularly the worst expected grid voltage, may be subject to revision at this time due to system improvements.

Discuss the basis for the present historical or projected minimum grid voltage (on the 151kV and the 345kV grids). What is the resultant bus voltage at the degraded voltage relays and at the battery chargers (Question 2)? Show that the potential for the spurious tripping of these voltage relays does not exist for your analyzed accident load as bounded by your presently expected minimum grid voltage.

REQUEST FOR ADDITIONAL INFORMATION

FORT CALHOUN STATION

ADEQUACY OF STATION ELECTRIC DISTRIBUTION SYSTEM VOLTAGES

References:

- a. NRC letter to all licensees, "Adequacy of Station Electric Distribution Systems Voltages," August 8, 1979
- b. Branch Technical Position PSB-1, "Adequacy of Station Electric Distribution System Voltages," NRC Power Systems Branch, Revision 0, July 1981
- c. Omaha Public Power District letter, W. C. Jones to R. A. Clark, NRC, "Adequacy of the Fort Calhoun Station Electrical Distribution System Voltages," December 1, 1982
- d. Omaha Public Power District letter, T. E. Short to George E. Lear, NRC, September 17, 1976

We have reviewed your submittals against the guidelines and criteria of references a and b, and request the following additional information to complete our evaluation:

1. Position B.1.b)2)^b requires the automatic separation of Class IE distribution system from the offsite power system after a suitable time delay after actuation of the undervoltage (90%) relays under non-accident conditions. This is to protect the permanently connected Class IE loads from damage. Your submittals indicate that this is not the case at Fort Calhoun Station since the second timer has not been provided as required by position B.1.b)2)^b.

Your submittal of the results of an analysis (in lieu of the second timer) for the Raw Water Pumps Motors operation during sustained degraded voltage conditions is not sufficient for our evaluation of all plant safeguard equipment. Similar analyses should be provided and results submitted for our review for all of the remaining Class IE (safety grade) equipment that is operating during normal plant operation. Further, it must be shown that there is sufficient equipment available for safe shutdown of the plant, in case of equipment damage due to sustained degraded voltage during normal non-accident plant operations.

2. The battery chargers have not been shown to maintain a full battery charge under the minimum analyzed steady-state AC voltages. The accident analysis, with loss of offsite power, assumes a fully charged battery prior to the start of the accident scenario. Show how the battery charge is not compromised by a degraded grid voltage (non-accident condition).