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Wayne H. Jens
Vice President
Nuclear Operations

Detroit
Edison

2000 Second Avenue
Detroit, Michigan 48226
(313) 586-4150

May 24, 1984
EP2-68,546

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

Dear Mr. Keppler:

Reference: Fermi 2
NRC Docket No. 50-341

Subject: Report of 10CFR50.55(e) Item 123
"Inadequate Weld Symbol on Standard EB-5.7"

On April 24, 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 an inadequate weld symbol on cable tray connection detail Standard EB-5.7.

Description of Deficiency

Standard EB-5.7 is a cable tray connection detail contained in Detroit Edison's Electrical Engineering Standard Specification 3071-128. This standard involves a horizontal unistrut member, either P1000, P1001 or P1004A, welded to two vertical angle iron members. The vertical angles are anchored to the wall and the horizontal unistrut member supports the cable tray. The connection detail is used in the construction of Seismic Category I cable tray supports.

The connection detail requires six welds total; two vertical and four horizontal (2 top and 2 bottom). However, depending on how the weld symbol was interpreted, either four or six welds were actually made. A case where only four welds were made was discovered by a weld inspector and documented in an NCR.

Analysis of Safety Implications

These connection details are used in the construction of Seismic Category I cable tray supports. Failure of these supports during a seismic event may contribute to the loss of safety-related components or systems.

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Corrective Action

As stated above, there are three unistrut sizes approved for use with these connections - P1000, P1001, and P1004A.

For the P1000 unistrut Sargent & Lundy engineers reanalyzed the connection utilizing the higher capacity of welds permitted by the 1980 Edition of the AISI's "Specification for the Design of Cold-Formed Steel Structural Members" and have determined that the use of two horizontal and two vertical welds per connection is acceptable.

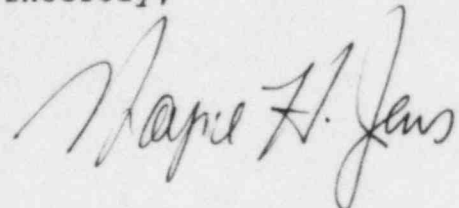
For P1001 and P1004A members, a representative sample of the connections has been analyzed and have been determined to be adequate with just two vertical and two horizontal welds per connection. Enough samples were analyzed to satisfy MIL-STD-105D for a 95/95 confidence/reliability requirement. To add to the conservatism of the review, Sargent & Lundy engineers selected specific hanger connections that are anticipated to be the most heavily loaded in lieu of a random sample selection. All of the connections reviewed have been found adequate and satisfy the design intent required for seismic qualification of the cable tray hangers.

In order to eliminate any further misinterpretation of weld symbols associated with this connection, DCN 10541 has been issued to clarify the weld symbols used with this connection.

DCN 10541 Rev. A was issued to modify the requirement for welds on P1000 unistrut after analysis indicated that not all the welds were required.

This is considered the final report on this item. If you have questions concerning this matter, please contact Mr. Lewis P. Bregni, (313) 586-5083.

Sincerely,



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