METROPOLITAN EDISON COMPANY SUBSIDIARY OF GENERAL PUBLIC UTILITIES CORPORATION

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603 TELEPHONE 215 – 929-3601

April 11, 1977
GQL 0475

Mr. J. P. O'Reilly, Director
U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Sir:

Three Mile Island Nuclear Station Unit 2 (TMI-2)
License No. CPPR-66
Docket No. 50-320
Vital Power Supply Inverters

On March 10, 1977, Mr. Haines of your office was verbally notified of a situation which Metropolitan Edison Company considered to be reportable in accordance with the requirements of 10CFR50.55(e). This letter constitutes the required thirty-day follow-up letter.

Description

While conducting tests on the vital power supply inverters, two deviations from the engineer's specification requirements were identified. The inverters are the preferred power source for the static switches with the regulated transformers as their backup. Both are designed to supply 120 volt power to the static switches. The specification required the power to the static switches to transfer to the regulated transformers when voltage on the inverters drops by 3%. Field testing of the inverters showed that the transfer did not occur in some instances until the voltage dropped to 38 volts. This was due to the vendor, Solid State Controls, Inc., not supplying a required component with the inverters, which would effect this transfer at the required voltage reduction.

Additionally, another specification requirement was that after transfer from the inverter to the regulated transformer, power was not to transfer back to the inverter until the inverter had stabilized for 2 to 10 seconds. Contrary to this requirement, the vendor supplied equipment which prohibits transfer back to the inverter unless the inverter stabilizes within 2 to 10 seconds of the initial transfer.

74 03

Analysis of Safety Implications

The deficient circuits identified affect only the control of the static switches in response to an inverter failure and do not affect the normal operation of the vital power supplies or their ability to supply 120VAC power to safety related loads under normal conditions. The four vital power supplies are independent and redundant and supply independent and redundant safety systems. While the probability of losing a single vital power source in response to a failure of a single static inverter is somewhat greater with the equipment as supplied, the loss of a single vital power source will not affect the redundant sources or prevent safe shutdown of the plant using redundant safety systems. For this reason there would be no effect on health or safety of the public or plant staff.

Corrective Action

The vendor was immediately contacted regarding these discrepancies. Discussions between the Architect Engineer and the vendor have revealed that with minor modifications, the equipment can be upgraded to meet specification requirements. The engineering for these modifications is in progress, and all modifications will be completed by fuel loading. Information and documentation associated with these modifications will be available at the site for your inspection.

Very truly yours,

R. C. Arnold
Vice President

cc: Dr. Ernst Volgenau, Director
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

74-032