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May 16, 1984
EF2-68,536

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, B. J. Youngblood to H. Tauber, March 16, 1983, "Unqualified Electrical Components in Safety Related System"
(3) Letter, H. Tauber to B. J. Youngblood, April 25, 1983, EF2-62,427
(4) Detroit Edison's Response to NUREG-0588, July 19, 1983, EF2-63,957

Subject: Report of 10CFR50.55(e) Item 125, "Environmentally Unqualified Terminal Block In Limitorque Valve Operators"

On April 12, 1984, Detroit Edison's Mr. L. P. Bregni, Engineer-Licensing, telephoned Mr. R. C. Knop of the NRC, Region III, to report a potential deficiency concerning Marathon 6000 series terminal blocks. At that time, this item was reported as an addition to 10CFR50.55(e) Item 76. Subsequently this item has been changed to Item 125 and was reported as such to Mr. R. C. Knop in a telephone conversation with Mr. L. P. Bregni on May 4, 1984.

Description of Deficiency

Detroit Edison first identified the use of Marathon 6000 series terminal blocks in Limitorque valve operators during maintenance of the valve operator on valve V8-2140. When maintenance attempted to replace a damaged terminal block found in the valve operator, the spare parts ordering procedure identified the part as not qualified for use in harsh environments at Fermi 2.

The basis for this position is IE Bulletin 78-02 which identified the qualification deficiency of an unprotected Marathon 6012 terminal block in an inside containment LOCA

IE 2

steam environment. Detroit Edison responded to this IE Bulletin stating that the Fermi 2 design does not utilize exposed terminal blocks either inside or outside of primary containment in areas of possible harsh environment. It should be emphasized that this is still a valid statement. However, in 1983, Detroit Edison responded (Reference 3) to an NRR letter (Reference 2) on unqualified components in safety related systems which included the Marathon 6000 series terminal block. At that time, the terminal block was only identified as being utilized in the Fermi 2 Hydrogen Recombiner System (T48) power panels (2R1600S003E and S005E). A review of Detroit Edison specifications and vendor documents was the basis for that identification. The qualification plan was to relocate the power panels to a mild environment thus alleviating any concerns regarding the qualification deficiencies of the Marathon 6000 series terminal block in their only known application at Fermi 2.

After Detroit Edison became aware of the presence of Marathon 6000 series terminal blocks in the valve operators, we realized the potential for having these terminal blocks installed in motor operators that are classified as NUREG-0588 Appendix E, category 2A and 2B which could experience a 100% RH/steam accident environment through which they must function.

In Detroit Edison's response to NUREG-0588 (Reference 4) regarding qualification of electrical equipment located in harsh environment, there are a total of eighty-eight (88) Limitorque valve operators which require harsh environment qualification. This potential qualification deficiency could exist in thirteen (13) operators inside primary containment and seventy-five (75) operators outside primary containment.

Analysis of the Safety Implications

The area of concern involves the potential for Marathon 6000 series terminal blocks to be installed in Limitorque motor operators that are required to function in a 100% RH/steam accident environment. In this environment, failure of the terminal block may cause the actuator motor to fail thereby compromising the function of the safety system of which the valve is an integral part. This concern is not applicable to valve V8-2140, the valve in which the Marathon 6000 series terminal block was first identified. Valve V8-2140 is located in environmental Zone 9 First Floor Reactor Building. In this zone High Energy Line Breaks (HELB) or LOCA causes temperature and radiation levels to rise without an

accompanying humidity rise to 100% RH/steam. However, there still remains another eighty-seven (87) limitorque motor operators that could be exposed to 100% RH/steam environment caused by HELB or LOCA, and as a result, could impact the safe operation of Fermi 2.

Corrective Action

The Detroit Edison Company has implemented a program with a dedicated team to evaluate and replace as necessary all terminal blocks installed in these Limitorque motor operators.

The walkdown on 13 motor operated valves located inside primary containment has been completed and no Marathon 6000 series terminal blocks were found. A total of thirty-two (32) out of seventy-five (75) motor operated valves located outside primary containment have been inspected. Six (6) motor operated valves were found to contain the Marathon 6000 series terminal block. They are in the process of being replaced with environmentally qualified terminal blocks. The remainder of the valves operators will be evaluated, inspected, and the terminal blocks replaced as necessary.

Based upon the extensive review that was performed on NUREG-0588 Appendix E, category 2A and 2B equipment, Detroit Edison considers the identification of the Marathon 6000 series terminal blocks in Limitorque operators as an isolated occurrence. Accordingly, the use of this terminal block at Fermi 2 has been addressed and resolved. All activities associated with this issue will be completed prior to exceeding 5% power.

This is considered the final report on this item. Completion of the corrective actions will be tracked and verified by the Nuclear Quality Assurance Department. If you have questions concerning this matter, please contact Mr. Lewis P. Bregni, (313) 586-5083.

Sincerely,

Wayne H. Jens

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