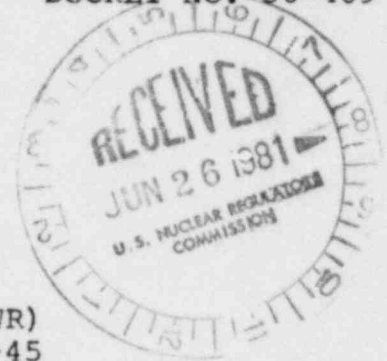


June 22, 1981

In reply, please
refer to IAC-7619

DOCKET NO. 50-409

Director of Nuclear Reactor Regulation
ATTN: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555



SUBJECT: DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
PROVISIONAL OPERATING LICENSE NO. DPR-45
ADEQUACY OF STATION ELECTRICAL DISTRIBUTION
SYSTEM VOLTAGES (SEP TOPIC VIII-1.A)

- References:
- (1) DPC Letter, Linder to Gammill, LAC-6822, dated March 13, 1980.
 - (2) DPC Letter, Linder to Gammill, LAC-6912, dated May 12, 1980.
 - (3) DPC Letter, Linder to Crutchfield, LAC-7160, dated September 17, 1980.
 - (4) NRC Letter, Crutchfield to Linder, dated February 18, 1981.
 - (5) Telecom; J. Shea-NRC, A. Udy-EG&G Idaho, Inc; R. Shimshak and W. Nowicki, DPC; November 5 and 6, 1980.

Gentlemen:

In your letter (Reference 4) you indicate that your consultant's (EG&G) review of the DPC analysis shows that, with the offsite grid at the minimum, voltages can be below the rating of two types of IE equipment.

EG&G QUESTION:

The DPC analysis indicates that it is possible to have a control voltage of 102.8V at the 460V contactors during a LOCA. DPC has also indicated (Reference 5) that the control voltage to these contactors is rated at 115V ± 10% for continuous operation (103.5V minimum). Further, the DPC analysis verification test shows that the actual voltage is as much as 1.09% lower than the analyzed voltage. Please report the approximate duration of the low voltage condition at the 460V contactors and provide reasonable assurance that the contactors will operate satisfactorily at 101.5V (102.8 - 1.09% of 115V) during this interval.

DPC RESPONSE:

Since we have never experienced a degraded voltage in our 14 years of operation, we have no way of determining the approximate duration of a low voltage condition. We have conducted actual bench test of our 460 volt contactors to insure they will operate at a low voltage. The tests conducted on March 11, 1981 indicate the contactor coil will pick up at approximately 82 to 85 volts which is 16.5 volts below your low voltage of 101.5 volts. A second test was completed on a complete spare MCC contactor unit using 100 volts and operated for an eight-hour period. No detrimental effects or heating were noted during or after this test. The unit operated properly.

This indicates to us that the MCC contactors manufactured by Allis-Chalmer which are used at the LACBWR facility would operate properly on a degraded voltage of 100 volts for an eight-hour period. We would not expect a degraded voltage to last eight hours.

EG&G QUESTION:

The DPC analysis shows that it is possible to have a voltage of 406V supplied to the 480V diesel plant battery charger during a LOCA. This battery charger is rated at 480V ± 10% (432 minimum) (Reference 5). Further, the DPC analysis verification test shows that the actual voltage is as much as 1.09% lower than the analyzed voltage. The voltage to this battery charger must be improved. Please describe or qualify it for operation at 400.8V (406V - 1.09% of 480V) for that period of time the low voltage condition exists on the battery charger. Please describe.

DPC RESPONSE:

We have contacted the manufacturer of the diesel plant battery charger. The manufacturer indicated that the battery charger will automatically shut down on a low voltage, due to lack of SCR control, and would automatically return to normal service when the voltage returns within ratings. This low voltage will not damage the charger. If a degraded voltage turns off the charger, it should have no detrimental effect on the DPC diesel plant system because the battery bank that is being charged by this charger will carry its rated load for a period of eight hours. This battery capacity test has been completed and is a required Technical Specification Test.

A degraded grid voltage should not damage the battery charger. The charger should return to normal operation when the voltage returns to normal. The storage battery bank should carry the rated load and supply D.C. power during a degraded grid voltage for an eight-hour duration.

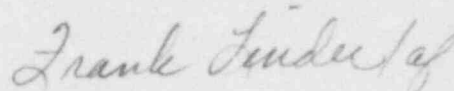
Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5

LAC-7619
June 22, 1981

If you have any further questions, please contact us.

Very truly yours,

DAIRYLAND POWER COOPERATIVE



Frank Linder, General Manager

FL:WRN:af

cc: J. G. Keppler, Reg. Dir., NRC-DRO III
NRC Resident Inspectors