



**GPU Nuclear Corporation**  
100 Interpace Parkway  
Parsippany, New Jersey 07054-1149  
(201) 263-6500  
TELEX 136-482  
Writer's Direct Dial Number:

March 6, 1985  
5211-85-2049  
RFW 0419

Office of Nuclear Reactor Regulation  
Attn: J. F. Stolz, Chief  
Operating Reactors Branch No. 4  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Sir:

Three Mile Island Nuclear Station Unit (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289  
EQ - SBLOCA Radiation Wrap-up

As discussed in our telephone conversation of February 25, 1985, GPUN would like to clarify our position on the environmental qualification for SBLOCA radiation.

Incore Thermocouple Extension Cables

Based on empirical data from the TMI-2 accident the incore thermocouple extension cables are qualified for  $1.02 \times 10^7$  (Ref. 1) Rad. This integrated radiation dose for these cables is approximately a factor of 2 greater than the  $4.79 \times 10^6$  Rads integrated dose (based on a LBLOCA) for 30 days (Ref. 2) and a factor of 5 greater than the  $2.16 \times 10^6$  Rad integrated dose (based on a LBLOCA) for 10 hours. The 10 hours is the time which is required to place the plant in cold shutdown following a SBLOCA (greater than .085 ft.<sup>2</sup>) (Ref. 3). For SBLOCA's less than .085 ft.<sup>2</sup>, the environment created is less severe for radiation even though the time to cold shutdown may be longer (the maximum time to cold shutdown allowed by Tech. Specs. is 36 hours). In any case, the integrated radiation dose would be less than the 30 day integrated dose of  $4.79 \times 10^6$  Rads. These integrated dose rates calculations were performed using methodology of Appendix B to the DOR Guidelines and checked in accordance with Technical Functions Procedure EP-006. These radiation calculations are contained in Environmental Qualification File EQ-TI-139A along with the SCEW sheets. Thus, the incore thermocouple extension cable has been demonstrated to be environmentally qualified for SBLOCA on the basis of the TMI-2 cable performance during the TMI-2 accident and its similarity to the incore thermocouple cable used at TMI-1.

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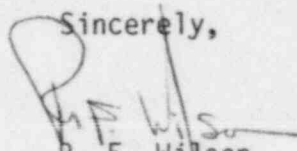
GE Containment Electrical Penetrations

On a separate subject, the GE containment electrical penetrations are qualified for SBLOCA radiation as discussed in our letter of August 23, 1984. As part of the 10CFR50.49 review of the GE containment electrical penetration file (EQ-TI-137), our EQ contractor, General Electric, was selected to develop our file (GPUN letters dated December 11, 1984 and February 15, 1985). General Electric has informed us that the containment electrical penetrations are fully qualified under 10CFR50.49 with no outstanding items. GPUN will complete its file review and approval of the file following receipt on March 15, 1985.

Limitorque Motor Operators

Because of a question which arose concerning the materials in the torque and limit switches, they were checked by walkdown and determined to be composed of melamine or fiberite which is a qualified material. Therefore, torque and limit switches for DHV 1 & 2, CAV-13 and ICV-2 have been shown to be environmentally qualified and will not be replaced as was described in Ref. 3. RCV-3 and RCV-4 were covered with qualified Raychem material. DHV-4B which was to be covered with Raychem material was found to have uninsulated motor leads covered with a sleeve. This situation will be corrected by March 31, 1985.

Sincerely,



R. F. Wilson  
Director

Technical Functions

lr/1477f

cc: R. Conte  
J. Van Vliet

- Ref. (1) GPUN letter dated December 11, 1984 (JIO-TI-84-6 Rev. 0)  
(2) DOR Guidelines App. B.  
(3) GPUN letter dated February 15, 1985 (JIO-TI-84-6 Rev. 1)