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METROPOLITAN EDISON COMPANY

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TELEPHONE 215 - 929-3601

September 21, 1973

Dr. D. F. Knuth, Director
Directorate of Regulatory Operations
United States Atomic Energy Commission
Washington, D. C. 20545

Subject: Three Mile Island Nuclear Station Unit 1
Suppression Diode Failure in a 480 Volt Breaker
Docket No. 50-289

Dear Dr. Knuth:

You were notified on August 24, 1973, of a situation which could be considered reportable under 10CFR50.55(e)(1)(iv), "Conditions of Construction Permits". This situation relates to an arc suppression diode failure in a 480 volt breaker.

DESCRIPTION OF INCIDENT

During checkout of 480 volt breakers by Startup electricians, it was found that some breakers would not close after being tripped. The problem concerned Westinghouse 480 volt model DB-25 and DB-50 breakers, which are electrically operated.

CORRECTIVE ACTION

Investigation revealed the affected breakers have diodes connected across the closing coil, trip coil, and anti-pump relay. During breaker operation, these diodes can be exposed to voltage spikes in excess of their breakdown voltage which can result in their shorting out. The consequence of this failure is that the breaker, once tripped, will not reclose on its next required cycle. The failure does not affect the ability of the breaker to trip.

A design change was initiated to replace the Westinghouse IN 5405 diodes with GE type 6RS20AP10B2 thyrectors which are not subject to this problem.

Very truly yours,

Handwritten signature: J. G. Miller
Vice President

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brh

cc:Mr. H. M. Dieckamp
Mr. J. P. O'Reilly
Mr. W. A. Verrochi

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