Wisconsin Electric POWER COMPANY
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May 14, 1973

Mr. John F. O'Leary, Director
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. O'Leary:

DOCKET NO. 50-266
FAILURE DURING TEST OF
NON-SAFEGUARDS BUS UNDERVOLTAGE RELAY
POINT BEACH NUCLEAR PLANT

In accordance with Section 15.6.6.A.3.b of the Technical Specifications for Point Beach Nuclear Plant, Units 1 and 2, Facility Operating License Nos. DPR-24 and DPR-27, this report is submitted with respect to the failure of a non-safeguards bus undervoltage relay to operate when tested.

Following a five months' refueling and maintenance shutdown and immediately prior to taking Unit 1 critical at Point Beach on March 3, 1973, a test of the undervoltage relays of the 1A01 and 1A02 non-safeguards bus undervoltage relays disclosed that, at the first test, three out of the four undervoltage relays failed to perform their function of opening the reactor trip breaker. All operated satisfactorily on the second and numerous subsequent tests. A careful examination of the relays indicated no damage and it was concluded that the long period of idleness during the refueling shutdown had permitted the relays to develop a "set" which was corrected after some periodic test operation of the relays.

A routine periodic test of the relays was repeated on April 10, 1973, and all four relays operated satisfactorily.

On April 26, 1973, a further periodic test was conducted on the relays. This time the 1-274-A02 relay failed to operate the first time it was tested. It did operate on subsequent tests. It should be noted that this was the first failure of this particular relay; the relay having successfully operated on all previous tests.

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These relays are Westinghouse Type SV, Style 1876099 and consist of a plug in the center of a wound coil. Energizing of the coal "floats" the plug. Loss or reduction of voltage in the coil permits the plug to drop and this motion is transmitted via a light shaft through a Teflon guide bearing at the top of the coil to contacts, which, upon closing, initiate the reactor trip.

"Setting" of the shaft in the guide bearing appears to be the possible cause of the relay's malfunction at this date.

The function of the relays in question is to initiate a Unit 1 reactor trip should an undervoltage condition occur on the 4160 V 1A01 and 1A02 non-safeguards buses. A one out of two signals off each bus is required to initiate the trip. Therefore, the failure of one relay to operate would not prevent undervoltage on these buses tripping the reactor. Additional redundancy is provided in that under-frequency on these buses also leads to tripping of the reactor coolant pumps, main steam generator feed pumps and main condenser circulating pumps, each of which via additional channels of redundancy lead to reactor tripping. It is concluded therefore that the failure of one of the 4160 V non-safeguards bus undervoltage relays to operate would not create a condition seriously affecting nuclear unit safety.

Following the periodic test of April 26, 1973, the four relays were removed and were returned to the vendor for examination and analysis. Four new relays of the same manufacture and type have been installed and will be tested biweekly until further analysis of the relays' behavior is made by the vendor.

Very truly yours,

S. Burstein

Sol Burstein Senior Vice President

cc: Mr. Boyce H. Grier, Regional Director
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