



Wisconsin Electric POWER COMPANY
231 WEST MICHIGAN, MILWAUKEE, WISCONSIN 53201



February 6, 1974

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

Dear Mr. O'Leary:

DOCKET NOS. 50-266 AND 50-301
INOPERABLE DIESEL FAST START BACKUP RELAYS
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 inoperability of the fast start backup relays for one of the plant's two emergency diesel generators. During the quarterly functional testing of the 4D emergency diesel backup relays at the Point Beach Nuclear Plant on January 2, 1974, it was discovered that the fast start backup relays (SFB1 and SFB2) would not perform their intended function of initiating the second start attempt of the diesel.

The logic of the emergency diesel starting system is as follows: When the diesel is lined up for automatic starting, a selector switch on the engine's local panel is placed to position "Fast Start 1", or "Fast Start 2", as desired. In the "Fast Start 1" position, an automatic start of the diesel will close the fast start relay FSR1 and initiate the pneumatic timing relay, known as the backup relay, SFB1. Should the diesel not start within one second, SFB1 would time out and send a second start signal to FSR2, the second fast start relay.

Similarly, if the local panel selector is in "Fast Start 2" position, an automatic start closes FSR2 and SFB2, which one second after a false start would close FSR1 to give the engine a second start. Full details of the pneumatic relay and the diesel starting logic can be found in the manuals of the Square D Company, Class 9050 Series pneumatic relays and the Electro-Motive Division, (General Motors) electrical drawing No. 8413730, respectively.

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The relays in question have a time delay of 1 ± 1 second and are tested by lifting the armature plunger manually, the timing plunger being then free to follow and commence timing. This test duplicates the normal mechanical operation of the relay in which the energizing of a lifting coil raises the armature plunger, the timing plunger then following and closing the starting contacts within the prescribed time period of one second.

On January 2, 1974, during the quarterly test of these relays, a successful test of the relays of the 3D diesel was followed by an initial failure of the test by similar backup relays on the 4D diesel.

The relays on 4D were physically cycled one time, after which numerous normal tests of the 4D diesel relays all proved successful and functioned within the specified time.

The problem with this type of relay has been deduced to be caused by the neoprene bellows in the timing chamber developing a "set" due to their long periods of inactivity. The relays have never been called upon to act in practice; first time starts on both diesels being successful.

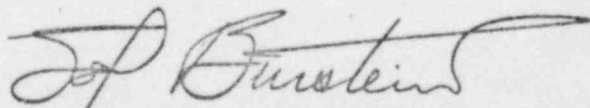
In the event an operator had selected "Fast Start 1" and failed to get a start of the diesel, he could then have selected "Fast Start 2" for a second automatic start, or selected "Exercise" and brought the redundant diesel on the line manually. Therefore, it is not considered that the failure of the SFB1 and SFB2 backup relays to operate created a health or safety hazard.

Being aware of the lack of normal operation of these relays, the testing of the relays was increased from annually to quarterly in June, 1972, at the recommendation of the Manager's Supervisory Staff.

Following this test failure, discussions have been held with the diesel engine manufacturer and efforts are now being expended by them to substitute a relay which does not incorporate the neoprene bellows.

Until such time as a fully satisfactory relay is installed in the diesels, the testing of the backup relays of both diesels will be conducted on a monthly basis.

Very truly yours,



Sol Burstein

Executive Vice President