



UNITED STATES DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

Docket No. 50-184

January 6, 1984

Mr. Harold Bernard
Project Manager
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Bernard:

This is in response to the question whether an increase in the D.C. power voltage to the final process scram relays will prevent the relays from performing their scram function. There are currently four such relays, any one of which will cut off the power to the shim arm clutches and cause a scram. The relays are mercury wetted contact type with magnetically coupled contacts. With this type of a relay, regardless of any overvoltage which may damage the coil, the magnetically coupled contacts will open thereby initiating a scram. This was confirmed by a test conducted recently on a relay of the same type. The relay was initially subjected to 2 1/2 times its rated voltage for a period of approximately 9 hours during which time the relay continued to function properly even though it appeared thoroughly "baked" with wax melting and flowing. The voltage was then increased to more than three times the rated value for the relay; and after approximately one hour, the coil failed at which time the contacts opened.

Sincerely,

Robert S. Carter

Robert S. Carter
Chief, Reactor Radiation Division

8401130325 840106
PDR ADOCK 05000184
P PDR

A020
1/0