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METROPOLITAN EDISON COMPANY SUBSIDIARY OF GENERAL PUBLIC UTILITIES CORPORATION

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December 15, 1977
GQL 1719

Mr. B. H. Grier, Director
Office of Inspection & Enforcements, Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
IE Bulletin No. 77-05A

In response to IE Bulletin No. 77-05, Metropolitan Edison Company reviewed the TMI-1 safety systems as indicated in our letter GQL 1699 of December 8, 1977. In response to IE Bulletin 77-05A, Met-Ed expanded its review of the TMI-1 safety systems to include all connectors which are required to function to mitigate an accident where the accident itself could adversely affect the ability of the system to perform its safety function. This review included areas outside of containment as well as conditions other than a LOCA.

As indicated in our response to IE Bulletin 77-05, the only electrical connector assemblies concerned are those used for the control rod drive mechanisms (CRDM's) and the neutron detectors. Of these two areas of concern, only the neutron detectors require further discussion, since any power failure to the CRDM results in a fully inserted rod condition. As stated in our letter GQL 1699, it should be noted that the electrical connectors used in conjunction with the neutron detectors are manufactured by a different company than those which were tested by Sandia Laboratories.

The Power Range Nuclear Instruments (NI's) are supplied with TRIAX connectors. These connectors are located inside the detector thimble tube and sealed with Ray Chem shrinkable tubing over the connector. The assembly is further sealed by the refueling canal cover plate which is sealed with a ½" natural rubber gasket and silicon RTV sealant. According to the vendor of these assemblies, the connectors have been qualified to a design temperature of 200°F. The NI's utilize connector assemblies located in terminal boxes at the containment electrical penetrations both inside and outside of containment. These electrical penetrations are located on the south side of containment and IEEE 279 separation criteria has been met. Since the Main Steam and Feedwater lines enter containment on the north side, these penetrations are not

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