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Wayne H. Jens
Vice President
Nuclear Operations

Detroit
Edison

Fermi-2
6400 North Dixie Highway
Newport, Michigan 48166
(313) 586-4150

October 31, 1984
EF2-70030

Mr. James G. Keppler
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

Reference: (1) Fermi 2
NRC Docket No. 50-341

(2) Letter, D. A. Wells to J. G. Keppler
February 17, 1984, QA-84-0082

Subject: Final Report of 10CFR50.55(e) Item 112
"Poor Quality of Vendor Connection
Workmanship in Emergency Diesel Generator
Control Panels"

This is Detroit Edison's final report of Item 112, "Poor Quality of Vendor Connection Workmanship in Emergency Diesel Generator Control Panels". Item 112 was originally reported as a potential deficiency on January 13, 1984, and was subsequently documented in Reference (2).

Description of Deficiency

Startup personnel performing a Field Modification Request (FMR) discovered two loose crimp type lugs installed in the exciter regulator control circuit in control panel R3000S008 for Emergency Diesel Generator (EDG) #14. During the evaluation of this deficiency, Project Quality Assurance (PQA) identified an earlier NCR which documented two loose connections on vendor wiring to selector switches on control panel R3000S005 for EDG #11.

This earlier NCR had been considered an isolated occurrence. Based on this second discovery of vendor connection problems, PQA evaluated the occurrence as evidence of a potential for generic problems associated with EDG vendor wire connections. As a result of additional investigative actions, PQA observed that about 700 defective terminations had been previously identified, reworked, and inspected under a program that had not been reviewed by Quality

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Assurance. As a result of this, additional inspections of crimped lug connections on wiring installed in the four emergency diesel generators was conducted.

Subsequently, a loose, unlugged, solder-post type vendor connection was observed at resistor R1 of the field flashing resistor bank in control panel R3000S005 for EDG #11. This deficiency was also documented on an NCR.

Analysis of Safety Implications

Improper wiring connections in the emergency diesel generator electrical control circuits could prevent the affected emergency diesel generator from fulfilling its intended safety function.

Corrective Action

Problems with vendor installed connections on the emergency diesel generators were corrected as follows:

- o The deficient wiring terminations documented on the NCRs were reterminated and inspected.
- o Detroit Edison inspected the crimped lug connections on wiring installed in the four emergency diesel generator control panels and skid mounted terminal boxes, instruments, equipment, and engine gauge panels. Of the approximately 8,000 connections inspected, 828 were not satisfactory and were reworked. (This is in addition to the 700 reworked terminations discussed above).

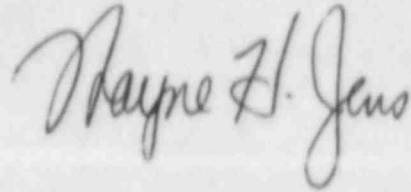
While a limited number of lugs exhibited slippage in the lug barrel when pulled, the majority of the lugs were reworked for broken or missing wire strands, i.e., not all strands of a conductor wire were crimped in the lug.

- o Soldered wiring connections (unlugged) in the four emergency diesel generator control panels were inspected. Of the more than 200 connections inspected, 5 were not satisfactory and were reworked.

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This is Detroit Edison's final report on this item. If you have questions concerning this matter, please contact Mr. Lewis Bregni (313) 586-5083.

Sincerely,

A handwritten signature in cursive script, reading "Wayne H. Jens". The signature is written in dark ink and is positioned to the right of the typed name.

cc: Mr. P. M. Byron
Mr. R. C. DeYoung
Mr. R. C. Knop